



2/21/2014

Certified Mail

Mr. Steve Zervas  
DTE Marietta  
414 South Main Street  
Suite 600  
Ann Arbor, MI 48194

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL

Facility ID: 0684015015  
Permit Number: P0115137  
Permit Type: Initial Installation  
County: Washington

No	TOXIC REVIEW
Yes	PSD
Yes	SYNTHETIC MINOR TO AVOID MAJOR NSR
Yes	CEMS
Yes	MACT/GACT
Yes	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED
Yes	MAJOR GHG
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

Dear Permit Holder:

A draft of the Ohio Administrative Code (OAC) Chapter 3745-31 Air Pollution Permit-to-Install for the referenced facility has been issued for the emissions unit(s) listed in the Authorization section of the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the permit. A public notice will appear in the Ohio Environmental Protection Agency (EPA) Weekly Review and the local newspaper, The Marietta Times. A copy of the public notice and the draft permit are enclosed. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc) by clicking the "Search for Permits" link under the Permitting topic on the Programs tab. Comments will be accepted as a marked-up copy of the draft permit or in narrative format. Any comments must be sent to the following:

Andrew Hall  
Permit Review/Development Section  
Ohio EPA, DAPC  
50 West Town Street, Suite 700  
P.O. Box 1049  
Columbus, Ohio 43216-1049

and Ohio EPA DAPC, Southeast District Office  
2195 Front Street  
Logan, OH 43138

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published in the newspaper. You will be notified in writing if a public hearing is scheduled. A decision on issuing a final permit-to-install will be made after consideration of comments received and oral testimony if a public hearing is conducted. Any permit fee that will be due upon issuance of a final Permit-to-Install is indicated in the Authorization section. Please do not submit any payment now. If you have any questions, please contact Ohio EPA DAPC, Southeast District Office at (740)385-8501.

Sincerely,

Michael W. Ahern, Manager  
Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA Region 5 -Via E-Mail Notification  
Ohio EPA-SEDO; Pennsylvania; West Virginia



PUBLIC NOTICE  
Issuance of Draft Air Pollution Permit-To-Install  
DTE Marietta

Issue Date: 2/ 21/2014  
Permit Number: P0115137  
Permit Type: Initial Installation PTI  
Permit Description: Initial installation of a new cogeneration facility  
Facility ID: 0684015015  
Facility Location: DTE Marietta  
17005 State Route 7  
Marietta, OH 45750  
Facility Description: Cogeneration Facility

The Director of the Ohio Environmental Protection Agency, 50 West Town Street, Columbus Ohio has issued a draft action of an air pollution control permit-to-install (PTI) for the facility at the location identified above on the date indicated. The draft permit proposes to allow the installation of an 8 MW natural gas-fired turbine/HRSG, two 96.5 mmBtu/hour boilers and a back-up generator.

This facility is subject to the applicable provisions of the Prevention of Significant Deterioration (PSD) regulations as promulgated by U.S. EPA (40 CFR 52.21). The draft permit proposed allowable emissions rates of PSD pollutants from the facility are: 208,455 tons per year of CO<sub>2</sub>e. Ohio EPA has determined that ambient air quality impacts from the project comply with the PSD increment requirements.

The permit and complete instructions for requesting information or submitting comments may be obtained at: <http://epa.ohio.gov/dapc/permitsonline.aspx> by entering the permit # or: Sarah Harter, Ohio EPA DAPC, Southeast District Office, 2195 Front Street, Logan, OH 43138. Ph: (740)385-8501





## Permit Strategy Write-Up

**1. Check all that apply:**

- Synthetic Minor Determination
- Netting Determination

**2. Source Description:**

DTE Energy (DTE) is a proposed new cogeneration facility to be located in Marietta, Ohio (Washington county). The facility will be installed on land owned by Solvay Polymers USA, LLC (Solvay) and will replace Solvay's existing temporary boilers. DTE has assumed that Solvay and DTE will be considered a single source with respect to Title V and major New Source Review. This permit is a PTI for a natural gas-powered turbine/HRSG (P001), a black start diesel generator (P002), and two natural gas-fired boilers (B001/B002); P001 will generate steam loads to support Solvay's operations, and P002 and B001/B002 will be installed as backup.

**3. Facility Emissions and Attainment Status:**

The proposed new facility will be located in Marietta, Ohio (Washington county), which is in Attainment (Maintenance) status for PM<sub>2.5</sub>. The facility proposes synthetic minor restrictions on NO<sub>x</sub>, CO, and PM<sub>10</sub>/PM<sub>2.5</sub> emissions to avoid major modification status subject to PSD requirements, BAT requirements for NO<sub>x</sub>, and to meet the definition of limited use stationary RICE in 40 CFR Part 63, Subpart ZZZZ by accepting equation-based operational limits on fuel usage in P001, B001, and B002 and use time limits on P002; CEMS or PEMS will provide data for computation.

**4. Source Emissions:**

With the proposed restrictions, the annual emissions of NO<sub>x</sub>, CO, and PM<sub>10</sub>/PM<sub>2.5</sub> will be limited to 38.9, 99.5, and 9.9 tons as a rolling 12-month summation, respectively; PM<sub>10</sub>/PM<sub>2.5</sub> emissions from all other sources are less than 0.00208 tons/year. Sulfur dioxide and VOC emissions are below major modification thresholds; CO<sub>2e</sub> is subject to PSD.

**5. Conclusion:**

The emission limits, operational restrictions, monitoring and recordkeeping, reporting, and testing requirements of this permit provide federally enforceable limits to restrict the potential to emit from emissions units P001, B001, and B002 and P002 sufficient to prevent triggering the major modification definition for NO<sub>x</sub>, CO, and PM<sub>10</sub>/PM<sub>2.5</sub>.

**6. Please provide additional notes or comments as necessary:**

None

**7. Total Permit Allowable Emissions Summary (for informational purposes only):**

Pollutant	Tons Per Year
NO <sub>x</sub>	38.9
CO	99.5
PM <sub>10</sub> /PM <sub>2.5</sub>	9.9



SO <sub>2</sub>	2.1
VOC	7.2
CO <sub>2</sub> e	208,455

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**STAFF DETERMINATION FOR THE APPLICATION TO CONSTRUCT  
UNDER THE PREVENTION OF SIGNIFICANT DETERIORATION REGULATIONS  
FOR DTE MARIETTA  
MARIETTA, OHIO (WASHINGTON CO.)  
PTI NUMBER P0115137**

February 20, 2014

Ohio Environmental Protection Agency  
Division of Air Pollution Control  
Lazarus Government Center  
50 West Town Street, Suite 700  
Columbus, Ohio 43216

The Clean Air Act and regulations promulgated thereunder require that major air pollution sources undergoing construction or modification comply with all applicable Prevention of Significant Deterioration (PSD) provisions and nonattainment area New Source Review requirements. The federal PSD rules govern emission increases in attainment areas for major sources, which are sources with the potential to emit 250 tons per year or more of any pollutant regulated under the Clean Air Act, or 100 tons per year or more if the source is included in one of 28 source categories. In nonattainment areas, the definition of major source is one having at least 100 tons per year potential emissions. A major modification is one resulting in a contemporaneous increase in emissions which exceeds the significance level of one or more pollutants. Any changes in actual emissions within a five-year period are considered to be contemporaneous. In addition, Ohio now has incorporated the PSD and NSR requirements by rule under OAC 3745-31.

Both PSD and nonattainment rules require that certain analyses be performed before a facility can obtain a permit authorizing construction of a new source or major modification to a major source. The principal requirements of the PSD regulations are:

- 1) Best Available Control Technology (BACT) review - A detailed engineering review must be performed to ensure that BACT is being installed for the pollutants for which the new source is a major source.



- 2) Ambient Air Quality Review - An analysis must be completed to ensure the continued maintenance of the National Ambient Air Quality Standards (NAAQS) and that any increases in ambient air pollutant concentrations do not exceed the incremental values set pursuant to the Clean Air Act.

For nonattainment areas, the requirements are:

- 1) Lowest Achievable Emissions Rate (LAER) - New major sources must install controls that represent the lowest emission levels (highest control efficiency) that has been achieved in practice.
- 2) The emissions from the new major source must be offset by a reduction of existing emissions of the same pollutant by at least the same amount, and a demonstration must be made that the resulting air quality shows a net air quality benefit. This is more completely described in the Emission Offset Interpretative Ruling as found in Appendix S of 40 CFR Part 51.
- 3) The facility must certify that all major sources owned or operated in the state by the same entity are either in compliance with the existing State Implementation Plan (SIP) or are on an approved schedule resulting in full compliance with the SIP.

For rural ozone nonattainment areas, the requirements are:

- 1) LAER - New major sources must install controls that represent the lowest emissions levels (highest control efficiency) that has been achieved in practice.
- 2) The facility must certify that all major sources owned or operated in the state by the same entity are either in compliance with the existing SIP or are on an approved schedule resulting in full compliance with the SIP.

Finally, New Source Performance Standards (NSPS), SIP emission standards and public participation requirements must be followed in all cases.

### Site Description

DTE Energy (DTE) is a proposed new steam-power cogeneration facility to be located in Marietta, Ohio (Washington county), which is attainment/unclassifiable for all NSR pollutants. The source will be installed on land owned by Solvay Polymers USA, LLC (Solvay) and will replace Solvay's existing temporary boilers. As a chemical process plant (one of the 28 category sources), the 100 tpy (ton/year) threshold for PSD pollutants applies. With a current PTE of greater than 100 tpy VOC, the facility is a major stationary source under the PSD rules.

### Facility Description

DTE has assumed the facilities will be considered a single major stationary source for NSR purposes. This project involves an 8 MW natural gas-fired turbine rated at 83.3 mmBtu/hr (max input)/HRSG rated at 130 mmBtu/hr (P001), a 750 KW black start diesel generator (P002), and two natural gas-fired boilers each rated at 96.5 mmBtu/hr (B001/B002); P001 will generate steam loads to support



Solvay’s operations, and P002 and B001/B002 will be installed as backup. Solvay will shut down three temporary boilers and rely on the new cogeneration facility. The facility proposes synthetic minor restrictions on NO<sub>x</sub>, CO, and PM<sub>10</sub>/PM<sub>2.5</sub> emissions to avoid major modification status subject to PSD requirements; however the permit will trigger PSD for GHGs.

New Source Review (NSR)/PSD Applicability

The emissions unit modifications will generate criteria pollutant emissions of CO, VOC, NO<sub>x</sub>, particulate, PM<sub>10</sub>/PM<sub>2.5</sub>, SO<sub>2</sub>, Lead and GHG emissions. A PSD analysis is required for an increase exceeding the ‘modification’ significant emissions increase threshold levels. Of the pollutants emitted by the proposed new source, only GHGs, which are subject to regulation under PSD, result in an increase in annual emissions above PSD levels.

NSPS KKKK and MACT YYYY apply to P001; NSPS IIII and MACT ZZZZ apply to P002; and NSPS Dc and MACT DDDDD apply to B001/B002. HAP emissions from the project are minor.

