



State of Ohio Environmental Protection Agency

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

CERTIFIED MAIL

Street Address:

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

Mailing Address:

Lazarus Gov.
Center

Application No: 03-13445

DATE: 3/26/2002

Lima Energy Company
Dwight Lockwood
312 Walnut Street, Suite 2000
Cincinnati, OH 45202

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

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

You are hereby notified that this action by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed within thirty (30) days after the notice of the Directors action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

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

Very truly yours,

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

CC: USEPA

NWDO



Permit To Install

STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

FINAL PERMIT TO INSTALL 03-13445

Application Number: 03-13445
APS Premise Number: 0302020336
Permit Fee: **\$1400**
Name of Facility: Lima Energy Company
Person to Contact: Dwight Lockwood
Address: 312 Walnut Street, Suite 2000
Cincinnati, OH 45202

Location of proposed air contaminant source(s) [emissions unit(s)]:
1046 South Main Street
Lima, Ohio

Description of proposed emissions unit(s):
290 MW Synthetic gas/natural gas fired turbines(2).

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency



Director

Part I - GENERAL TERMS AND CONDITIONS

A. 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.10 below if no deviations occurred during the quarter.

- iii. Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted to the appropriate Ohio EPA District Office or local air agency every six months, i.e., by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
- iv. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

2. Scheduled Maintenance/Malfunction Reporting

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

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

3. Risk Management Plans

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

4. Title IV Provisions

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

5. Severability Clause

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

6. General Requirements

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

7. Fees

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

8. Federal and State Enforceability

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

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

9. Compliance Requirements

- a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.
- b. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
 - i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
 - ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
 - iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
 - iv. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
 - i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
 - ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

10. Permit To Operate Application

- a. If the permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77, the permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).
- b. If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35, the source(s) identified in this Permit To Install is (are) permitted to operate for a period of up to one year from the date the source(s) commenced operation. Permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within thirty (30) days after commencing operation of the source(s) covered by this permit.

11. Best Available Technology

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

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.

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.

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 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>
NOx	1285.4
VOC	133.4
CO	680.0
SO2	338.2
PM	166.7
Formaldehyde	6.6
HCL	9.6
Sulfuric Acid	4.6
Lead	0.16
Mercury	0.02
Cadmium	0.08
Dioxin/Furan	0.000508
	pounds/yr

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PTI Application: **03-13445**
Issued: 3/26/2002

Facility ID: **0302020336**

Part II - FACILITY SPECIFIC TERMS AND CONDITIONS

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

1. The flare associated with the emissions unit P001 - Syngas/Natural Gas Turbine, Unit #1 of a Combined Cycle System and Gasification Plant shall meet the following requirements:
 - a. Emission Limitation
 - i. No visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.
 - b. Operational Restrictions
 - i. The flare shall be operated at all times when emissions may be vented to it.
 - ii. The flare shall be operated with a pilot flame present at all times.
 - iii. The gases that are combusted in the flare shall have a net heating value of 300 Btu/scf or greater.
 - iv. The flare shall meet one of the following criteria:
 - (a) The flare shall be designed and operated with an exit velocity of less than 60 ft/sec; or
 - (b) The flare shall be designed and operated with an exit velocity equal to or greater than 60 ft/sec, but less than 400 ft/sec if the net heating value of the gas being combusted is greater than 1000 Btu/scf; or
 - (c) The flare shall be designed and operated with an exit velocity less than the velocity, V_{max} , but less than 400 ft/sec. The equation for determining V_{max} is shown in section A.1.e.
 - c. Monitoring and/or Recordkeeping Requirements
 - i. The permittee shall operate and maintain a device (including, but not limited to, a thermocouple, an ultraviolet beam sensor, or an infrared sensor) capable of continuously detecting the presence of a flare pilot flame. All monitoring equipment shall be calibrated, maintained, and operated according to

manufacturer's specifications.

- ii. The permittee shall record the following information each day:
 - (a) all periods during which the flare was not operating and emissions were vented to it;
 - (b) all periods during which there was no pilot flame;
 - (c) the operating times for the flare and the continuous monitoring for flame presence; and
 - (d) all periods during which there were visible emissions from the flare, except for periods not to exceed a total of 5 minutes in any consecutive 2-hour period.
 - iii. 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 flare 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 record visible emissions, using Method 22, for at least 10 consecutive minutes and 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
- d. Reporting Requirements
- i. The permittee shall submit deviation (excursion) reports that identify all periods during which the flare pilot flame was not functioning properly or the flare had visible emissions exceeding a total of 5 minutes in any consecutive 2-hour period. The reports shall include the date, time, and duration of each such period, as well as reasons for each such deviation.
 - ii. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the flare serving

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Facility ID: **0302020336**

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 appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

e. Testing Requirements

- i. Compliance with the emission limitations and the operational restrictions in sections A.1.a. and A.1.b. of these terms and conditions shall be determined in accordance with the following methods:

(a) Emission Limitation

no visible particulate emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours

Applicable Compliance Method:

The test method employed to demonstrate compliance with the emission limitation shall be Method 22, which is located in 40 CFR Part 60, Appendix A.

(b) Operational Restriction:

The flare shall be used only with the net heating value of the gas being combusted at 300 Btu/scf or greater.

Applicable Compliance Method:

The net heating value of the gas being combusted in the flare shall be calculated using the following equation:

$$H_T \text{ (MJ/scm}^*) = K \text{ (Sum)}$$

where:

H_T = net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 degrees Celsius and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 degrees Celsius;

$K = \text{constant} = 1.740 \times 10^{-7} \text{ (1/ppmv)(g-mole/scm)(MJ/kcal)}$; and
 $\text{Sum} = \text{the summation from } i=1 \text{ to } i=n \text{ of the gas being combusted } (C_i)(H_i)$

where:

the standard temperature for (g-mole/scm) is 20 degrees Celsius;

n = number of sample components;

C_i = concentration of sample component i in ppmv on a wet basis, as measured for organics by Test Method 18 and measured for hydrogen and carbon monoxide by American Society for Testing and Materials (ASTM) D1946-77 or 90 (reapproved 1994)(incorporated by reference as specified in 40 CFR Part 63.14); and

H_i = Net heat of combustion of sample component i, kcal/g-mole at 25 degrees Celsius and 760 mm Hg. The heats of combustion may be determined using ASTM D2382-76 or 88 or D4809-95 (incorporated by reference as specified in 40 CFR Part 63.14) if published values are not available or cannot be calculated.

* 1 MJ/scm = 26.81 BTU/scf

If required, the permittee shall determine the net heating value of the gas being combusted in the flare using the methods and procedures specified in 40 CFR Part 63.11(b)(6).

- (c) Operational Restriction: (one of three possible operational restrictions for a steam-assisted flare; compliance with A.1.a.iv.(a), A.1.a.iv.(b), or A.1.a.iv.(c) is required)

The flare shall be designed and operated with an exit velocity of less than 60 ft/sec.

Applicable Compliance Method:

The actual exit velocity of the flare shall be determined by dividing the volumetric flow rate of gas being combusted (in units of emission standard temperature and pressure), as determined by Test Method 2, 2A, 2C, or 2D in 40 CFR Part 60, Appendix A, by the unobstructed (free) cross-sectional area of the flare tip. If required, the permittee shall determine the actual exit velocity of the flare using the methods and procedures specified in 40 CFR Part 63.11(b)(7).

- (d) Operational Restriction: (one of three possible operational restrictions for a steam-assisted flare; compliance with A.1.a.iv.(a), A.1.a.iv.(b), or A.1.a.iv.(c) is required)

The flare shall be designed and operated with an exit velocity equal to or greater than 60 ft/sec, but less than 400 ft/sec if the net heating value of the gas being combusted is greater than 1000 Btu/scf.

Applicable Compliance Method:

The actual exit velocity of the flare shall be determined by dividing the volumetric flow rate of gas being combusted (in units of emission standard temperature and pressure), as determined by Test Method 2, 2A, 2C, or 2D in 40 CFR Part 60, Appendix A, by the unobstructed (free) cross-sectional area of the flare tip. If required, the permittee shall determine the actual exit velocity of the flare using the methods and procedures specified in 40 CFR Part 63.11(b)(7).

- (e) Operational Restriction: (one of three possible operational restrictions for a steam-assisted flare; compliance with A.1.a.iv.(a), A.1.a.iv.(b), or A.1.a.iv.(c) is required)

The flare shall be designed and operated with an exit velocity less than the velocity, V_{MAX} , but less than 400 ft/sec.

Applicable Compliance Method:

The maximum permitted velocity, V_{MAX} , shall be determined by the following equation:

$$\text{Log } 10(V_{MAX}) = (HT + 28.8)/31.7$$

where:

V_{MAX} = maximum permitted velocity, m/sec

HT = the net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 degrees Celsius and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 degrees Celsius

28.8 = Constant

31.7 = Constant

If required, the permittee shall determine the actual exit velocity of the flare using the methods and procedures specified in 40 CFR Part 63.11(b)(7).

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

1. The permit to install for these emissions units (P001 and P002) was evaluated based on the actual materials and the design parameters of the emissions units' exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by these emissions units using data from the permit to install application and the SCREEN 3.0 model. The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the MAGLC. The following summarizes the results of the modeling for the "worst case" pollutants:

Pollutant: Formaldehyde*

TLV (ug/m3): 272.69

Maximum Hourly Emission Rate (lbs/hr): 2.5

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3):0.57

MAGLC (ug/m3): 6.49

Pollutant: Sulfuric Acid *

TLV (ug/m3): 1000

Maximum Hourly Emission Rate (lbs/hr):1.06

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.40

MAGLC (ug/m3): 23.8

Pollutant: Hydrogen Chloride*

TLV (ug/m3): 5497

Maximum Hourly Emission Rate (lbs/hr): 2.2

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3):0.82

MAGLC (ug/m3):130.9

Pollutant: Nickle*

TLV (ug/m3): 100

Maximum Hourly Emission Rate (lbs/hr):1.09

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3):0.41

MAGLC (ug/m3):2.38

* This was modeled for emissions units P001 & P002 combined.

