



10/08/2026

Mark Spencer
Fairfield Energy Center, LLC
200 Clarendon Street, 55th Floor
Boston, MA 02116

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL

Facility ID: 0123000448
Permit Number: P0140492
Permit Type: Initial Installation
County: Fairfield

Yes	TOXIC REVIEW
Yes	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
Yes	MACT/GACT
Yes	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
Yes	MODELING SUBMITTED
No	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 (Ohio EPA) [Weekly Review and Public Notices](#) website. A copy of the public notice and the draft permit are enclosed. This permit can be accessed electronically on the Ohio EPA document search webpage: [eDocument Search](#). 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:

Andrea Moore
Permitting Section
Ohio EPA, DAPC
50 West Town Street, Suite 700
P.O. Box 1049
Columbus, Ohio 43216-1049

and

Ohio EPA DAPC, Central District Office
50 West Town St. Suite 700
P.O. Box 1049
Columbus, OH 43216-1049

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published on the Ohio EPA [Weekly Review and Public Notices](#) website. 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, Central District Office at (614) 644-2270.

Sincerely,

Robert Hodanbosi
Chief, Division of Air Pollution Control

cc: U.S. EPA Region 5 - Via E-Mail Notification
Ohio EPA-CDO; Kentucky

PUBLIC NOTICE

The following matters are the subject of this public notice by the Ohio Environmental Protection Agency. The complete public notice, including any additional instructions for submitting comments, requesting information, a public hearing, or filing an appeal may be obtained at: [Weekly Review and Public Notices | Ohio Environmental Protection Agency](#) or Hearing Clerk, Ohio EPA, 50 W. Town St., Columbus, Ohio 43215. Ph: 614-644-3037 email: HClerk@epa.ohio.gov

Draft Air Pollution Permit-to-Install Initial Installation

Fairfield Energy Center, LLC
1420 Landcaster-Newark Rd NE
Walnut Twp., OH 43046

ID#: P0140492

Date of Action: 10/08/2026

Permit Desc: Initial permit-to-install for a power generation facility, including combustion turbines, emergency generators, and an emergency firewater pump engine.

The permit and complete instructions for requesting information or submitting comments may be obtained at: <https://ohioepa.commentinput.com> - Search by entering the permit # P0140492 in the "Search Projects" search box.

**STAFF DETERMINATION FOR THE APPLICATION TO CONSTRUCT
UNDER THE PREVENTION OF SIGNIFICANT DETERIORATION REGULATIONS
FOR FAIRFIELD ENERGY CENTER, LLC
MILLERSPORT, OHIO (FAIRFIELD COUNTY)
PERMIT NUMBER P0140492**

Ohio Environmental Protection Agency
Division of Air Pollution Control
Lazarus Government Center
50 West Town St., Suite 700
Columbus, Ohio 43215

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 (NSR) requirements. The federal PSD rules govern emissions in attainment areas for major stationary sources, which are sources with the potential to emit 250 tons per year (TPY) or more of any pollutant regulated under the Clean Air Act, or 100 TPY or more if the source is included in one of 28 source categories. In nonattainment areas, the definition of major stationary source is one having at least 100 TPY potential emissions. A major modification is a change 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 has incorporated the PSD and NSR requirements by rule under OAC Chapter 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 major stationary source or major modification to a major stationary 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 that will have the potential-to-emit in significant amounts.
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 stationary 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), National Emissions Standards for Hazardous Air Pollutants (NESHAP), Maximum Achievable Control Technology (MACT), SIP emission standards, and public participation requirements must be followed in all cases.

Site Description

Fairfield Energy Center, LLC will be located in the Village of Millersport, Ohio (Fairfield County). This area is classified as attainment for nitrogen oxides (NO_x), carbon monoxide (CO), ozone, particulate matter (PM) with a diameter equal to or less than 10 microns (PM₁₀), PM with a diameter equal to or less than 2.5 microns (PM_{2.5}), sulfur dioxide (SO₂), and lead.

Project Description

Fairfield Energy Center, LLC (FEC) is proposing to construct, own, and operate the Fairfield Energy Center (hereinafter "the Facility"), a natural gas-fired, electric-generating facility to supply dedicated power to a third-party customer that will be located on an adjacent property.

The Facility will consist of the following air pollution emissions units:

- Ten 57-megawatt (MW) Siemens SGT-800 simple-cycle gas turbines (SCGTs);
- Six 62-MW Siemens SGT-800 SCGTs;
- Twenty-four 16.5-MW Solar Titan 130 (T-130) SCGTs;
- Three 1,000-kilowatt (kW) ultra-low sulfur diesel (ULSD)-fired emergency generators;
- One 420 brake-horsepower (hp) ULSD-fired emergency firewater pump;
- One aqueous ammonia storage tank; and
- Facility roadways and parking areas.

Emissions of NO_x, CO, VOC, PM, PM₁₀, PM_{2.5}, SO₂, H₂SO₄ mist, and greenhouse gases (GHGs) from the proposed facility are subject to PSD requirements. The turbines will be equipped with dry low-NO_x burners and selective catalytic reduction (SCR) systems to reduce NO_x emissions. They will also be equipped with oxidation catalyst systems to control CO and VOC emissions.

New Source Review (NSR)/PSD Applicability

The Facility will generate emissions of NSR-regulated pollutants, including NO_x, CO, VOC, PM, PM₁₀, PM_{2.5}, SO₂, H₂SO₄ mist, and GHGs. The Facility is subject to the 250 TPY major source threshold in an attainment area. As shown in Table

1 below, the facility-wide potential-to-emit exceeds the 250 ton per year major source threshold for NO_x, CO, PM, PM₁₀, and PM_{2.5}. Non-Attainment New Source Review was not applicable, due to attainment status.

Table 1: Summary of Proposed Potential Emissions and Applicable Regulatory Thresholds

Pollutant	Annual Emissions (Tons)	PSD Major Source Threshold (TPY)	PSD Significant Emission Rate (TPY)	PSD Applies? (Yes/No)
NO _x	486	250	40	Yes
CO	686	250	100	Yes
VOC	221	250	40	Yes
PM	334	250	25	Yes
PM ₁₀	333	250	15	Yes
PM _{2.5}	333	250	10	Yes
SO ₂	86	250	40	Yes
H ₂ SO ₄ mist	19	250	7	Yes
Lead	Negligible	250	0.6	No
GHGs	7,232,826	Not Applicable	75,000	Yes

BACT Review

As part of the application for any source regulated under the PSD requirements, an analysis must be conducted that demonstrates that BACT will be employed for each pollutant that exceeds the PSD significant emission rate. In this case, the BACT analysis was conducted for NO_x, CO, VOC, PM, PM₁₀, PM_{2.5}, SO₂, H₂SO₄ mist, and GHGs.

The application used a "top down" approach to determine an appropriate level of control.

The basic steps to be followed are:

- 1) Identify all available potential control options;
- 2) Eliminate technically infeasible options;
- 3) Rank remaining technologies by control effectiveness;
- 4) Evaluate the feasible controls by performance and cost analysis; and
- 5) Select BACT

The results of the BACT analysis are provided in Tables 2 through 6 below. The BACT determinations for pollutants with a greater than ten TPY potential-to-emit also meet the BAT requirements for NO_x, CO, VOC, PM₁₀, and/or PM_{2.5} under OAC rule 3745-31-05(A)(3).

Table 2: Summary of BACT Emissions Limitations and Control Technologies for the Siemens 57MW SCGTs (emissions units P001 through P010)

Pollutant	Emissions Limitation(s)	Control Technology
NO _x	2.0 ppmvd at 15% O ₂	Dry low NO _x burners and SCR control system
CO	2.0 ppmvd at 15% O ₂	Oxidation catalyst system and good combustion practices
VOC	1.4 ppmvd at 15% O ₂	Oxidation catalyst system and good combustion practices
PM/ PM ₁₀ / PM _{2.5}	0.005 lb/MMBtu for PM _{2.5} /PM ₁₀ 10% opacity as a 6-minute average	Good combustion practices and the use of natural gas
SO ₂	0.0014 lb/MMBtu	Good combustion practices and the use of natural gas
H ₂ SO ₄ mist	0.0004 lb/MMBtu	Good combustion practices and the use of natural gas
GHGs	1,216 lb/MW-hr gross energy output at full load ISO conditions	Use of thermally efficient turbines, good combustion practices, and the use of natural gas

Table 3: Summary of BACT Emissions Limitations and Control Technologies for the Siemens 62MW SCGTs (emissions units P011 through P016)

Pollutant	Emissions Limitation(s)	Control Technology
NO _x	2.0 ppmvd at 15% O ₂	Dry low NO _x burners and SCR control system
CO	2.0 ppmvd at 15% O ₂	Oxidation catalyst system and good combustion practices
VOC	1.4 ppmvd at 15% O ₂	Oxidation catalyst system and good combustion practices
PM/ PM ₁₀ / PM _{2.5}	0.005 lb/MMBtu for PM _{2.5} /PM ₁₀ 10% opacity as a 6-minute average	Good combustion practices and the use of natural gas
SO ₂	0.0014 lb/MMBtu	Good combustion practices and the use of natural gas
H ₂ SO ₄ mist	0.0004 lb/MMBtu	Good combustion practices and the use of natural gas
GHGs	1,185 lb/MW-hr gross energy output at full load ISO conditions	Use of thermally efficient turbines, good combustion practices, and the use of natural gas

Table 4: Summary of BACT Emissions Limitations and Control Technologies for the Solar T-130 SCGTs (emissions units P017 through P040)

Pollutant	Emissions Limitation(s)	Control Technology
NO _x	2.0 ppmvd at 15% O ₂	Dry low NO _x burners and SCR control system
CO	2.0 ppmvd at 15% O ₂	Oxidation catalyst system and good combustion practices
VOC	3.0 ppmvd at 15% O ₂	Oxidation catalyst system and good combustion practices
PM/ PM ₁₀ / PM _{2.5}	0.007 lb/MMBtu for PM _{2.5} /PM ₁₀ 10% opacity as a 6-minute average	Good combustion practices and the use of natural gas
SO ₂	0.0014 lb/MMBtu	Good combustion practices and the use of natural gas
H ₂ SO ₄ mist	0.0002 lb/MMBtu	Good combustion practices and the use of natural gas
GHGs	1,253 lb/MW-hr gross energy output at full load ISO conditions	Use of thermally efficient turbines, good combustion practices, and the use of natural gas

Table 5: Summary of BACT/BAT Emission Limits and Control Technologies for the 1,000 kWe ULSD-Fired Emergency Generators (emissions units P041 through P043)

Pollutant	Emissions Limitation(s)	Control Technology
NO _x and VOC	6.4 grams NO _x + NMHC/kW-hr	Certified to meet Tier 2 standards and good combustion practices
CO	3.5 grams CO/kW-hr	Certified to meet Tier 2 standards and good combustion practices
PM/ PM ₁₀ / PM _{2.5}	0.20 grams PM/kW-hr	Certified to meet Tier 2 standards and good combustion practices
SO ₂	0.0016 lb/MMBtu	Good combustion practices and the use of ULSD
H ₂ SO ₄ mist	0.0025 lb/MMBtu	Good combustion practices and the use of ULSD
GHGs	81.8 tons of CO ₂ e per rolling, 12-month period	Good combustion practices and proper maintenance and operation

Table 6: Summary of BACT/BAT Emission Limits and Control Technologies for the 420 hp ULSD-fired emergency firewater pump (emissions units P044)

Pollutant	Emissions Limitation(s)	Control Technology
NO _x and VOC	4.0 grams NO _x + NMHC/kW-hr	Certified to meet the standards in Table 4 of 40 CFR Part 60, Subpart IIII and good combustion practices

Pollutant	Emissions Limitation(s)	Control Technology
CO	3.5 grams CO/kW-hr	Certified to meet the standards in Table 4 of 40 CFR Part 60, Subpart IIII and good combustion practices
PM/ PM ₁₀ / PM _{2.5}	0.20 grams PM/kW-hr	Certified to meet the standards in Table 4 of 40 CFR Part 60, Subpart IIII and good combustion practices
SO ₂	0.0016 lb/MMBtu	Good combustion practices and the use of ULSD
H ₂ SO ₄ mist	0.0007 lb/MMBtu	Good combustion practices and the use of ULSD
GHGs	24.5 tons of CO ₂ e per rolling, 12-month period	Good combustion practices and proper maintenance and operation

Modeling Review

This portion of the document represents the conclusions of the review of the air dispersion modeling submittal accompanying the application for carbon monoxide (CO), nitrogen oxides (NO_x), particulate matter with a diameter equal to or less than 10 microns (PM₁₀), particulate matter with a diameter equal to or less than 2.5 microns (PM_{2.5}), volatile organic compounds (VOC), sulfur dioxide (SO₂), and air toxics.

Based on the analysis of the potential emissions resulting from the proposed project, the project triggers federal Prevention of Significant Deterioration (PSD) requirements for modeling of CO, NO_x, PM_{2.5}, PM₁₀, and SO₂, as well as an accounting of secondary formation of both PM_{2.5} and ozone (O₃). Additionally, the proposed project has potential emissions of at least 1 tpy for specific toxic air contaminants regulated under Ohio Administrative Code (OAC) Rule 3745-114-01, including acetaldehyde, ammonia, ethylbenzene, formaldehyde, propylene oxide, sulfuric acid, toluene, and xylene, triggering Ohio EPA state-only requirements for modeling against the respective Maximum Acceptable Ground Level Concentrations (MAGLCs). This report summarizes the results of the analyses of potential air quality impacts from secondarily formed PM_{2.5} and secondarily formed O₃, potential growth associated with the project, potential impacts to soil and vegetation, potential impacts on visibility, and modeling of air pollutant emissions associated with the proposed project. Modeling is not required for greenhouse gases, and quantitative analyses have been included to account for chemical transformation of NO_x and VOC to ozone as well as the secondary formation of PM_{2.5} from chemical precursors.

RESULTS

Class I

The proposed FEC facility site is located approximately 266.3 km from the nearest Class I area (Otter Creek Wilderness in West Virginia). The project's potential impacts on visibility in Class I areas were evaluated in accordance with the document *Federal Land Managers' Air Quality Related Values Work Group (FLAG): Phase 1 Report — Revised (2010)* using the annual emissions over distance (Q/D) screening criteria method. The respective Q/D screening value was well below the recommended Class I analysis screening value of 10, so no additional Class I analyses are required or necessary for this project.

Class II

PSD Class II Significant Impact and State-Required Modeling Analyses for Criteria Pollutants

For comparison to Ohio's Generally Acceptable Incremental Impacts (GAILs, as max 1-year values) and the PSD Class II Significant Impact Levels (SILs, as max 5-year average H1H values), the emissions of CO, NO_x, PM_{2.5}, PM₁₀, and SO₂ from the FEC facility resulting from the proposed project were included in the modeling, performed using AERMOD v24142. Five years of meteorological data processed with AERMET v24142 were used for the modeling. The modeling used surface meteorological data for 2020-2024 collected from the ASOS site at John Glenn International Airport in Franklin County, OH (CMH, WBAN ID 14821) and upper air data for 2020-2024 collected from the radiosonde site at the National Weather Service Wilmington, OH Weather Forecast Office in Clinton County, OH (ILN, WMO ID 72426). Modeling of NO_x employed the Tier 2 Ambient Ratio Method (ARM2) with the default minimum and maximum ambient ratios of 0.5 and 0.9, respectively. The total percentage of urban land cover (Developed, Medium Intensity + Developed, High Intensity) from the 2024 National Land Cover Dataset within a 3-km radius of the FEC facility site, shown as medium red (Developed, Medium Intensity) and dark red (Developed, High Intensity) pixels in the following image, was only 2.0258%, so rural dispersion coefficients were used in the modeling.

No modeled results showed any exceedances of the respective GAILs. However, modeled results did show exceedances of the PM_{2.5} 24-hour and PM_{2.5} annual SILs. As such, cumulative modeling analyses were required against the respective applicable NAAQS and PSD Class II Increments for the criteria pollutants and averaging times for which the SILs were exceeded. Conservatively, modeling against the NAAQS and PSD Class II Increments was performed, submitted, and reviewed for all criteria pollutants and averaging times, regardless of whether modeling showed maximum impacts below the respective SILs.

PSD Class II Cumulative Modeling Analyses for Criteria Pollutants

For comparison to the PSD Class II Increments and NAAQS, six offsite facilities were included in the cumulative modeling analyses. The six offsite facilities include Sierra Realty Investments, LLC – OH2 (Ohio EPA Facility ID 0123000439), Intel Corporation- Ohio Campus (Ohio EPA Facility ID 0145000588), Anchor Hocking, LLC (Ohio EPA Facility ID 0123010078), Momentive Performance Materials Quartz, Inc. (Ohio EPA Facility ID 0145000213), Kaiser Aluminum (Ohio EPA Facility ID 0145010093), and Owens Corning Insulating Systems, LLC (Ohio EPA Facility ID 0145020185). Modeled emission rates for Sierra Realty Investments, LLC – OH2 and Intel Corporation- Ohio Campus were taken from previously submitted modeling for these facilities. The other four offsite facilities were each modeled as single point sources, assuming the actual emissions of each pollutant (averaged over the two most recent representative operating years) all came from the respective worst-case stacks.

The results of the cumulative modeling analyses for criteria pollutants (including background for NAAQS results) are summarized in the following table. The cumulative modeling analyses did not show any valid modeled exceedances of the respective NAAQS or PSD Class II Increments.