The facility has requested operational restrictions through a Synthetic Minor on NO<sub>x</sub>, CO, and PM/PM<sub>10</sub>/PM<sub>2.5</sub> emissions to avoid major modification status subject to PSD requirements; however PSD will still be required for GHGs. Table 1 below summarizes pollutant changes and emissions allowed under the draft PTI.

TABLE 1  
PRELIMINARY POLLUTANT EMISSION RATES  
DTE Marietta

Air Pollutant	Total Allowable (tpy)	Project Net Inc (tpy)	PSD/NSR Threshold (tpy)
Carbon Monoxide (CO)	99.5	99.5	100
Volatile Organic Compounds (VOC)	7.2	7.2	40
Nitrogen Oxides (NO <sub>x</sub> )	38.9	38.9	40
Particulate (TSP)	9.9	9.9	25
PM <sub>10</sub>	9.9	9.9	15
PM <sub>2.5</sub>	9.9	9.9	10
Sulfur Dioxide (SO <sub>2</sub> )	2.1	2.1	40
Lead	0.00069	0.00069	0.6
GHGs/CO <sub>2e</sub>	208,455	208,455	75 k

Control Technology Review

As part of the application for any source regulated under the PSD requirements, an analysis must be conducted that demonstrates that Best Available Control Technology (BACT) will be employed by the source. The facility is subject to PSD regulations which mandate a case-by-case BACT analysis be



performed for PSD triggering pollutants. The application uses a "top-down" approach to evaluate the latest demonstrated control techniques and select the appropriate controls.

**BACT Evaluation Steps:**

- Identify all available potential control options;
- Eliminate technically infeasible options;
- Rank remaining technologies by control effectiveness;
- Evaluate the feasible controls by performance and cost analysis; and
- Select the most effective control based on energy, environmental and economic impacts (generally, the feasible technology that is also considered to be cost effective).

**Summary of BACT Analysis**

The following tables show the results of the BACT analysis, including technologies found in the RBLG (see application for further details). The applicant's review finds few smaller gas-fired turbine installations (<25 MW) in operation included in the RBLG.

BACT applies to GHGs emitted by the new installation, and requirements for GHG emissions are incorporated for B001/B002 and P001 and P002.

<b><i>Turbine/HRS G</i></b>	<b><i>Ranked Type of Control, Feasibility, Cost Effectiveness (Y/N)</i></b>		<b><i>Description/Issues</i></b>
GHGs	High Efficiency Design (natural gas-fired, waste heat recovery)	Y	Good combustion, operation, maintenance.
	CCS	N	CO <sub>2</sub> capture, transport and injection for geologic storage is not feasible.

<b><i>Boilers</i></b>	<b><i>Ranked Type of Control, Feasibility, Cost Effectiveness (Y/N)</i></b>		<b><i>Description/Issues</i></b>
GHGs	Efficient Burner Design (natural gas fuel, with economizer)	Y	Annual tune-ups, operating and maintenance practices.
	Blowdown Heat Exchanger	N	Low pressure steam is not utilized at the facility.
	Condensate Return	N	In use on turbine/HRSG, but not effective for stand-by boilers.
	CCS	N	CO <sub>2</sub> capture, transport and injection for geologic storage is not feasible.



<b>Generator (black start)</b>	<b>Ranked Type of Control, Feasibility, Cost Effectiveness (Y/N)</b>		<b>Description/Issues</b>
GHGs	Fuel-efficient engine (good combustion practices)	Y	Monitor diesel fuel usage.
	CCS	N	CO <sub>2</sub> capture, transport and injection for geologic storage is not feasible.

The following table summarizes BACT permit requirements for the Emissions Units (EUs) in the project.

<b>Description of Proposed Units</b>	<b>Control Technology Summary</b>
Turbine/HRSG	Good combustion, operation, maintenance and tune-ups; tons CO <sub>2</sub> e per rolling 12-month period.
Boilers	Annual tune-ups, operating and maintenance practices; tons CO <sub>2</sub> e per rolling 12-month period.
Generator	Monitor diesel fuel usage; tons CO <sub>2</sub> e per rolling 12-month period.

Ambient Air Quality Monitoring/Modeling/PSD Increment/NAAQS

The project did not require these reviews.

Toxics Analysis

The Ohio Air Toxics Policy requires evaluation of increases in air toxics above the one ton/year threshold. An optional Selective Catalytic Reduction (SCR) device will be associated with P001 to reduce NO<sub>x</sub> emissions as necessary to stay compliant with Synthetic Minor limits. Air toxics modeling was required as ammonia “slip” associated with the SCR control on the turbine/HRSG will result in emissions greater than 1.0 TPY; model results indicate that the installation of the new facility will not cause an exceedance of the Ohio MAGLC.

Additional (Secondary) Impacts Analysis (Soil/Vegetation, Growth)

This review is not expected for GHGs.

Conclusions

Based upon the review of the permit to install application and supporting documentation provided by the applicant, the Ohio EPA staff has determined the installation will comply with all applicable State and Federal environmental regulations and that the requirements for BACT are satisfied. Therefore, the Ohio EPA staff recommends that a permit to install be issued to DTE for the new support power generation installation at the facility complex.



**DRAFT**

**Division of Air Pollution Control  
Permit-to-Install  
for  
DTE Marietta**

Facility ID:	0684015015
Permit Number:	P0115137
Permit Type:	Initial Installation
Issued:	2/21/2014
Effective:	To be entered upon final issuance





**Division of Air Pollution Control**  
**Permit-to-Install**  
for  
DTE Marietta

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**Draft Permit-to-Install**  
DTE Marietta  
**Permit Number:** P0115137  
**Facility ID:** 0684015015

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

## Authorization

Facility ID: 0684015015  
Facility Description: Cogeneration Facility  
Application Number(s): A0048312, A0049616  
Permit Number: P0115137  
Permit Description: Initial installation of a new cogeneration facility.  
Permit Type: Initial Installation  
Permit Fee: \$850.00 *DO NOT send payment at this time, subject to change before final issuance*  
Issue Date: 2/21/2014  
Effective Date: To be entered upon final issuance

This document constitutes issuance to:

DTE Marietta  
17005 State Route 7  
Marietta, OH 45750

of a Permit-to-Install for the emissions unit(s) identified on the following page.

Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Southeast District Office  
2195 Front Street  
Logan, OH 43138  
(740)385-8501

The above named entity is hereby granted a Permit-to-Install for the emissions unit(s) listed in this section 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 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

Craig W. Butler  
Interim Director



## Authorization (continued)

Permit Number: P0115137  
Permit Description: Initial installation of a new cogeneration facility.

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

**Emissions Unit ID: P001**  
Company Equipment ID: Turbine & HRSG  
Superseded Permit Number:  
General Permit Category and Type: Not Applicable

**Emissions Unit ID: P002**  
Company Equipment ID: Generator  
Superseded Permit Number:  
General Permit Category and Type: Not Applicable

**Group Name: Backup Boilers**

<b>Emissions Unit ID:</b>	<b>B001</b>
Company Equipment ID:	Boiler #1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>B002</b>
Company Equipment ID:	Boiler #2
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



**Draft Permit-to-Install**  
DTE Marietta  
**Permit Number:** P0115137  
**Facility ID:** 0684015015  
**Effective Date:** To be entered upon final issuance

## **A. Standard Terms and Conditions**



## **1. Federally Enforceable Standard Terms and Conditions**

- a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under State law only:
  - (1) Standard Term and Condition A.2.a), Severability Clause
  - (2) Standard Term and Condition A.3.c) through A. 3.e) General Requirements
  - (3) Standard Term and Condition A.6.c) and A. 6.d), Compliance Requirements
  - (4) Standard Term and Condition A.9., Reporting Requirements
  - (5) Standard Term and Condition A.10., Applicability
  - (6) Standard Term and Condition A.11.b) through A.11.e), Construction of New Source(s) and Authorization to Install
  - (7) Standard Term and Condition A.14., Public Disclosure
  - (8) Standard Term and Condition A.15., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations
  - (9) Standard Term and Condition A.16., Fees
  - (10) Standard Term and Condition A.17., Permit Transfers

## **2. Severability Clause**

- a) 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.
- b) All terms and conditions designated in parts B and C of this permit are federally enforceable as a practical matter, if they 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 and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under State law only, only if specifically identified in this permit as such.

## **3. General Requirements**

- a) Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and re-issuance, or modification.



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

#### **4. Monitoring and Related Record Keeping 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:
  - (1) The date, place (as defined in the permit), and time of sampling or measurements.
  - (2) The date(s) analyses were performed.
  - (3) The company or entity that performed the analyses.
  - (4) The analytical techniques or methods used.
  - (5) The results of such analyses.
  - (6) 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:
  - (1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Ohio EPA DAPC, Southeast District Office.



- (2) 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 Ohio EPA DAPC, Southeast District Office. The written reports shall be submitted quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See A.15. below if no deviations occurred during the quarter.
  - (3) Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted to the Ohio EPA DAPC, Southeast District Office every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
  - (4) This permit is for an emissions unit located at a Title V facility. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
- d) The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

## **5. Scheduled Maintenance/Malfunction Reporting**

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the Ohio EPA DAPC, Southeast District Office 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).

## **6. Compliance Requirements**

- a) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the appropriate Ohio EPA District Office or contracted



local air agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the electronic signature date shall constitute the date that the required application, notification or report is considered to be "submitted". Any document requiring signature may be represented by entry of the personal identification number (PIN) by responsible official as part of the electronic submission process or by the scanned attestation document signed by the Authorized Representative that is attached to the electronically submitted written report.

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:
  - (1) 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.
  - (2) 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.
  - (3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
  - (4) 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 Ohio EPA DAPC, Southeast District Office 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:
  - (1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
  - (2) 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.

## **7. Best Available Technology**

As specified in OAC Rule 3745-31-05, new sources that must employ Best Available Technology (BAT) shall comply with the Applicable Emission Limitations/Control Measures identified as BAT for each subject emissions unit.



**8. 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.

**9. Reporting Requirements**

The permittee shall submit required reports in the following manner:

- a) Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the Ohio EPA DAPC, Southeast District Office.
- 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 Ohio EPA DAPC, Southeast District Office. 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, 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.)

**10. 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) not exempt from the requirement to obtain a Permit-to-Install.

**11. Construction of New Sources(s) and Authorization to Install**

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



obligation to undertake and complete within a reasonable time a continuing program of installation. 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 permittee shows good cause for any such extension.

- c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed by marking the affected emissions unit(s) as "permanently shut down" in "Air Services" along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update electronically will constitute notifying the Director of the permanent shutdown of the affected emissions unit(s).
- d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

Unless otherwise exempted, no emissions unit certified by the responsible official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31 and OAC Chapter 3745-77 if the restarted operation is subject to one or more applicable requirements.

- e) The permittee shall comply with any residual requirements related to this permit, such as the requirement to submit a deviation report, air fee emission report, or other any reporting required by this permit for the period the operating provisions of this permit were enforceable, or as required by regulation or law. All reports shall be submitted in a form and manner prescribed by the Director. All records relating to this permit must be maintained in accordance with law.