Physical changes to or changes in the method of operation of the emissions units after their installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

- a. changes in the composition of the materials used, or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
- b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
- c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

2. The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"
 - a. a description of the parameters changed (e.g., composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
 - b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

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

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**A. State and Federally Enforceable Section****I. Applicable Emissions Limitations and/or Control Requirements**

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
F001 - Material Handling and Storage [refuse derived fuel (RDF) and coal]	OAC rule 3745-31-05 (A)(3)	0.5 ton particulate emissions (PE)/yr No visible emissions except for a period of time not to exceed 1-minute during any 60-minute observation period. Best available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust (See A.I.2.c. - A.I.2.d.)
	OAC rule 3745-31-10 through 3745-31-20	See A.I.2.b.
	OAC rule 3745-17-08 (B)(6)	See A.I.2.e.
	OAC rule 3745-17-07 (B)(6)	See A.I.2.e.

2. Additional Terms and Conditions

- 2.a The material handling operations and storage areas that are covered under this permit are all those associated with the RDF and coal handling and storage.
- 2.b The permittee shall employ Best Available Control Technology (BACT) for controlling PE/PM₁₀ on this emissions unit. BACT has been determined to be the use of best available

control measures (see A.I.2.c.).

2.c The permittee shall employ best available control measures on this emissions unit for the purpose of ensuring compliance with all applicable requirements. In accordance with the permittee's permit application, the permittee shall employ the following control methods:

- i. full enclosure of all conveyors; and
- ii. partial enclosure of the storage areas and transfer points.

Nothing in this paragraph shall prohibit the permittee from employing additional control measures to ensure compliance. Any implementation of additional the control measures shall continue on any such operation until further observation confirms that use of the measures are unnecessary.

2.d Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the requirements of OAC rule 3745-31-05 (A)(3).

2.e The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. Except as otherwise provided in this section, the permittee shall perform an inspection on this emissions unit on a daily basis. The inspection shall include checks for any visible fugitive emissions from this emissions unit. The presence or absence of any visible fugitive emissions shall be noted in an operations log. If visible fugitive 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.
2. The above-mentioned inspections shall be performed during representative, normal, operating conditions of this emissions unit and when the weather conditions allow.
 3. The permittee may, upon receipt of written approval from the appropriate Ohio EPA District Office or local air agency, modify the above-mentioned inspection frequencies if operating experience indicates that less frequent inspections would be sufficient to ensure compliance with the above-mentioned applicable requirements.
 4. The permittee shall maintain records of the date and reason any required inspection was not performed.

IV. Reporting Requirements

1. The permittee shall submit annual written reports which (a) identify all days during which any visible fugitive emissions were observed which are not representative of normal operations and (b) describe any corrective actions taken to eliminate the visible fugitive emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

V. Testing Requirements

1. Compliance with the allowable emission limitations of this permit shall be determined in accordance with the following methods:

- a. Emission Limitation:
0.5 ton PE/yr

Applicable Compliance Method:

Emission limitations were developed by applying a 80% control efficiency for best available control measures to the maximum potential uncontrolled emission rate of 2.7 tons PE/yr. The maximum potential uncontrolled emission rate was calculated using AP-42 emission factors (Section 13.2, dated 1/95) with a throughput of 5600 tons/day. Ongoing compliance shall be demonstrated through the monitoring and record keeping requirements in section A.III.

- b. Emission Limitation:
No visible emissions except for a period of time not to exceed 1-minute during any 60-minute observation period.

Applicable Compliance Method:

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Issued: 3/26/2002

Emissions Unit ID: F001

If required, compliance with the visible emission limitation specified above shall be determined in accordance with Test Method 22 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996, and the modifications listed in paragraphs (B)(4)(a) through (B)(4)(c) of OAC rule 3745-17-03.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
F001 - Material Handling and Storage (RDF and coal)		None

2. Additional Terms and Conditions

- 2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
F002 - Material Handling and Storage (Vitrified Frit)	OAC rule 3745-31-05 (A)(3)	0.2 ton particulate emissions (PE)/yr No visible emissions except for a period of time not to exceed 1-minute during any 60-minute observation period. Best available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust (See A.I.2.c. - A.I.2.d.)
	OAC rule 3745-31-10 through 3745-31-20	See A.I.2.b.
	OAC rule 3745-17-08 (B)(6)	See A.I.2.e.
	OAC rule 3745-17-07 (B)(6)	See A.I.2.e.

2. Additional Terms and Conditions

- 2.a The material handling operations and storage areas that are covered under this permit are all those associated with the vitrified frit handling and storage.
- 2.b The permittee shall employ Best Available Control Technology (BACT) for controlling PE/PM₁₀ on this emissions unit. BACT has been determined to be the use of best available control measures (see A.I.2.c.).
- 2.c The permittee shall employ best available control measures on this emissions unit for the purpose of ensuring compliance with all applicable requirements. In accordance with the permittee's permit application, the permittee shall employ the following control methods:

- i. full enclosure of all conveyors; and
- ii. partial enclosure of the storage areas and transfer points.

Nothing in this paragraph shall prohibit the permittee from employing additional control measures to ensure compliance. Any implementation of additional the control measures shall continue on any such operation until further observation confirms that use of the measures are unnecessary.

- 2.d** Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the requirements of OAC rule 3745-31-05 (A)(3).
- 2.e** The emission limitation specified by this rule is less rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. Except as otherwise provided in this section, the permittee shall perform an inspection on this emissions unit on a daily basis. The inspection shall include checks for any visible fugitive emissions from this emissions unit. The presence or absence of any visible fugitive emissions shall be noted in an operations log. If visible fugitive 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.

2. The above-mentioned inspections shall be performed during representative, normal, operating conditions of this emissions unit and when the weather conditions allow.
3. The permittee may, upon receipt of written approval from the appropriate Ohio EPA District Office or local air agency, modify the above-mentioned inspection frequencies if operating experience indicates that less frequent inspections would be sufficient to ensure compliance with the above-mentioned applicable requirements.
4. The permittee shall maintain records of the date and reason any required inspection was not performed.

IV. Reporting Requirements

1. The permittee shall submit annual written reports which (a) identify all days during which any visible fugitive emissions were observed which are not representative of normal operations and (b) describe any corrective actions taken to eliminate the visible fugitive emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

V. Testing Requirements

1. Compliance with the allowable emission limitations of this permit shall be determined in accordance with the following methods:
 - a. Emission Limitation:
0.2 ton PE/yr

Applicable Compliance Method:
Emission limitations were developed by applying a 70% control efficiency for best available control measures to the maximum potential uncontrolled emission rate of 0.7 tons PE/yr. The maximum potential uncontrolled emission rate was calculated using AP-42 emission factors (Section 13.2.4, dated 1/95) with a throughput of 500 tons/day. Ongoing compliance shall be demonstrated through the monitoring and record keeping requirements in section A.III.
 - b. Emission Limitation:
No visible emissions except for a period of time not to exceed 1-minute during any 60-minute observation period.

Applicable Compliance Method:

Emissions Unit ID: F002

If required, compliance with the visible emission limitation specified above shall be determined in accordance with Test Method 22 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996, and the modifications listed in paragraphs (B)(4)(a) through (B)(4)(c) of OAC rule 3745-17-03.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
F002 - Material Handling and Storage (Vitrified Frit)		None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
F003 - Material Handling and Storage (Limestone and Pet Coke)	OAC rule 3745-31-05 (A)(3)	0.2 ton particulate emissions (PE)/yr No visible emissions except for a period of time not to exceed 1-minute during any 60-minute observation period. Best available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust (See A.I.2.c. - A.I.2.d.)
	OAC rule 3745-31-10 through 3745-31-20	See A.I.2.b.
	OAC rule 3745-17-08 (B)(6)	See A.I.2.e.
	OAC rule 3745-17-07 (B)(6)	See A.I.2.e.

2. Additional Terms and Conditions

- 2.a The material handling and storage areas that are covered under this permit are all those associated with limestone and pet coke handling and storage.
- 2.b The permittee shall employ Best Available Control Technology (BACT) for controlling PE/PM₁₀ on this emissions unit. BACT has been determined to be the use of best available control measures (see A.I.2.c.).

- 2.c** The permittee shall employ best available control measures on this emissions unit for the purpose of ensuring compliance with all applicable requirements. In accordance with the permittee's permit application, the permittee employ the following control methods:

- i. full enclosure of all conveyors; and
- ii. partial enclosure of the storage areas and transfer points.

Nothing in this paragraph shall prohibit the permittee from employing additional control measures to ensure compliance. Any implementation of additional the control measures shall continue on any such operation until further observation confirms that use of the measures are unnecessary.

- 2.d** Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the requirements of OAC rule 3745-31-05 (A)(3).
- 2.e** The emission limitation specified by this rule is less rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

II. Operational Restrictions

None

III. Monitoring and/or Record Keeping Requirements

1. Except as otherwise provided in this section, the permittee shall perform an inspection on this emissions unit on a daily basis. The inspection shall include checks for any visible fugitive emissions from this emissions unit. The presence or absence of any visible fugitive emissions shall be noted in an operations log. If visible fugitive 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.

2. The above-mentioned inspections shall be performed during representative, normal, operating conditions of this emissions unit and when the weather conditions allow.
3. The permittee may, upon receipt of written approval from the appropriate Ohio EPA District Office or local air agency, modify the above-mentioned inspection frequencies if operating experience indicates that less frequent inspections would be sufficient to ensure compliance with the above-mentioned applicable requirements.
4. The permittee shall maintain records of the date and reason any required inspection was not performed.