Table 7: NAAQS and PSD Class II Increment Modeling Results

Pollutant (Averaging Time)	NAAQS (Modeled Result) [% of NAAQS]	PSD Class II Increment (Modeled Result) [% of Increment]
CO (1-Hour)	40000 µg/m ³ (2601.99521 µg/m ³) [6.505%]	N/A
CO (8-Hour)	10000 µg/m ³ (1634.69508 µg/m ³) [16.347%]	N/A
NO ₂ (1-Hour)	188 µg/m ³ (104.03420 µg/m ³) [55.337%]	N/A
NO ₂ (Annual)	99.64 µg/m ³ (29.47394 µg/m ³) [29.580%]	25 µg/m ³ (14.18954 µg/m ³) [56.758%]
PM _{2.5} (24-Hour)	35 µg/m ³ (31.81728 µg/m ³) [90.907%]	9 µg/m ³ (1.31795 µg/m ³) [14.644%]
PM _{2.5} (Annual)	9 µg/m ³ (8.43764 µg/m ³) [93.752%]	4 µg/m ³ (0.16698 µg/m ³) [4.175%]
PM ₁₀ (24-Hour)	150 µg/m ³ (99.34737 µg/m ³) [66.232%]	30 µg/m ³ (19.31315 µg/m ³) [64.377%]
PM ₁₀ (Annual)	N/A	17 µg/m ³ (1.27531 µg/m ³) [7.502%]
SO ₂ (1-Hour)	196.2 µg/m ³ (10.60514 µg/m ³) [5.405%]	N/A



Pollutant (Averaging Time)	NAAQS (Modeled Result) [% of NAAQS]	PSD Class II Increment (Modeled Result) [% of Increment]
SO ₂ (3-Hour)	N/A	512 µg/m ³ (2.22988 µg/m ³) [0.436%]
SO ₂ (24-Hour)	N/A	91 µg/m ³ (0.93549 µg/m ³) [1.028%]
SO ₂ (Annual)	26.16 µg/m ³ (0.64395 µg/m ³) [2.462%]	20 µg/m ³ (0.07714 µg/m ³) [0.386%]

State-Required Air Dispersion Modeling Analyses for Toxic Air Contaminants

For comparison to Ohio EPA's Maximum Acceptable Ground Level Concentrations (MAGLCs), the emissions of eight toxic air contaminants at the FEC facility resulting from the proposed project were included in the modeling, performed using AERMOD v24142. Modeling was conducted against the respective MAGLCs for acetaldehyde (MeCHO), ammonia (NH₃), ethylbenzene (ETBZ), formaldehyde (HCHO), propylene oxide (PO), sulfuric acid (H₂SO₄), toluene, and xylene.

Five years of meteorological data processed with AERMET v24142 were used for the modeling. The modeling used surface meteorological data for 2020-2024 collected from the ASOS site at John Glenn International Airport in Franklin County, OH (CMH, WBAN ID 14821) and upper air data for 2020-2024 collected from the radiosonde site at the National Weather Service Wilmington, OH Weather Forecast Office in Clinton County, OH (ILN, WMO ID 72426). Rural dispersion coefficients and a merged stack approach for pairs of collocated turbines were used with the modeling. The results of the modeling analyses for toxic air contaminants are summarized in the following table. No modeled results showed any exceedances of the respective MAGLCs.

Table 8: Toxic Air Contaminant Modeling Results

Pollutant (Averaging Time)	MAGLC (Modeled Result) [% of MAGLC]
Acetaldehyde (1-Hour)	790.36055 µg/m ³ (0.08739 µg/m ³) [0.011%]



Pollutant (Averaging Time)	MAGLC (Modeled Result) [% of MAGLC]
Ammonia (1-Hour)	414.59733 $\mu\text{g}/\text{m}^3$ (11.38552 $\mu\text{g}/\text{m}^3$) [2.746%]
Ethylbenzene (1-Hour)	2067.58204 $\mu\text{g}/\text{m}^3$ (0.05429 $\mu\text{g}/\text{m}^3$) [0.003%]
Formaldehyde (1-Hour)	2.92434 $\mu\text{g}/\text{m}^3$ (0.37495 $\mu\text{g}/\text{m}^3$) [12.822%]
Propylene oxide (1-Hour)	113.11715 $\mu\text{g}/\text{m}^3$ (0.04920 $\mu\text{g}/\text{m}^3$) [0.043%]
Sulfuric acid (1-Hour)	4.76190 $\mu\text{g}/\text{m}^3$ (0.45093 $\mu\text{g}/\text{m}^3$) [9.470%]
Toluene (1-Hour)	1794.52722 $\mu\text{g}/\text{m}^3$ (0.22458 $\mu\text{g}/\text{m}^3$) [0.013%]
Xylene (1-Hour)	2067.58204 $\mu\text{g}/\text{m}^3$ (0.11130 $\mu\text{g}/\text{m}^3$) [0.005%]

Secondary PM_{2.5} Formation Analysis

An analysis of potential air quality impacts from secondary PM_{2.5} formation related to the FEC facility project under each design scenario was also performed using the Tier 1 approach described in the April 2024 U.S. EPA memorandum titled *Clarification on the Development of Modeled Emission Rates for Precursors (MERPs) as a Tier 1 Demonstration Tool for Ozone and PM_{2.5} under the PSD Permitting Program*. The U.S. EPA MERPs View Qlik Tool was used to identify the single source modeled impacts from the hypothetical source most representative of the FEC facility project, which was determined by Ohio EPA to be a 10-m tall stack emitting 500 tpy of precursors (NO_x and SO₂) in Tuscarawas County, Ohio. The total projected PM_{2.5} results (including direct and secondary impacts, as well as background concentrations for the NAAQS) are expected to be below the PM_{2.5} 24-hour NAAQS, the PM_{2.5} 24-hour PSD Class II Increment, the PM_{2.5} annual NAAQS, and the PM_{2.5} annual PSD Class II Increment.

Secondary Ozone Formation Analysis

An analysis of potential air quality impacts from secondary ozone formation related to the FEC facility project under each design scenario was also performed using the Tier 1 approach described in the April 2024 U.S. EPA memorandum titled *Clarification on the Development of Modeled Emission Rates for Precursors (MERPs) as a Tier 1 Demonstration Tool for Ozone and PM_{2.5} under the PSD Permitting Program*. The U.S. EPA MERPs View Qlik Tool was used to identify the single source modeled impacts from the hypothetical source most representative of the FEC facility project, which was determined by Ohio EPA to be a 10-m tall stack emitting 500 tpy of precursors (NO_x and VOCs) in Tuscarawas County, Ohio. The background ozone concentration of 62 ppb is the valid 2022-2024 design value for the Reynoldsburg ozone monitoring site (AQS ID 39-089-0008), located in Licking County, Ohio, approximately 18.1 km west-northwest of the proposed FEC facility site. Impacts on ambient ozone concentrations from the project should be no greater than 8 ppb to prevent potential exceedances or violations of the 2015 8-hour ozone NAAQS (70 ppb) in the area. The total projected ozone impact of 1.255 ppb is less than the area-specific screening value of 8 ppb, so the FEC facility project will not contribute to an exceedance or violation of the 2015 8-hour ozone NAAQS.

Potential Class II Visibility Impacts Analysis

The nearest scenic Class II area, Buckeye Lake State Park, is located approximately 2.2 km east of the proposed Fairfield Energy Center project site. Ohio EPA is unaware of any visibility impairments to Class II areas caused by sources of similar size and emissions in the state. As such, the Fairfield Energy Center project is not expected to have any adverse impacts on visibility in Class II areas.

Potential Associated Growth Analysis

An analysis of potential growth of nearby residential, industrial, and commercial developments directly associated with the FEC facility project was also performed. A regional construction workforce is expected to be available in the area around the FEC facility project. Additionally, it is expected that no induced commercial or industrial construction activities in the area will be necessary to support construction of the Fairfield Energy Center. Once the FEC facility project is operational, it is expected to provide electricity to meet the energy needs of a dedicated third party located on an adjacent parcel. Thus, no specific growth of nearby residential, industrial, and commercial developments is expected as a direct result of the Fairfield Energy Center project.

Potential Soils and Vegetation Impacts Analysis

An analysis of potential impacts on soils and vegetation resulting from the FEC facility project under each design scenario was also performed. Potential impacts on soils and vegetation would primarily result from emissions of NO_x, PM_{2.5}, and SO₂. As the modeling analyses showed that the FEC facility project will not result in any exceedances of the NO₂ annual secondary NAAQS value (99.64 µg/m³), the PM_{2.5} 24-hour secondary NAAQS value (35 µg/m³), the PM_{2.5} annual secondary NAAQS value (15 µg/m³), the PM₁₀ 24-hour secondary NAAQS value (150 µg/m³), or the SO₂ annual secondary NAAQS value (26.16 µg/m³), the Fairfield Energy Center project is not expected to have any adverse impacts on local soils or vegetation.



**Environmental
Protection
Agency**

Permit Strategy Write Up

Fairfield Energy Center, LLC

Permit Number: P0140492

Facility ID: 0123000448

Effective Date: To be entered upon final issuance

Conclusion

Based upon the review of the permit to install application and the supporting documentation provided by the applicant, the Ohio EPA staff has determined the proposed installation will comply with all applicable State and Federal environmental regulations and the requirements for BACT are satisfied. Therefore, the Ohio EPA staff recommends a permit to install be issued to the Facility for the proposed installation.



**Environmental
Protection
Agency**

DRAFT

Division of Air Pollution Control
Permit-to-Install
for
Fairfield Energy Center, LLC

Facility ID:	0123000448
Permit Number:	P0140492
Permit Type:	Initial Installation
Issued:	10/08/2026
Effective:	To be entered upon final issuance

Division of Air Pollution Control

Permit-to-Install

for

Fairfield Energy Center, LLC

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Authorization

Facility ID: 0123000448
Facility Description: Proposed Simple Cycle Electricity Generation Facility
Application Number(s): A0081418
Permit Number: P0140492
Permit Type: Permit-To-Install
Permit Fee: \$17,548.00 *DO NOT send payment at this time, subject to change before final issuance*
Issue Date: 10/08/2026
Effective Date: To be entered upon final issuance

This document constitutes issuance of a Permit-to-Install for the emissions unit(s) identified on the following page to:

Fairfield Energy Center, LLC
1420 Landcaster-Newark Rd NE
Walnut Twp., OH 43046

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

Ohio EPA DAPC, Central District Office
50 West Town St. Suite 700
P.O. Box 1049
Columbus, OH 43216-1049
(614) 644-2270

The above-named entity is hereby granted this Permit-to-Install for the air contaminant source(s) (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 described emissions unit(s) 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

John Logue
Director

Authorization (continued)

Permit Number: P0140492

Permit Description: Initial permit-to-install for a power generation facility, including combustion turbines, emergency generators, and an emergency firewater pump engine.

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

Emissions Unit ID:	P044
Company Equipment ID:	Fire Pump
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

Group Name:Emergency Generators

Emissions Unit ID:	P041
Company Equipment ID:	Emergency Generator
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P042
Company Equipment ID:	Emergency Generator
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P043
Company Equipment ID:	Emergency Generator
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

Group Name:Siemens SGT-800 turbines (57MW)

Emissions Unit ID:	P001
Company Equipment ID:	SGT57-1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P002
Company Equipment ID:	SGT57-2
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

Emissions Unit ID:	P003
Company Equipment ID:	SGT57-3
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P004
Company Equipment ID:	SGT57-4
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P005
Company Equipment ID:	SGT57-5
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P006
Company Equipment ID:	SGT57-6
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P007
Company Equipment ID:	SGT57-7
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P008
Company Equipment ID:	SGT57-8
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P009
Company Equipment ID:	SGT57-9
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P010
Company Equipment ID:	SGT57-10
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

Group Name:Siemens SGT-800 turbines (62MW)

Emissions Unit ID:	P011
Company Equipment ID:	SGT62-1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

Emissions Unit ID:	P012
Company Equipment ID:	SGT62-2
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P013
Company Equipment ID:	SGT62-3
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P014
Company Equipment ID:	SGT62-4
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P015
Company Equipment ID:	SGT62-5
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P016
Company Equipment ID:	SGT62-6
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

Group Name: Solar T-130 turbines (16.5 MW)

Emissions Unit ID:	P017
Company Equipment ID:	SGTT-1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P018
Company Equipment ID:	SGTT-2
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P019
Company Equipment ID:	SGTT-3
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P020
Company Equipment ID:	SGTT-4
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P021
Company Equipment ID:	SGTT-5

Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P022
Company Equipment ID:	SGTT-6
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P023
Company Equipment ID:	SGTT-7
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P024
Company Equipment ID:	SGTT-8
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P025
Company Equipment ID:	SGTT-9
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P026
Company Equipment ID:	SGTT-10
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P027
Company Equipment ID:	SGTT-11
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P028
Company Equipment ID:	SGTT-12
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P029
Company Equipment ID:	SGTT-13
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P030
Company Equipment ID:	SGTT-14
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P031
Company Equipment ID:	SGTT-15
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

Emissions Unit ID:	P032
Company Equipment ID:	SGTT-16
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P033
Company Equipment ID:	SGTT-17
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P034
Company Equipment ID:	SGTT-18
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P035
Company Equipment ID:	SGTT-19
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P036
Company Equipment ID:	SGTT-20
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P037
Company Equipment ID:	SGTT-21
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P038
Company Equipment ID:	SGTT-22
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P039
Company Equipment ID:	SGTT-23
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P040
Company Equipment ID:	SGTT-24
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

List of Commonly Used Abbreviations

AP-42 = U.S. EPA's Compilation of Air Pollution Emissions Factors	HVLP = high volume, low pressure	PER = Permit Evaluation Report
ASTM = American Society for Testing and Materials	LAER = lowest achievable emission rate	PM = particulate matter
BACT = Best Available Control Technology	lb(s)/hr = pound(s) per hour	PM ₁₀ = particulate matter with an aerodynamic diameter less than or equal to 10 microns
BAT = Best Available Technology	LDAR = leak detection and repair	PM _{2.5} = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns
CAA = Clean Air Act	LPG = liquefied petroleum gas/propane	ppb = parts per billion
CAM = compliance assurance monitoring	MACT = maximum achievable control technology	ppm = parts per million
CEMS = continuous emissions monitoring system	MAGLC = maximum acceptable ground level concentration	PSD = Prevention of Significant Deterioration
CFC = chlorofluorocarbon	mg/m ³ = milligrams per cubic meter	psi = pounds per square inch
CFR = Code of Federal Regulations	MM = million	psia = pounds per square inch absolute
CH ₄ = methane	MMBtu = million British Thermal Units	PTE = potential-to-emit
CI = compression ignition	MSDS = material safety data sheet	PTI = Permit-to-Install
CO = carbon monoxide	MSW = municipal solid waste	PTIO = Permit-to-Install and Operate
CO ₂ = carbon dioxide	NAAQS = National Ambient Air Quality Standard	PTO = Permit-to-Operate
COM = continuous opacity monitor	NESHAP = National Emission Standard for Hazardous Air Pollutants	PWR = process weight rate
DAPC = Division of Air Pollution Control	NG = natural gas	RACM = reasonably available control measures
DO/LAA = District Office/Local Air Agency	ng/m ³ = nanograms per cubic meter	RACT = reasonably available control technology
dscf = dry standard cubic foot	NH ₃ = ammonia	RATA = relative accuracy test audit
EAC = emissions activity category	NMHC = non-methane hydrocarbons	RTO = regenerative thermal oxidizer
eDocs = electronic documents database	NMOC = non-methane organic compound	SB265 = Senate Bill 265
ERAC = Environmental Review Appeals Commission	NO = nitrogen oxide	scfm = standard cubic feet per minute
ESP = electrostatic precipitator	NO ₂ = nitrogen dioxide	SI = spark ignition
EU = emissions unit	NO _x = nitrogen oxides	SIP = State Implementation Plan
FEPTIO = Federally Enforceable Permit-to-Install and Operate	NSPS = New Source Performance Standard	SO ₂ = sulfur dioxide
FER = Fee Emissions Report	NSR = New Source Review	SSMP = startup, shutdown, and malfunction plan
FR = Federal Register	NTV = Non-Title V	TDS = total dissolved solids
GACT = generally achievable control technology	O&M = operation and maintenance	TLV = threshold limit value
GHG = greenhouse gases	OAC = Ohio Administrative Code	TO = thermal oxidizer
gr/dscf = grains per dry standard cubic foot	OC = organic compound	TPH = ton(s) per hour
H ₂ S = hydrogen sulfide	Ohio EPA = Ohio Environmental Protection Agency	TPY = ton(s) per year
H ₂ SO ₄ = sulfuric acid	ORC = Ohio Revised Code	TSP = total suspended particulates
HAP = hazardous air pollutant	Pb = lead	VE = visible particulate emissions
HCl = hydrogen chloride	PBR = Permit-By-Rule	VMT = vehicle miles traveled
HF = hydrogen fluoride	PCB = polychlorinated biphenyl	VOC = volatile organic compound
Hg = mercury	PE = particulate emissions	WPP = work practice plan
hp = horsepower	PEMS = predictive emissions monitoring system	µg/m ³ = micrograms per cubic meter

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), 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, Central 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, Central 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, Central 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 semiannual 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, Central 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, Central 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, Central 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, Central 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 once by twelve 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 shut down 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 any other 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 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

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. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - a) None.
2. The following emissions units are subject to the 40 CFR Part 97 - Cross-State Air Pollution Rule (CSAPR): P001 through P040. The applicable CSAPR requirements will be incorporated in the initial Title V operating permit terms and conditions for these emissions units based on the U.S. EPA's "Title V Permit Guidance and Template for the Cross-State Air Pollution Rule."
3. The following EUs contained in this permit are subject to 40 CFR Part 60, Subparts A and KKKKa: P001 through P040. The complete NSPS requirements, including the NSPS General Provisions, may be accessed via the internet from the e-CFR website www.ecfr.gov or by contacting the Ohio EPA, DO/LAA.
4. The following EUs contained in this permit are subject to 40 CFR Part 60, Subparts A and IIII: P041 through P044. The complete NSPS requirements, including the NSPS General Provisions, may be accessed via the internet from the e-CFR website www.ecfr.gov or by contacting the Ohio EPA, DO/LAA.
5. The following EUs contained in this permit are subject to 40 CFR Part 63, Subparts A and YYYY: P001 through P040. The complete MACT requirements, including the MACT General Provisions, may be accessed via the internet from the e-CFR website www.ecfr.gov or by contacting the Ohio EPA, DO/LAA.
6. The following EUs contained in this permit are subject to 40 CFR Part 63, Subparts A and ZZZZ: P041 through P044. The complete MACT requirements, including the MACT General Provisions, may be accessed via the internet from the e-CFR website www.ecfr.gov or by contacting the Ohio EPA, DO/LAA.