## **12. Permit-To-Operate Application**

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 operation of the proposed new or modified source(s) as authorized by this permit would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d) must be obtained before operating the source in a manner that would violate the existing Title V permit requirements.



**13. Construction Compliance Certification**

The applicant shall identify the following dates in the “Air Services” facility profile for each new emissions unit identified in this permit.

- a) Completion of initial installation date shall be entered upon completion of construction and prior to start-up.
- b) Commence operation after installation or latest modification date shall be entered within 90 days after commencing operation of the applicable emissions unit.

**14. 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.

**15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations**

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 by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

**16. Fees**

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable permit-to-install fees within 30 days after the issuance of any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

**17. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The new owner must update and submit the ownership information via the “Owner/Contact Change” functionality in “Air Services” once the transfer is legally completed. The change must be submitted through “Air Services” within thirty days of the ownership transfer date.

**18. 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.

**19. Title IV Provisions**



**Draft Permit-to-Install**

DTE Marietta

**Permit Number:** P0115137

**Facility ID:** 0684015015

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

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.

## **B. Facility-Wide Terms and Conditions**



1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
  - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
    - (1) 10.a) – d)
2. The following emissions units contained in this permit are subject to 40 CFR Part 60, Subpart Dc: B001 and B002. The complete NSPS requirements, including the NSPS General Provisions, may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gopaccess.gov> or by contacting the appropriate Ohio EPA district office or local air agency.
3. The following emissions units contained in this permit are subject to 40 CFR Part 60, Subpart IIII: P002. The complete NSPS requirements, including the NSPS General Provisions, may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gopaccess.gov> or by contacting the appropriate Ohio EPA district office or local air agency.
4. The following emissions units contained in this permit are subject to 40 CFR Part 60, Subpart KKKK: P001. The complete NSPS requirements, including the NSPS General Provisions, may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gopaccess.gov> or by contacting the appropriate Ohio EPA district office or local air agency.
5. The following emissions units contained in this permit are subject to 40 CFR Part 63, Subpart YYYY: P001. The complete MACT requirements, including the MACT General Provisions, may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gopaccess.gov> or by contacting the appropriate Ohio EPA district office or local air agency.
6. The following emissions units contained in this permit are subject to 40 CFR Part 63, Subpart ZZZZ: P002. The complete MACT requirements, including the MACT General Provisions, may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gopaccess.gov> or by contacting the appropriate Ohio EPA district office or local air agency.
7. The following emissions units contained in this permit are subject to 40 CFR Part 60, Subpart DDDDD: B001 and B002. The complete MACT requirements, including the MACT General Provisions, may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gopaccess.gov> or by contacting the appropriate Ohio EPA district office or local air agency.
8. Applicable Emissions Limitations and/or Control Requirements

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
1.	OAC rule 3745-31-05(D) (Synthetic minor restriction to avoid Prevention of Significant Deterioration [PSD] requirements)	Nitrogen oxides (NO <sub>x</sub> ) emissions shall not exceed 38.9 tons from P001, B001, and B002 as a rolling, 12-month summation.  Carbon monoxide (CO) emissions shall not exceed 99.5tons from P001, B001, and B002 as a rolling, 12-month summation.



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

		<p>Particulate emissions 10 microns or less (PM<sub>10</sub>) shall not exceed 9.9 tons from P001, B001, and B002 as a rolling, 12-month summation.</p> <p>Particulate emissions 2.5 microns or less (PM<sub>2.5</sub>) shall not exceed 9.9 tons from P001, B001, and B002 as a rolling, 12-month summation.</p> <p>See 9.a) and b) below.</p>
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9. Operational Restrictions

- a) The permittee has requested federally enforceable limits on NO<sub>x</sub>, CO, and PM<sub>10</sub>/PM<sub>2.5</sub> emissions for the purposes of avoiding Prevention of Significant Deterioration (PSD) requirements. Therefore, the maximum throughput of natural gas in P001, B001, and B002 shall not cause NO<sub>x</sub>, CO, and PM<sub>10</sub>/PM<sub>2.5</sub> emissions to exceed 38.9, 99.5, or 9.9 tons, respectively, each as a rolling, 12-month summation as demonstrated by the calculations in 12.a).
- b) To ensure compliance during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the emissions limits in tons (t) specified in the following table:

Pollutant	NO <sub>x</sub>	CO	PM <sub>10</sub> /PM <sub>2.5</sub>
<b>Equation:</b>	$X + \frac{50 * Y}{2,000} \leq t$	$\frac{66 * B}{2,000} + \frac{84 * (A + C)}{2,000} \leq t$	$\frac{7.6 F}{2,000} + \frac{10.1 * G}{2,000} + \frac{6.9 * H}{2,000}$
<b>Month</b>	<b>t(NO<sub>x</sub>)</b>	<b>t(CO)</b>	<b>t(PM<sub>10</sub>/PM<sub>2.5</sub>)</b>
1	7.6	8.9	0.9
2	12.3	17.9	1.8
3	17.0	26.8	2.7
4	21.6	35.8	3.6
5	26.3	44.7	4.5
6	31.0	53.7	5.4
7	35.7	62.6	6.3
8	38.9	71.5	7.2
9	38.9	80.5	8.1
10	38.9	89.4	9.0
11	38.9	98.4	9.9
12	38.9	99.5	9.9

After the first 12 calendar months of operation following the startup of emissions units P001, B001, and B002, and compliance with the annual operating hour limitation shall be based upon a rolling, 12-month summation of the operating hours.



10. Monitoring and/or Recordkeeping Requirements

a) The permit-to-install (PTI) application for P001,B001, and B002, was evaluated as the actual materials and the design parameters of the emissions unit's(s') exhaust system(s), as specified by the permittee. The "Toxic Air Contaminant Statute," ORC 3704.03(F), was applied to this/these emissions unit(s) for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A," as follows:

(1) the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):

- a. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or
- b. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.

(2) The TLV is divided by 10 to adjust the standard from the working population to the general public (TLV/10).

(3) This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., 24 hours per day and 7 days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

$$TLV/10 * 8/24 * 5/7 = 4 TLV/24 * 7 = MAGLC$$

(4) The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at one or more tons/year):

Toxic Contaminant: ammonia  
TLV (mg/m<sup>3</sup>): 17.41  
Maximum Hourly Emission Rate (lb/hr): 1.29  
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m<sup>3</sup>): 13.72  
MAGLC (ug/m<sup>3</sup>): 414.60



The permittee, has demonstrated that emissions of ammonia, from emissions unit P001, B001, and B002, is calculated to be less than 80 percent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the "Toxic Air Contaminant Statute," ORC 3704.03(F).

- b) Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration, the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:
- (1) changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;
  - (2) changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and
  - (3) physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Toxic Air Contaminant Statute" 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 solely due to a non-restrictive change to a parameter or process operation, where compliance with the "Toxic Air Contaminant Statute," ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a "modification," the permittee shall apply for and obtain a final FEPTIO prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

- c) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute," ORC 3704.03(F):
- (1) a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
  - (2) the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the "Toxic Air Contaminant Statute," ORC 3704.03(F);



- (3) a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the "Toxic Air Contaminant Statute," ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and
  - (4) the documentation of the initial evaluation of compliance with the "Toxic Air Contaminant Statute," ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.
- d) The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with the "Toxic Air Contaminant Statute," ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.
- e) The permittee shall collect and record the following information each month for emissions units P001, B001, and B002:
- (1) The throughput of natural gas through the turbine/heat recovery steam generator (HRSG) and each boiler;
  - (2) NO<sub>x</sub> emissions in tons as a rolling, 12-month summation as calculated in 12.a)(1);
  - (3) CO emissions in tons as a rolling, 12-month summation as calculated in 12.a)(2); and
  - (4) PM<sub>10</sub>/PM<sub>2.5</sub> emissions in tons as a rolling, 12-month summation as calculated in 12.a)(3).
- f) The permittee shall install, operate, and maintain equipment to continuously monitor and/or predict and record NO<sub>x</sub> emissions from this emissions unit in units of the applicable standard(s). The continuous or predictive monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.

The permittee shall maintain records of data obtained by the continuous or predictive NO<sub>x</sub> monitoring system including, but not limited to:

- (1) emissions of NO<sub>x</sub> in parts per million on an instantaneous (one-minute) basis;
- (2) emissions of a diluents (O<sub>2</sub> or CO<sub>2</sub>) in percent on an instantaneous (one-minute) basis;
- (3) results of quarterly cylinder gas audits;
- (4) results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
- (5) flow rates of the emissions stream, in dry standard cubic feet per minute (this is required only for NO<sub>x</sub> predictive emissions monitoring systems that are being used to demonstrate compliance with a NO<sub>x</sub> pound-per-hour limit);
- (6) emissions of NO<sub>x</sub> in all units of the applicable standard(s) in the appropriate averaging period;



- (7) results of quarterly relative accuracy audits;
- (8) results of daily sensor checks and a list of adjustments or repairs/replacements that are made;
- (9) results of required relative accuracy test audit(s), including results in units of the applicable standard(s);
- (10) hours of operation of the emissions unit, NO<sub>x</sub> continuous or predictive emissions monitoring system, and control equipment;
- (11) the date, time, and hours of operation of the emissions unit without the control equipment and/or the NO<sub>x</sub> continuous or predictive emissions monitoring system;
- (12) the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the NO<sub>x</sub> continuous or predictive emissions monitoring system; as well as,
- (13) the reason (if known) and the corrective actions taken (if any) for each such event in (11) and (12) above.

All valid data points generated and recorded by the continuous or predictive emission monitoring and data acquisition and handling system shall be used in the calculation of the pollutant concentration and/or emission rate over the appropriate averaging period.

- g) Prior to the installation of the continuous or predictive NO<sub>x</sub> monitoring system, the permittee shall submit information detailing the proposed location of the sampling site in accordance with the siting requirements in 40 CFR Part 60, Appendix B, Performance Specification 2 or 16, as appropriate. The Ohio EPA, Central Office shall approve the proposed sampling site and certify that the continuous or predictive NO<sub>x</sub> monitoring system meets the requirements of Performance Specification 2 or 16, as appropriate. Once received, the letter/document of certification shall be maintained on-site and shall be made available to the Director (the appropriate Ohio EPA District Office or local air agency) upon request.
- h) The Ohio EPA, Central Office shall review the initial certification testing protocol and all initial certification testing data. If the initial testing protocol and certification testing data are determined to be sufficient, Ohio EPA shall acknowledge that the NO<sub>x</sub> predictive emissions monitoring system meets the requirements of Performance Specification 16 by sending a Certification Letter. Once received, the letter/document of certification shall be maintained on-site and shall be made available to the Director (the appropriate Ohio EPA District Office or local air agency) upon request.
- i) After initial testing to assure the PEMS meets 40 CFR 60, Appendix B, Performance Specification 16, ongoing quality assurance/quality control shall include a relative accuracy test audit (RATA) once every four (or less) calendar quarters. RATA requirements are in addition to any and all PEMS manufacturer-suggested quality assurance/quality control procedures. RATA requirements shall include multi-load, multi-fuel (when applicable) testing. RATA testing shall be completed using the appropriate 40 CFR 60, Appendix A test methods (Methods 7E, 3A, and 1-



4 as necessary). RATA testing protocol shall be submitted to the Director (the Ohio EPA, Central Office) for approval prior to installation of the PEMS.