IV. Reporting Requirements

1. The permittee shall submit annual written reports which (a) identify all days during which any visible fugitive emissions were observed which are not representative of normal operations and (b) describe any corrective actions taken to eliminate the visible fugitive emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

V. Testing Requirements

1. Compliance with the allowable emission limitations of this permit shall be determined in accordance with the following methods:
 - a. Emission Limitation:
0.2 ton PE/yr

Applicable Compliance Method:
Emission limitations were developed by applying a 70% control efficiency for best available control measures to the maximum potential uncontrolled emission rate of 0.5 tons PE/yr. The maximum potential uncontrolled emission rate was calculated using AP-42 emission factors (Section 13.2, dated 1/95) with a throughput of 135 tons/day. Ongoing compliance shall be demonstrated through the monitoring and record keeping requirements in section A.III.
 - b. Emission Limitation:
No visible emissions except for a period of time not to exceed 1-minute during any 60-minute observation period.

Applicable Compliance Method:

Emissions Unit ID: F003

If required, compliance with the visible emission limitation specified above shall be determined in accordance with Test Method 22 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996, and the modifications listed in paragraphs (B)(4)(a) through (B)(4)(c) of OAC rule 3745-17-03.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section**I. Applicable Emissions Limitations and/or Control Requirements**

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
F003 - Material Handling and Storage (Limestone and Pet Coke)		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

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Issued: 3/26/2002

Emissions Unit ID: F003

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 - Syngas/Natural Gas Turbine, Unit #1 of a Combined Cycle System and Gasification Plant	OAC Rule 3745-31-05 (A)(3)
	OAC Rule 3745-31-05 (D)
	OAC rule 3745-31-10 through 3745-31-20

	<u>Applicable Emissions Limitations/Control Measures</u>	
		1.1 lb hydrogen chloride (HCL)/hr & 4.8 tons HCL/yr
	See A.I.2.b.	Start-up and shut-down emissions
	visible particulate emissions shall not exceed 10 percent opacity as a six-minute average	20.0 tons NO _x /yr 50.0 tons CO/yr 2.5 tons VOC/yr
40 CFR Part 60, Subpart Eb	178.0 lbs NO _x /hr & 642.7 tons NO _x /yr	3.3 tons formaldehyde per rolling 12-month period, See A.II.1.
	251.0 lbs CO/hr & 340.0 tons CO/yr	See A.I.2.a.
	38.6 lbs Sulfur Dioxide (SO ₂)/hr & 169.1 tons SO ₂ /yr	25 ppmvd nitrogen oxides (NO _x) at 15% Oxygen and 25 ppmvd carbon monoxide (CO) at 15% Oxygen when firing natural gas or blended fuel
	18.0 lbs Particulate Emissions (PE)/hr & 78.8 tons PE/yr, See A.I.2.f.	15 ppmvd NO _x at 15% Oxygen and 15 ppmvd CO at 15% Oxygen when firing syngas
	15.0 lbs Volatile Organic Compounds (VOC)/hr & 66.7 tons VOC/yr,	642.7 tons NO _x , 340.0 tons CO, 169.1 tons SO ₂ , 78.8 tons PE, and 66.7 tons VOC per rolling 12-month period
OAC Rule 3745-17-07(A)	1.25 lbs formaldehyde/hr	
	0.53 lb sulfuric acid/hr & 2.3 tons sulfuric acid/yr	when firing syngas, emissions shall not exceed:
40 CFR Part 60, Subpart GG	0.009 lb cadmium/hr & 0.04 ton cadmium/yr	0.020 mg cadmium/dscm at 7% Oxygen
OAC rule 3745-18-06(F)		0.20 mg lead/dscm at 7% Oxygen
OAC Rule 3745-17-11(B)(4)	0.018 lb lead/hr & 0.08 ton lead/yr	0.080 mg mercury/dscm at 7% Oxygen
OAC Rule 3745-103	0.0013 lb mercury/hr & 0.01 ton mercury/yr	13 ng dioxin/furan* per dscm at 7% Oxygen
40 CFR Part 75	0.000000029 lb dioxin/furan* per hr & 0.000254 lb dioxin/furan* per yr	25 ppmvd HCL at 7% Oxygen, or 5 percent of the potential HCL emissions

(95 percent reduction by weight or volume), whichever is less stringent

See A.I.2.c.

See A.I.2.d.

See A.I.2.c.

See A.I.2.c.

See A.I.2.e.

See A.I.2.e.

2. Additional Terms and Conditions

2.a The permittee shall employ Best Available Control Technology (BACT) for controlling NO_x, SO₂, CO, PE/PM₁₀, and VOC on this emissions unit. BACT has been determined to be the following determinations have been made for each pollutant:

PE - Use of only clean burning fuels (natural gas and syngas), in an efficient combustion turbine.

NO_x - Use of dilution prior to combustion, as well as dilution injection into the combustion zone at the emission concentrations established above.

CO - Use of efficient combustion technology at the emission concentrations established above.

VOC - Use of efficient combustion technology.

SO₂ - Use of a solvent-based absorption technology with tail gas recirculation prior to combustion and a minimum control efficiency of 99%.

Municipal Waste Combustor Acid Gasses - Use of a solvent-based absorption technology with tail gas recirculation prior to combustion and a minimum control efficiency of 99%.

2.b The requirements of this rule also include compliance with the requirements of OAC rule

Emissions Unit ID: P001

3745-31-10 through 20, and 40 CFR Part 60, Subpart GG and Eb.

- 2.c The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
 - 2.d The emission limitations specified by this rule are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3). 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, and 40 CFR Part 60, Subpart Eb.
 - 2.e If the permittee is subject to the requirements of 40 CFR Part 75 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.
 - 2.f It is assumed that all PE emissions are PM₁₀.
 - 2.g The annual emission limits above include 200 hours of start-up and shut-down emissions. It has been determined that there are additional NO_x, CO, and VOC emissions associated with start-up and shut-down periods. These estimated worst case emissions rates are described in condition A.III.1.
- * As defined in 40 CFR Part 60, Subpart Eb.

II. Operational Restrictions

- 1. The permittee has requested a transitional period to allow for additional natural gas usage during the initial 24 months this emissions unit is in operation. During this initial 24 month period following startup*, the maximum allowable natural gas usage for this emissions unit shall not exceed the amounts specified in the following table:

months	allowable NG usage (mmcf)
1-12	8,190
13-24	4,095

After the initial 24 month transition period, the maximum annual fuel usage for this emissions unit shall not exceed 2050 mmcf of natural gas per rolling 12-month period.

To ensure enforceability during the first 12 calendar months following the transition period, the permittee shall not exceed the fuel usage restrictions specified in the following table:

months	Cumulative Summation of allowable fuel usage (mmcf)
--------	---

25	400
25-26	800
25-27	1200
25-28	1600
25-29	2000
25-36	2050

After the first 36 calendar months of operation, compliance with the annual usage restrictions shall be based on a rolling, 12-month summation.

*Startup for the facility shall be defined as the date when emissions units P001 is set in operation for any purpose. Start-up for the daily operation of the turbine is described in condition A.II.2.

2. This emissions unit shall have a maximum allowable fuel flow of 1.81 million scf/hr when firing natural gas, and a maximum allowable fuel flow of 6.95 million scf/hr when firing syngas. The permittee shall operate this emissions unit within the parameters specified above, except for start-up and shut-down. Start-up shall be defined as the time necessary to bring the unit to its minimum operating temperature (as recommended by the vendor), but under no circumstances shall it exceed 60 minutes in duration. Shut-down periods shall not exceed 60 minutes in duration.
3. With the exception of start-up and shut-down periods, emissions unit P001 shall be operated at minimum of 50% load. The permittee may petition the Ohio EPA, Northwest District Office (NWDO) 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, and modeling requirements pursuant to Engineering Guide no. 69.
4. The permittee shall burn only natural gas and syngas in this emissions unit. For the purposes of this permit, syngas shall be defined as the gasification of any of the following products: coal, pet coke, and refuse derived fuel (RDF). The permittee may request the gasification of additional products in as described in condition A.VI.2.
5. The permittee shall be limited to 200 hours of operation per year for start-ups and shut-downs.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall maintain monthly records of the following for emissions unit P001:

Emissions Unit ID: P001

- a. number and duration of each start-up;
- b. number and duration of each shut-down;
- c. the start-up and shut-down emissions* for NO_x, CO, and VOC in tons per month;

In addition to the above information, the permittee shall maintain monthly records of the following information for emissions unit P001:

- d. during the first 36 calendar months of operation following startup, the quantity of natural gas fired and the quantity of syngas fired, in million cubic feet;
- e. beginning the first month after the first 36 months of operation following startup, the rolling, 12- month summation of the quantity of natural gas fired and the quantity of syngas fired, in million cubic feet;
- f. the monthly emission* rate for PE, NO_x, SO₂, CO, VOC, and formaldehyde (including start-up and shut-down emissions), in tons;
- g. during the first 36 calendar months of operation following startup, the annual emissions of PE, NO_x, SO₂, CO, VOC, and formaldehyde, (including start-up and shut-down emissions) in tons; and
- h. beginning the first month after the first 36 months of operation following startup, the rolling, 12- month summation of the emission rates for PE, NO_x, SO₂, CO, VOC, and formaldehyde (including start-up and shut-down emissions), in tons.

*The permittee shall use continuous emissions monitoring (CEM) data to determine emissions for those pollutants where a CEM is installed. During the periods where a CEM is not operational or for pollutants where a CEM is not installed, the permittee shall use the most recent testing data/emission factors available for each respective pollutant, in conjunction with the quantity of fuel fired, as recorded above, to determine monthly emissions. Where CEMs data is not available for start-up and shutdown periods, the emission factors/rates to be used are as follows: 200 lbs NO_x/hr, 500 lbs CO/hr, and 25 lbs VOC/hr.