C. Emissions Unit Terms and Conditions



1. Emissions Unit Group - Siemens SGT-800 turbines (57MW): P001, P002, P003, P004, P005, P006, P007, P008, P009, P010,

EU ID	Operations, Property and/or Equipment Description
P001	Siemens SGT-800 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (584 MMBtu/hr)
P002	Siemens SGT-800 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (584 MMBtu/hr)
P003	Siemens SGT-800 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (584 MMBtu/hr)
P004	Siemens SGT-800 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (584 MMBtu/hr)
P005	Siemens SGT-800 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (584 MMBtu/hr)
P006	Siemens SGT-800 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (584 MMBtu/hr)
P007	Siemens SGT-800 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (584 MMBtu/hr)
P008	Siemens SGT-800 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (584 MMBtu/hr)
P009	Siemens SGT-800 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (584 MMBtu/hr)
P010	Siemens SGT-800 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (584 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) See b)(1)m., d)(11) through d)(14), and e)(4) below.

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 rules 3745-31-10 through 3745-31-20 and 3745-31-34	Short-Term Emissions Limitations (per turbine):



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	[Prevention of Significant Deterioration of Air Quality]	NO_x emissions shall not exceed 2.0 ppmvd at 15% O₂ and 4.36 lb/hr, excluding periods of startup and shutdown. CO emissions shall not exceed 2.0 ppmvd at 15% O₂ and 2.65 lb/hr, excluding periods of startup and shutdown. VOC emissions shall not exceed 1.4 ppmvd at 15% O₂ and 1.06 lb/hr, excluding periods of startup and shutdown. PM/PM₁₀/PM_{2.5} emissions shall not exceed 2.69 lb/hr and 0.005 lb/MMBtu, excluding periods of startup and shutdown. SO₂ emissions shall not exceed 0.82 lb/hr and 0.0014 lb/MMBtu. Emissions of H₂SO₄ mist shall not exceed 0.22 lb/hr and 0.0004 lb/MMBtu. GHG emissions [regulated as CO₂ equivalent (CO₂e) emissions] shall not exceed 1,216 lb/MW-hr gross energy output at full load ISO conditions. Gross energy output is defined as the gross power output of the generators before accounting for any balance of plant loads. Visible PE Limitation: Visible PE from the stack serving this emissions unit shall not exceed 10% opacity as a 6-minute average. Rolling, 12-Month Emissions Limitations (per turbine): NO_x emissions shall not exceed 21.3 tons per rolling, 12-month period, including start-up and shutdown emissions. CO emissions shall not exceed 25.7 tons per rolling, 12-month period, including start-up and shutdown emissions.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		VOC emissions shall not exceed 6.5 tons per rolling, 12-month period, including start-up and shutdown emissions. PM/PM₁₀/PM_{2.5} emissions shall not exceed 12.0 tons per rolling, 12-month period, including start-up and shutdown emissions. SO₂ emissions shall not exceed 3.6 tons per rolling, 12-month period. Emissions of H₂SO₄ mist shall not exceed 1.0 tons per rolling, 12-month period. CO₂e emissions shall not exceed 299,526 tons per rolling, 12-month period. See b)(2)a. through b)(2)d. and c)(1) through c)(3) below.
b.	OAC rule 3745-31-05(A)(3) ORC 3704.03(T)	The BAT requirements established under OAC rule 3745-31-05(A)(3) for NO _x and CO emissions are equivalent to the requirements established under OAC rules 3745-31-10 through 20.
c.	OAC rule 3745-31-05(A)(3)(a)(ii)	The BAT requirements established under OAC rule 3745-31-05(A)(3) do not apply to the VOC, PM ₁₀ , PM _{2.5} , and SO ₂ emissions from this air contaminant source because the potential to emit for each pollutant is less than ten TPY taking into consideration the requirements established pursuant to OAC rules 3745-31-10 through 20.
d.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
e.	OAC rule 3745-17-11(B)(4)	PE shall not exceed 0.040 lb/MMBtu actual heat input.
f.	OAC rule 3745-18-06(F)	Exempt pursuant to OAC rule 3745-18-06(A) during any calendar day in which natural gas is the only fuel burned.
g.	OAC rule 3745-110-03(A) through (G)	Exempt pursuant to OAC rule 3745-110-03(K)(18) because this emissions unit is



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		subject to BACT requirements for NO _x emissions.
h.	40 CFR Part 60, Subpart KKKKa [40 CFR 60.4300a – 60.4420a] In accordance with 40 CFR 60.4305a(a), this emissions unit must meet the requirements of 40 CFR Part 60, Subpart KKKKa because it is a stationary combustion turbine that commenced construction, modification, or reconstruction after December 13, 2024, and has a base load rating equal to or greater than 10.7 gigajoules per hour (GJ/h) (10 million British thermal units per hour (MMBtu/h)).	The permittee must not cause to be discharged into the atmosphere any gases that contain an amount of SO ₂ exceeding either 0.90 lb/MWh of gross energy output or 0.060 lb SO ₂ /MMBtu heat input. See b)(2)e. through b)(2)g. below.
i.	40 CFR Part 60, Subpart A [40 CFR 60.1 – 60.19]	Table 3 of 40 CFR Part 60, Subpart KKKKa- "Applicability of Subpart A of This Part to This Subpart" identifies which parts of the General Provisions in 40 CFR Part 60.1-19 apply. See b)(2)h. below.
j.	40 CFR Part 60, Subpart TTTTa [40 CFR 60.5508a – 60.5580a]	The requirements of this subpart do not apply to this stationary combustion turbine because it will not be capable of selling electricity to a utility power distribution system.
k.	40 CFR Part 63, Subpart YYYY [40 CFR 63.6080 – 63.6175]	In accordance with 40 CFR 63.6090(a), this emissions unit must meet the requirements of 40 CFR Part 63, Subpart YYYY because it is a new stationary combustion turbine located at a major source of HAP emissions. The permittee must limit the concentration of formaldehyde to 91 ppbvd at 15-percent oxygen, except during turbine startup. In accordance with 40 CFR 63.6175, startup ends when the turbine has reached stable operation or after 1 hour, whichever is less. See d)(1) below.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
l.	40 CFR Part 63, Subpart A [40 CFR 63.1 – 63.16]	Table 7 of 40 CFR Part 63, Subpart YYYY- "Applicability of General Provisions to Subpart YYYY" identifies which parts of the General Provisions in 40 CFR Part 63.1 – 63.16 apply. See b)(2)i. below.
m.	ORC 3704.03(F)(3)(c) and (F)(4) [Toxic Air Contaminant Statute]	See d)(11) through d)(14) and e)(4) below.

(2) Additional Terms and Conditions

- a. As part of the BACT determination for NO_x, the permittee shall install and maintain dry low-NO_x burners and an SCR system on this emissions unit. Operation of these control systems shall reduce NO_x emissions to the limitations specified above.
- b. As part of the BACT determination for CO and VOC, the permittee shall install and operate an oxidation catalyst to reduce CO and VOC to the limitations specified above.
- c. As part of the BACT determination for CO, VOC, PM₁₀, PM_{2.5}, SO₂, H₂SO₄ mist, and CO₂e emissions, the permittee shall operate the emissions unit in accordance with good combustion practices as recommended by the manufacturer. Good combustion practices include properly setting and controlling the air-to-fuel ratio and ensuring appropriate combustion zone residence time, temperature, and turbulence parameters.
- d. As part of the BACT determination for SO₂ and H₂SO₄ mist emissions, the sulfur content of the natural gas burned in this emissions unit shall not exceed 0.5 grains per 100 standard cubic feet of natural gas.
- e. The permittee must not discharge into the atmosphere from the stationary combustion turbine any gases that contain an amount of NO_x that exceeds the applicable emissions standard that is determined in accordance with 40 CFR 60.4320a(b).
 - i. NO_x emissions standards from Table 1 of 40 CFR Part 60, Subpart KKKKa

Combustion Turbine Type	Input-Based NO_x Emission Standard (4-operating-hour rolling average basis)	Optional Output-Based NO_x Emission Standard (30-operating-day average basis)
Firing natural gas at utilization rate >45 percent	15 ppm at 15 percent O ₂ or 24 nanograms/Joule (ng/J) (0.055 lb/MMBtu)	0.20 kg/MWh-gross (0.43 lb/MWh-gross) 0.20 kg/MWh-net (0.44 lb/MWh-net)



Combustion Turbine Type	Input-Based NO_x Emission Standard (4-operating-hour rolling average basis)	Optional Output-Based NO_x Emission Standard (30-operating-day average basis)
Firing natural gas at utilization rate ≤45 percent	25 ppm at 15 percent O ₂ or 40 ng/J (0.092 lb/MMBtu)	0.54 kg/MWh-gross (1.2 lb/MWh-gross) 0.56 kg/MWh-net (1.2 lb/MWh-net)
Operating at ambient temperatures less than 0°F, operated during periods of turbine tuning, and/or operating at less than 70 percent of the base load rating	96 ppm at 15 percent O ₂ or 150 ng/J (0.55 lb/MMBtu)	N/A

- ii. Alternative mass-based NO_x emission standards from Table 2 of 40 CFR Part 60, Subpart KKKKa

Combustion Turbine Type	4-Hour NO_x Emissions Rate	12-Calendar-Month NO_x Emissions Rate
Natural gas	0.38 kg NO _x /MW-rated output (0.83 lb NO _x /MW-rated output)	0.44 ton NO _x /MW-rated output (0.48 ton NO _x /MW-rated output)

- f. 40 CFR 60.4345a(a)(1) through (6) provide compliance options depending on which NO_x emissions standard the permittee elects to comply with. Where the continuous NO_x monitoring system (NO_xCEMS) is referenced, the system includes all of the equipment necessary to determine compliance with the elected NO_x emissions standard [including fuel flow meter(s), O₂ or CO₂ CEMS, stack flow monitors, and watt meter(s)] if that system is part of the selected compliance option. All equipment shall be installed, calibrated, maintained, and operated in accordance with the applicable provisions of 40 CFR 60.4345a.
- g. Each NO_xCEMS shall be certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specification 2. At least 45 days before commencing certification testing of the NO_xCEMS, the permittee shall develop and maintain a written quality assurance/quality control plan designed to ensure continuous valid and representative readings of NO_x emissions from the continuous monitor(s), in units of the applicable standard(s). The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the NO_xCEMS must be kept on site and available for inspection during regular office hours.

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

The CEMS 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.

- h. The permittee shall comply with applicable requirements of the General Provisions of the Standards of Performance for New Stationary Sources in 40 CFR Part 60, Subpart A as they apply to the emissions unit regulated under 40 CFR Part 60, Subpart KKKKa.
- i. The permittee shall comply with applicable requirements of the General Provisions of the National Emissions Standards for Hazardous Air Pollutants for Source Categories in 40 CFR Part 63, Subpart A as they apply to the emissions unit regulated under 40 CFR Part 63, Subpart YYYY.

c) **Operational Restrictions**

- (1) The permittee shall burn only natural gas in the emissions unit.
- (2) The amount of time spent in startup shall be limited to 85 hours per rolling, 12-month period.
“Startup” is defined as beginning with combustion turbine fuel ignition and ending with either the turbine reaching a steady state emissions rate or the oxidation catalyst bed and the SCR catalyst bed reaching the minimum temperatures (recommended by the respective control equipment manufacturer) for the oxidation catalyst and SCR to control CO, VOC, and NO_x emissions, whichever occurs later.
- (3) The amount of time spent in shutdown shall be limited to 41 hours per rolling, 12-month period.
“Shutdown” is defined as the process of taking the turbine off-line and beginning when the oxidation catalyst bed temperature or SCR catalyst bed temperature falls below the minimum temperature necessary for the oxidation catalyst and SCR to control CO, VOC, and NO_x emissions.
- (4) See 40 CFR Part 60, Subpart KKKKa (40 CFR 60.4300a – 60.4420a).
- (5) See 40 CFR Part 63, Subpart YYYY (40 CFR 63.6080 – 63.6175).

d) **Monitoring and/or Recordkeeping Requirements**

- (1) The permittee shall properly install, operate, and maintain the dry low-NO_x burners, SCR (including the ammonia injection system), and oxidation catalyst in accordance with the manufacturer’s recommendations, instructions, and/or operating manual, with any modifications deemed necessary by the permittee.

The permittee shall maintain the SCR catalyst bed temperature below the maximum temperature established by the manufacturer.



The permittee shall maintain the 4-hour rolling average of the oxidation catalyst inlet temperature within the range suggested by the oxidation catalyst manufacturer. The permittee is not required to use the oxidation catalyst inlet temperature data that is recorded during engine startup in the calculations of the 4-hour rolling average oxidation catalyst inlet temperature.

- (2) The permittee shall maintain documentation of the manufacturer's recommendations, instructions, and/or operating manual for the dry low-NO_x burners, SCR (including the ammonia injection system), and oxidation catalyst, along with documentation of any modifications deemed necessary by the permittee. These documents shall be maintained at the facility and shall be made available to the Ohio EPA, DO/LAA upon request.
- (3) The permittee shall maintain the following information for maintenance and repairs performed on each dry low-NO_x burner, SCR, and oxidation catalyst:
 - a. the date of the maintenance and/or repair;
 - b. a description of the maintenance and/or repairs performed; and
 - c. the name of person(s) who performed the maintenance and/or repair.
- (4) The permittee shall properly install, operate, and maintain equipment that continuously monitors and records the temperature of the SCR catalyst bed. Units shall be in degrees Fahrenheit. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within ± 1 percent of the temperature being measured or ± 5 degrees Fahrenheit, whichever is greater. The temperature monitor and recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manuals, with any modifications deemed necessary by the permittee. Except during startup and shutdown, the temperature of the SCR catalyst bed shall be maintained above the minimum temperature specified by the manufacturer. This information shall be correlated to the number of hours the turbine operated under each operating scenario (i.e., startup, shutdown, and normal operation when NO_x emissions are controlled by the SCR).
- (5) The permittee shall properly install, operate, and maintain equipment that continuously monitors and records the temperature of the oxidation catalyst. Units shall be in degrees Fahrenheit. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within ± 1 percent of the temperature being measured or ± 5 degrees Fahrenheit, whichever is greater. The temperature monitor and recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manuals, with any modifications deemed necessary by the permittee. Except during startup and shutdown, the temperature of the oxidation catalyst shall be maintained above the minimum temperature specified by the manufacturer. This information shall be correlated to the number of hours the turbine operated under each operating scenario (i.e., startup, shutdown, and normal operation when CO and VOC emissions are controlled by the oxidation catalyst).
- (6) Prior to the installation of the NO_x CEMS, the permittee shall submit information detailing the proposed location of the sampling site in accordance with the siting requirements in the



applicable Performance Specifications of 40 CFR Part 60, Appendix B. The Ohio EPA, Central Office shall approve the proposed sampling site and certify that the NO_x CEMS meets the siting and accuracy requirements of the relevant specifications. Once received, the letter(s)/document(s) of certification shall be maintained on site and made available to the director (the appropriate Ohio EPA DO/LAA) upon request.

- (7) The permittee shall properly install, calibrate, operate, and maintain equipment to continuously monitor and record NO_x emissions from this emissions unit in units of the applicable standard(s). The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.

The permittee shall maintain records of all data obtained by the NO_x CEMS including, but not limited to:

- a. emissions of NO_x in parts per million for each cycle time of the analyzer, with no resolution less than one data point per minute required;
- b. emissions of NO_x in units of the applicable emissions standard that is determined in accordance with 40 CFR 60.4320a(b) in the appropriate averaging period;
- c. results of quarterly cylinder gas audits;
- d. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
- e. results of required relative accuracy test audit(s), including results in units of the applicable standard(s);
- f. hours of operation of the emissions unit, NO_x CEMS, and control equipment;
- g. the date, time, and hours of operation of the emissions unit without the control equipment and/or the NO_x CEMS and the reason (if known) and the corrective actions taken (if any) for each such event; and
- h. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the NO_x CEMS and the reason (if known) and the corrective actions taken (if any) for each such event.

All valid data points generated and recorded by the continuous 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.

- (8) If the permittee chooses to demonstrate compliance with the applicable SO₂ emissions limitations through records and fuel sampling and analysis, the permittee shall follow the procedures specified in section 2.3.1.4 in appendix D of 40 CFR Part 75 documenting that the fuel combusted in this emissions unit meets the 40 CFR Part 75 requirements to be considered pipeline natural gas. As an alternative to these monitoring and recordkeeping requirements, the permittee may demonstrate compliance with the applicable SO₂ emissions limitations through performance testing conducted in accordance with 40 CFR 60.4333a(d)(1) and 40 CFR 60.4415a(b). The permittee shall determine the sulfur content and gross calorific value (GCV) of the fuel as follows.



- a. The sulfur content of the fuel shall be determined through one of the following:
 - i. the fuel quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the fuel, specifying that the maximum total sulfur content is 0.5 grains of sulfur or less per 100 standard cubic feet of natural gas; or
 - ii. fuel sampling and analysis performed annually and whenever the fuel supply source changes. The fuel sampling and analysis shall be performed in accordance with the methods and procedures specified in section 2.3.3.1 of 40 CFR Part 75, Appendix D.
- b. The gross calorific value (GCV) of the fuel shall be determined through one of the following:
 - i. GCV from most recent monthly sample;
 - ii. maximum GCV from contract, unless a higher value is obtained in a monthly sample; or
 - iii. highest GCV from previous year's samples, unless a higher value is obtained in a monthly sample.