- j) Each continuous or predictive NO<sub>x</sub> emissions monitoring system shall be certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specification 2 or 16, as appropriate. At least 45 days before commencing certification testing of the NO<sub>x</sub> continuous or predictive emissions monitoring system(s), the permittee shall develop and maintain a written quality assurance/quality control plan designed to ensure valid and representative readings of NO<sub>x</sub> emissions in units of the applicable standard(s). The plan shall follow the requirements of 40 CFR Part 60, Appendix B, Performance Specification 2 or 16, as appropriate. The quality assurance/quality control plan and a logbook dedicated to the continuous NO<sub>x</sub> predictive emissions monitoring system must be kept on site and available for inspection during regular office hours.
- k) The plan shall include the requirement to conduct daily sensor evaluations; to conduct quarterly relative accuracy audits; and to conduct yearly relative accuracy test audits in units of the standard(s), in accordance with and at the frequencies required per 40 CFR Part 60, Appendix B, Performance Specification 2 or 16, as appropriate.
- l) A continuous emission monitoring system consists of all the equipment used to acquire data to provide a record of emissions and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data recording/processing hardware and software.
- m) A predictive emission monitoring system consists of all the equipment used to acquire data to provide a record of emissions and includes all sensors, algorithms, and data recording/processing hardware and software. Any change to algorithms used to predict NO<sub>x</sub> emissions shall require new certification testing of the NO<sub>x</sub> predictive emissions monitoring systems.

## 11. Reporting Requirements

- a) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- b) The permittee shall submit quarterly deviation (excursion) reports that identify:
  - (1) all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
    - a. NO<sub>x</sub> emissions from P001, B001, and B002 shall not exceed 38.9 tons as a rolling, 12-month summation.
    - b. CO emissions from P001, B001, and B002 shall not exceed 99.5 tons as a rolling, 12-month summation.
    - c. PM<sub>10</sub>/PM<sub>2.5</sub> emissions from P001, B001, and B002 shall not exceed 9.9 tons as a rolling, 12-month summation.



The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

- c) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its NO<sub>x</sub> continuous or predictive emissions monitoring system:
- (1) Pursuant to the monitoring, record keeping, and reporting requirements for continuous or predictive monitoring systems contained in 40 CFR 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the appropriate Ohio EPA District Office or local air agency, documenting all instances of continuous or predictive NO<sub>x</sub> emissions in excess of any applicable limit specified in this permit, 40 CFR Part 60, OAC Rule 3745-14, and any other applicable rules or regulations. The report shall document the date, commencement and completion times, duration, and magnitude of each exceedance, as well as the reason (if known) and the corrective actions taken (if any) for each exceedance. Excess emissions shall be reported in units of the applicable standard(s).
  - (2) These quarterly reports shall include the following:
    - a. the facility name and address;
    - b. the manufacturer, model number, and serial number of the NO<sub>x</sub> continuous or predictive emissions monitoring systems;
    - c. a description of any change in the equipment that comprises the predictive emission monitoring system, including any change to the hardware, and/or changes to the software in the predictive algorithms;
    - d. the excess emissions report (EER)\*, i.e., a summary of any exceedances during the calendar quarter, as specified in e)(3);
    - e. the total NO<sub>x</sub> emissions for the calendar quarter (tons);
    - f. the total operating time (hours) of the emissions unit;
    - g. the total operating time of the NO<sub>x</sub> continuous or predictive emissions monitoring system while the emissions unit was in operation;
    - h. results and dates of quarterly relative accuracy audits;
    - i. results and dates of quarterly cylinder gas audits;
    - j. unless previously submitted, results and dates of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));
    - k. unless previously submitted, the results of any relative accuracy test audit showing the NO<sub>x</sub> predictive emissions monitor out-of-control and the compliant results following any corrective actions;



- l. the date, time, and duration of any/each malfunction\*\* of the NO<sub>x</sub> continuous or predictive monitoring system, emissions unit, and/or control equipment;
- m. the date, time, and duration of any downtime\*\* of the NO<sub>x</sub> predictive emissions monitoring system and/or control equipment while the emissions unit was in operation; and
- n. the reason (if known) and the corrective actions taken (if any) for each event in l. and m. above.

Each report shall address the operations conducted and data obtained during the previous calendar quarter.

\* where no excess emissions have occurred or the continuous or predictive monitoring system(s) has/have not been inoperative, repaired, or adjusted during the calendar quarter, such information shall be documented in the EER quarterly report.

\*\* each downtime and malfunction event shall be reported regardless if there is an exceedance of any applicable limit.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

- (3) The permittee shall submit annual reports that include any changes to any parameter or value used in the dispersion model used to demonstrate compliance with the "Toxic Air Contaminate Statute", ORC 3704.03(F), through the predicted 1 hour maximum concentration. The report should include:
  - a. the original model input;
  - b. the updated model input;
  - c. the reason for the change(s) to the input parameter(s); and
  - d. a summary of the results of the updated modeling, including the input changes; and
  - e. a statement that the model results indicate that the 1-hour maximum ground-level concentration is less than 80% of the MAGLC.

If no changes to the emissions, emissions unit(s), or the exhaust stack have been made during the reporting period, then the report shall include a statement to that effect.

## 12. Testing Requirements

- a) Compliance with the emissions limitations and/or control requirements specified in b)(1) of these terms and conditions shall be determined in accordance with the following methods:
  - (1) Emissions Limitation:



NO<sub>x</sub> emissions from P001, B001, and B002 shall not exceed 38.9 tons as a rolling, 12-month summation.

Applicable Compliance Method:

Compliance with the rolling, 12-month emissions limitation for NO<sub>x</sub> shall be demonstrated by the following calculations based on the emissions factor in AP-42 Section 1.4 (7/98) and the recordkeeping requirements of 10.e) and f):

NO<sub>x</sub> Emissions

$$\sum_{n=1}^{12} X + \frac{50}{2,000} \sum_{n=1}^{12} Y \leq 38.9$$

Where:

- X = NO<sub>x</sub> emissions from the turbine/HRSG, ton/month, as calculated each month from CEMS or PEMS\*
- 50 = NO<sub>x</sub> emissions factor for boilers with low NO<sub>x</sub> burners, lb/MMscf, based on AP-42 Section 1.4 (7/98)
- 2,000 = Mass conversion, lb/ton
- Y = Natural gas fired in the boilers, MMscf/month
- 38.9 = NO<sub>x</sub> emissions limitation, tons, as a rolling, 12-month summation

\* Calculation of NO<sub>x</sub> emissions shall be determined through the use of CEMS or PEMS data and in accordance with the monitoring and/or recordkeeping requirements identified in 10.e)(5), and the following testing:

Within 60 days of achieving the maximum production rate at which the emissions unit(s) will be operated, but not later than 180 days after initial startup, the permittee shall conduct certification tests of the continuous or predictive NO<sub>x</sub> monitoring system in units of the applicable standard(s) to demonstrate compliance with 40 CFR Part 60, Appendix B, Performance Specifications 2 or 16, as appropriate; and ORC section 3704.03(I).

Personnel from the Ohio EPA Central Office and the appropriate Ohio EPA District Office or local air agency shall be notified 30 days prior to initiation of the applicable tests and shall be permitted to examine equipment and witness the certification tests. Two copies of the test results shall be submitted to Ohio EPA, one copy to the appropriate Ohio EPA District Office or local air agency and one copy to Ohio EPA Central Office, and pursuant to OAC rule 3745-15-04, within 30 days after the test is completed.

Certification of the continuous or predictive NO<sub>x</sub> monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets the requirements of 40 CFR Part 60, Appendix B, Performance Specifications 2 or 16, as appropriate; and ORC section 3704.03(I).



- (2) Emissions Limitation:  
CO emissions from P001, B001, and B002 shall not exceed 99.5 tons as a rolling, 12-month summation.

**Applicable Compliance Method:**

Compliance with the rolling, 12-month emissions limitation for CO shall be demonstrated by the following calculations based on the emissions estimation equations in AP-42 Section 1.4 (7/98) and the information collected pursuant to the recordkeeping requirements in 10.e) of this permit:

**CO Emissions**

$$\frac{84}{2,000} \sum_{n=1}^{12} (A + C) + \frac{66}{2,000} \sum_{n=1}^{12} B \leq 99.5$$

Where:

- A = Natural gas fired in the boilers, MMscf/month
- B = Natural gas fired in the turbine, MMscf/month
- C = Natural gas fired in the HRSG duct burner, MMscf/month
- 84 = CO emissions factor for boilers and HRSG duct burner, lb/MMscf, based on the AP-42 Section 1.4 (7/98) emission factor for external natural gas combustion in small boilers
- 66 = CO emissions factor for the turbine, lb/MMscf, as manufacturer's specifications
- 2,000 = Mass conversion, lb/ton
- 99.5 = CO emissions limitation, tons, as a rolling, 12-month summation

- (3) Emissions Limitation:  
PM<sub>10</sub>/PM<sub>2.5</sub> emissions from P001, B001, and B002 shall not exceed 9.9 tons as a rolling, 12-month summation.

**Applicable Compliance Method:**

Compliance with the rolling, 12-month emissions limitation for PM<sub>10</sub>/PM<sub>2.5</sub> shall be demonstrated by the following calculations based on the emissions estimation equations in AP-42 Section 1.4 (7/98) and the information collected pursuant to the recordkeeping requirements in 10.e) of this permit:

**PM<sub>10</sub>/PM<sub>2.5</sub> Emissions**

$$\frac{7.6}{2,000} \sum_{n=1}^{12} F + \frac{10.1}{2,000} \sum_{n=1}^{12} G + \frac{6.9}{2,000} \sum_{n=1}^{12} H \leq 9.9$$

Where:



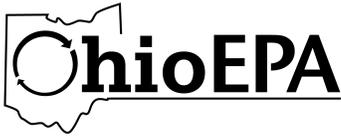
- F* = Natural gas fired in the boilers, MMscf/month
- G* = Natural gas fired in the turbine, MMscf/month
- H* = Natural gas fired in the HRSG duct burner, MMscf/month
- 7.6 =  $PM_{10}/PM_{2.5}$  emissions factor for boilers, lb/MMscf, as the AP-42 Section 1.4 (7/98) emission factor for natural gas combustion
- 6.9 =  $PM_{10}/PM_{2.5}$  emissions factor for HRSG duct burner, lb/MMscf, as manufacturer's specifications
- 10.1 =  $PM_{10}/PM_{2.5}$  emissions factor for the turbine, lb/MMscf, as aP-42 Section 3.1 (4/00) emission factor with 50% safety factor per manufacturer's recommendation
- 2,000 = Mass conversion, lb/ton
- 9.9 =  $PM_{10}/PM_{2.5}$  emissions limitation, tons, as a rolling, 12-month summation

The potential to emit from roadways and parking areas at the facility is less than 0.00162 tons  $PM_{10}$  and 0.00046 tons  $PM_{2.5}$  per year.