2. For each day during which the permittee burns a fuel other than natural gas or syngas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
3. The information management system for this emissions unit shall be capable of monitoring and recording the fuel flow in million cu ft, and hours of operation .
4. Except for periods described in 40 CFR part 60.13, the permittee shall install, operate, and maintain equipment to continuously monitor* and record SO₂, NO_x, CO, and opacity of the

particulate emissions from this emissions unit, in the units specified in the terms and conditions of this permit. The averaging time for the continuous monitoring and recording equipment shall be 6 minutes (block) for the opacity monitor and 3 hours (block) for all other monitors. The span value of the SO₂, NO_x, and CO continuous emission monitoring systems shall be 125 percent of the maximum estimated hourly potential emissions of the emissions unit. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13 or as approved by the Ohio EPA.

The permittee shall maintain records of all data obtained by the continuous SO₂, NO_x, CO, and opacity monitoring systems including, but not limited to, parts per million SO₂, NO_x, CO, and opacity on an instantaneous (one-minute) basis, emissions of SO₂, NO_x, CO, and opacity in the units specified in the terms and conditions of this permit, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

5. The permittee shall operate and maintain equipment to continuously monitor and record the O₂ from this emissions unit in percent O₂. The span value of the continuous emission monitoring system shall be 25 percent O₂. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13 or as approved by the Ohio EPA, Central Office. The permittee may install a CO₂ monitor in lieu of an O₂ monitor with prior approval from the Ohio EPA, Central Office.

The permittee shall maintain records of all data obtained by the continuous O₂ monitoring system including, but not limited to percent O₂ on an instantaneous (one-minute) basis, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

* The installation and operation of systems to continuously monitor and record emissions of SO₂ and NO_x may be performed in lieu of continuously monitoring the fuel consumption, water ratio, and nitrogen & sulfur contents of the fuel being fired in the turbine, as required by 40 CFR 60.334. When SO₂, NO_x, or CO emissions are not obtained due to continuous emission monitoring system breakdowns, repairs, calibration checks, or other event, emissions data shall be obtained using Method 19 of 40 CFR Part 60, Appendix A or other method as approved by the Ohio EPA, Central Office.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other

Emissions Unit ID: P001

than natural gas or syngas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

2. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 12-month fuel usage limitations and, for the first 36 calendar months of operation, all exceedances of the maximum allowable natural gas usage.
3. The permittee shall submit quarterly reports which identify each period during which an exemption for ice-fog provided in 40 CFR 60.332(f) 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. Pursuant to OAC rules 3745-15-04, 3745-35-02, and ORC sections 3704.03(I) and 3704.031 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 Ohio EPA NWDO documenting the date, commencement and completion times, duration, magnitude, reason (i.e., startup and shutdown periods as defined in Condition A.II.2., malfunctions, etc.), and corrective actions taken (if any), of all instances of SO₂, NO_x, CO, and opacity values in excess of the limits specified in the terms and conditions of this permit. These reports shall also contain the total SO₂, NO_x, and CO emissions for the calendar quarter (in tons).

The permittee shall submit reports within 30 days following the end of each calendar quarter to the Ohio EPA, NWDO documenting any continuous SO₂, NO_x, CO, O₂, and opacity 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 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, control equipment, and/or 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.

5. Pursuant to OAC rules 3745-15-04, 3745-35-02, and ORC sections 3704.03(I) and 3704.031, the permittee shall submit a summary of the excess emission report pursuant to 40 CFR Part 60.7. The summary shall be submitted to the Ohio EPA, NWDO within 30 days following the end of each calendar quarter in a manner prescribed by the Director.
6. The permittee shall submit deviation (excursion) reports that identify each time when this emissions unit was not in compliance with the requirements of condition A.II.2., A.II.3., and A.II.5. above.
7. In lieu of the excess emissions reports required under 40 CFR Part 60.334, the permittee shall submit excess and emissions reports for emissions unit P001 in accordance with this permit.
8. The permittee shall submit semiannual reports as required by 40 CFR Part 60.59b(h).
9. Except as specified in condition A.IV.1, all deviation reports shall be submitted in accordance with the General Terms and Conditions of this permit.
10. The permittee shall notify the Ohio EPA, NWDO when there has been a change in the supplier of coal or refuse derived fuel.
11. This emissions unit is subject to the applicable provisions of Subpart GG and Eb of the New Source Performance Standards (NSPS) as promulgated by the United States Environmental

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Protection Agency, 40 CFR Part 60.

The application and enforcement of these standards are delegated to the Ohio EPA. The requirements of 40 CFR Part 60 are also federally enforceable.

Pursuant to 40 CFR Part 60.7 and 60.59b, the permittee is hereby advised of the requirement to report the following at the appropriate times:

- a. construction date - intent to construct (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);
- d. the types of fuels that are planning on being combusted;
- e. the combustion units maximum capacity;
- f. any documents associated with the siting requirements as specified in 40 CFR Part 60.59b(b)(5); and
- g. date of performance testing, at least 45 days prior to testing.

Reports are to be sent to:

Ohio Environmental Protection Agency
DAPC - Permit Management Unit
Lazarus Government Center
P.O.1049
Columbus, Ohio 43216-1049

and

Ohio Environmental Protection Agency
Northwest District Office
Division of Air Pollution Control
347 North Dunbridge Road
Bowling Green, Ohio 43402

V. Testing Requirements/Compliance Methods Determinations

1. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
 - a. The emissions testing shall be conducted while firing both natural gas and syngas individually. The emission testing while firing natural gas shall be conducted within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of this emissions unit. The emissions testing while firing syngas shall be conducted within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after the initial use of syngas in this emissions unit.

- b. The emissions testing shall be conducted to demonstrate compliance with the NO_x and CO outlet concentrations, and the mass emissions limitations for NO_x, CO, VOC, SO₂, PE, and Formaldehyde. Emission testing shall also be conducted to demonstrate compliance with the outlet concentrations and mass emissions limitations for cadmium, lead, mercury, HCL, and dioxin/furans when firing syngas.
- c. The following test method(s) shall be employed to demonstrate compliance with the above emissions limitations: for NO_x, Method 20 of 40 CFR Part 60, Appendix A; for PE, Method 5 of 40 CFR Part 60, Appendix A; for formaldehyde, SW-846 Method 0011 or CARB Method 316; for VOC, Method 25 of 40 CFR Part 60, Appendix A; SO₂ Method 6 of 40 CFR Part 60, Appendix A; for CO Method 10 of 40 CFR Part 60, Appendix A, for cadmium, Method 29 of 40 CFR Part 60, Appendix A; for lead, Method 29 of 40 CFR Part 60, Appendix A; for mercury, Method 29 of 40 CFR Part 60, Appendix A; for HCL, Method 26 of 40 CFR Part 60, Appendix A; for dioxin/furan, Method 23 of 40 CFR Part 60, Appendix A; and for air flow and moisture content determinations, Methods 1-4 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA, NWDO.
- d. In addition to the above pollutants, emissions testing shall also be performed for the following pollutants while firing syngas: Nickel, Total Chromium, Vanadium, Zinc, Cobalt, Arsenic, Antimony, Manganese, Beryllium, Benzene, Selenium, Carbon Disulfide, and Carbonyl Sulfide. The permittee shall propose the testing methodology for these pollutants consistent with US EPA test methods.

In addition to the above requirements, the permittee shall propose a method by which to demonstrate the control efficiency of the sulfur removal system. This proposal shall be part of the test notification, and the results shall be included in the stack test report.

- e. The permittee shall develop site specific emission factors for all pollutants tested. These emission factors shall be in units of lbs of emissions per volume of fuel consumed.
- f. The following testing requirements are pursuant to 40 CFR Part 60, Part 60.58b:
 - i. when testing for dioxin/furan emissions, the minimum sampling time shall be 4 hours per test run;
 - ii. when testing for mercury and PE, the minimum sample volume shall be 1.7 cubic meters;

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- iii. when testing PE, the probe and filter holder heating in the sample train shall be set to provide a gas temperature of no greater than 160 +/- 14 degrees Celcius; and,
 - iv. the minimum frequency of testing shall be such that it complies with the requirements of 40 CFR Part 60, Part 60.58b.
- g. The testing shall be performed at maximum capacity, unless otherwise specified or approved by the Ohio EPA, NWDO.
- h. Not later than 45 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, NWDO. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the tests, and the person(s) who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Ohio EPA, NWDO refusal to accept the results of the emission tests.
- i. Personnel from the Ohio EPA, NWDO shall be permitted to witness the tests, examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- j. A comprehensive written report on the results of the emissions tests shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, NWDO within 30 days following completion of the tests. The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, NWDO.
- k. As part of the stack test report, the permittee shall include test results that are in the units of measurement established in this permit as well as in the units of measurement established in 40 CFR Part 60, Subpart Eb.
- l. In lieu of the test methods and procedures required under 40 CFR Part 60.335, the permittee shall follow the testing requirements in accordance with this permit.
2. Within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of such emissions unit, the permittee shall conduct certification tests of the continuous NO_x and CO monitoring systems pursuant to ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 6*. Personnel from the Ohio EPA, Northwest District Office shall be notified 30 days prior to initiation of the applicable tests and shall be permitted to examine equipment and witness the certification tests. In accordance with OAC rule 3745-15-04, copies of all the test results shall be submitted within 30 days after the test is completed. Copies of the test results shall be sent to the Ohio EPA, Northwest District Office and the Ohio EPA, Central Office. Certification of the continuous NO_x and CO monitoring systems 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 6*.

3. Within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of such emissions unit, the permittee shall conduct certification tests of the continuous O₂ monitoring systems pursuant to ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 3. Personnel from the Ohio EPA, Northwest District Office 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 within 30 days after the test is completed. Copies of the test results shall be sent to the Ohio EPA, Northwest District Office and the Ohio EPA, Central Office. Certification of the continuous O₂ 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.