At least once per calendar month, the permittee shall sample the fuel in accordance with the methods and procedures specified in section 2.3.4 of 40 CFR Part 75, Appendix D.

- (9) The permittee shall maintain monthly records of the following information:
 - a. the hours of operation, excluding startup and shutdown;
 - b. the hours of operation during startup;
 - c. the hours of operation during shutdown;
 - d. the NO_x emissions, in pounds, for startup/shutdown events calculated by multiplying the hours of operation of the combustion turbine in each startup and shutdown operating mode by the hourly NO_x emissions rate for the corresponding mode of operation, i.e., 21.1 lb/hr during startup and 11.3 lb/hr during shutdown;
 - e. the NO_x emissions, in pounds, excluding startup/shutdown emissions, calculated using the NO_x emissions factor of 4.4 lb/hr, or after testing has been completed, the results of the most recent stack test;
 - f. the CO emissions, in pounds, for startup/shutdown events calculated by multiplying the hours of operation of the combustion turbine in each startup and shutdown operating mode by the hourly CO emissions rate for the corresponding mode of operation, i.e., 176.2 lb/hr during startup and 12.5 lb/hr during shutdown;
 - g. the CO emissions, in pounds, excluding startup/shutdown emissions, calculated using the CO emissions factor of 2.7 lb/hr, or after testing has been completed, the results of the most recent stack test;



- h. the VOC emissions, in pounds, for startup/shutdown events calculated by multiplying the hours of operation of the combustion turbine in each startup and shutdown operating mode by the hourly VOC emissions rate for the corresponding mode of operation, i.e., 15.8 lb/hr during startup and 7.4 lb/hr during shutdown;
- i. the VOC emissions, in pounds, excluding startup/shutdown emissions, calculated using the VOC emissions factor of 1.1 lb/hr, or after testing has been completed, the results of the most recent stack test;
- j. the PM/PM₁₀/PM_{2.5} emissions, in pounds, for startup/shutdown events calculated by multiplying the hours of operation of the combustion turbine in each startup and shutdown operating mode by the hourly PM/PM₁₀/PM_{2.5} emissions rate for the corresponding mode of operation, i.e., 2.5 lb/hr during startup and 3.3 lb/hr during shutdown;
- k. the PM/PM₁₀/PM_{2.5} emissions, in pounds, excluding startup/shutdown emissions, calculated using the PM/PM₁₀/PM_{2.5} emissions factor of 2.7 lb/hr, or after testing has been completed, the results of the most recent stack test;
- l. the SO₂ emissions, in pounds, during all periods of operation, calculated using the SO₂ emissions factor of 0.8 lb/hr, or after testing has been completed, the results of the most recent stack test;
- m. the H₂SO₄ mist emissions, in pounds, during all periods of operation, calculated using the H₂SO₄ mist emissions factor of 0.22 lb/hr, or after testing has been completed, the results of the most recent stack test;
- n. the rolling, 12-month hours of operation during startup;
- o. the rolling, 12-month hours of operation during shutdown;
- p. the rolling, 12-month summation of the NO_x emissions for startup/shutdown events, in tons, calculated by adding the total NO_x emissions from startup/shutdown events for the present month, as recorded above, to the total NO_x emissions from startup/shutdown events for the previous 11 months, and converting to tons;
- q. the rolling, 12-month summation of the NO_x, in tons, including start-up/shutdown emissions, calculated by adding the total NO_x emissions for the present month, as recorded above, to the total NO_x emissions for the previous 11 months, and converting to tons;
- r. the rolling, 12-month summation of the CO emissions for startup/shutdown events, in tons, calculated by adding the total CO emissions from startup/shutdown events for the present month, as recorded above, to the total CO emissions from startup/shutdown events for the previous 11 months, and converting to tons;
- s. the rolling, 12-month summation of the CO, in tons, including startup/shutdown emissions, calculated by adding the total CO emissions for the present month, as recorded above, to the total CO emissions for the previous 11 months, and converting to tons;



- t. the rolling, 12-month summation of the VOC emissions, in tons, for startup/shutdown events calculated by adding the total VOC emissions from startup/shutdown events for the present month, as recorded above, to the total VOC emissions from startup/shutdown events for the previous 11 months, and converting to tons;
 - u. the rolling, 12-month summation of the VOC, in tons, including startup/shutdown emissions, calculated by adding the total VOC emissions for the present month, as recorded above, to the total VOC emissions for the previous 11 months, and converting to tons;
 - v. the rolling, 12-month summation of the PM/PM₁₀/PM_{2.5} emissions, in tons, for startup/shutdown events calculated by adding the total PM/PM₁₀/PM_{2.5} emissions from startup/shutdown events for the present month, as recorded above, to the total PM/PM₁₀/PM_{2.5} emissions from startup/shutdown events for the previous 11 months, and converting to tons;
 - w. the rolling, 12-month summation of the PM/PM₁₀/PM_{2.5} emissions, in tons, including startup/shutdown emissions, calculated by adding the total PM/PM₁₀/PM_{2.5} emissions for the present month as recorded above, to the total PM/PM₁₀/PM_{2.5} emissions for the previous 11 months, and converting to tons;
 - x. the rolling, 12-month summation of the SO₂ emissions, in tons, during all periods of operation, calculated by adding the total SO₂ emissions for the present month, as recorded above, to the total SO₂ emissions for the previous 11 months, and converting to tons; and
 - y. the rolling, 12-month summation of the H₂SO₄ mist emissions, in tons, during all periods of operation, calculated by adding the total H₂SO₄ mist emissions for the present month as recorded above, to the total H₂SO₄ emissions for the previous 11 months, and converting to tons.
- (10) The permittee shall maintain monthly records of the CO₂e emissions from the calendar month as well as the rolling, 12-month CO₂e emissions, in tons. The CO₂e emissions shall be calculated using the global warming potentials identified in Table A-1 of 40 CFR Part 98; the CO₂ emissions factor identified in Table C-1 of 40 CFR Part 98 or after testing has been completed, the CO₂ results of the most recent stack test; and the CH₄ and N₂O emission factors identified in Table C-2 of 40 CFR Part 98.
- (11) The PTI application for emissions units P001 through P044 was evaluated based on the actual materials and the design parameters of the emissions units' exhaust systems, as specified by the permittee. The *Toxic Air Contaminant Statute*, ORC 3704.03(F), was applied to these emissions units 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 emitted at over one TPY using an air dispersion model such as AERSCREEN, AERMOD, ISCST3 or other Ohio EPA-approved model. The predicted one-hour maximum ground-level concentration results from the approved air dispersion model, were compared to the maximum acceptable ground-level concentration (MAGLC), calculated as described in Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A," as follows:

- a. The exposure limit, expressed as a time-weighted average concentration for a conventional eight-hour workday and a 40-hour workweek, for each toxic compound emitted from the emissions units (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):
 - i. 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 shall be used, if the chemical is listed; or
 - ii. Short-term exposure limit (STEL) 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 eight-hour TLV.
- b. The TLV is divided by 10 to adjust the standard from the working population to the general public.
- c. This standard is adjusted to account for the duration of the exposure or the operating hours of the emissions units, that is, 24 hours per day and 7 days per week, from that of 8 hours per day and 5 days per week.
- d. The resulting calculation shall be used to determine the MAGLC:

$$\frac{TLV}{10} \times \frac{8}{24} \times \frac{5}{7} = 4 \frac{TLV}{168} = MAGLC$$

- e. The following summarizes the results of dispersion modeling for the significant toxic contaminants or *worst-case* scenario for emissions units P001 through P044:
 - i. Toxic Contaminant: acetaldehyde
 TLV (mg/m³): 45.04
 Maximum Hourly Emission Rate (lb/hr):
 - (a) P001-P010 (each pair): 0.0467
 - (b) P011-P016 (each pair): 0.0505
 - (c) P017-P040 (each pair): 0.0149
 - (d) P041-P043 (each): 0.0002
 - (e) P044: 0.002
 Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 0.0874
 MAGLC (µg/m³): 790.4

- ii. Toxic Contaminant: Ammonia
TLV (mg/m³): 17.41
Maximum Hourly Emission Rate (lb/hr):
 - (a) P001-P010 (each pair): 8.06
 - (b) P011-P016 (each pair): 8.72
 - (c) P017-P040 (each pair): 2.50Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 11.39
MAGLC (µg/m³): 414.6
- iii. Toxic Contaminant: Ethylbenzene
TLV (mg/m³): 86.84
Maximum Hourly Emission Rate (lb/hr):
 - (a) P001-P010 (each pair): 0.0373
 - (b) P011-P016 (each pair): 0.0404
 - (c) P017-P040 (each pair): 0.0119Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 0.05
MAGLC (µg/m³): 2067.58
- iv. Toxic Contaminant: Formaldehyde
TLV (mg/m³): 0.1228
Maximum Hourly Emission Rate (lb/hr):
 - (a) P001-P010 (each pair): 0.2569
 - (b) P011-P016 (each pair): 0.2778
 - (c) P017-P040 (each pair): 0.082
 - (d) P041-P043 (each): 0.001
 - (e) P044: 0.003Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 0.3750
MAGLC (µg/m³): 2.9243
- v. Toxic Contaminant: Propylene oxide
TLV (mg/m³): 4.751
Maximum Hourly Emission Rate (lb/hr):
 - (a) P001-P010 (each pair): 0.0339
 - (b) P011-P016 (each pair): 0.0366
 - (c) P017-P040 (each pair): 0.0108Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 0.05
MAGLC (µg/m³): 113.1

- vi. Toxic Contaminant: Sulfuric acid
TLV (mg/m³): 0.2
Maximum Hourly Emission Rate (lb/hr):
- (a) P001-P010 (each pair): 0.44
 - (b) P011-P016 (each pair): 0.48
 - (c) P017-P040 (each pair): 0.058
 - (d) P041-P043 (each): 0.002
 - (e) P044: 0.0006
- Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 0.4509
MAGLC (µg/m³): 4.762
- vii. Toxic Contaminant: Toluene
TLV (mg/m³): 75.37
Maximum Hourly Emission Rate (lb/hr):
- (a) P001-P010 (each pair): 0.1518
 - (b) P011-P016 (each pair): 0.1641
 - (c) P017-P040 (each pair): 0.0484
 - (d) P041-P043 (each): 0.003
 - (e) P044: 0.001
- Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 0.2246
MAGLC (µg/m³): 1794.52
- viii. Toxic Contaminant: Xylene
TLV (mg/m³): 86.84
Maximum Hourly Emission Rate (lb/hr):
- (a) P001-P010 (each pair): 0.0747
 - (b) P011-P016 (each pair): 0.0808
 - (c) P017-P040 (each pair): 0.0238
 - (d) P041-P043 (each): 0.002
 - (e) P044: 0.001
- Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 0.1113
MAGLC (µg/m³): 2067.6

The permittee has demonstrated that emissions of acetaldehyde, ammonia, ethylbenzene, formaldehyde, propylene oxide, sulfuric acid, toluene, and xylene are calculated to be less than 80 percent of the 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).



- (12) Prior to making any physical changes to or changes in the method of operation of the emissions units that could impact the parameters or values that were used in the predicted one-hour maximum ground-level concentration, the permittee shall re-model any change to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the one-hour maximum ground-level concentration include, but are not limited to, the following:

- a. Changes in the composition of the materials used or the use of new materials, that would result in the emissions of a new toxic air contaminant with a lower TLV than the lowest TLV previously modeled.
- b. Changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application.
- c. Physical changes to the emissions units or exhaust parameters (for example, increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines the *Toxic Air Contaminant Statute, ORC 3704.03(F)*, will be satisfied for the above changes, Ohio EPA will not consider a change 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 each change meets the definition of a *modification*, the permittee shall apply for and obtain a final PTI 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.

- (13) 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)*:

- a. 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 (for example, the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.).
- b. The MAGLC for each significant toxic contaminant or worst-case contaminant, calculated per the Toxic Air Contaminant Statute, ORC 3704.03(F).
- c. A copy of the computer model run(s), that established the predicted one-hour maximum ground-level concentration that demonstrated the emissions units 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.
- d. 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 units or the materials applied.

- (14) The permittee shall maintain a record of any change made to a parameter or value entered in the dispersion model used to demonstrate compliance with the *Toxic Air Contaminant Statute*, ORC 3704.03(F), through the predicted one-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.
- (15) See 40 CFR Part 60, Subpart KKKKa (40 CFR 60.4300a – 60.4420a).
- (16) See 40 CFR Part 63, Subpart YYYY (40 CFR 63.6080 – 63.6175).

e) Reporting Requirements

- (1) The permittee shall submit a completed Emissions Activity Category (EAC) form for the turbine within 30 days after placement on its concrete pad.
- (2) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
 - a. all exceedances of the rolling 12-month restrictions on the amount of time spent in startup and/or shutdown;
 - b. all exceedances of the rolling, 12-month NO_x, CO, VOC, PM/PM₁₀/PM_{2.5}, SO₂, H₂SO₄ mist, and/or CO₂e emissions limitations;
 - c. each period of time (start time and date, and end time and date) when the emissions unit was in operation, excluding periods of startup and shutdown, when the emissions were not controlled by the dry low-NO_x burners, SCR system, and/or oxidation catalyst; and
 - d. each period of time (start time and date, and end time and date) when the emissions unit was in operation, excluding periods of startup and shutdown, when any parameter monitored to verify the proper operation of the dry low-NO_x burners, SCR system, and/or oxidation catalyst was outside of the acceptable range.

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

- (3) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and the NO_x CEMS:
 - a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous 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 Ohio EPA, Central Office documenting all instances of NO_x emissions in excess of the applicable emissions standard that is determined in accordance with 40 CFR 60.4320a(b). 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).

- b. These quarterly reports shall include the following:
- i. the manufacturer and model number of the continuous NO_x and other associated monitors;
 - ii. a description of any change in the equipment that comprises the CEMS, including any change to the hardware, changes to the software that may affect CEMS readings, and/or changes in the location of the CEMS sample probe;
 - iii. the excess emissions report (EER)*, i.e., a summary of any exceedances during the calendar quarter, as specified above;
 - iv. the total operating time (hours) of the emissions unit;
 - v. the total operating time of the NO_x CEMS while the emissions unit was in operation;
 - vi. results and dates of quarterly cylinder gas audits;
 - vii. 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));
 - viii. unless previously submitted, the results of any relative accuracy test audit showing the continuous NO_x monitor out-of-control and the compliant results following any corrective actions;
 - ix. the date, time, and duration of any/each malfunction** of the NO_x CEMS, emissions unit, and/or control equipment and the reason (if known) and the corrective actions taken (if any) for each event; and
 - x. the date, time, and duration of any downtime** of the NO_x CEMS and/or control equipment while the emissions unit was in operation and the reason (if known) and the corrective actions taken (if any) for each event.

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

* where no excess emissions have occurred or the continuous 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 of whether there is an exceedance of any applicable limit

- (4) The permittee shall submit annual reports that include any changes to any parameter or value entered in the dispersion model used to demonstrate compliance with the *Toxic Air Contaminant Statute*, ORC 3704.03(F), through the predicted one-hour maximum ground-level concentration. The report shall include:
- a. The original model input.
 - b. The updated model input.

- c. The reason for each change to any input parameter.
- d. A summary of the results of the updated modeling, including the input changes.
- e. A statement that the model results indicate that the one-hour maximum ground-level concentration is less than 80 percent of the MAGLC.

If no changes to the emissions, emissions units or the exhaust stacks have been made during the reporting period, then the report shall include a statement to that effect. This report shall be postmarked or delivered no later than January 31 following the end of each calendar year.

(5) See 40 CFR Part 60, Subpart KKKKa (40 CFR 60.4300a – 60.4420a).

(6) See 40 CFR Part 63, Subpart YYYY (40 CFR 63.6080 – 63.6175).

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emissions Limitations:

NO_x emissions shall not exceed 2.0 ppmvd at 15% O₂ and 4.36 lb/hr, excluding periods of startup and shutdown.

CO emissions shall not exceed 2.0 ppmvd at 15% O₂ and 2.65 lb/hr, excluding periods of startup and shutdown.

VOC emissions shall not exceed 1.4 ppmvd at 15% O₂ and 1.06 lb/hr, excluding periods of startup and shutdown.

PE shall not exceed 0.040 lb/MMBtu actual heat input.

PM/PM₁₀/PM_{2.5} emissions shall not exceed 2.69 lb/hr and 0.005 lb/MMBtu, excluding periods of startup and shutdown.

Emissions of H₂SO₄ mist shall not exceed 0.22 lb/hr and 0.0004 lb/MMBtu.

Visible PE from the stack serving this emissions unit shall not exceed 10% opacity as a 6-minute average.

Applicable Compliance Method:

Compliance shall be demonstrated through emissions testing performed in accordance with f)(2) below and the monitoring and recordkeeping specified above.

b. Emissions Limitation:

The permittee must not discharge into the atmosphere from the stationary combustion turbine any gases that contain an amount of NO_x that exceeds the applicable emissions standard that is determined in accordance with 40 CFR 60.4320a(b).

Applicable Compliance Method:

Initial compliance shall be demonstrated through emissions testing performed in accordance with f)(2) below and the applicable requirements in 40 CFR 60.4333a and 60.4405a.



Ongoing compliance shall be demonstrated using a CEMS for measuring NO_x emissions according to the provisions in 40 CFR 60.4345a. and 60.4350a.

c. Emissions Limitations:

SO₂ emissions shall not exceed 0.82 lb/hr and 0.0014 lb/MMBtu.

The permittee must not cause to be discharged into the atmosphere any gases that contain an amount of SO₂ exceeding either 0.90 lb/MWh of gross energy output or 0.060 lb SO₂/MMBtu heat input.

Applicable Compliance Method:

Compliance shall be demonstrated through one of the following: 40 CFR 60.4333a(d)(3) and the monitoring and recordkeeping requirements specified above, or 40 CFR 60.4333a(d)(1) and emissions testing performed in accordance with f)(2) below.

d. Emissions Limitation:

CO₂e emissions shall not exceed 1,216 lb/MW-hr gross energy output at full load ISO conditions.