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**Facility ID:** 0684015015  
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## **C. Emissions Unit Terms and Conditions**



**1. P001, Turbine/Heat Recovery Steam Generator (HRSG)**

**Operations, Property and/or Equipment Description:**

Natural gas fired 8 MW Turbine with a maximum heat input capacity of 83.3 MMBtu/hr and a natural gas fired HRSG rated at 130 MMBtu/hr

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
  - (1) None.
- b) Applicable Emissions Limitations and/or Control Requirements
  - (1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) and ORC 3704.03(T)	<p>The requirements of this rule include compliance with 40 CFR 60, Subpart KKKK for nitrogen oxides (NO<sub>x</sub>).</p> <p>Install a turbine/HRSG that is designed to meet 25 ppmvd of carbon monoxide (CO) at 15% oxygen.</p> <p>Particulate emissions (PE), emissions of particulate matter less than 10 microns (PM<sub>10</sub>) or emissions of particulate matter less than 2.5 microns (PM<sub>2.5</sub>) shall not exceed 9.9 tons as a rolling, 12-month summation.</p>
b.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001	<p>Sulfur dioxide (SO<sub>2</sub>) emissions shall not exceed 0.13 ton per month averaged over a 12-month rolling period.</p> <p>Volatile organic carbon (VOC) emissions shall not exceed 0.32 ton per month averaged over a 12-month rolling period.</p> <p>See b)(2)a. below.</p>
c.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/2006	See b)(2)b. below.
d.	OAC rule 3745-31-10 through 20 (BACT for CO <sub>2</sub> e)	Emissions of carbon dioxide equivalents (CO <sub>2</sub> e) shall not exceed 109,401.7 tons as a rolling 12-month summation.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		See c)(2) below.
e.	OAC rule 3745-17-07(A)	Visible PE from any stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
f.	OAC rule 3745-17-11(B)(4) (Turbine)	PE from the turbine shall not exceed 0.040 pound per MMBtu of actual heat input.
g.	OAC rule 3745-17-10(B)(1) (HRSG duct burners)	PE from the HRSG shall not exceed 0.020 pound per MMBtu of actual heat input.
h.	OAC rule 3745-18-06	This emissions unit is exempt from the requirements of OAC 3745-18-06(F) pursuant to OAC rule 3745-18-06(A).
i.	OAC rule 3745-110-03(E)(1)(b)(i) (Turbine)	The emissions limitation specified by this rule is less stringent than the emissions limitation established for NO <sub>x</sub> pursuant to 40 CFR Part 60, Subpart KKKK.
j.	OAC rule 3745-110-03(D) (HRSG duct burners)	The emissions limitation specified by this rule is less stringent than the emissions limitation established for NO <sub>x</sub> pursuant to 40 CFR Part 60, Subpart KKKK.
k.	40 CFR 60, Subpart KKKK (40 CFR 60.4300 – 4420)  [In accordance with 40 CFR 60.4330 and 60.4305(a), this emissions unit is a stationary combustion turbine with a heat input at peak load equal to or greater than 10.7 gigajoules (10 MMBtu/hr located in a continental area subject to the emissions limitations/control measures specified in this section.)]	NO <sub>x</sub> emissions shall not exceed 25 ppmv at 15% oxygen. [40 CFR 60.4320 and Table 1 of 40 CFR Part 60, Subpart KKKK]  See b)(2)c. and c)(3) below.
l.	40 CFR 60.1 – 19	Subpart A of 40 CFR Part 60, General Provisions
m.	40 CFR 63, Subpart YYYY (40 CFR 63.6080 – 6175)  [In accordance with 40 CFR 63.6085(a), this emissions unit is a stationary combustion turbine located at a major source of hazardous air pollutants (HAP) emissions subject to the emissions	See e)(2) below.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	limitations/control measures specified in this section.]	
n.	40 CFR 63.1-16 (40 CFR 63.6165)	Table 7 to Subpart YYYY of 40 CFR Part 63 – Applicability of General Provisions to Subpart YYYY shows which parts of the General Provisions in 63.1-16 apply.

(2) Additional Terms and Conditions

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulation for NAAQS pollutant emissions less than 10 tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio’s State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally–approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limits/control measures no longer apply.

- b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the SIP.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the SO<sub>2</sub> or VOC emissions from this air contaminant source since the uncontrolled potential to emit for particulate, SO<sub>2</sub> or VOC is less than 10 tons/yr.

- c. Pursuant to 40 CFR 60.4330(a)(2), the permittee shall not burn any fuel in the stationary combustion turbine which contains total potential sulfur in excess of 0.06 lb SO<sub>2</sub>/MMBtu of heat input.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas in this emissions unit.
- (2) To comply with BACT for CO<sub>2</sub>e, the permitteeshall select an effective turbine and use good combustion, operating, and maintenance practices.
- (3) See 40 CFR 60, Subpart KKKK (40 CFR 60.4300 – 60.4420).



d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
- (2) See 40 CFR 60, Subpart KKKK (40 CFR 60.4300 – 60.4420).
- (3) See 40 CFR 63, Subpart YYYY (40 CFR 63.6080 – 6175).

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify any deviations from emission limitations, operational restrictions and/or control device operating parameter limitations in this permit. The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.
- (2) See 40 CFR 60, Subpart KKKK (40 CFR 60.4300 – 60.4420).
- (3) See 40 CFR 63, Subpart YYYY (40 CFR 63.6080 – 6175).
- (4) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

f) Testing Requirements

- (1) Compliance with the emissions limitations and/or control requirements specified in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

a. Emissions Limitation:

NO<sub>x</sub> emissions shall not exceed 25 ppmv at 15% oxygen.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the emissions testing requirements specified in f)(2).

b. Emissions Limitation:

PE/PM<sub>10</sub>/PM<sub>2.5</sub> emissions shall not exceed 0.99 ton per month averaged over a 12-month rolling period.

Applicable Compliance Method:

Compliance shall be demonstrated by the following calculations based on the emissions factors and other information in the permittee's application:



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Turbine PE/PM<sub>10</sub>/PM<sub>2.5</sub> = turbine heat input capacity MMBtu/hr HHV \* turbine PE/PM<sub>10</sub>/PM<sub>2.5</sub> EF lb/MMBtu \* 1 ton/2,000 lb \* 8,760 hr/yr \* 1 yr/12 months  
+  
HRSG PE/PM<sub>10</sub>/PM<sub>2.5</sub> = HRSG heat input capacity MMscf/yr \* HRSG PE/PM<sub>10</sub>/PM<sub>2.5</sub> EF lb/MMscf \* 1 ton/2,000 lb) \* 1 yr/12 months

Where:

Turbine heat input capacity = 83.3 MMBtu/hr HHV  
Turbine PE/PM<sub>10</sub>/PM<sub>2.5</sub> EF = 0.021 lb/MMBtu [Manufacturer's specifications]  
HRSG heat input capacity = 1,117 MMscf/yr  
HRSG PE/PM<sub>10</sub>/PM<sub>2.5</sub> EF = 7.6 lb/MMscf [as the AP-42 Section 1.4 (7/98) emission factor for external natural gas combustion]

c. Emissions Limitation:

SO<sub>2</sub> emissions shall not exceed 0.13 ton per month averaged over a 12-month rolling period.

Applicable Compliance Method:

Compliance shall be demonstrated by the following calculations based on the emissions factors and other information in the permittee's application:

Turbine SO<sub>2</sub> = turbine heat input capacity MMBtu/hr HHV \* turbine SO<sub>2</sub> EF lb/MMBtu \* 1 ton/2,000 lb \* 8,760 hr/yr \* 1 yr/12 months  
+  
HRSG SO<sub>2</sub> = HRSG heat input capacity MMscf/yr \* HRSG SO<sub>2</sub> EF lb/MMscf \* 1 ton/2,000 lb \* 1 yr/12 months

Where:

Turbine heat input capacity = 83.3 MMBtu/hr HHV  
Turbine SO<sub>2</sub> EF = 3.40E-03lb/MMBtu [AP-42, Section 3.1, Table 3.1-2a, footnote h (4/00)]  
HRSG heat input capacity = 1,117 MMscf/yr  
HRSG SO<sub>2</sub> EF = 0.6lb/MMscf [as the AP-42 Section 1.4 (7/98) emission factor for external natural gas combustion]

d. Emissions Limitation:

VOC emissions shall not exceed 0.32 ton per month averaged over a 12-month rolling period.

Applicable Compliance Method:

Compliance shall be demonstrated by the following calculations based on the emissions factors and other information in the permittee's application:

Turbine VOC = turbine heat input capacity MMBtu/hr HHV \* turbine VOC EF lb/MMBtu \* 1 ton/2,000 lb \* 8,760 hr/yr \* 1 yr/12 months  
+  
HRSG VOC = HRSG heat input capacity MMscf/yr \* HRSG VOCEF lb/MMscf \* 1 ton/2,000 lb \* 1 yr/12 months



Where:

Turbine heat input capacity = 83.3 MMBtu/hr HHV  
Turbine VOC EF = 0.0021 lb/MMBtu [AP-42, Section 3.1, Table 3.1-2a (4/00)]  
HRSG heat input capacity = 1,117 MMscf/yr  
HRSG VOC EF = 5.5 lb/MMscf [as the AP-42 Section  
1.4 (7/98) emission factor for external natural gas combustion]

e. Emissions Limitation:

CO<sub>2</sub>e emissions shall not exceed 109,401.7 tons as a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be demonstrated by the following calculations based on the emissions factors and other information in the permittee's application:

Turbine CO<sub>2</sub>e emissions TPY = CO<sub>2</sub> emissions TPY \* CO<sub>2</sub> GWP + CH<sub>4</sub> emissions TPY \* CH<sub>4</sub> GWP + N<sub>2</sub>O emissions TPY \* N<sub>2</sub>O GWP  
+

HRSG CO<sub>2</sub>e emissions TPY = CO<sub>2</sub> emissions TPY \* CO<sub>2</sub> GWP + CH<sub>4</sub> emissions TPY \* CH<sub>4</sub> GWP + N<sub>2</sub>O emissions TPY \* N<sub>2</sub>O GWP

Where:

CO<sub>2</sub> emissions TPY = heat input capacity MMBtu/hr \* CO<sub>2</sub> EF lb/MMBTU \* 1 ton 2,000 lb \* operating hours hr/yr

CH<sub>4</sub> emissions TPY = heat input capacity MMBtu/hr \* CH<sub>4</sub> EF lb/MMBtu/hr \* 1 ton 2,000 lb \* operating hours hr/yr

N<sub>2</sub>O emissions TPY = heat input capacity MMBtu/hr \* N<sub>2</sub>O EF lb/MMBtu/hr \* 1 ton 2,000 lb \* operating hours hr/yr

Where:

Turbine CO<sub>2</sub> EF = 116.98lb/MMBtu [40 CFR 98, Subpart C, Table C-1 for natural gas (converted using NIST SP1038)]

HRSG CO<sub>2</sub> EF = 116.98lb/MMBtu[40 CFR 98, Subpart C, Table C-1 for natural gas (converted using NIST SP1038)]

Turbine CH<sub>4</sub> EF = 2.20E-03 lb/MMBtu[40 CFR 98, Subpart C, Table C-2 for natural gas (converted using NIST SP1038)]

HRSG CH<sub>4</sub> EF = 2.20E-03 lb/MMBtu [40 CFR 98, Subpart C, Table C-2 for natural gas (converted using NIST SP1038)]

Turbine N<sub>2</sub>O EF = 2.20E-04 lb/MMBtu [40 CFR 98, Subpart C, Table C-1 for natural gas (converted using NIST SP1038)]

HRSG N<sub>2</sub>O EF = 2.20E-04 lb/MMBtu [40 CFR 98, Subpart C, Table C-1 for



natural gas (converted using NIST SP1038)]

Turbine heat input capacity = 83.3 MMBtu/hr  
HRSG heat input capacity = 130.0 MMBtu/hr  
CO<sub>2</sub> GWP = 1  
CH<sub>4</sub> GWP = 25  
N<sub>2</sub>O GWP = 298  
Operating hours = 8,760

f. Emissions Limitation:

Visible PE from any stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provide by rule.