* The permittee may use 40 CFR Part 60, Appendix B, Performance Specification 2 and Performance Specification 4 in conjunction with a fuel flow monitor as described in 40 CFR Part 75 to meet these requirements if approved by the Ohio EPA, Central Office.

4. Within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of such emissions unit, the permittee shall conduct certification tests on the continuous opacity monitoring system equipment pursuant to ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 1. Personnel from the Ohio EPA, Northwest District Office 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 within 30 days after the test is completed. Copies of the test results shall be sent to the Ohio EPA, Northwest District Office and the Ohio EPA, Central Office. Certification of the continuous opacity 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 1 including section 5.1.9 (mandatory).
5. Compliance with the allowable emission limitations in this permit shall be determined according to the following methods:
 - a. Emission Limitation
25 ppmvd NO_x at 15% Oxygen when firing natural gas or blended fuel
15 ppmvd NO_x at 15% Oxygen when firing syngas
178.0 lbs NO_x/hr & 642.7 tons NO_x per rolling 12-month period

Applicable Compliance Method

Compliance with the allowable outlet concentrations and the lbs/hr emission limitation shall be demonstrated by the performance testing as described in condition A.V.1 and continuous emissions monitoring requirement as described in conditions A.III.4. and A.V.2. Compliance with the annual emission limitations shall be determined by the record keeping required in condition A.III.1.

b. Emission Limitation

18.0 lbs PE/hr & 78.8 tons PE per rolling 12-month period

Applicable Compliance Method

Compliance with the allowable outlet concentrations & the lbs/hr emission limitations shall be demonstrated by the performance testing as described in condition A.V.1. Compliance with the annual emission limitations shall be determined by the record keeping required in condition A.III.1.

c. Emission Limitation

38.6 lbs SO₂/hr & 169.1 tons SO₂ per rolling 12-month period

Applicable Compliance Method

Compliance with the allowable outlet concentrations and the lbs/hr emission limitation shall be demonstrated by the performance testing as described in condition A.V.1 and continuous emissions monitoring requirement as described in conditions A.III.4. and A.V.2. Compliance with the annual emission limitations shall be determined by the record keeping required in condition A.III.1.

d. Emission Limitation

15.0 lbs VOC/hr & 66.7 tons VOC per rolling 12-month period

Applicable Compliance Method

Compliance with the lbs/hr emission limitations shall be demonstrated by the performance testing as described in condition A.V.1. Compliance with the annual emission limitations shall be determined by the record keeping required in condition A.III.1.

e. Emission Limitation

25 ppmvd CO at 15% Oxygen when firing natural gas
 15 ppmvd CO at 15% Oxygen when firing syngas
 251.0 lbs CO/hr & 340.0 tons CO per rolling 12-month period

Applicable Compliance Method

Compliance with the allowable outlet concentrations and the lbs/hr emission limitation

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shall be demonstrated by the performance testing as described in condition A.V.1 and continuous emissions monitoring requirement as described in conditions A.III.4. and A.V.2. Compliance with the annual emission limitations shall be determined by the record keeping required in condition A.III.1.

f. Emission Limitation

1.25 lbs formaldehyde/hr & 3.3 tons formaldehyde per rolling 12-month period

Applicable Compliance Method

Compliance with the lbs/hr emission limitations shall be demonstrated by the performance testing as described in condition A.V.1. Compliance with the annual emission limitations shall be determined by the record keeping required in condition A.III.1.

g. Emission Limitation

0.020 mg cadmium/dscm at 7% Oxygen
 0.009 lb cadmium/hr & 0.04 ton cadmium/yr

0.20 mg lead/dscm at 7% Oxygen
 0.018 lb lead/hr & 0.08 ton lead/yr

0.080 mg mercury/dscm at 7% Oxygen
 0.0013 lb mercury/hr & 0.01 ton mercury/yr

13 ng dioxin/furan per dscm at 7% Oxygen
 0.000000029 lb dioxin/furan per hr & 0.000254 lb dioxin/furan per yr

25 ppmvd HCL at 7% Oxygen, or 5 percent of the potential HCL emissions (95 percent reduction by weight or volume), whichever is less stringent
 1.1 lb HCL/hr & 4.8 tons HCL/yr

Applicable Compliance Method

Compliance with the allowable outlet concentrations and the lbs/hr emission limitations shall be demonstrated by the performance testing as described in condition A.V.1. Compliance with the annual emission limitations shall be determined multiplying the hourly emission limit by 8760 hrs/yr and dividing by 2000 lbs/ton.

h. Emission Limitation

0.53 lb sulfuric acid/hr & 2.3 tons sulfuric acid/yr

Applicable Compliance Method

The allowable lbs/hr emission limitation the represents the potential to emit based on engineering calculations while firing syngas. If required, compliance with the allowable lbs/hr emission limitation shall be determined by approved U.S. EPA test methods. Compliance with the annual emission limitations shall be determined multiplying the hourly emission limit by 8760 hrs/yr and dividing by 2000 lbs/ton.

- i. Emission Limitation
Start-up and shut-down emissions
20.0 tons NO_x/yr
50.0 tons CO/yr
2.5 tons VOC/yr

Applicable Compliance Method

Compliance with the annual emission limitations shall be demonstrated by the record keeping required in condition A.III.1.

- j. Emission Limitation
Visible particulate emissions shall not exceed 10 percent opacity as a six-minute average.

Applicable Compliance Method

If required, compliance with the visible emissions limitations established by this permit shall be determined by Method 9, 40 CFR Part 60 Appendix A.

VI. Miscellaneous Requirements

1. The permittee may petition the Ohio EPA, Northwest District Office (NWDO) 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, and modeling requirements pursuant to Engineering Guide no. 69.
2. The permittee may also petition the Ohio EPA, NWDO to use additional materials for the production of syngas if it can demonstrate to the agency's satisfaction that the emissions unit will comply with Ohio EPA's "Air Toxics Policy" and all applicable emission limits in this permit.
3. Prior to the installation of the continuous NO_x, CO, SO₂, and opacity monitoring systems, the permittee shall submit information detailing the proposed location of the sampling site in accordance with the siting requirements in 40 CFR Part 60, Appendix B, Performance Specification 6 (or as described in condition A.V.1.) for approval by the Ohio EPA, Central Office.

Prior to the installation of the continuous O₂ 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.

Prior to the installation of the continuous opacity 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 1 for approval by the Ohio EPA, Central Office.

4. Within 30 days of the start-up of this emissions unit, the permittee shall develop a written quality assurance/quality control plan for the continuous NO_x, CO, SO₂, O₂, and opacity monitoring systems designed to ensure continuous valid and representative readings of NO_x, CO, SO₂, O₂, and opacity emissions. The plan shall follow the requirements of 40 CFR Part 60, Appendix F, except as otherwise specified in 40 CFR Part 60, Subpart Eb, or as approved by the Ohio EPA, Central office. The quality assurance/quality control plan and a logbook dedicated to the continuous NO_x, CO, SO₂, O₂, and opacity monitoring systems must be kept on site and available for inspection during regular office hours.
5. Per the requirements of condition A.V.1.d., the permittee is required to perform emissions testing for numerous HAPs, for which emissions limitations are not established in this permit. This emissions data is to be used when calculating HAPs potential to emit. In addition, Ohio EPA will review this emissions data to determine if the permit adequately addresses all pollutants of

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concern. The Ohio EPA reserves the right to modify this permit for the purpose of establishing additional emission limits or performance standards for any of these pollutants. Any newly established limits or standards would be consistent with Best Available Technology requirements and all other applicable rules and regulations.

6. The permittee shall provide training and certification for all operators and supervisors as described in 40 CFR Part 60, Subpart 60.54b. The permittee shall maintain records on showing the names of all operators and supervisors who, have received certification and training as described in 40 CFR Part 60, Subpart 60.59b.
7. The permittee shall develop a site specific operating manual, provide training on the operating manual, and maintain records showing the names of all persons who have been provided the training, as described in 40 CFR Part 60, Subpart 60.54b and 60.59b respectively.
8. A siting analysis shall be conducted in accordance with 40 CFR Part 60.57*b*.
9. The permittee is exempt from the requirement in 40 CFR Part 60, Subpart Eb which pertain to the development of a materials separation plan, as this facility does not accept municipal solid waste.
10. The permittee is exempt from the requirements of 40 CFR Part 60, Subpart Eb which pertain to the monitoring, record keeping, and reporting on the operation of a post combustion particulate control device, as there is no such device on this emissions unit.
11. The permittee is exempt from the requirements of 40 CFR Part 60, Subpart Eb. which pertain to the monitoring, record keeping, and reporting on the generation of fugitive ash, as this facility does not generate fugitive ash as this operation is described in 40 CFR Part 60, Subpart Eb.
12. Within 90 days of the of the start-up of this emissions unit, the permittee shall develop a preventative maintenance and malfunction abatement plan/system for the gasification operations at this facility. The plan should clearly document how the permittee maintains the system(s) in good working order, i.e. the type of inspections done on the equipment as well as the frequency. The quality assurance/quality control plan and logbooks/records dedicated to the system must be kept on site and available for inspection during regular office hours. This plan should also specify the responsible person(s) for notifying this office in the event of an equipment malfunction that results in emissions to the atmosphere.