Applicable Compliance Method:

Because more than 99% of the CO₂e emissions result from CO₂ emissions, compliance with the lb/MW-hr emissions limitations will be demonstrated if the CO₂ emissions measured during testing performed in accordance with f)(2) below do not exceed 1,216 lb/MW-hr.

e. Emissions Limitations:

NO_x emissions shall not exceed 21.3 tons per rolling, 12-month period, including start-up and shutdown emissions.

CO emissions shall not exceed 25.7 tons per rolling, 12-month period, including start-up and shutdown emissions.

VOC emissions shall not exceed 6.5 tons per rolling, 12-month period, including start-up and shutdown emissions.

PM/PM₁₀/PM_{2.5} emissions shall not exceed 12.0 tons per rolling, 12-month period, including start-up and shutdown emissions.

SO₂ emissions shall not exceed 3.6 tons per rolling, 12-month period.

Emissions of H₂SO₄ mist shall not exceed 1.0 tons per rolling, 12-month period.

CO₂e emissions shall not exceed 299,526 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance with the rolling, 12-month emissions limitations shall be demonstrated in accordance with the monitoring and recordkeeping specified in d) above.

f. Emissions Limitation:

The permittee must limit the concentration of formaldehyde to 91 ppbvd at 15-percent oxygen, except during turbine startup.

Applicable Compliance Method:

Compliance shall be demonstrated through emissions testing performed in accordance with f)(2) below and the applicable requirements specified in 40 CFR 63.6110 through 63.6140 and Tables 3 through 5 of 40 CFR Part 63, Subpart YYYY.

- (2) 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 emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit.
 - b. The emission testing shall be conducted to demonstrate initial compliance with the NO_x, CO, and VOC outlet concentrations; the lb/hr emissions limitations for NO_x, CO, VOC, PM/PM₁₀/PM_{2.5}, and H₂SO₄ mist; the lb/MMBtu emissions limitations for PE, PM/PM₁₀/PM_{2.5}, and H₂SO₄ mist; the lb/MW-hr emissions limitations for CO₂e; and the visible PE limitation.
 - c. The emission testing shall be conducted to demonstrate initial compliance with the NO_x emissions limitations specified in 40 CFR 60.4320a and the SO₂ emissions limitation specified in 40 CFR 60.4330a and OAC rules 3745-31-10 through 3745-31-20 and 3745-31-34. If the permittee elects to demonstrate compliance with the SO₂ emission standard in 40 CFR 60.4330a using the methods specified in 40 CFR 60.4333a(d)(1), subsequent SO₂ performance tests shall be conducted on an annual basis (no more than 12 calendar months following the previous performance test), except as provided by rule.
 - d. The emission testing shall be conducted to demonstrate initial compliance with the formaldehyde concentration limitation specified in 40 CFR 63.6100. Subsequent performance tests for formaldehyde concentration shall be conducted annually as specified in Table 3 of 40 CFR Part 63, Subpart YYYY.
 - e. The following test method(s) shall be employed to demonstrate compliance with the above emissions limitations:

Pollutant	Applicable Test Method(s)
NO _x (lb/hr)	Methods 1 through 4 and 7E or 20 of 40 CFR Part 60, Appendix A
NO _x (ppm)	40 CFR 60.4405a and/or Methods 1 through 4 and 7E or 20 of 40 CFR Part 60, Appendix A
NO _x (NSPS)	40 CFR 60.4405a
CO	Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A
VOC	Methods 1 through 4 and 18 or 25A of 40 CFR Part 60, Appendix A



Pollutant	Applicable Test Method(s)
PE	Methods 1 through 5 of 40 CFR Part 60, Appendix A
PM/PM ₁₀ /PM _{2.5}	Methods 1 through 4 of 40 CFR Part 60, Appendix A and Methods 201A and 202 of 40 CFR Part 51, Appendix M
CO ₂	Methods 1 through 4 of 40 CFR Part 60, Appendix A, mass balance calculations using ASTM D1945-03 (Standard Test Method for Analysis of Natural Gas by Gas Chromatography) and/or ASTM D1826-94 (Standard Test Method for Calorific Value of Gases in Natural Gas Range by Continuous Recording Calorimeter).
Visible PE	Method 9 of 40 CFR Part 60, Appendix A
SO ₂	40 CFR 60.4415a
H ₂ SO ₄	Methods 1 through 4 and 8 of 40 CFR Part 60, Appendix A
Formaldehyde	The methods and procedures specified in 40 CFR 63.6120 and Tables 3 and 4 of 40 CFR Part 63, Subpart YYYY

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

- f. During the emissions testing, the emissions unit shall be operated under operational conditions approved in advance by the appropriate Ohio DO/LAA. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.) or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under *worst case* conditions expected during the life of the permit. As part of the information provided in the Intent to Test (ITT) notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe *worst case* operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the appropriate Ohio EPA DO/LAA that the proposed operating conditions constitute *worst case*. Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.
- g. Not later than 60 days prior to the proposed test date(s), the permittee shall submit an ITT notification to the appropriate Ohio EPA DO/LAA. The ITT 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 DO/LAA's refusal to accept the results of the emission test(s).
- h. Personnel from the appropriate Ohio EPA DO/LAA 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.

- i. A comprehensive written report on the results of the emissions test(s) shall be signed by the person(s) responsible for the tests and submitted to the appropriate Ohio EPA DO/LAA within 60 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 DO/LAA.

- (3) Within 60 days of achieving the maximum production rate at which the EU will be operated, but not later than 180 days after initial startup, the permittee shall conduct certification tests of the NO_x CEMS in units of the applicable standard(s), to demonstrate compliance with the applicable Performance Specifications of 40 CFR Part 60, Appendix B and 40 CFR Part 60, Subpart KKKKa.

Personnel from the Ohio EPA Central Office and the appropriate Ohio EPA DO/LAA shall be notified 30 days prior to initiation of the applicable tests and shall be permitted to examine equipment and witness the certification tests. The test results shall be submitted to Ohio EPA within 60 days after the test is completed.

Certification of the NO_x CEMS shall be granted upon determination by the Ohio EPA, Central Office that the system meets the requirements of the applicable Performance Specifications of 40 CFR Part 60, Appendix B.

Ongoing compliance with the NO_x emissions limitations established under 40 CFR Part 60 shall be demonstrated through the data collected and through demonstration of compliance with the quality assurance/quality control plan, which shall meet the testing and recertification requirements of 40 CFR Part 60.

- (4) See 40 CFR Part 60, Subpart KKKKa (40 CFR 60.4300a – 60.4420a).
- (5) See 40 CFR Part 63, Subpart YYYY (40 CFR 63.6080 – 63.6175).

g) Miscellaneous Requirements

- (1) None.



2. Emissions Unit Group - Siemens SGT-800 turbines (62MW): P011, P012, P013, P014, P015, P016,

EU ID	Operations, Property and/or Equipment Description
P011	Siemens SGT-800 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (631 MMBtu/hr)
P012	Siemens SGT-800 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (631 MMBtu/hr)
P013	Siemens SGT-800 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (631 MMBtu/hr)
P014	Siemens SGT-800 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (631 MMBtu/hr)
P015	Siemens SGT-800 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (631 MMBtu/hr)
P016	Siemens SGT-800 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (631 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) See b)(1)m., d)(11) through d)(14), and e)(4) below.

- 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 rules 3745-31-10 through 3745-31-20 and 3745-31-34 [Prevention of Significant Deterioration of Air Quality]	Short-Term Emissions Limitations (per turbine): NO _x emissions shall not exceed 2.0 ppmvd at 15% O ₂ and 4.71 lb/hr, excluding periods of startup and shutdown. CO emissions shall not exceed 2.0 ppmvd at 15% O ₂ and 2.87 lb/hr, excluding periods of startup and shutdown. VOC emissions shall not exceed 1.4 ppmvd at 15% O ₂ and 1.15 lb/hr, excluding periods of startup and shutdown.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		PM/PM₁₀/PM_{2.5} emissions shall not exceed 2.82 lb/hr and 0.005 lb/MMBtu, excluding periods of startup and shutdown. SO₂ emissions shall not exceed 0.88 lb/hr and 0.0014 lb/MMBtu. Emissions of H₂SO₄ mist shall not exceed 0.24 lb/hr and 0.0004 lb/MMBtu. GHG emissions [regulated as CO₂ equivalent (CO₂e) emissions] shall not exceed 1,185 lb/MW-hr gross energy output at full load ISO conditions. Gross energy output is defined as the gross power output of the generators before accounting for any balance of plant loads. Visible PE Limitation: Visible PE from the stack serving this emissions unit shall not exceed 10% opacity as a 6-minute average. Rolling, 12-Month Emissions Limitations (per turbine): NO_x emissions shall not exceed 23.5 tons per rolling, 12-month period, including start-up and shutdown emissions. CO emissions shall not exceed 39.0 tons per rolling, 12-month period, including start-up and shutdown emissions. VOC emissions shall not exceed 9.1 tons per rolling, 12-month period, including start-up and shutdown emissions. PM/PM₁₀/PM_{2.5} emissions shall not exceed 12.6 tons per rolling, 12-month period, including start-up and shutdown emissions. SO₂ emissions shall not exceed 3.9 tons per rolling, 12-month period.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		Emissions of H ₂ SO ₄ mist shall not exceed 1.1 tons per rolling, 12-month period. CO ₂ e emissions shall not exceed 323,631 tons per rolling, 12-month period. See b)(2)a. through b)(2)d. and c)(1) through c)(3) below.
b.	OAC rule 3745-31-05(A)(3) ORC 3704.03(T)	The BAT requirements established under OAC rule 3745-31-05(A)(3) for NO _x and CO emissions are equivalent to the requirements established under OAC rules 3745-31-10 through 20.
c.	OAC rule 3745-31-05(A)(3)(a)(ii)	The BAT requirements established under OAC rule 3745-31-05(A)(3) do not apply to the VOC, PM ₁₀ , PM _{2.5} , and SO ₂ emissions from this air contaminant source because the potential to emit for each pollutant is less than ten TPY taking into consideration the requirements established pursuant to OAC rules 3745-31-10 through 20.
d.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
e.	OAC rule 3745-17-11(B)(4)	PE shall not exceed 0.040 lb/MMBtu actual heat input.
f.	OAC rule 3745-18-06(F)	Exempt pursuant to OAC rule 3745-18-06(A) during any calendar day in which natural gas is the only fuel burned.
g.	OAC rule 3745-110-03(A) through (G)	Exempt pursuant to OAC rule 3745-110-03(K)(18) because this emissions unit is subject to BACT requirements for NO _x emissions.
h.	40 CFR Part 60, Subpart KKKKa [40 CFR 60.4300a – 60.4420a] In accordance with 40 CFR 60.4305a(a), this emissions unit must meet the requirements of 40 CFR Part 60, Subpart KKKKa because it is a stationary combustion turbine that commenced	The permittee must not cause to be discharged into the atmosphere any gases that contain an amount of SO ₂ exceeding either 0.90 lb/MWh of gross energy output or 0.060 lb SO ₂ /MMBtu heat input. See b)(2)e. through b)(2)g. below.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	construction, modification, or reconstruction after December 13, 2024, and has a base load rating equal to or greater than 10.7 gigajoules per hour (GJ/h) (10 million British thermal units per hour (MMBtu/h)).	
i.	40 CFR Part 60, Subpart A [40 CFR 60.1 – 60.19]	Table 3 of 40 CFR Part 60, Subpart KKKKa- "Applicability of Subpart A of This Part to This Subpart" identifies which parts of the General Provisions in 40 CFR Part 60.1-19 apply. See b)(2)h. below.
j.	40 CFR Part 60, Subpart TTTTa [40 CFR 60.5508a – 60.5580a]	The requirements of this subpart do not apply to this stationary combustion turbine because it will not be capable of selling electricity to a utility power distribution system.
k.	40 CFR Part 63, Subpart YYYY [40 CFR 63.6080 – 63.6175]	In accordance with 40 CFR 63.6090(a), this emissions unit must meet the requirements of 40 CFR Part 63, Subpart YYYY because it is a new stationary combustion turbine located at a major source of HAP emissions. The permittee must limit the concentration of formaldehyde to 91 ppbvd at 15-percent oxygen, except during turbine startup. In accordance with 40 CFR 63.6175, startup ends when the turbine has reached stable operation or after 1 hour, whichever is less. See d)(1) below.
l.	40 CFR Part 63, Subpart A [40 CFR 63.1 – 63.16]	Table 7 of 40 CFR Part 63, Subpart YYYY- "Applicability of General Provisions to Subpart YYYY" identifies which parts of the General Provisions in 40 CFR Part 63.1 – 63.16 apply. See b)(2)i. below.
m.	ORC 3704.03(F)(3)(c) and (F)(4) [Toxic Air Contaminant Statute]	See d)(11) through d)(14) and e)(4) below.

(2) Additional Terms and Conditions

- a. As part of the BACT determination for NO_x, the permittee shall install and maintain dry low-NO_x burners and an SCR system on this emissions unit. Operation of these control systems shall reduce NO_x emissions to the limitations specified above.
- b. As part of the BACT determination for CO and VOC, the permittee shall install and operate an oxidation catalyst to reduce CO and VOC to the limitations specified above.
- c. As part of the BACT determination for CO, VOC, PM₁₀, PM_{2.5}, SO₂, H₂SO₄ mist, and CO₂e emissions, the permittee shall operate the emissions unit in accordance with good combustion practices as recommended by the manufacturer. Good combustion practices include properly setting and controlling the air-to-fuel ratio and ensuring appropriate combustion zone residence time, temperature, and turbulence parameters.
- d. As part of the BACT determination for SO₂ and H₂SO₄ mist emissions, the sulfur content of the natural gas burned in this emissions unit shall not exceed 0.5 grains per 100 standard cubic feet of natural gas.
- e. The permittee must not discharge into the atmosphere from the stationary combustion turbine any gases that contain an amount of NO_x that exceeds the applicable emissions standard that is determined in accordance with 40 CFR 60.4320a(b).
 - i. NO_x emissions standards from Table 1 of 40 CFR Part 60, Subpart KKKKa

Combustion Turbine Type	Input-Based NO_x Emission Standard (4-operating-hour rolling average basis)	Optional Output-Based NO_x Emission Standard (30-operating-day average basis)
Firing natural gas at utilization rate >45 percent	15 ppm at 15 percent O ₂ or 24 nanograms/Joule (ng/J) (0.055 lb/MMBtu)	0.20 kg/MWh-gross (0.43 lb/MWh-gross) 0.20 kg/MWh-net (0.44 lb/MWh-net)
Firing natural gas at utilization rate ≤45 percent	25 ppm at 15 percent O ₂ or 40 ng/J (0.092 lb/MMBtu)	0.54 kg/MWh-gross (1.2 lb/MWh-gross) 0.56 kg/MWh-net (1.2 lb/MWh-net)
Operating at ambient temperatures less than 0°F, operated during periods of turbine tuning, and/or operating at less than 70 percent of the base load rating	96 ppm at 15 percent O ₂ or 150 ng/J (0.55 lb/MMBtu)	N/A



- ii. Alternative mass-based NO_x emission standards from Table 2 of 40 CFR Part 60, Subpart KKKKa

Combustion Turbine Type	4-Hour NO_x Emissions Rate	12-Calendar-Month NO_x Emissions Rate
Natural gas	0.38 kg NO _x /MW-rated output (0.83 lb NO _x /MW-rated output)	0.44 tonne NO _x /MW-rated output (0.48 ton NO _x /MW-rated output)

- f. 40 CFR 60.4345a(a)(1) through (6) provide compliance options depending on which NO_x emissions standard the permittee elects to comply with. Where the continuous NO_x monitoring system (NO_x CEMS) is referenced, the system includes all of the equipment necessary to determine compliance with the elected NO_x emissions standard [including fuel flow meter(s), O₂ or CO₂ CEMS, stack flow monitors, and watt meter(s)] if that system is part of the selected compliance option. All equipment shall be installed, calibrated, maintained, and operated in accordance with the applicable provisions of 40 CFR 60.4345a.

- g. Each NO_x CEMS shall be certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specification 2. At least 45 days before commencing certification testing of the NO_x CEMS, the permittee shall develop and maintain a written quality assurance/quality control plan designed to ensure continuous valid and representative readings of NO_x emissions from the continuous monitor(s), in units of the applicable standard(s). The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the NO_x CEMS must be kept on site and available for inspection during regular office hours.

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

The CEMS 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.

- h. The permittee shall comply with applicable requirements of the General Provisions of the Standards of Performance for New Stationary Sources in 40 CFR Part 60, Subpart A as they apply to the emissions unit regulated under 40 CFR Part 60, Subpart KKKKa.
- i. The permittee shall comply with applicable requirements of the General Provisions of the National Emissions Standards for Hazardous Air Pollutants for Source Categories in 40 CFR Part 63, Subpart A as they apply to the emissions unit regulated under 40 CFR Part 63, Subpart YYYY.

c) Operational Restrictions

- (1) The permittee shall burn only natural gas in the emissions unit.

- (2) The amount of time spent in startup shall be limited to 94 hours per rolling, 12-month period.
“Startup” is defined as beginning with combustion turbine fuel ignition and ending with either the turbine reaching a steady state emissions rate or the oxidation catalyst bed and the SCR catalyst bed reaching the minimum temperatures (recommended by the respective control equipment manufacturer) for the oxidation catalyst and SCR to control CO, VOC, and NO_x emissions, whichever occurs later.
 - (3) The amount of time spent in shutdown shall be limited to 49 hours per rolling, 12-month period.
“Shutdown” is defined as the process of taking the turbine off-line and beginning when the oxidation catalyst bed temperature or SCR catalyst bed temperature falls below the minimum temperature necessary for the oxidation catalyst and SCR to control CO, VOC, and NO_x emissions.
 - (4) See 40 CFR Part 60, Subpart KKKKa (40 CFR 60.4300a – 60.4420a).
 - (5) See 40 CFR Part 63, Subpart YYYY (40 CFR 63.6080 – 63.6175).
- d) Monitoring and/or Recordkeeping Requirements
- (1) The permittee shall properly install, operate, and maintain the dry low-NO_x burners, SCR (including the ammonia injection system), and oxidation catalyst in accordance with the manufacturer’s recommendations, instructions, and/or operating manual, with any modifications deemed necessary by the permittee.