Applicable Compliance Method:

If required, visible particulate emissions shall be determined according to USEPA Method 9.

g. Emissions Limitation:

PE from the turbine shall not exceed 0.04lb/MMBtu of actual heat input.

Applicable Compliance Method:

Compliance is demonstrated by the manufacturer's guaranteed specifications for the turbine of 0.021 lb PE/MMBtu.

h. Emissions Limitation:

PE from the HRSG shall not exceed 0.02lb/MMBtu of actual heat input.

Applicable Compliance Method:

Compliance is demonstrated by the emissions factor of 7.6 lb PE/MMscf from AP-42 Table 1.4-2 (7/98) multiplied by 1 MMscf/1,020 MMBtu (0.0075 lb/MMBtu).

i. Emissions Limitation:

Install a turbine/HRSG that is designed to meet 25 ppmvd of carbon monoxide (CO) at 15% oxygen.

Applicable Compliance Method:

Compliance is demonstrated by the manufacturer's guaranteed specifications for the turbine of 25 ppmvd of carbon monoxide (CO) at 15% oxygen.

- (2) Pursuant to 40 CFR 60.8, 60.4340(a), and 60.4400 and OAC rules 3745-110-03(H)(1), 3745-110-05(A), 3745-31-05(A)(3), and ORC 3704.03(T), the permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:



- a. The emission testing shall be conducted within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility and on annual bases (no more than 14 calendar months following the previous performance test.
- b. The emissions testing shall be conducted to demonstrate compliance with the NO<sub>x</sub> emissions limitation identified in 40 CFR 60.4320 and OAC rule 3745-110-03 and the CO design standard in b)(1)a.
- c. Pursuant to 40 CFR 60.4400 and OAC rule 3745-110-05(A), and Table 1 of 40 CFR Part 60, Subpart KKKK and OAC rules 3745-110-03(D), 3745-31-05(A)(3), and ORC 3704.03(T) for the HRSG and (E)(1)(b)(i) for the turbine, the following test methods shall be employed to demonstrate compliance with the allowable NO<sub>x</sub> emissions rate and design standard for CO:

Methods 7, 7a, 7c, 7d, or 7e of 40 CFR Part 60, Appendix A for NO<sub>x</sub>

Methods 10, 10A, or 10B, 40 CFR Part 60, Appendix A for CO

- d. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency or as required by 40 CFR 60.4400(b). Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
- f. Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the



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submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

g) Miscellaneous Requirements

(1) None.



**2. P002, Black Start Generator**

**Operations, Property and/or Equipment Description:**

750 kW black start generator with a 1,141 hp diesel-fired internal combustion engine

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001	Install an engine that is designed to meet 13.39 pounds per hour of nitrogen oxides (NO <sub>x</sub> ) emissions, 0.80 pound per hour of carbon monoxide (CO) emissions, 0.16 pound per hour of particulate emissions (PE), emissions of particulate matter less than 10 microns (PM <sub>10</sub> ) or emissions of particulate matter less than 2.5 microns (PM <sub>2.5</sub> ), and 0.12 pound per hour of volatile organic compound (VOC) emissions.  See b)(2)a. and c. below
b.	OAC 3745-31-05(A)(3)(b), as effective 12/1/2006	See b)(2)b. below.
c.	OAC rule 3745-31-05(D) (Synthetic minor to avoid PSD requirements, BAT requirements for NO <sub>x</sub> , and to meet the definition of limited use stationary RICE in 40 CFR Part 63, Subpart ZZZZ)	NO <sub>x</sub> emissions shall not exceed 0.67 ton as a rolling 12-month summation.  CO emissions shall not exceed 0.04 ton as a rolling 12-month summation.  VOC emissions shall not exceed 0.01 ton as a rolling 12-month summation.  PE/PM <sub>10</sub> /PM <sub>2.5</sub> emissions shall not exceed 0.01 ton as a rolling 12-month summation.  SO <sub>2</sub> emissions shall not exceed 0.00000061 ton as a rolling 12-



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	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>month summation.</p> <p>See c)(1) below.</p>
d.	OAC rule 3745-31-10 through 20 (BACT for CO <sub>2</sub> e)	<p>Emissions of carbon dioxide equivalents (CO<sub>2</sub>e) shall not exceed 65.3 tons as a rolling 12-month summation.</p> <p>See c)(2) below.</p>
e.	OAC rule 3745-17-07(A)	Visible PE from any stack serving this emissions unit shall not exceed 20 percent opacity as a six minute average, except as provided by rule.
f.	OAC rule 3745-17-11(B)(5)(b)	<p>PE shall not exceed 0.062 pound per MMBtu of actual heat input.</p> <p>This emission limitation is less stringent than the limitations listed under OAC rule 3745-31-05(A)(3), until such time as U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the State Implementation Plan.</p>
g.	OAC rule 3745-18-06	This emissions unit is exempt from the requirements of OAC 3745-18-06(G) pursuant to OAC rule 3745-18-06(B).
h.	OAC rule 3745-110-03	This emissions unit is exempt from the requirements of OAC 3745-110-03(F) pursuant to OAC rule 3745-110-03(K)(3).
i.	<p>40 CFR 60, Subpart IIII (40 CFR 60.4200 – 4219)</p> <p>[In accordance with 40 CFR 60.4200(a)(2)(i), 60.4201(e)(2) and 60.4204(b), this emissions unit is a 2014 model year stationary compression ignition (CI) internal combustion engine (ICE) for which construction commenced after July 11, 2005 with a displacement of less than 10 liters per cylinder subject to the emissions limitations/control measures specified in this section.]</p>	<p>PE shall not exceed 0.27 g/kW-hour. [40 CFR 60.4201(e)(2) and Table 2 to 40 CFR 1042.101]</p> <p>NO<sub>x</sub> plus hydrocarbons (HC) emissions shall not exceed 11.0 g/kW-hour. [40 CFR 60.4201(e)(2) and Table 2 to 40 CFR 1042.101]</p> <p>These emissions limitations are less stringent than the limitations listed under OAC rule 3745-31-05(A)(3) for PE and VOC, until such time as U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the State Implementation Plan.</p> <p>See c)(1) and (3) below.</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
j.	40 CFR 60.1 – 19 (40 CFR 60.4218)	Table 8 of Subpart IIII of 40 CFR Part 60 – Applicability of General Provisions to Subpart IIII, specifies the provisions of Subpart A that apply to owners and operators of affected facilities subject to this subpart.
k.	40 CFR 63, Subpart ZZZZ (40 CFR 63.6580 – 6675)  [In accordance with 40 CFR 63.6585 and 63.6590(b)(1)(ii), this emissions unit is a limited use stationary reciprocating internal combustion engine (RICE) with a site rating of more than 500 brake HP located at a major source of HAP emissions subject to the limited requirements of this section.]	See c)(1) and (4) and e)(2) below.
l.	40 CFR 60.1 – 16 (40 CFR 60.6665)	Table 8 of Subpart ZZZZ of 40 CFR Part 63 – Applicability of General Provisions to Subpart ZZZZ, specifies the provisions of Subpart A that apply to owners and operators of affected facilities subject to this subpart.

(2) Additional Terms and Conditions

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulation for NAAQS pollutant emissions less than 10 tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio’s State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally–approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limits/control measures no longer apply.
- b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the SIP.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate, SO<sub>2</sub>, VOC or CO emissions from this air



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contaminant source since the uncontrolled potential to emit for particulate, SO<sub>2</sub>, VOC or CO is less than 10 tons/yr.

- c. Pursuant to 40 CFR 60.4207(b), all diesel fuel used in the stationary CI ICE must meet the requirements of 40 CFR 80.510(b) for non-road diesel of 15 ppm sulfur.

c) Operational Restrictions

- (1) The permittee has requested a limitation on operating hours for purposes of limiting potential to emit to avoid PSD requirements, BAT requirements for NO<sub>x</sub>, and to meet the definition of limited use stationary RICE in 40 CFR Part 63, Subpart ZZZZ. Therefore, the maximum number of operating hours for emissions unit P002 shall not exceed 100 hours as a rolling, 12-month summation.

To ensure compliance during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the operating hours specified in the following table:

Maximum Cumulative Months Operating Hours

1	9
1-2	18
1-3	27
1-4	36
1-5	45
1-6	54
1-7	63
1-8	72
1-9	81
1-10	90
1-11	99
1-12	100

After the first 12 calendar months of operation following the startup of emissions unit P002, compliance with the annual operating hour limitation shall be based upon a rolling, 12-month summation of the operating hours.

- (2) To comply with BACT for CO<sub>2</sub>e, the permittee shall select a fuel efficient engine, employ good combustion practices, and monitor fuel usage.