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 - Syngas/Natural Gas Turbine, Unit #1 of a Combined Cycle System and Gasification Plant	OAC rule 3745-31-05(A)(3)	None

2. Additional Terms and Conditions

- 2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
P002 - Syngas/Natural Gas Turbine, Unit #2 of a Combined Cycle System and Gasification Plant	OAC Rule 3745-31-05 (A)(3)
	OAC Rule 3745-31-05 (D)
	OAC rule 3745-31-10 through 3745-31-20

	<u>Applicable Emissions Limitations/Control Measures</u>	
		1.1 lb hydrogen chloride (HCL)/hr & 4.8 tons HCL/yr,
	See A.I.2.b.	Start-up and shut-down emissions
	visible particulate emissions shall not exceed 10 percent opacity as a six-minute average	20.0 tons NO _x /yr 50.0 tons CO/yr 2.5 tons VOC/yr
40 CFR Part 60, Subpart Eb	178.0 lbs NO _x /hr & 642.7 tons NO _x /yr	3.3 tons formaldehyde per rolling 12-month period, See A.II.1.
	251.0 lbs CO/hr & 340.0 tons CO/yr	See A.I.2.a.
	38.6 lbs Sulfur Dioxide (SO ₂)/hr & 169.1 tons SO ₂ /yr	25 ppmvd nitrogen oxides (NO _x) at 15% Oxygen and 25 ppmvd carbon monoxide (CO) at 15% Oxygen when firing natural gas or blended fuel
	18.0 lbs Particulate Emissions (PE)/hr & 78.8 tons PE/yr, See A.I.2.f.	15 ppmvd NO _x at 15% Oxygen and 15 ppmvd CO at 15% Oxygen when firing syngas
	15.0 lbs Volatile Organic Compounds (VOC)/hr & 66.7 tons VOC/yr,	642.7 tons NO _x , 340.0 tons CO, 169.1 tons SO ₂ , 78.8 tons PE, and 66.7 tons VOC per rolling 12-month period
OAC Rule 3745-17-07(A)	1.25 lbs formaldehyde/hr	
	0.53 lb sulfuric acid/hr & 2.3 tons sulfuric acid/yr	when firing syngas, emissions shall not exceed:
40 CFR Part 60, Subpart GG	0.009 lb cadmium/hr & 0.04 ton cadmium/yr	0.020 mg cadmium/dscm at 7% Oxygen
OAC rule 3745-18-06(F)		0.20 mg lead/dscm at 7% Oxygen
OAC Rule 3745-17-11(B)(4)	0.018 lb lead/hr & 0.08 ton lead/yr	0.080 mg mercury/dscm at 7% Oxygen
OAC Rule 3745-103	0.0013 lb mercury/hr & 0.01 ton mercury/yr	13 ng dioxin/furan per dscm at 7% Oxygen
40 CFR Part 75	0.000000029 lb dioxin/furan per hr & 0.000254 lb dioxin/furan per yr	25 ppmvd HCL at 7% Oxygen, or 5 percent of the potential HCL emissions

(95 percent reduction by weight or volume), whichever is less stringent

See A.I.2.c.

See A.I.2.d.

See A.I.2.c.

See A.I.2.c.

See A.I.2.e.

See A.I.2.e.

2. Additional Terms and Conditions

2.a The permittee shall employ Best Available Control Technology (BACT) for controlling NO_x, SO₂, CO, PE/PM₁₀, and VOC on this emissions unit. BACT has been determined to be the following determinations have been made for each pollutant:

PE - Use of only clean burning fuels (natural gas and syngas), in an efficient combustion turbine.

NO_x - Use of dilution prior to combustion, as well as dilution injection into the combustion zone at the emission concentrations established above.

CO - Use of efficient combustion technology at the emission concentrations established above.

VOC - Use of efficient combustion technology.

SO₂ - Use of a solvent-based absorption technology with tail gas recirculation prior to combustion and a minimum control efficiency of 99%.

Municipal Waste Combustor Acid Gasses - Use of a solvent-based absorption technology with tail gas recirculation prior to combustion and a minimum control efficiency of 99%.

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- 2.b** The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-10 through 20, 40 CFR Part 52.21, and 40 CFR Part 60, Subpart GG and Eb.
- 2.c** The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
- 2.d** The emission limitations specified by this rule are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3). 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, and 40 CFR Part 60, Subpart Eb.
- 2.e** If the permittee is subject to the requirements of 40 CFR Part 75 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.
- 2.f** It is assumed that all PE emissions are PM₁₀.
- 2.g** The annual emission limits above include 200 hours of start-up and shut-down emissions. It has been determined that there are additional NO_x, CO, and VOC emissions associated with start-up and shut-down periods. These estimated worst case emissions rates are described in condition A.III.1.
- * As defined in 40 CFR Part 60, Subpart Eb.

II. Operational Restrictions

1. The permittee has requested a transitional period to allow for additional natural gas usage during the initial 24 months this emissions unit is in operation. During this initial 24 month period following startup*, the maximum allowable natural gas usage for this emissions unit shall not exceed the amounts specified in the following table:

months	allowable NG usage (mmcf)
1-12	8,190
13-24	4,095

After the initial 24 month transition period, the maximum annual fuel usage for this emissions unit shall not exceed 2050 mmcf of natural gas per rolling 12-month period.

To ensure enforceability during the first 12 calendar months following the transition period, the permittee shall not exceed the fuel usage restrictions specified in the following table:

months	Cumulative Summation of allowable fuel usage (mmcf)
25	400
25-26	800
25-27	1200
25-28	1600
25-29	2000
25-36	2050

After the first 36 calendar months of operation, compliance with the annual usage restrictions shall be based on a rolling, 12-month summation.

*Startup for the facility shall be defined as the date when emissions units P002 is set in operation for any purpose. Start-up for the daily operation of the turbine is described in condition A.II.2.

2. This emissions unit shall have a maximum allowable fuel flow of 1.81 million scf/hr when firing natural gas, and a maximum allowable fuel flow of 6.95 million scf/hr when firing syngas. The permittee shall operate this emissions unit within the parameters specified above, except for start-up and shut-down. Start-up shall be defined as the time necessary to bring the unit to its minimum operating temperature (as recommended by the vendor), but under no circumstances shall it exceed 60 minutes in duration. Shut-down periods shall not exceed 60 minutes in duration.
3. With the exception of start-up and shut-down periods, emissions unit P002 shall be operated at minimum of 50% load. The permittee may petition the Ohio EPA, Northwest District Office (NWDO) 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, and modeling requirements pursuant to Engineering Guide no. 69.
4. The permittee shall burn only natural gas and syngas in this emissions unit. For the purposes of this permit, syngas shall be defined as the gasification of any of the following products: coal, pet coke, and refuse derived fuel (RDF). The permittee may request the gasification of additional products in as described in condition A.VI.2.
5. The permittee shall be limited to 200 hours of operation per year for start-ups and shut-downs.

III. Monitoring and/or Record Keeping Requirements

1. The permittee shall maintain monthly records of the following for emissions unit P002:

- a. number and duration of each start-up;
- b. number and duration of each shut-down;
- c. the start-up and shut-down emissions* for NO_x, CO, and VOC in tons per month;

In addition to the above information, the permittee shall maintain monthly records of the following information for emissions unit P002:

- d. during the first 36 calendar months of operation following startup, the quantity of natural gas fired and the quantity of syngas fired, in million cubic feet;
- e. beginning the first month after the first 36 months of operation following startup, the rolling, 12- month summation of the quantity of natural gas fired and the quantity of syngas fired, in million cubic feet;
- f. the monthly emission* rate for PE, NO_x, SO₂, CO, VOC, and formaldehyde (including start-up and shut-down emissions), in tons;
- g. during the first 36 calendar months of operation following startup, the annual emissions of PE, NO_x, SO₂, CO, VOC, and formaldehyde, (including start-up and shut-down emissions) in tons; and
- h. beginning the first month after the first 36 months of operation following startup, the rolling, 12- month summation of the emission rates for PE, NO_x, SO₂, CO, VOC, and formaldehyde (including start-up and shut-down emissions), in tons.

*The permittee shall use continuous emissions monitoring (CEM) data to determine emissions for those pollutants where a CEM is installed. During the periods where a CEM is not operational or for pollutants where a CEM is not installed, the permittee shall use the most recent testing data/emission factors available for each respective pollutant, in conjunction with the quantity of fuel fired, as recorded above, to determine monthly emissions. Where CEMs data is not available for start-up and shutdown periods, the emission factors/rates to be used are as follows: 200 lbs NO_x/hr, 500 lbs CO/hr, and 25 lbs VOC/hr.

- 2. For each day during which the permittee burns a fuel other than natural gas or syngas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
- 3. The information management system for this emissions unit shall be capable of monitoring and recording the fuel flow in million cu ft, and hours of operation .

4. Except for periods described in 40 CFR part 60.13, the permittee shall install, operate, and maintain equipment to continuously monitor* and record SO₂, NO_x, CO, and opacity of the particulate emissions from this emissions unit, in the units specified in the terms and conditions of this permit. The averaging time for the continuous monitoring and recording equipment shall be 6 minutes (block) for the opacity monitor and 3 hours (block) for all other monitors. The span value of the SO₂, NO_x, and CO continuous emission monitoring systems shall be 125 percent of the maximum estimated hourly potential emissions of the emissions unit. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13 or as approved by the Ohio EPA.

The permittee shall maintain records of all data obtained by the continuous SO₂, NO_x, CO, and opacity monitoring systems including, but not limited to, parts per million SO₂, NO_x, CO, and opacity on an instantaneous (one-minute) basis, emissions of SO₂, NO_x, CO, and opacity in the units specified in the terms and conditions of this permit, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

5. The permittee shall operate and maintain equipment to continuously monitor and record the O₂ from this emissions unit in percent O₂. The span value of the continuous emission monitoring system shall be 25 percent O₂. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13 or as approved by the Ohio EPA, Central Office. The permittee may install a CO₂ monitor in lieu of an O₂ monitor with prior approval from the Ohio EPA, Central Office.