The permittee shall maintain the SCR catalyst bed temperature below the maximum temperature established by the manufacturer.

The permittee shall maintain the 4-hour rolling average of the oxidation catalyst inlet temperature within the range suggested by the oxidation catalyst manufacturer. The permittee is not required to use the oxidation catalyst inlet temperature data that is recorded during engine startup in the calculations of the 4-hour rolling average oxidation catalyst inlet temperature.
 - (2) The permittee shall maintain documentation of the manufacturer's recommendations, instructions, and/or operating manual for the dry low-NO_x burners, SCR (including the ammonia injection system), and oxidation catalyst, along with documentation of any modifications deemed necessary by the permittee. These documents shall be maintained at the facility and shall be made available to the Ohio EPA, DO/LAA upon request.
 - (3) The permittee shall maintain the following information for maintenance and repairs performed on each dry low-NO_x burner, SCR, and oxidation catalyst:
 - a. the date of the maintenance and/or repair;
 - b. a description of the maintenance and/or repairs performed; and
 - c. the name of person(s) who performed the maintenance and/or repair.
 - (4) The permittee shall properly install, operate, and maintain equipment that continuously monitors and records the temperature of the SCR catalyst bed. Units shall be in degrees Fahrenheit. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by



the manufacturer to be within ± 1 percent of the temperature being measured or ± 5 degrees Fahrenheit, whichever is greater. The temperature monitor and recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manuals, with any modifications deemed necessary by the permittee. Except during startup and shutdown, the temperature of the SCR catalyst bed shall be maintained above the minimum temperature specified by the manufacturer. This information shall be correlated to the number of hours the turbine operated under each operating scenario (i.e., startup, shutdown, and normal operation when NO_x emissions are controlled by the SCR).

- (5) The permittee shall properly install, operate, and maintain equipment that continuously monitors and records the temperature of the oxidation catalyst. Units shall be in degrees Fahrenheit. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within ± 1 percent of the temperature being measured or ± 5 degrees Fahrenheit, whichever is greater. The temperature monitor and recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manuals, with any modifications deemed necessary by the permittee. Except during startup and shutdown, the temperature of the oxidation catalyst shall be maintained above the minimum temperature specified by the manufacturer. This information shall be correlated to the number of hours the turbine operated under each operating scenario (i.e., startup, shutdown, and normal operation when CO and VOC emissions are controlled by the oxidation catalyst).
- (6) Prior to the installation of the NO_x CEMS, the permittee shall submit information detailing the proposed location of the sampling site in accordance with the siting requirements in the applicable Performance Specifications of 40 CFR Part 60, Appendix B. The Ohio EPA, Central Office shall approve the proposed sampling site and certify that the NO_x CEMS meets the siting and accuracy requirements of the relevant specifications. Once received, the letter(s)/document(s) of certification shall be maintained on site and made available to the director (the appropriate Ohio EPA DO/LAA) upon request.
- (7) The permittee shall properly install, calibrate, operate, and maintain equipment to continuously monitor and record NO_x emissions from this emissions unit in units of the applicable standard(s). The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.

The permittee shall maintain records of all data obtained by the NO_x CEMS including, but not limited to:

- a. emissions of NO_x in parts per million for each cycle time of the analyzer, with no resolution less than one data point per minute required;
- b. emissions of NO_x in units of the applicable emissions standard that is determined in accordance with 40 CFR 60.4320a(b) in the appropriate averaging period;
- c. results of quarterly cylinder gas audits;
- d. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;

- e. results of required relative accuracy test audit(s), including results in units of the applicable standard(s);
- f. hours of operation of the emissions unit, NO_x CEMS, and control equipment;
- g. the date, time, and hours of operation of the emissions unit without the control equipment and/or the NO_x CEMS and the reason (if known) and the corrective actions taken (if any) for each such event; and
- h. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the NO_x CEMS and the reason (if known) and the corrective actions taken (if any) for each such event.

All valid data points generated and recorded by the continuous 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.

- (8) If the permittee chooses to demonstrate compliance with the applicable SO₂ emissions limitations through records and fuel sampling and analysis, the permittee shall follow the procedures specified in section 2.3.1.4 in appendix D of 40 CFR Part 75 documenting that the fuel combusted in this emissions unit meets the 40 CFR Part 75 requirements to be considered pipeline natural gas. As an alternative to these monitoring and recordkeeping requirements, the permittee may demonstrate compliance with the applicable SO₂ emissions limitations through performance testing conducted in accordance with 40 CFR 60.4333a(d)(1) and 40 CFR 60.4415a(b). The permittee shall determine the sulfur content and gross calorific value (GCV) of the fuel as follows.

- a. The sulfur content of the fuel shall be determined through one of the following:
 - i. the fuel quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the fuel, specifying that the maximum total sulfur content is 0.5 grains of sulfur or less per 100 standard cubic feet of natural gas; or
 - ii. fuel sampling and analysis performed annually and whenever the fuel supply source changes. The fuel sampling and analysis shall be performed in accordance with the methods and procedures specified in section 2.3.3.1 of 40 CFR Part 75, Appendix D.
- b. The gross calorific value (GCV) of the fuel shall be determined through one of the following:
 - i. GCV from most recent monthly sample;
 - ii. maximum GCV from contract, unless a higher value is obtained in a monthly sample; or
 - iii. highest GCV from previous year's samples, unless a higher value is obtained in a monthly sample.



At least once per calendar month, the permittee shall sample the fuel in accordance with the methods and procedures specified in section 2.3.4 of 40 CFR Part 75, Appendix D.

- (9) The permittee shall maintain monthly records of the following information:
- a. the hours of operation, excluding startup and shutdown;
 - b. the hours of operation during startup;
 - c. the hours of operation during shutdown;
 - d. the NO_x emissions, in pounds, for startup/shutdown events calculated by multiplying the hours of operation of the combustion turbine in each startup and shutdown operating mode by the hourly NO_x emissions rate for the corresponding mode of operation, i.e., 29.6 lb/hr during startup and 14.3 lb/hr during shutdown;
 - e. the NO_x emissions, in pounds, excluding startup/shutdown emissions, calculated using the NO_x emissions factor of 4.7 lb/hr, or after testing has been completed, the results of the most recent stack test;
 - f. the CO emissions, in pounds, for startup/shutdown events calculated by multiplying the hours of operation of the combustion turbine in each startup and shutdown operating mode by the hourly CO emissions rate for the corresponding mode of operation, i.e., 331.1 lb/hr during startup and 22.9 lb/hr during shutdown;
 - g. the CO emissions, in pounds, excluding startup/shutdown emissions, calculated using the CO emissions factor of 2.9 lb/hr, or after testing has been completed, the results of the most recent stack test;
 - h. the VOC emissions, in pounds, for startup/shutdown events calculated by multiplying the hours of operation of the combustion turbine in each startup and shutdown operating mode by the hourly VOC emissions rate for the corresponding mode of operation, i.e., 37.1 lb/hr during startup and 14.7 lb/hr during shutdown;
 - i. the VOC emissions, in pounds, excluding startup/shutdown emissions, calculated using the VOC emissions factor of 1.2 lb/hr, or after testing has been completed, the results of the most recent stack test;
 - j. the PM/PM₁₀/PM_{2.5} emissions, in pounds, for startup/shutdown events calculated by multiplying the hours of operation of the combustion turbine in each startup and shutdown operating mode by the hourly PM/PM₁₀/PM_{2.5} emissions rate for the corresponding mode of operation, i.e., 2.6 lb/hr during startup and 3.2 lb/hr during shutdown;
 - k. the PM/PM₁₀/PM_{2.5} emissions, in pounds, excluding startup/shutdown emissions, calculated using the PM/PM₁₀/PM_{2.5} emissions factor of 2.8 lb/hr, or after testing has been completed, the results of the most recent stack test;
 - l. the SO₂ emissions, in pounds, during all periods of operation, calculated using the SO₂ emissions factor of 0.9 lb/hr, or after testing has been completed, the results of the most recent stack test;



- m. the H_2SO_4 mist emissions, in pounds, during all periods of operation, calculated using the H_2SO_4 mist emissions factor of 0.24 lb/hr, or after testing has been completed, the results of the most recent stack test;
- n. the rolling, 12-month hours of operation during startup;
- o. the rolling, 12-month hours of operation during shutdown;
- p. the rolling, 12-month summation of the NO_x emissions for startup/shutdown events, in tons, calculated by adding the total NO_x emissions from startup/shutdown events for the present month, as recorded above, to the total NO_x emissions from startup/shutdown events for the previous 11 months, and converting to tons;
- q. the rolling, 12-month summation of the NO_x , in tons, including start-up/shutdown emissions, calculated by adding the total NO_x emissions for the present month, as recorded above, to the total NO_x emissions for the previous 11 months, and converting to tons;
- r. the rolling, 12-month summation of the CO emissions for startup/shutdown events, in tons, calculated by adding the total CO emissions from startup/shutdown events for the present month, as recorded above, to the total CO emissions from startup/shutdown events for the previous 11 months, and converting to tons;
- s. the rolling, 12-month summation of the CO, in tons, including startup/shutdown emissions, calculated by adding the total CO emissions for the present month, as recorded above, to the total CO emissions for the previous 11 months, and converting to tons;
- t. the rolling, 12-month summation of the VOC emissions, in tons, for startup/shutdown events calculated by adding the total VOC emissions from startup/shutdown events for the present month, as recorded above, to the total VOC emissions from startup/shutdown events for the previous 11 months, and converting to tons;
- u. the rolling, 12-month summation of the VOC, in tons, including startup/shutdown emissions, calculated by adding the total VOC emissions for the present month, as recorded above, to the total VOC emissions for the previous 11 months, and converting to tons;
- v. the rolling, 12-month summation of the $\text{PM}/\text{PM}_{10}/\text{PM}_{2.5}$ emissions, in tons, for startup/shutdown events calculated by adding the total $\text{PM}/\text{PM}_{10}/\text{PM}_{2.5}$ emissions from startup/shutdown events for the present month, as recorded above, to the total PM_{10} emissions from startup/shutdown events for the previous 11 months, and converting to tons;
- w. the rolling, 12-month summation of the $\text{PM}/\text{PM}_{10}/\text{PM}_{2.5}$ emissions, in tons, including startup/shutdown emissions, calculated by adding the total $\text{PM}/\text{PM}_{10}/\text{PM}_{2.5}$ emissions for the present month as recorded above, to the total PM_{10} emissions for the previous 11 months, and converting to tons;
- x. the rolling, 12-month summation of the SO_2 emissions, in tons, during all periods of operation, calculated by adding the total SO_2 emissions for the present month, as

recorded above, to the total SO₂ emissions for the previous 11 months, and converting to tons; and

- y. the rolling, 12-month summation of the H₂SO₄ mist emissions, in tons, during all periods of operation, calculated by adding the total H₂SO₄ mist emissions for the present month as recorded above, to the total H₂SO₄ emissions for the previous 11 months, and converting to tons.
- (10) The permittee shall maintain monthly records of the CO₂e emissions from the calendar month as well as the rolling, 12-month CO₂e emissions, in tons. The CO₂e emissions shall be calculated using the global warming potentials identified in Table A-1 of 40 CFR Part 98; the CO₂ emissions factor identified in Table C-1 of 40 CFR Part 98 or after testing has been completed, the CO₂ results of the most recent stack test; and the CH₄ and N₂O emission factors identified in Table C-2 of 40 CFR Part 98.
- (11) The PTI application for emissions units P001 through P044 was evaluated based on the actual materials and the design parameters of the emissions units' exhaust systems, as specified by the permittee. The *Toxic Air Contaminant Statute*, ORC 3704.03(F), was applied to these emissions units 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 emitted at over one TPY using an air dispersion model such as AERSCREEN, AERMOD, ISCST3 or other Ohio EPA-approved model. The predicted one-hour maximum ground-level concentration results from the approved air dispersion model, were compared to the maximum acceptable ground-level concentration (MAGLC), calculated as described in Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A," as follows:
- a. The exposure limit, expressed as a time-weighted average concentration for a conventional eight-hour workday and a 40-hour workweek, for each toxic compound emitted from the emissions units (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):
 - i. 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 shall be used, if the chemical is listed; or
 - ii. Short-term exposure limit (STEL) 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 eight-hour TLV.
 - b. The TLV is divided by 10 to adjust the standard from the working population to the general public.

- c. This standard is adjusted to account for the duration of the exposure or the operating hours of the emissions units, that is, 24 hours per day and 7 days per week, from that of 8 hours per day and 5 days per week.

- d. The resulting calculation shall be used to determine the MAGLC:

$$\frac{TLV}{10} \times \frac{8}{24} \times \frac{5}{7} = 4 \frac{TLV}{168} = MAGLC$$

- e. The following summarizes the results of dispersion modeling for the significant toxic contaminants or *worst-case* scenario for emissions units P001 through P044:

- i. Toxic Contaminant: acetaldehyde

TLV (mg/m³): 45.04

Maximum Hourly Emission Rate (lb/hr):

(a) P001-P010 (each pair): 0.0467

(b) P011-P016 (each pair): 0.0505

(c) P017-P040 (each pair): 0.0149

(d) P041-P043 (each): 0.0002

(e) P044: 0.002

Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 0.0874

MAGLC (µg/m³): 790.4

- ii. Toxic Contaminant: Ammonia

TLV (mg/m³): 17.41

Maximum Hourly Emission Rate (lb/hr):

(a) P001-P010 (each pair): 8.06

(b) P011-P016 (each pair): 8.72

(c) P017-P040 (each pair): 2.50

Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 11.39

MAGLC (µg/m³): 414.6

- iii. Toxic Contaminant: Ethylbenzene

TLV (mg/m³): 86.84

Maximum Hourly Emission Rate (lb/hr):

(a) P001-P010 (each pair): 0.0373

(b) P011-P016 (each pair): 0.0404

(c) P017-P040 (each pair): 0.0119

Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 0.05

MAGLC (µg/m³): 2067.58

- iv. Toxic Contaminant: Formaldehyde
TLV (mg/m³): 0.1228
Maximum Hourly Emission Rate (lb/hr):
- (a) P001-P010 (each pair): 0.2569
 - (b) P011-P016 (each pair): 0.2778
 - (c) P017-P040 (each pair): 0.082
 - (d) P041-P043 (each): 0.001
 - (e) P044: 0.003
- Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 0.3750
MAGLC (µg/m³): 2.9243
- v. Toxic Contaminant: Propylene oxide
TLV (mg/m³): 4.751
Maximum Hourly Emission Rate (lb/hr):
- (a) P001-P010 (each pair): 0.0339
 - (b) P011-P016 (each pair): 0.0366
 - (c) P017-P040 (each pair): 0.0108
- Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 0.05
MAGLC (µg/m³): 113.1
- vi. Toxic Contaminant: Sulfuric acid
TLV (mg/m³): 0.2
Maximum Hourly Emission Rate (lb/hr):
- (a) P001-P010 (each pair): 0.44
 - (b) P011-P016 (each pair): 0.48
 - (c) P017-P040 (each pair): 0.058
 - (d) P041-P043 (each): 0.002
 - (e) P044: 0.0006
- Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 0.4509
MAGLC (µg/m³): 4.762
- vii. Toxic Contaminant: Toluene
TLV (mg/m³): 75.37
Maximum Hourly Emission Rate (lb/hr):
- (a) P001-P010 (each pair): 0.1518
 - (b) P011-P016 (each pair): 0.1641
 - (c) P017-P040 (each pair): 0.0484
 - (d) P041-P043 (each): 0.003

(e) P044: 0.001

Predicted One-Hour Maximum Ground-Level Concentration ($\mu\text{g}/\text{m}^3$): 0.2246

MAGLC ($\mu\text{g}/\text{m}^3$): 1794.52

viii. Toxic Contaminant: Xylene

TLV (mg/m^3): 86.84

Maximum Hourly Emission Rate (lb/hr):

(a) P001-P010 (each pair): 0.0747

(b) P011-P016 (each pair): 0.0808

(c) P017-P040 (each pair): 0.0238

(d) P041-P043 (each): 0.002

(e) P044: 0.001

Predicted One-Hour Maximum Ground-Level Concentration ($\mu\text{g}/\text{m}^3$): 0.1113

MAGLC ($\mu\text{g}/\text{m}^3$): 2067.6

The permittee has demonstrated that emissions of acetaldehyde, ammonia, ethylbenzene, formaldehyde, propylene oxide, sulfuric acid, toluene, and xylene are calculated to be less than 80 percent of the 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).

(12) Prior to making any physical changes to or changes in the method of operation of the emissions units that could impact the parameters or values that were used in the predicted one-hour maximum ground-level concentration, the permittee shall re-model any change to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the one-hour maximum ground-level concentration include, but are not limited to, the following:

- a. Changes in the composition of the materials used or the use of new materials, that would result in the emissions of a new toxic air contaminant with a lower TLV than the lowest TLV previously modeled.
- b. Changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application.
- c. Physical changes to the emissions units or exhaust parameters (for example, increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines the *Toxic Air Contaminant Statute*, ORC 3704.03(F), will be satisfied for the above changes, Ohio EPA will not consider a change 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 each change meets the definition of a *modification*, the permittee shall apply for and obtain a final PTI 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.

- (13) 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):

- a. 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 (for example, the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.).
- b. The MAGLC for each significant toxic contaminant or worst-case contaminant, calculated per the Toxic Air Contaminant Statute, ORC 3704.03(F).
- c. A copy of the computer model run(s), that established the predicted one-hour maximum ground-level concentration that demonstrated the emissions units 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.
- d. 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 units or the materials applied.