- (3) See 40 CFR 60, Subpart IIII (40 CFR 60.4200 – 4219).
  - (4) See 40 CFR 63, Subpart ZZZZ (40 CFR 63.6580 – 6675).
  - (5) The permittee shall burn only number two fuel oil in this emissions unit.
- d) Monitoring and/or Recordkeeping Requirements
- (1) See 40 CFR 60, Subpart IIII (40 CFR 60.4200 – 4219).
  - (2) For each day during which the permittee burns a fuel other than number two fuel oil, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
  - (3) The permittee shall record the operating hours for each month for P002 and compute and record the following:
    - a. NO<sub>x</sub> emissions in tons as a rolling, 12-month summation as calculated in f)(1)b.;
    - b. CO emissions in tons as a rolling, 12-month summation as calculated in in f)(1)b.;
    - c. VOC emissions in tons as a rolling, 12-month summation as calculated in in f)(1)b.;
    - d. PE/PM<sub>10</sub>/PM<sub>2.5</sub> emissions in tons as a rolling, 12-month summation as calculated in in f)(1)b.; and
    - e. SO<sub>2</sub> emissions in tons as a rolling, 12-month summation as calculated in in f)(1)b.
- e) Reporting Requirements
- (1) See 40 CFR 60, Subpart IIII (40 CFR 60.4200 – 4219).
  - (2) See 40 CFR 63, Subpart ZZZZ (40 CFR 63.6580 – 6675).
  - (3) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than number two fuel oil was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
  - (4) The permittee shall submit quarterly deviation (excursion) reports that identify:
    - a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
      - i. Operating hours for P002 shall not exceed 100 hours as a rolling, 12-month summation;
      - ii. NO<sub>x</sub> emissions from P002 shall not exceed 0.67 ton as a rolling, 12-month summation;



- iii. CO emissions from P002 shall not exceed 0.04 tonas a rolling, 12-month summation;
- iv. VOC emissions from P002 shall not exceed 0.01 ton as a rolling, 12-month summation;
- v. PE/PM<sub>10</sub>/PM<sub>2.5</sub> emissions from P002 shall not exceed 0.01 tonas a rolling, 12-month summation; and
- vi. SO<sub>2</sub> emissions from P002 shall not exceed 0.00000061 ton as a rolling, 12-month summation.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

f) Testing Requirements

- (1) Compliance with the emissions limitations and/or control requirements specified in b)(1) of these terms and conditions shall be determined in accordance with the following methods:

- a. Emissions Limitations:

Install an engine that is designed to meet 13.39 pounds per hour of nitrogen oxides (NO<sub>x</sub>) emissions, 0.80 pound per hour of CO emissions, 0.16 pound per hour of PE, emissions of PM<sub>10</sub> or emissions of PM<sub>2.5</sub>, and 0.12 pound per hour of VOC emissions.

Applicable Compliance Method:

Compliance shall be demonstrated by installing a generator designed to meet this limit via manufacturer's guaranteed specifications and by the required testing in f)(2).

- b. Emissions Limitations:

- i. NO<sub>x</sub> emissions shall not exceed 0.67 tonas a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be demonstrated by the following calculations based on the emissions factors and other information in the permittee's application:

$$\text{NO}_x \text{ emissions TPY} = \text{NO}_x \text{ emissions lb/hr} * \text{operating hours hr/rolling, 12 months} * 1 \text{ ton}/2,000 \text{ lb}$$

- ii. CO emissions shall not exceed 0.04 tonas a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be demonstrated by the following calculations based on the emissions factors and other information in the permittee's application:



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CO emissions TPY = CO emissions lb/hr \* operating hours hr/rolling, 12 months \* 1 ton/2,000 lb

- iii. VOC emissions shall not exceed 0.01 tons a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be demonstrated by the following calculations based on the emissions factors and other information in the permittee's application:

VOC emissions TPY = VOC emissions lb/hr \* operating hours hr/rolling, 12 months \* 1 ton/2,000 lb

- iv. PE/PM<sub>10</sub>/PM<sub>2.5</sub> emissions shall not exceed 0.01 tons a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be demonstrated by the following calculations based on the emissions factors and other information in the permittee's application:

PE/PM<sub>10</sub>/PM<sub>2.5</sub> emissions TPY = PE/PM<sub>10</sub>/PM<sub>2.5</sub> emissions lb/hr \* operating hours hr/rolling, 12 months \* 1 ton/2,000 lb

- v. SO<sub>2</sub> emissions shall not exceed 0.00000061 tons a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be demonstrated by the following calculations based on the emissions factors and other information in the permittee's application:

SO<sub>2</sub> emissions TPY = CO emissions lb/hr \* operating hours hr/rolling, 12 months \* 1 ton/2,000 lb

Where:

NO <sub>x</sub> emissions (lb/hr)	= 13.39†
CO emissions (lb/hr)	= 0.80†
VOC emissions (lb/hr)	= 0.12†
PE/PM <sub>10</sub> /PM <sub>2.5</sub> emissions (lb/hr)	= 0.16†
SO <sub>2</sub> emissions (lb/hp-hr)	= 1.21E-05†
Maximum operating hours (hr/yr)	= 100

† Manufacturer's specifications

- c. Emissions Limitation:

CO<sub>2</sub>e shall not exceed 65.3 tons as a rolling, 12-month summation.



Applicable Compliance Method:

Compliance shall be demonstrated by the following calculations based on the emissions factors and other information in the permittee's application:

$$\text{CO}_2\text{e emissions TPY} = \text{CO}_2 \text{ emissions TPY} * \text{CO}_2 \text{ GWP} + \text{CH}_4 \text{ emissions TPY} * \text{CH}_4 \text{ GWP} + \text{N}_2\text{O emissions TPY} * \text{N}_2\text{O GWP}$$

Where:

$$\text{CO}_2 \text{ emissions TPY} = \text{engine power hp} * \text{heat input capacity MMBtu/hp-hr} * \text{CO}_2 \text{ EF lb/MMBTU} * 1 \text{ ton}/2,000 \text{ lb} * \text{operating hours hr/rolling, 12 months summation}$$

$$\text{CH}_4 \text{ emissions TPY} = \text{engine power hp} * \text{heat input capacity MMBtu/hp-hr} * \text{CH}_4 \text{ EF lb/MMBTU/hr} * 1 \text{ ton}/2,000 \text{ lb} * \text{operating hours hr/rolling, 12 months summation} * \text{CH}_4 \text{ GWP}$$

$$\text{N}_2\text{O emissions TPY} = \text{engine power hp} * \text{heat input capacity MMBtu/hp-hr} * \text{N}_2\text{O EF lb/MMBTU/hr} * 1 \text{ ton}/2,000 \text{ lb} * \text{operating hours hr/rolling, 12 months summation} * \text{N}_2\text{O GWP}$$

Where:

$$\text{CO}_2 \text{ EF} = 163.05 \text{ lb/MMBtu [40 CFR 98, Subpart C, Table C-1 for distillate fuel oil no. 2 (converted using NIST SP1038)]}$$

$$\text{CH}_4 \text{ EF} = 6.61\text{E-}03 \text{ lb/MMBtu [40 CFR 98, Subpart C, Table C-2 for petroleum (converted using NIST SP1038)]}$$

$$\text{N}_2\text{O EF} = 1.32\text{E-}03 \text{ lb/MMBtu [40 CFR 98, Subpart C, Table C-2 for petroleum (converted using NIST SP1038)]}$$

$$\text{Heat input capacity} = 7.0\text{E-}03 \text{ MMBtu/hp-hr} †$$

$$\text{Engine power} = 1,141 \text{ hp}$$

$$\text{CO}_2 \text{ GWP} = 1$$

$$\text{CH}_4 \text{ GWP} = 25$$

$$\text{N}_2\text{O GWP} = 298$$

$$\text{Maximum operating hours} = 100$$

† Average brake specific fuel conversion per AP-42 Section 3.4, Large Stationary Diesel and All Stationary Dual-fuel Engines, footnote "e" to Table 3.4-1

d. Emissions Limitation:

PE shall not exceed 0.062 lb/MMBtu of actual heat input.

Applicable Compliance Method:

Compliance with this limit shall be demonstrated by installing a diesel generator with a manufacturer's guarantee of PE of 0.16 lb PE/hr, equating to 0.022 lb PE/MMBtu.



e. Emissions Limitation:

Visible PE from any stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provide by rule.

Applicable Compliance Method:

If required, visible particulate emissions shall be determined according to USEPA Method 9.

f. Emissions Limitations:

PE shall not exceed 0.27 g/kW-hr.

NO<sub>x</sub> plus hydrocarbons (HC) emissions shall not exceed 11.0 g/kW-hr.

Applicable Compliance Method:

i. Permittee will demonstrate compliance with these limits by purchasing an engine certified to meet these emissions standards. The engine must be installed and configured according to the manufacturer's emission-related specifications.

ii. If permittee does not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related instructions, or permittee changes emission-related settings in a way that is not permitted by the manufacturer, permittee must demonstrate compliance as follows:

Keep a maintenance plan and records of conducted maintenance and to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

(2) Pursuant to OAC rule 3745-31-05(A)(3), the permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within 60 days after achieving the maximum production rate at which the affected facility will be operated, by not later than 180 days after initial startup of such facility and at such other times as may be required by the Ohio EPA, Division of Air Pollution Control.



- b. The following test methods shall be employed to demonstrate compliance with the allowable NO<sub>x</sub>, CO, PE, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions limitations:  
  
Methods 7, 7a, 7c, 7d, or 7e of 40 CFR Part 60, Appendix A for NO<sub>x</sub>;  
  
Methods 10, 10A, and 10B of 40 CFR Part 60, Appendix A for CO;  
  
Methods 1-5 of 40 CFR 60, Appendix A for PE; and  
  
Methods 201 and 201A of 40 CFR Part 60, Appendix A for PM<sub>10</sub>.
- c. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.
- d. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
- e. Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

g) Miscellaneous Requirements

- (1) None.



**3. Emissions Unit Group -Backup Boilers: B001,B002**

EU ID	Operations, Property and/or Equipment Description
B001	Natural gas fired boiler with a maximum heat input capacity of 96.5 MMBtu/hr
B002	Natural gas fired boiler with a maximum heat input capacity of 96.5 MMBtu/hr