The permittee shall maintain records of all data obtained by the continuous O₂ monitoring system including, but not limited to percent O₂ on an instantaneous (one-minute) basis, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

* The installation and operation of systems to continuously monitor and record emissions of SO₂ and NO_x may be performed in lieu of continuously monitoring the fuel consumption, water ratio, and nitrogen & sulfur contents of the fuel being fired in the turbine, as required by 40 CFR 60.334. When SO₂, NO_x, or CO emissions are not obtained due to continuous emission monitoring system breakdowns, repairs, calibration checks, or other event, emissions data shall be obtained using Method 19 of 40 CFR Part 60, Appendix A or other method as approved by the Ohio EPA, Central Office.

IV. Reporting Requirements

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1. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas or syngas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
2. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 12-month fuel usage limitations and, for the first 36 calendar months of operation, all exceedances of the maximum allowable natural gas usage.
3. The permittee shall submit quarterly reports which identify each period during which an exemption for ice-fog provided in 40 CFR 60.332(f) 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. Pursuant to OAC rules 3745-15-04, 3745-35-02, and ORC sections 3704.03(I) and 3704.031 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 Ohio EPA NWDO documenting the date, commencement and completion times, duration, magnitude, reason (i.e., startup and shutdown periods as defined in Condition A.II.2., malfunctions, etc.), and corrective actions taken (if any), of all instances of SO₂, NO_x, CO, and opacity values in excess of the limits specified in the terms and conditions of this permit. These reports shall also contain the total SO₂, NO_x, and CO emissions for the calendar quarter (in tons).

The permittee shall submit reports within 30 days following the end of each calendar quarter to the Ohio EPA, NWDO documenting any continuous SO₂, NO_x, CO, O₂, and opacity 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 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, control equipment, and/or 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.

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

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6. The permittee shall submit deviation (excursion) reports that identify each time when this emissions unit was not in compliance with the requirements of condition A.II.2., A.II.3., and A.II.5. above.
7. In lieu of the excess emissions reports required under 40 CFR Part 60.334, the permittee shall submit excess and emissions reports for emissions unit P002 in accordance with this permit.
8. The permittee shall submit semiannual reports as required by 40 CFR Part 60.59b(h).
9. Except as specified in condition A.IV.1, all deviation reports shall be submitted in accordance with the General Terms and Conditions of this permit.
10. The permittee shall notify the Ohio EPA, NWDO when there has been a change in the supplier of coal or refuse derived fuel.
11. This emissions unit is subject to the applicable provisions of Subpart GG and Eb of the New Source Performance Standards (NSPS) as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60.

The application and enforcement of these standards are delegated to the Ohio EPA. The requirements of 40 CFR Part 60 are also federally enforceable.

Pursuant to 40 CFR Part 60.7 and 60.59b, the permittee is hereby advised of the requirement to report the following at the appropriate times:

- a. construction date - intent to construct (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);
- d. the types of fuels that are planning on being combusted;
- e. the combustion units maximum capacity;
- f. any documents associated with the siting requirements as specified in 40 CFR Part 60.59b(b)(5); and
- g. date of performance testing, at least 45 days prior to testing.

Reports are to be sent to:

Ohio Environmental Protection Agency
 DAPC - Permit Management Unit
 Lazarus Government Center
 P.O.1049
 Columbus, Ohio 43216-1049

and

Ohio Environmental Protection Agency

Northwest District Office
Division of Air Pollution Control
347 North Dunbridge Road
Bowling Green, Ohio 43402

V. Testing Requirements/Compliance Methods Determinations

1. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
 - a. The emissions testing shall be conducted while firing both natural gas and syngas individually. The emission testing while firing natural gas shall be conducted within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of this emissions unit. The emissions testing while firing syngas shall be conducted within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after the initial use of syngas in this emissions unit.
 - b. The emissions testing shall be conducted to demonstrate compliance with the NO_x and CO outlet concentrations, and the mass emissions limitations for NO_x, CO, VOC, SO₂, PE, and Formaldehyde. Emission testing shall also be conducted to demonstrate compliance with the outlet concentrations and mass emissions limitations for cadmium, lead, mercury, HCL, and dioxin/furans when firing syngas.
 - c. The following test method(s) shall be employed to demonstrate compliance with the above emissions limitations: for NO_x, Method 20 of 40 CFR Part 60, Appendix A; for PE, Method 5 of 40 CFR Part 60, Appendix A; for formaldehyde, SW-846 Method 0011 or CARB Method 316; for VOC, Method 25 of 40 CFR Part 60, Appendix A; SO₂ Method 6 of 40 CFR Part 60, Appendix A; for CO Method 10 of 40 CFR Part 60, Appendix A, for cadmium, Method 29 of 40 CFR Part 60, Appendix A; for lead, Method 29 of 40 CFR Part 60, Appendix A; for mercury, Method 29 of 40 CFR Part 60, Appendix A; for HCL, Method 26 of 40 CFR Part 60, Appendix A; for dioxin/furan, Method 23 of 40 CFR Part 60, Appendix A; and for air flow and moisture content determinations, Methods 1-4 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA, NWDO.
 - d. In addition to the above pollutants, emissions testing shall also be performed for the following pollutants while firing syngas: Nickel, Total Chromium, Vanadium, Zinc, Cobalt, Arsenic, Antimony, Manganese, Beryllium, Benzene, Selenium, Carbon Disulfide, and Carbonyl Sulfide. The permittee shall propose the testing methodology for these

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pollutants consistent with US EPA test methods.

In addition to the above requirements, the permittee shall propose a method by which to demonstrate the control efficiency of the sulfur removal system. This proposal shall be part of the test notification, and the results shall be included in the stack test report.

- e. The permittee shall develop site specific emission factors for all pollutants tested. These emission factors shall be in units of lbs of emissions per volume of fuel consumed.
- f. The following testing requirements are pursuant to 40 CFR Part 60, Part 60.58b:
 - i. when testing for dioxin/furan emissions, the minimum sampling time shall be 4 hours per test run;
 - ii. when testing for mercury and PE, the minimum sample volume shall be 1.7 cubic meters;
 - iii. when testing PE, the probe and filter holder heating in the sample train shall be set to provide a gas temperature of no greater than 160 +/- 14 degrees Celcius; and,
 - iv. the minimum frequency of testing shall be such that it complies with the requirements of 40 CFR Part 60, Part 60.58b.
- g. The testing shall be performed at maximum capacity, unless otherwise specified or approved by the Ohio EPA, NWDO.
- h. Not later than 45 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, NWDO. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the tests, and the person(s) who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Ohio EPA, NWDO refusal to accept the results of the emission tests.
- i. Personnel from the Ohio EPA, NWDO shall be permitted to witness the tests, examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- j. A comprehensive written report on the results of the emissions tests shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, NWDO within 30 days following completion of the tests. The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, NWDO.

- k. As part of the stack test report, the permittee shall include test results that are in the units of measurement established in this permit as well as in the units of measurement established in 40 CFR Part 60, Subpart Eb.
 - l. In lieu of the test methods and procedures required under 40 CFR Part 60.335, the permittee shall follow the testing requirements in accordance with this permit.
 2. Within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of such emissions unit, the permittee shall conduct certification tests of the continuous NO_x and CO monitoring systems pursuant to ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 6*. Personnel from the Ohio EPA, Northwest District Office shall be notified 30 days prior to initiation of the applicable tests and shall be permitted to examine equipment and witness the certification tests. In accordance with OAC rule 3745-15-04, copies of all the test results shall be submitted within 30 days after the test is completed. Copies of the test results shall be sent to the Ohio EPA, Northwest District Office and the Ohio EPA, Central Office. Certification of the continuous NO_x and CO monitoring systems 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 6*.
 3. Within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of such emissions unit, the permittee shall conduct certification tests of the continuous O₂ monitoring systems pursuant to ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 3. Personnel from the Ohio EPA, Northwest District Office 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 within 30 days after the test is completed. Copies of the test results shall be sent to the Ohio EPA, Northwest District Office and the Ohio EPA, Central Office. Certification of the continuous O₂ 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.

* The permittee may use 40 CFR Part 60, Appendix B, Performance Specification 2 and Performance Specification 4 in conjunction with a fuel flow monitor as described in 40 CFR Part 75 to meet these requirements if approved by the Ohio EPA, Central Office.
 4. Within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of such emissions unit, the permittee shall conduct certification tests on the continuous opacity monitoring system equipment pursuant to

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ORC section 3704.03(I) and 40 CFR Part 60, Appendix B, Performance Specification 1. Personnel from the Ohio EPA, Northwest District Office 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 within 30 days after the test is completed. Copies of the test results shall be sent to the Ohio EPA, Northwest District Office and the Ohio EPA, Central Office. Certification of the continuous opacity 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 1 including section 5.1.9 (mandatory).