- (14) The permittee shall maintain a record of any change made to a parameter or value entered in the dispersion model used to demonstrate compliance with the *Toxic Air Contaminant Statute*, ORC 3704.03(F), through the predicted one-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.

- (15) See 40 CFR Part 60, Subpart KKKKa (40 CFR 60.4300a – 60.4420a).

- (16) See 40 CFR Part 63, Subpart YYYY (40 CFR 63.6080 – 63.6175).

e) Reporting Requirements

- (1) The permittee shall submit a completed Emissions Activity Category (EAC) form for the turbine within 30 days after placement on its concrete pad.
- (2) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
 - a. all exceedances of the rolling 12-month restrictions on the amount of time spent in startup and/or shutdown;
 - b. all exceedances of the rolling, 12-month NO_x, CO, VOC, PM/PM₁₀/PM_{2.5}, SO₂, H₂SO₄ mist, and/or CO₂e emissions limitations;
 - c. each period of time (start time and date, and end time and date) when the emissions unit was in operation, excluding periods of startup and shutdown, when the emissions



were not controlled by the dry low-NO_x burners, SCR system, and/or oxidation catalyst; and

- d. each period of time (start time and date, and end time and date) when the emissions unit was in operation, excluding periods of startup and shutdown, when any parameter monitored to verify the proper operation of the dry low-NO_x burners, SCR system, and/or oxidation catalyst was outside of the acceptable range.

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

- (3) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and the NO_x CEMS:
 - a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous 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 Ohio EPA, Central Office documenting all instances of NO_x emissions in excess of the applicable emissions standard that is determined in accordance with 40 CFR 60.4320a(b). 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).
 - b. These quarterly reports shall include the following:
 - i. the manufacturer and model number of the continuous NO_x and other associated monitors;
 - ii. a description of any change in the equipment that comprises the CEMS, including any change to the hardware, changes to the software that may affect CEMS readings, and/or changes in the location of the CEMS sample probe;
 - iii. the excess emissions report (EER)*, i.e., a summary of any exceedances during the calendar quarter, as specified above;
 - iv. the total operating time (hours) of the emissions unit;
 - v. the total operating time of the NO_x CEMS while the emissions unit was in operation;
 - vi. results and dates of quarterly cylinder gas audits;
 - vii. 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));
 - viii. unless previously submitted, the results of any relative accuracy test audit showing the continuous NO_x monitor out-of-control and the compliant results following any corrective actions;

- ix. the date, time, and duration of any/each malfunction** of the NO_x CEMS, emissions unit, and/or control equipment and the reason (if known) and the corrective actions taken (if any) for each event; and
- x. the date, time, and duration of any downtime** of the NO_x CEMS and/or control equipment while the emissions unit was in operation and the reason (if known) and the corrective actions taken (if any) for each event.

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

* where no excess emissions have occurred or the continuous 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 of whether there is an exceedance of any applicable limit

- (4) The permittee shall submit annual reports that include any changes to any parameter or value entered in the dispersion model used to demonstrate compliance with the *Toxic Air Contaminant Statute*, ORC 3704.03(F), through the predicted one-hour maximum ground-level concentration. The report shall include:

- a. The original model input.
- b. The updated model input.
- c. The reason for each change to any input parameter.
- d. A summary of the results of the updated modeling, including the input changes.
- e. A statement that the model results indicate that the one-hour maximum ground-level concentration is less than 80 percent of the MAGLC.

If no changes to the emissions, emissions units or the exhaust stacks have been made during the reporting period, then the report shall include a statement to that effect. This report shall be postmarked or delivered no later than January 31 following the end of each calendar year.

- (5) See 40 CFR Part 60, Subpart KKKKa (40 CFR 60.4300a – 60.4420a).

- (6) See 40 CFR Part 63, Subpart YYYY (40 CFR 63.6080 – 63.6175).

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

- a. Emissions Limitations:

NO_x emissions shall not exceed 2.0 ppmvd at 15% O₂ and 4.71 lb/hr, excluding periods of startup and shutdown.

CO emissions shall not exceed 2.0 ppmvd at 15% O₂ and 2.87 lb/hr, excluding periods of startup and shutdown.



VOC emissions shall not exceed 1.4 ppmvd at 15% O₂ and 1.15 lb/hr, excluding periods of startup and shutdown.

PE shall not exceed 0.040 lb/MMBtu actual heat input.

PM/PM₁₀/PM_{2.5} emissions shall not exceed 2.82 lb/hr and 0.005 lb/MMBtu, excluding periods of startup and shutdown.

Emissions of H₂SO₄ mist shall not exceed 0.24 lb/hr and 0.0004 lb/MMBtu.

Visible PE from the stack serving this emissions unit shall not exceed 10% opacity as a 6-minute average.

Applicable Compliance Method:

Compliance shall be demonstrated through emissions testing performed in accordance with f)(2) below and the monitoring and recordkeeping specified above.

b. Emissions Limitation:

The permittee must not discharge into the atmosphere from the stationary combustion turbine any gases that contain an amount of NO_x that exceeds the applicable emissions standard that is determined in accordance with 40 CFR 60.4320a(b).

Applicable Compliance Method:

Initial compliance shall be demonstrated through emissions testing performed in accordance with f)(2) below and the applicable requirements in 40 CFR 60.4333a and 60.4405a.

Ongoing compliance shall be demonstrated using a CEMS for measuring NO_x emissions according to the provisions in 40 CFR 60.4345a. and 60.4350a.

c. Emissions Limitations:

SO₂ emissions shall not exceed 0.88 lb/hr and 0.0014 lb/MMBtu.

The permittee must not cause to be discharged into the atmosphere any gases that contain an amount of SO₂ exceeding either 0.90 lb/MWh of gross energy output or 0.060 lb SO₂/MMBtu heat input.

Applicable Compliance Method:

Compliance shall be demonstrated through one of the following: 40 CFR 60.4333a(d)(3) and the monitoring and recordkeeping requirements specified above, or 40 CFR 60.4333a(d)(1) and emissions testing performed in accordance with f)(2) below.

d. Emissions Limitation:

CO₂e emissions shall not exceed 1,185 lb/MW-hr gross energy output at full load ISO conditions.

Applicable Compliance Method:

Because more than 99% of the CO₂e emissions result from CO₂ emissions, compliance with the lb/MW-hr emissions limitations will be demonstrated if the CO₂ emissions



measured during testing performed in accordance with f)(2) below do not exceed 1,185 lb/MW-hr.

e. Emissions Limitations:

NO_x emissions shall not exceed 23.5 tons per rolling, 12-month period, including start-up and shutdown emissions.

CO emissions shall not exceed 39.0 tons per rolling, 12-month period, including start-up and shutdown emissions.

VOC emissions shall not exceed 9.1 tons per rolling, 12-month period, including start-up and shutdown emissions.

PM/PM₁₀/PM_{2.5} emissions shall not exceed 12.6 tons per rolling, 12-month period, including start-up and shutdown emissions.

SO₂ emissions shall not exceed 3.9 tons per rolling, 12-month period.

Emissions of H₂SO₄ mist shall not exceed 1.1 tons per rolling, 12-month period.

CO₂e emissions shall not exceed 323,631 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance with the rolling, 12-month emissions limitations shall be demonstrated in accordance with the monitoring and recordkeeping specified in d) above.

f. Emissions Limitation:

The permittee must limit the concentration of formaldehyde to 91 ppbvd at 15-percent oxygen, except during turbine startup.

Applicable Compliance Method:

Compliance shall be demonstrated through emissions testing performed in accordance with f)(2) below and the applicable requirements specified in 40 CFR 63.6110 through 63.6140 and Tables 3 through 5 of 40 CFR Part 63, Subpart YYY.

(2) 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 emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit.
- b. The emission testing shall be conducted to demonstrate initial compliance with the NO_x, CO, and VOC outlet concentrations; the lb/hr emissions limitations for NO_x, CO, VOC, PM/PM₁₀/PM_{2.5}, and H₂SO₄ mist; the lb/MMBtu emissions limitations for PE, PM/PM₁₀/PM_{2.5}, and H₂SO₄ mist; the lb/MW-hr emissions limitations for CO₂e; and the visible PE limitation.
- c. The emission testing shall be conducted to demonstrate initial compliance with the NO_x emissions limitations specified in 40 CFR 60.4320a and the SO₂ emissions limitation specified in 40 CFR 60.4330a and OAC rules 3745-31-10 through 3745-31-20 and 3745-

31-34. If the permittee elects to demonstrate compliance with the SO₂ emission standard in 40 CFR 60.4330a using the methods specified in 40 CFR 60.4333a(d)(1), subsequent SO₂ performance tests shall be conducted on an annual basis (no more than 12 calendar months following the previous performance test), except as provided by rule.

- d. The emission testing shall be conducted to demonstrate initial compliance with the formaldehyde concentration limitation specified in 40 CFR 63.6100. Subsequent performance tests for formaldehyde concentration shall be conducted annually as specified in Table 3 of 40 CFR Part 63, Subpart YYYY.
- e. The following test method(s) shall be employed to demonstrate compliance with the above emissions limitations:

Pollutant	Applicable Test Method(s)
NO _x (lb/hr)	Methods 1 through 4 and 7E or 20 of 40 CFR Part 60, Appendix A
NO _x (ppm)	40 CFR 60.4405a and/or Methods 1 through 4 and 7E or 20 of 40 CFR Part 60, Appendix A
NO _x (NSPS)	40 CFR 60.4405a
CO	Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A
VOC	Methods 1 through 4 and 18 or 25A of 40 CFR Part 60, Appendix A
PE	Methods 1 through 5 of 40 CFR Part 60, Appendix A
PM/PM ₁₀ /PM _{2.5}	Methods 1 through 4 of 40 CFR Part 60, Appendix A and Methods 201A and 202 of 40 CFR Part 51, Appendix M
CO ₂	Methods 1 through 4 of 40 CFR Part 60, Appendix A, mass balance calculations using ASTM D1945-03 (Standard Test Method for Analysis of Natural Gas by Gas Chromatography) and/or ASTM D1826-94 (Standard Test Method for Calorific Value of Gases in Natural Gas Range by Continuous Recording Calorimeter).
Visible PE	Method 9 of 40 CFR Part 60, Appendix A
SO ₂	40 CFR 60.4415a
H ₂ SO ₄	Methods 1 through 4 and 8 of 40 CFR Part 60, Appendix A
Formaldehyde	The methods and procedures specified in 40 CFR 63.6120 and Tables 3 and 4 of 40 CFR Part 63, Subpart YYYY

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

- f. During the emissions testing, the emissions unit shall be operated under operational conditions approved in advance by the appropriate Ohio DO/LAA. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.) or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under *worst case* conditions expected during the life of



the permit. As part of the information provided in the Intent to Test (ITT) notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe *worst case* operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the appropriate Ohio EPA DO/LAA that the proposed operating conditions constitute *worst case*. Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.

- g. Not later than 60 days prior to the proposed test date(s), the permittee shall submit an ITT notification to the appropriate Ohio EPA DO/LAA. The ITT 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 DO/LAA's refusal to accept the results of the emission test(s).
 - h. Personnel from the appropriate Ohio EPA DO/LAA 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.
 - i. A comprehensive written report on the results of the emissions test(s) shall be signed by the person(s) responsible for the tests and submitted to the appropriate Ohio EPA DO/LAA within 60 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 DO/LAA.
- (3) Within 60 days of achieving the maximum production rate at which the EU will be operated, but not later than 180 days after initial startup, the permittee shall conduct certification tests of the NO_x CEMS in units of the applicable standard(s), to demonstrate compliance with the applicable Performance Specifications of 40 CFR Part 60, Appendix B and 40 CFR Part 60, Subpart KKKKa.

Personnel from the Ohio EPA Central Office and the appropriate Ohio EPA DO/LAA shall be notified 30 days prior to initiation of the applicable tests and shall be permitted to examine equipment and witness the certification tests. The test results shall be submitted to Ohio EPA within 60 days after the test is completed.

Certification of the NO_x CEMS shall be granted upon determination by the Ohio EPA, Central Office that the system meets the requirements of the applicable Performance Specifications of 40 CFR Part 60, Appendix B.

Ongoing compliance with the NO_x emissions limitations established under 40 CFR Part 60 shall be demonstrated through the data collected and through demonstration of compliance with the quality assurance/quality control plan, which shall meet the testing and recertification requirements of 40 CFR Part 60.



- (4) See 40 CFR Part 60, Subpart KKKKa (40 CFR 60.4300a – 60.4420a).
- (5) See 40 CFR Part 63, Subpart YYYY (40 CFR 63.6080 – 63.6175).
- g) Miscellaneous Requirements
 - (1) None.

3. Emissions Unit Group - Solar T-130 turbines (16.5 MW): P017, P018, P019, P020, P021, P022, P023, P024, P025, P026, P027, P028, P029, P030, P031, P032, P033, P034, P035, P036, P037, P038, P039, P040,

EU ID	Operations, Property and/or Equipment Description
P017	Solar Titan 130 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (186.5 MMBtu/hr)
P018	Solar Titan 130 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (186.5 MMBtu/hr)
P019	Solar Titan 130 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (186.5 MMBtu/hr)
P020	Solar Titan 130 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (186.5 MMBtu/hr)
P021	Solar Titan 130 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (186.5 MMBtu/hr)
P022	Solar Titan 130 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (186.5 MMBtu/hr)
P023	Solar Titan 130 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (186.5 MMBtu/hr)
P024	Solar Titan 130 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (186.5 MMBtu/hr)
P025	Solar Titan 130 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (186.5 MMBtu/hr)
P026	Solar Titan 130 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (186.5 MMBtu/hr)
P027	Solar Titan 130 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (186.5 MMBtu/hr)
P028	Solar Titan 130 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (186.5 MMBtu/hr)
P029	Solar Titan 130 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (186.5 MMBtu/hr)
P030	Solar Titan 130 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (186.5 MMBtu/hr)
P031	Solar Titan 130 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (186.5 MMBtu/hr)
P032	Solar Titan 130 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (186.5 MMBtu/hr)
P033	Solar Titan 130 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (186.5 MMBtu/hr)

EU ID	Operations, Property and/or Equipment Description
P034	Solar Titan 130 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (186.5 MMBtu/hr)
P035	Solar Titan 130 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (186.5 MMBtu/hr)
P036	Solar Titan 130 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (186.5 MMBtu/hr)
P037	Solar Titan 130 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (186.5 MMBtu/hr)
P038	Solar Titan 130 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (186.5 MMBtu/hr)
P039	Solar Titan 130 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (186.5 MMBtu/hr)
P040	Solar Titan 130 simple cycle turbine with dry low-NO _x burners, SCR, and oxidation catalyst utilizing natural gas (186.5 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) See b)(1)m., d)(11) through d)(14), and e)(4) below.

- 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 rules 3745-31-10 through 3745-31-20 and 3745-31-34 [Prevention of Significant Deterioration of Air Quality]	Short-Term Emissions Limitations (per turbine): NO _x emissions shall not exceed 2.0 ppmvd at 15% O ₂ and 1.21 lb/hr, excluding periods of startup and shutdown. CO emissions shall not exceed 2.0 ppmvd at 15% O ₂ and 0.74 lb/hr, excluding periods of startup and shutdown.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		VOC emissions shall not exceed 3.0 ppmvd at 15% O₂ and 0.70 lb/hr, excluding periods of startup and shutdown. PM/PM₁₀/PM_{2.5} emissions shall not exceed 1.31 lb/hr and 0.007 lb/MMBtu, excluding periods of startup and shutdown. SO₂ emissions shall not exceed 0.26 lb/hr and 0.0014 lb/MMBtu. Emissions of H₂SO₄ mist shall not exceed 0.03 lb/hr and 0.0002 lb/MMBtu. GHG emissions [regulated as CO₂ equivalent (CO₂e) emissions] shall not exceed 1,253 lb/MW-hr gross energy output at full load ISO conditions. Gross energy output is defined as the gross power output of the generators before accounting for any balance of plant loads. Visible PE Limitation: Visible PE from the stack serving this emissions unit shall not exceed 10% opacity as a 6-minute average. Rolling, 12-Month Emissions Limitations (per turbine): NO_x emissions shall not exceed 5.5 tons per rolling, 12-month period, including start-up and shutdown emissions. CO emissions shall not exceed 8.1 tons per rolling, 12-month period, including start-up and shutdown emissions. VOC emissions shall not exceed 4.3 tons per rolling, 12-month period, including start-up and shutdown emissions. PM/PM₁₀/PM_{2.5} emissions shall not exceed 5.7 tons per rolling, 12-month period, including start-up and shutdown emissions.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		SO₂ emissions shall not exceed 1.1 tons per rolling, 12-month period. Emissions of H₂SO₄ mist shall not exceed 0.1 tons per rolling, 12-month period. CO₂e emissions shall not exceed 95,653 tons per rolling, 12-month period. See b)(2)a. through b)(2)d. and c)(1) through c)(3) below.
b.	OAC rule 3745-31-05(A)(3) ORC 3704.03(T)	The BAT requirements established under OAC rule 3745-31-05(A)(3) for NO _x and CO emissions are equivalent to the requirements established under OAC rules 3745-31-10 through 20.
c.	OAC rule 3745-31-05(A)(3)(a)(ii)	The BAT requirements established under OAC rule 3745-31-05(A)(3) do not apply to the VOC, PM ₁₀ , PM _{2.5} , and SO ₂ emissions from this air contaminant source because the potential to emit for each pollutant is less than ten TPY taking into consideration the requirements established pursuant to OAC rules 3745-31-10 through 20.
d.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
e.	OAC rule 3745-17-11(B)(4)	PE shall not exceed 0.040 lb/MMBtu actual heat input.
f.	OAC rule 3745-18-06(F)	Exempt pursuant to OAC rule 3745-18-06(A) during any calendar day in which natural gas is the only fuel burned.
g.	OAC rule 3745-110-03(A) through (G)	Exempt pursuant to OAC rule 3745-110-03(K)(18) because this emissions unit is subject to BACT requirements for NO _x emissions.
h.	40 CFR Part 60, Subpart KKKKa [40 CFR 60.4300a – 60.4420a]	The permittee must not cause to be discharged into the atmosphere any gases that contain an amount of SO ₂ exceeding



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	In accordance with 40 CFR 60.4305a(a), this emissions unit must meet the requirements of 40 CFR Part 60, Subpart KKKKa because it is a stationary combustion turbine that commenced construction, modification, or reconstruction after December 13, 2024, and has a base load rating equal to or greater than 10.7 gigajoules per hour (GJ/h) (10 million British thermal units per hour (MMBtu/h)).	either 0.90 lb/MWh of gross energy output or 0.060 lb SO ₂ /MMBtu heat input. See b)(2)e. through b)(2)g. below.
i.	40 CFR Part 60, Subpart A [40 CFR 60.1 – 60.19]	Table 3 of 40 CFR Part 60, Subpart KKKKa- "Applicability of Subpart A of This Part to This Subpart" identifies which parts of the General Provisions in 40 CFR Part 60.1-19 apply. See b)(2)h. below.
j.	40 CFR Part 60, Subpart TTTTa [40 CFR 60.5508a – 60.5580a]	The requirements of this subpart do not apply to this stationary combustion turbine because it will not be capable of selling electricity to a utility power distribution system.
k.	40 CFR Part 63, Subpart YYYY [40 CFR 63.6080 – 63.6175]	In accordance with 40 CFR 63.6090(a), this emissions unit must meet the requirements of 40 CFR Part 63, Subpart YYYY because it is a new stationary combustion turbine located at a major source of HAP emissions. The permittee must limit the concentration of formaldehyde to 91 ppbvd at 15-percent oxygen, except during turbine startup. In accordance with 40 CFR 63.6175, startup ends when the turbine has reached stable operation or after 1 hour, whichever is less. See d)(1) below.
l.	40 CFR Part 63, Subpart A [40 CFR 63.1 – 63.16]	Table 7 of 40 CFR Part 63, Subpart YYYY- "Applicability of General Provisions to Subpart YYYY" identifies which parts of the



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		General Provisions in 40 CFR Part 63.1 – 63.16 apply. See b)(2)i. below.
m.	ORC 3704.03(F)(3)(c) and (F)(4) [Toxic Air Contaminant Statute]	See d)(11) through d)(14) and e)(4) below.