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
- (1) None.
- b) Applicable Emissions Limitations and/or Control Requirements
- (1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC 3745-31-05(A)(3) and ORC 3704.03(T)	Install a boiler with low-NO <sub>x</sub> burners designed to meet 0.05 lbof nitrogen oxides (NO <sub>x</sub> ) per MMBtu of heat input.  The requirements of this rule include compliance with the work practice requirements for carbon monoxide (CO) in 40 CFR Part 63, Subpart DDDDD.  See c)(4) below.
b.	OAC rule 3745-31-05(E) (Voluntary restriction to avoid the requirements of OAC rule 3745-110-03(B))	NO <sub>x</sub> emissions shall not exceed 20.7 tons per year.
c.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001	Install a boiler designed to meet 0.01 pound of particulate emissions (PE) emissions, of particulate matter less than 10 microns (PM <sub>10</sub> ), or emissions of particulate matter less than 2.5 microns (PM <sub>2.5</sub> ) and 0.004 pound of volatile organic carbon (VOC) emissions per MMBtu of heat input.  Sulfur dioxide (SO <sub>2</sub> ) emissions shall not exceed 0.02 ton per month per boiler averaged over a 12-month rolling period.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		See b)(2)a. below.
d.	OAC rule 3745-31-05(A)(3)(b), as effective 12/01/2006	See b)(2)b. below.
e.	OAC rule 3745-31-10 through 20 (BACT for CO <sub>2</sub> e)	Emissions of carbon dioxide equivalents (CO <sub>2</sub> e) shall not exceed 49,494 tons as a rolling 12-month summation. See c)(2) below.
f.	OAC rule 3745-17-07(A)	Visible PE from any stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
g.	OAC rule 3745-17-10(B)(1)	<p>PE shall not exceed 0.020 pound per MMBtu of actual heat input.</p> <p>This emission limitation is less stringent than the limitations listed under OAC rule 3745-31-05(A)(3), until such time as U.S. EPA approves the December 1, 2006, version of OAC rule 3745-31-05 as part of the State Implementation Plan.</p>
h.	OAC rule 3745-18-06	This emissions unit is exempt from the requirements of OAC 3745-18-06 pursuant to OAC rule 3745-18-06(A).
i.	OAC rule 3745-110-03	This emissions unit is exempt from the requirements of OAC 3745-110-03(B) pursuant to OAC rule 3745-110-03(K)(17).
j.	<p>40 CFR 60, Subpart Dc (40 CFR 60.40c – 48c)</p> <p>[In accordance with 40 CFR 60.40c, this emissions unit is a steam generating unit that combusts only natural gas for which construction, modification, or reconstruction commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 MMBtu per hour or less, but greater than or equal to 2.9 MW (10 MMBtu per hour) subject to the emissions limitations/control measures specified in this section.]</p>	See c)(3) and d)(2) below.
k.	40 CFR 60.1 – 19	Subpart A of 40 CFR Part 60, General Provisions
l.	40 CFR 63, Subpart DDDDD	See b)(2)c. and c)(4) below.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	(40 CFR 63.7480 – 7575)  [In accordance with 40 CFR 63.7485 and 63.7490, this emissions unit is a new industrial, commercial, or institutional boiler or process heater designed to burn gas 1 fuels for which construction commenced after June 4, 2010 at a major source of hazardous air pollutants subject to the emissions limitations/control measures specified in this section.]	
m.	40 CFR 63.1 – 16 (40 CFR 63.7565)	Table 10 of Subpart DDDDD of 40 CFR Part 63 – Applicability of General Provisions to Subpart DDDDD, specifies the provisions of Subpart A that apply to owners and operators of affected facilities subject to this subpart.

(2) Additional Terms and Conditions

- a. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulation for NAAQS pollutant emissions less than 10 tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio’s State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally–approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limits/control measures no longer apply.
- b. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the SIP.  
  
The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate, SO<sub>2</sub>, or VOC emissions from this air contaminant source since the uncontrolled potential to emit for particulate, SO<sub>2</sub>, or VOC is less than 10 tons/yr.
- c. The permittee must comply with 40 CFR 63, Subpart DDDDD by January 31, 2013, or upon startup of boiler, whichever is later.



- c) Operational Restrictions
  - (1) The permittee shall burn only natural gas in this emissions unit.
  - (2) To comply with BACT for CO<sub>2</sub>e, the permittee shall conduct annual tune-ups, in accordance with the requirements of 40 CFR 63, Subpart DDDDD, and employ appropriate operating and maintenance practices, as well as utilize boilers with efficient burner designs and burn natural gas fuel; economizers shall be used in order to increase the fuel efficiency of the boilers.
  - (3) See 40 CFR 60, Subpart Dc (40 CFR 60.40c – 48c).
- d) See 40 CFR 63, Subpart DDDDD (40 CFR 63.7480 – 63.7575). Monitoring and/or Recordkeeping Requirements
  - (1) For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
  - (2) See 40 CFR 60, Subpart Dc (40 CFR 60.40c – 48c).
- e) See 40 CFR 63, Subpart DDDDD (40 CFR 63.7480 – 63.7575). Reporting Requirements
  - (1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
  - (2) The permittee shall submit quarterly deviation (excursion) reports that identify any deviations from emission limitations, operational restrictions and/or control device operating parameter limitations in this permit. The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.
  - (3) See 40 CFR 60, Subpart Dc (40 CFR 60.40c – 48c).
  - (4) See 40 CFR 63, Subpart DDDDD (40 CFR 63.7480 – 63.7575).
- f) Testing Requirements
  - (1) Compliance with the emissions limitations and/or control requirements specified in b)(1) of these terms and conditions shall be determined in accordance with the following methods:
    - a. Emissions Limitation:  
  
Install a boiler with low-NO<sub>x</sub> burners designed to meet 0.05 lb of nitrogen oxides (NO<sub>x</sub>) per MMBtu of heat input.



Applicable Compliance Method:

Compliance shall be demonstrated by installing boilers designed to meet this limit via manufacturer's guaranteed specifications as demonstrated by the testing requirements in f)(2).

b. Emissions Limitation:

NO<sub>x</sub> emissions shall not exceed 20.7 TPY.

Applicable Compliance Method:

Compliance shall be demonstrated by the following calculations based on the emissions factors and other information in the permittee's application:

$$\text{NO}_x \text{ emissions TPY} = \text{NO}_x \text{ emissions lb/hr} * 1 \text{ ton}/2,000 \text{ lb} * \text{operating hours hr/yr}$$

Where:

$$\begin{aligned} \text{NO}_x \text{ emissions} &= 4.73 \text{ lb/hr} \\ \text{Operating hours} &= 8,760 \text{ hr/yr} \end{aligned}$$

$$\text{NO}_x \text{ Emissions lb/hr} = \text{Heat Input Capacity MMBtu/hr} / \text{Natural Gas Heat Content MMBtu/MMscf} * \text{NO}_x \text{ EF lb/MMscf}$$

Where:

$$\begin{aligned} \text{Heat Input Capacity} &= 96.5 \text{ MMBtu/hr} \\ \text{Natural Gas Heat Content} &= 1,020 \text{ Btu/scf} \\ \text{NO}_x \text{ EF} &= 50 \text{ lb/MMscf} \\ \dagger \text{ AP-42, Section 1.4, Table 1.4-1 for controlled - low NO X burners (7/98)} \end{aligned}$$

c. Emissions Limitation:

Install a boiler designed to meet 0.01 pound of PE, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions per MMBtu of heat input..

Applicable Compliance Method:

Compliance shall be demonstrated by installing boilers designed to meet this limit via manufacturer's guaranteed specifications as demonstrated by the testing requirements in f)(2).

d. Emissions Limitation:

Install a boiler designed to meet 0.004 pound of VOC emissions per MMBtu of heat input.



Applicable Compliance Method:

Compliance shall be demonstrated by installing boilers designed to meet this limit via manufacturer's guaranteed specifications as demonstrated by the testing requirements in f)(2).

e. Emissions Limitation:

SO<sub>2</sub> emissions shall not exceed 0.02 ton per month averaged over a 12-month rolling period.

Applicable Compliance Method:

Compliance shall be demonstrated by the following calculations based on the emissions factors and other information in the permittee's application

$$\text{SO}_2 \text{ emissions ton per month} = \text{SO}_2 \text{ emissions lb/hr} * 1 \text{ ton}/2,000 \text{ lb} * \text{operating hours hr/yr} * 1 \text{ yr}/12 \text{ months}$$

Where:

$$\begin{aligned} \text{SO}_2 \text{ emissions} &= 0.06 \text{ lb/hr} \\ \text{Operating hours} &= 8,760 \end{aligned}$$

$$\text{SO}_2 \text{ Emissions lb/hr} = \text{Heat Input Capacity MMBtu/hr} / \text{Natural Gas Heat Content MMBtu/MMscf} * \text{SO}_2 \text{ EF lb/MMscf}$$

Where:

$$\begin{aligned} \text{Heat Input Capacity} &= 96.5 \text{ MMBtu} \\ \text{Natural Gas Content} &= 1,020 \text{ Btu/scf} \\ \text{SO}_2 \text{ EF} &= 3.40\text{E-}03 \text{ lb/MMBtu} \dagger \\ \dagger &\text{ AP-42, Section 1.4, Table 1.4-2 (7/98)} \end{aligned}$$

f. Emissions Limitation:

CO<sub>2</sub>e emissions shall not exceed 49,494 tons as a rolling, 12-month summation.

Applicable Compliance Method:

Compliance shall be demonstrated by the following calculations based on the emissions factors and other information in the permittee's application

$$\text{CO}_2\text{e emissions TPY} = \text{CO}_2 \text{ emissions TPY} * \text{CO}_2 \text{ GWP} + \text{CH}_4 \text{ emissions TPY} * \text{CH}_4 \text{ GWP} + \text{N}_2\text{O emissions TPY} * \text{N}_2\text{O GWP}$$

Where

$$\text{CO}_2 \text{ emissions TPY} = \text{heat input capacity MMBtu/hr} * \text{CO}_2 \text{ EF lb/MMBTU} * 1 \text{ ton}/2,000 \text{ lb} * \text{operating hours hr/rolling, 12 months}$$



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$CH_4$  emissions TPY = heat input capacity MMBtu/hr \*  $CH_4$  EF lb/MMBtu/hr \* 1 ton/2,000 lb \* operating hours hr/rolling, 12 months

$N_2O$  emissions TPY = heat input capacity MMBtu/hr \*  $N_2O$  EF lb/MMBtu/hr \* 1 ton/2,000 lb \* operating hours hr/rolling, 12 months

Where:

$CO_2$  EF = 116.98lb/MMBtu [40 CFR 98, Subpart C, Table C-1 for natural gas]

$CH_4$  EF = 2.20 E-03 lb/MMBtu [40 CFR 98, Subpart C, Table C-2 for natural gas]

$N_2O$  EF = 2.20E-04 lb/MMBtu [40 CFR 98, Subpart C, Table C-2 for natural gas]

heat input capacity = 96.5 MMBtu/hr

$CO_2$  GWP = 1

$CH_4$  GWP = 25

$N_2O$  GWP = 298

Operating hours = 8,760

g. Emissions Limitation:

Visible PE from any stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provide by rule.

Applicable Compliance Method:

If required, visible particulate emissions shall be determined according to USEPA Method 9.

(2) Pursuant to 40 CFR 60.8, 40 CFR 63.7, OAC rule 3745-31-05(A)(3) and ORC 3704.03(T), the permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- a. The emission testing shall be conducted within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility.
- b. The emissions testing shall be conducted to demonstrate compliance with the  $NO_x$ , VOC, PE,  $PM_{10}$ , and  $PM_{2.5}$  emissions limitations identified in OAC rule 3745-31-05(A)(3); see 4.b)(1)a. and c.
- c. The following test methods shall be employed to demonstrate compliance with the allowable  $NO_x$ , VOC, PE,  $PM_{10}$ , and  $PM_{2.5}$  emissions limitations:

Methods 7, 7a, 7c, 7d, or 7e of 40 CFR Part 60, Appendix A for  $NO_x$ ;

Methods 18, 21, 24, 24A, 25, 25A, 25B, 25C, 25D, and 25E of 40 CFR Part 60, Appendix A and Method 320, 40 CFR Part 63, Appendix A for VOC;



Methods 1-5 of 40 CFR Part 60, Appendix A for PE; and

Methods 201 and 201A of 40 CFR Part 60, Appendix for PM<sub>10</sub>.

- d. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
- f. Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
- g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

g) Miscellaneous Requirements

- (1) None.