5. Compliance with the allowable emission limitations in this permit shall be determined according to the following methods:

a. Emission Limitation

25 ppmvd NO_x at 15% Oxygen when firing natural gas or blended fuel

15 ppmvd NO_x at 15% Oxygen when firing syngas

178.0 lbs NO_x/hr & 642.7 tons NO_x per rolling 12-month period

Applicable Compliance Method

Compliance with the allowable outlet concentrations and the lbs/hr emission limitation shall be demonstrated by the performance testing as described in condition A.V.1 and continuous emissions monitoring requirement as described in conditions A.III.4. and A.V.2. Compliance with the annual emission limitations shall be determined by the record keeping required in condition A.III.1.

b. Emission Limitation

18.0 lbs PE/hr & 78.8 tons PE per rolling 12-month period

Applicable Compliance Method

Compliance with the allowable outlet concentrations & the lbs/hr emission limitations shall be demonstrated by the performance testing as described in condition A.V.1. Compliance with the annual emission limitations shall be determined by the record keeping required in condition A.III.1.

c. Emission Limitation

36.6 lbs SO₂/hr & 169.1 tons SO₂ per rolling 12-month period

Applicable Compliance Method

Compliance with the allowable outlet concentrations and the lbs/hr emission limitation shall be demonstrated by the performance testing as described in condition A.V.1 and continuous emissions monitoring requirement as described in conditions A.III.4. and A.V.2. Compliance with the annual emission limitations shall be determined by the record keeping required in condition A.III.1.

d. Emission Limitation

15.0 lbs VOC/hr & 66.7 tons VOC per rolling 12-month period

Applicable Compliance Method

Compliance with the lbs/hr emission limitations shall be demonstrated by the performance testing as described in condition A.V.1. Compliance with the annual emission limitations shall be determined by the record keeping required in condition A.III.1.

e. Emission Limitation

25 ppmvd CO at 15% Oxygen when firing natural gas
15 ppmvd CO at 15% Oxygen when firing syngas
251.0 lbs CO/hr & 340.0 tons CO per rolling 12-month period

Applicable Compliance Method

Compliance with the allowable outlet concentrations and the lbs/hr emission limitation shall be demonstrated by the performance testing as described in condition A.V.1 and continuous emissions monitoring requirement as described in conditions A.III.4. and A.V.2. Compliance with the annual emission limitations shall be determined by the record keeping required in condition A.III.1.

f. Emission Limitation

1.25 lbs formaldehyde/hr & 3.3 tons formaldehyde per rolling 12-month period

Applicable Compliance Method

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Compliance with the lbs/hr emission limitations shall be demonstrated by the performance testing as described in condition A.V.1. Compliance with the annual emission limitations shall be determined by the record keeping required in condition A.III.1.

g. Emission Limitation

0.020 mg cadmium/dscm at 7% Oxygen
 0.009 lb cadmium/hr & 0.04 ton cadmium/yr

0.20 mg lead/dscm at 7% Oxygen
 0.018 lb lead/hr & 0.08 ton lead/yr

0.080 mg mercury/dscm at 7% Oxygen
 0.0013 lb mercury/hr & 0.01 ton mercury/yr

13 ng dioxin/furan per dscm at 7% Oxygen
 0.00000029 lb dioxin/furan per hr & 0.000254 lb dioxin/furan per yr

25 ppmvd HCL at 7% Oxygen, or 5 percent of the potential HCL emissions (95 percent reduction by weight or volume), whichever is less stringent
 1.1 lb HCL/hr & 4.8 tons HCL/yr

Applicable Compliance Method

Compliance with the allowable outlet concentrations and the lbs/hr emission limitations shall be demonstrated by the performance testing as described in condition A.V.1. Compliance with the annual emission limitations shall be determined multiplying the hourly emission limit by 8760 hrs/yr and dividing by 2000 lbs/ton.

h. Emission Limitation

0.53 lb sulfuric acid/hr & 2.3 tons sulfuric acid/yr

Applicable Compliance Method

The allowable lbs/hr emission limitation the represents the potential to emit based on engineering calculations while firing syngas. If required, compliance with the allowable lbs/hr emission limitation shall be determined by approved U.S. EPA test methods. Compliance with the annual emission limitations shall be determined multiplying the hourly emission limit by 8760 hrs/yr and dividing by 2000 lbs/ton.

i. Emission Limitation

Start-up and shut-down emissions
 20.0 tons NOx/yr
 50.0 tons CO/yr
 2.5 tons VOC/yr

Applicable Compliance Method

Compliance with the annual emission limitations shall be demonstrated by the record

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keeping required in condition A.III.1.

- j. Emission Limitation
Visible particulate emissions shall not exceed 10 percent opacity as a six-minute average.

Applicable Compliance Method

If required, compliance with the visible emissions limitations established by this permit shall be determined by Method 9, 40 CFR Part 60 Appendix A.

VI. Miscellaneous Requirements

1. The permittee may petition the Ohio EPA, Northwest District Office (NWDO) 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, and modeling requirements pursuant to Engineering Guide no. 69.
2. The permittee may also petition the Ohio EPA, NWDO to use additional materials for the production of syngas if it can demonstrate to the agency's satisfaction that the emissions unit will comply with Ohio EPA's "Air Toxics Policy" and all applicable emission limits in this permit.
3. Prior to the installation of the continuous NO_x, CO, SO₂, and opacity monitoring systems, the permittee shall submit information detailing the proposed location of the sampling site in accordance with the siting requirements in 40 CFR Part 60, Appendix B, Performance Specification 6 (or as described in condition A.V.1.) for approval by the Ohio EPA, Central Office.

Prior to the installation of the continuous O₂ 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.

Prior to the installation of the continuous opacity 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 1 for approval by the Ohio EPA, Central Office.

4. Within 30 days of the start-up of this emissions unit, the permittee shall develop a written quality assurance/quality control plan for the continuous NO_x, CO, SO₂, O₂, and opacity monitoring systems designed to ensure continuous valid and representative readings of NO_x, CO, SO₂, O₂, and opacity emissions. The plan shall follow the requirements of 40 CFR Part 60, Appendix F, except as otherwise specified in 40 CFR Part 60, Subpart Eb, or as approved by the Ohio EPA, Central office. The quality assurance/quality control plan and a logbook dedicated to the continuous NO_x,

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CO, SO₂, O₂, and opacity monitoring systems must be kept on site and available for inspection during regular office hours.

5. Per the requirements of condition A.V.1.d., the permittee is required to perform emissions testing for numerous HAPs, for which emissions limitations are not established in this permit. This emissions data is to be used when calculating HAPs potential to emit. In addition, Ohio EPA will review this emissions data to determine if the permit adequately addresses all pollutants of concern. The Ohio EPA reserves the right to modify this permit for the purpose of establishing additional emission limits or performance standards for any of these pollutants. Any newly established limits or standards would be consistent with Best Available Technology requirements and all other applicable rules and regulations.
6. The permittee shall provide training and certification for all operators and supervisors as described in 40 CFR Part 60, Subpart 60.54b. The permittee shall maintain records on showing the names of all operators and supervisors who, have received certification and training as described in 40 CFR Part 60, Subpart 60.59b.
7. The permittee shall develop a site specific operating manual, provide training on the operating manual, and maintain records showing the names of all persons who have been provided the training, as described in 40 CFR Part 60, Subpart 60.54b and 60.59b respectively.
8. A siting analysis shall be conducted in accordance with 40 CFR Part 60.57b.
9. The permittee is exempt from the requirement in 40 CFR Part 60, Subpart Eb which pertain to the development of a materials separation plan, as this facility does not accept municipal solid waste.
10. The permittee is exempt from the requirements of 40 CFR Part 60, Subpart Eb which pertain to the monitoring, record keeping, and reporting on the operation of a post combustion particulate control device, as there is no such device on this emissions unit.
11. The permittee is exempt from the requirements of 40 CFR Part 60, Subpart Eb. which pertain to the monitoring, record keeping, and reporting on the generation of fugitive ash, as this facility does not generate fugitive ash as this operation is described in 40 CFR Part 60, Subpart Eb.
12. Within 90 days of the of the start-up of this emissions unit, the permittee shall develop a preventative maintenance and malfunction abatement plan/system for the gasification operations at this facility. The plan should clearly document how the permittee maintains the system(s) in good working order, i.e. the type of inspections done on the equipment as well as the frequency. The quality assurance/quality control plan and logbooks/records dedicated to the system must be kept on site and available for inspection during regular office hours. This plan should also specify the responsible person(s) for notifying this office in the event of an equipment malfunction that results in emissions to the atmosphere.

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 - Syngas/Natural Gas Turbine, Unit #1 of a Combined Cycle System and Gasification Plant	OAC rule 3745-31-05(A)(3)	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**A. State and Federally Enforceable Section****I. Applicable Emissions Limitations and/or Control Requirements**

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P003 - Cooling Tower	OAC rule 3745-31-10 through 3745-31-20	See A.I.2.a.
	OAC rule 3745-31-05 (A)(3)	See A.I.2.b. 1.88 lbs PE/hr & 8.2 tons PE/yr
	OAC rule 3745-17-11 (B)	See A.I.2.c.
	OAC rule 3745-17-07 (A)	visible particulate emissions shall not exceed 20 percent opacity as a six-minute average, except as provided by rule

2. Additional Terms and Conditions

- 2.a Per the requirements of OAC rule 3745-31-10 through 3745-31-20, the permittee is required to perform a Best Available Control Technology (BACT) review for PE/PM₁₀. The implementation of high efficiency drift eliminators and operating under the terms and conditions of this permit constitute BACT for this emissions unit.
- 2.b The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-10 through 20, and OAC rule 3745-17-07 (A).
- 2.c The emission limitation specified by this rule is less rule is less stringent than the emission

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limitation established pursuant to OAC rule 3745-31-05(A)(3).

II. Operational Restrictions

1. The permittee shall maintain an average total dissolved solids content of 3,000 ppm or less in this emissions unit.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall perform the following monitoring requirements for emissions unit P003 on a monthly basis:
 - a. test and record the total dissolved solids content;
 - b. determine the average dissolved solids content based on a rolling 12 month average.

IV. Reporting Requirements

1. The permittee shall submit deviation reports in accordance with the general terms and conditions of this permit that identify any exceedances of the average total dissolved solids content.

V. Testing Requirements

1. Compliance with the allowable emission limitations in this permit shall be determined according to the following methods:

- a. Emission Limitation
1.88 lbs PE/hr & 8.2 tons PE/yr

Applicable Compliance Method

Compliance with the lbs/hr emission limitation shall be demonstrated by applying the maximum drift loss factor 0.0005 percent to the maximum average total dissolved solids content of 3,000 ppm for the cooling water. If required, the permittee shall submit a testing proposal which will demonstrate that the maximum drift loss does not exceed 0.0005 percent. Compliance with the annual emission limitation shall be demonstrated by the multiplying the hourly emission rate by 8760 hours and dividing by 2000 lbs/ton.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P003 - Cooling Tower	OAC rule 3745-31-05(A)(3)	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