(2) Additional Terms and Conditions

- a. As part of the BACT determination for NO_x, the permittee shall install and maintain dry low-NO_x burners and an SCR system on this emissions unit. Operation of these control systems shall reduce NO_x emissions to the limitations specified above.
- b. As part of the BACT determination for CO and VOC, the permittee shall install and operate an oxidation catalyst to reduce CO and VOC to the limitations specified above.
- c. As part of the BACT determination for CO, VOC, PM₁₀, PM_{2.5}, SO₂, H₂SO₄ mist, and CO₂e emissions, the permittee shall operate the emissions unit in accordance with good combustion practices as recommended by the manufacturer. Good combustion practices include properly setting and controlling the air-to-fuel ratio and ensuring appropriate combustion zone residence time, temperature, and turbulence parameters.
- d. As part of the BACT determination for SO₂ and H₂SO₄ mist emissions, the sulfur content of the natural gas burned in this emissions unit shall not exceed 0.5 grains per 100 standard cubic feet of natural gas.
- e. The permittee must not discharge into the atmosphere from the stationary combustion turbine any gases that contain an amount of NO_x that exceeds the applicable emissions standard that is determined in accordance with 40 CFR 60.4320a(b).
- i. NO_x emissions standards from Table 1 of 40 CFR Part 60, Subpart KKKKa

Combustion Turbine Type	Input-Based NO_x Emission Standard (4-operating-hour rolling average basis)	Optional Output-Based NO_x Emission Standard (30-operating-day average basis)
Firing natural gas at utilization rate >45 percent	15 ppm at 15 percent O ₂ or 24 nanograms/Joule (ng/J) (0.055 lb/MMBtu)	0.20 kg/MWh-gross (0.43 lb/MWh-gross) 0.20 kg/MWh-net (0.44 lb/MWh-net)



Combustion Turbine Type	Input-Based NO_x Emission Standard (4-operating-hour rolling average basis)	Optional Output-Based NO_x Emission Standard (30-operating-day average basis)
Firing natural gas at utilization rate ≤45 percent	25 ppm at 15 percent O ₂ or 40 ng/J (0.092 lb/MMBtu)	0.54 kg/MWh-gross (1.2 lb/MWh-gross) 0.56 kg/MWh-net (1.2 lb/MWh-net)
Operating at ambient temperatures less than 0°F, operated during periods of turbine tuning, and/or operating at less than 70 percent of the base load rating	150 ppm at 15 percent O ₂ or 240 ng/J (0.55 lb/MMBtu)	N/A

- ii. Alternative mass-based NO_x emission standards from Table 2 of 40 CFR Part 60, Subpart KKKKa

Combustion Turbine Type	4-Hour NO_x Emissions Rate	12-Calendar-Month NO_x Emissions Rate
Natural gas	0.38 kg NO _x /MW-rated output (0.83 lb NO _x /MW-rated output)	0.44 tonne NO _x /MW-rated output (0.48 ton NO _x /MW-rated output)

- f. 40 CFR 60.4345a(a)(1) through (6) provide compliance options depending on which NO_x emissions standard the permittee elects to comply with. Where the continuous NO_x monitoring system (NO_xCEMS) is referenced, the system includes all of the equipment necessary to determine compliance with the elected NO_x emissions standard [including fuel flow meter(s), O₂ or CO₂ CEMS, stack flow monitors, and watt meter(s)] if that system is part of the selected compliance option. All equipment shall be installed, calibrated, maintained, and operated in accordance with the applicable provisions of 40 CFR 60.4345a.
- g. Each NO_xCEMS shall be certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specification 2. At least 45 days before commencing certification testing of the NO_xCEMS, the permittee shall develop and maintain a written quality assurance/quality control plan designed to ensure continuous valid and representative readings of NO_x emissions from the continuous monitor(s), in units of the applicable standard(s). The plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the NO_xCEMS must be kept on site and available for inspection during regular office hours.

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

The CEMS 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.

- h. The permittee shall comply with applicable requirements of the General Provisions of the Standards of Performance for New Stationary Sources in 40 CFR Part 60, Subpart A as they apply to the emissions unit regulated under 40 CFR Part 60, Subpart KKKKa.
- i. The permittee shall comply with applicable requirements of the General Provisions of the National Emissions Standards for Hazardous Air Pollutants for Source Categories in 40 CFR Part 63, Subpart A as they apply to the emissions unit regulated under 40 CFR Part 63, Subpart YYYY.

c) **Operational Restrictions**

- (1) The permittee shall burn only natural gas in the emissions unit.
- (2) The amount of time spent in startup shall be limited to 23 hours per rolling, 12-month period.
“Startup” is defined as beginning with combustion turbine fuel ignition and ending with either the turbine reaching a steady state emissions rate or the oxidation catalyst bed and the SCR catalyst bed reaching the minimum temperatures (recommended by the respective control equipment manufacturer) for the oxidation catalyst and SCR to control CO, VOC, and NO_x emissions, whichever occurs later.
- (3) The amount of time spent in shutdown shall be limited to 23 hours per rolling, 12-month period.
“Shutdown” is defined as the process of taking the turbine off-line and beginning when the oxidation catalyst bed temperature or SCR catalyst bed temperature falls below the minimum temperature necessary for the oxidation catalyst and SCR to control CO, VOC, and NO_x emissions.
- (4) See 40 CFR Part 60, Subpart KKKKa (40 CFR 60.4300a – 60.4420a).
- (5) See 40 CFR Part 63, Subpart YYYY (40 CFR 63.6080 – 63.6175).

d) **Monitoring and/or Recordkeeping Requirements**

- (1) The permittee shall properly install, operate, and maintain the dry low-NO_x burners, SCR (including the ammonia injection system), and oxidation catalyst in accordance with the manufacturer’s recommendations, instructions, and/or operating manual, with any modifications deemed necessary by the permittee.

The permittee shall maintain the SCR catalyst bed temperature below the maximum temperature established by the manufacturer.



The permittee shall maintain the 4-hour rolling average of the oxidation catalyst inlet temperature within the range suggested by the oxidation catalyst manufacturer. The permittee is not required to use the oxidation catalyst inlet temperature data that is recorded during engine startup in the calculations of the 4-hour rolling average oxidation catalyst inlet temperature.

- (2) The permittee shall maintain documentation of the manufacturer's recommendations, instructions, and/or operating manual for the dry low-NO_x burners, SCR (including the ammonia injection system), and oxidation catalyst, along with documentation of any modifications deemed necessary by the permittee. These documents shall be maintained at the facility and shall be made available to the Ohio EPA, DO/LAA upon request.
- (3) The permittee shall maintain the following information for maintenance and repairs performed on each dry low-NO_x burner, SCR, and oxidation catalyst:
 - a. the date of the maintenance and/or repair;
 - b. a description of the maintenance and/or repairs performed; and
 - c. the name of person(s) who performed the maintenance and/or repair.
- (4) The permittee shall properly install, operate, and maintain equipment that continuously monitors and records the temperature of the SCR catalyst bed. Units shall be in degrees Fahrenheit. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within ± 1 percent of the temperature being measured or ± 5 degrees Fahrenheit, whichever is greater. The temperature monitor and recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manuals, with any modifications deemed necessary by the permittee. Except during startup and shutdown, the temperature of the SCR catalyst bed shall be maintained above the minimum temperature specified by the manufacturer. This information shall be correlated to the number of hours the turbine operated under each operating scenario (i.e., startup, shutdown, and normal operation when NO_x emissions are controlled by the SCR).
- (5) The permittee shall properly install, operate, and maintain equipment that continuously monitors and records the temperature of the oxidation catalyst. Units shall be in degrees Fahrenheit. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within ± 1 percent of the temperature being measured or ± 5 degrees Fahrenheit, whichever is greater. The temperature monitor and recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manuals, with any modifications deemed necessary by the permittee. Except during startup and shutdown, the temperature of the oxidation catalyst shall be maintained above the minimum temperature specified by the manufacturer. This information shall be correlated to the number of hours the turbine operated under each operating scenario (i.e., startup, shutdown, and normal operation when CO and VOC emissions are controlled by the oxidation catalyst).
- (6) Prior to the installation of the NO_x CEMS, the permittee shall submit information detailing the proposed location of the sampling site in accordance with the siting requirements in the



applicable Performance Specifications of 40 CFR Part 60, Appendix B. The Ohio EPA, Central Office shall approve the proposed sampling site and certify that the NO_x CEMS meets the siting and accuracy requirements of the relevant specifications. Once received, the letter(s)/document(s) of certification shall be maintained on site and made available to the director (the appropriate Ohio EPA DO/LAA) upon request.

- (7) The permittee shall properly install, calibrate, operate, and maintain equipment to continuously monitor and record NO_x emissions from this emissions unit in units of the applicable standard(s). The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.

The permittee shall maintain records of all data obtained by the NO_x CEMS including, but not limited to:

- a. emissions of NO_x in parts per million for each cycle time of the analyzer, with no resolution less than one data point per minute required;
- b. emissions of NO_x in units of the applicable emissions standard that is determined in accordance with 40 CFR 60.4320a(b) in the appropriate averaging period;
- c. results of quarterly cylinder gas audits;
- d. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
- e. results of required relative accuracy test audit(s), including results in units of the applicable standard(s);
- f. hours of operation of the emissions unit, NO_x CEMS, and control equipment;
- g. the date, time, and hours of operation of the emissions unit without the control equipment and/or the NO_x CEMS and the reason (if known) and the corrective actions taken (if any) for each such event; and
- h. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the NO_x CEMS and the reason (if known) and the corrective actions taken (if any) for each such event.

All valid data points generated and recorded by the continuous 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.

- (8) If the permittee chooses to demonstrate compliance with the applicable SO₂ emissions limitations through records and fuel sampling and analysis, the permittee shall follow the procedures specified in section 2.3.1.4 in appendix D of 40 CFR Part 75 documenting that the fuel combusted in this emissions unit meets the 40 CFR Part 75 requirements to be considered pipeline natural gas. As an alternative to these monitoring and recordkeeping requirements, the permittee may demonstrate compliance with the applicable SO₂ emissions limitations through performance testing conducted in accordance with 40 CFR 60.4333a(d)(1) and 40 CFR 60.4415a(b). The permittee shall determine the sulfur content and gross calorific value (GCV) of the fuel as follows.

- a. The sulfur content of the fuel shall be determined through one of the following:
 - i. the fuel quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the fuel, specifying that the maximum total sulfur content is 0.5 grains of sulfur or less per 100 standard cubic feet of natural gas; or
 - ii. fuel sampling and analysis performed annually and whenever the fuel supply source changes. The fuel sampling and analysis shall be performed in accordance with the methods and procedures specified in section 2.3.3.1 of 40 CFR Part 75, Appendix D.
- b. The gross calorific value (GCV) of the fuel shall be determined through one of the following:
 - i. GCV from most recent monthly sample;
 - ii. maximum GCV from contract, unless a higher value is obtained in a monthly sample; or
 - iii. highest GCV from previous year's samples, unless a higher value is obtained in a monthly sample.

At least once per calendar month, the permittee shall sample the fuel in accordance with the methods and procedures specified in section 2.3.4 of 40 CFR Part 75, Appendix D.

- (9) The permittee shall maintain monthly records of the following information:
 - a. the hours of operation, excluding startup and shutdown;
 - b. the hours of operation during startup;
 - c. the hours of operation during shutdown;
 - d. the NO_x emissions, in pounds, for startup/shutdown events calculated by multiplying the hours of operation of the combustion turbine in each startup and shutdown operating mode by the hourly NO_x emissions rate for the corresponding mode of operation, i.e., 2.1 lb/hr during startup and 2.1 lb/hr during shutdown;
 - e. the NO_x emissions, in pounds, excluding startup/shutdown emissions, calculated using the NO_x emissions factor of 1.2 lb/hr, or after testing has been completed, the results of the most recent stack test;
 - f. the CO emissions, in pounds, for startup/shutdown events calculated by multiplying the hours of operation of the combustion turbine in each startup and shutdown operating mode by the hourly CO emissions rate for the corresponding mode of operation, i.e., 24.7 lb/hr during startup and 26.7 lb/hr during shutdown;
 - g. the CO emissions, in pounds, excluding startup/shutdown emissions, calculated using the CO emissions factor of 0.7 lb/hr, or after testing has been completed, the results of the most recent stack test;



- h. the VOC emissions, in pounds, for startup/shutdown events calculated by multiplying the hours of operation of the combustion turbine in each startup and shutdown operating mode by the hourly VOC emissions rate for the corresponding mode of operation, i.e., 6.6 lb/hr during startup and 6.6 lb/hr during shutdown;
- i. the VOC emissions, in pounds, excluding startup/shutdown emissions, calculated using the VOC emissions factor of 0.7 lb/hr, or after testing has been completed, the results of the most recent stack test;
- j. the PM/PM₁₀/PM_{2.5} emissions, in pounds, for startup/shutdown events calculated by multiplying the hours of operation of the combustion turbine in each startup and shutdown operating mode by the hourly PM/PM₁₀/PM_{2.5} emissions rate for the corresponding mode of operation, i.e., 1.2 lb/hr during startup and 1.1 lb/hr during shutdown;
- k. the PM/PM₁₀/PM_{2.5} emissions, in pounds, excluding startup/shutdown emissions, calculated using the PM/PM₁₀/PM_{2.5} emissions factor of 1.3 lb/hr, or after testing has been completed, the results of the most recent stack test;
- l. the SO₂ emissions, in pounds, during all periods of operation, calculated using the SO₂ emissions factor of 0.3 lb/hr, or after testing has been completed, the results of the most recent stack test;
- m. the H₂SO₄ mist emissions, in pounds, during all periods of operation, calculated using the H₂SO₄ mist emissions factor of 0.03 lb/hr, or after testing has been completed, the results of the most recent stack test;
- n. the rolling, 12-month hours of operation during startup;
- o. the rolling, 12-month hours of operation during shutdown;
- p. the rolling, 12-month summation of the NO_x emissions for startup/shutdown events, in tons, calculated by adding the total NO_x emissions from startup/shutdown events for the present month, as recorded above, to the total NO_x emissions from startup/shutdown events for the previous 11 months, and converting to tons;
- q. the rolling, 12-month summation of the NO_x, in tons, including start-up/shutdown emissions, calculated by adding the total NO_x emissions for the present month, as recorded above, to the total NO_x emissions for the previous 11 months, and converting to tons;
- r. the rolling, 12-month summation of the CO emissions for startup/shutdown events, in tons, calculated by adding the total CO emissions from startup/shutdown events for the present month, as recorded above, to the total CO emissions from startup/shutdown events for the previous 11 months, and converting to tons;
- s. the rolling, 12-month summation of the CO, in tons, including startup/shutdown emissions, calculated by adding the total CO emissions for the present month, as recorded above, to the total CO emissions for the previous 11 months, and converting to tons;



- t. the rolling, 12-month summation of the VOC emissions, in tons, for startup/shutdown events calculated by adding the total VOC emissions from startup/shutdown events for the present month, as recorded above, to the total VOC emissions from startup/shutdown events for the previous 11 months, and converting to tons;
 - u. the rolling, 12-month summation of the VOC, in tons, including startup/shutdown emissions, calculated by adding the total VOC emissions for the present month, as recorded above, to the total VOC emissions for the previous 11 months, and converting to tons;
 - v. the rolling, 12-month summation of the PM/PM₁₀/PM_{2.5} emissions, in tons, for startup/shutdown events calculated by adding the total PM/PM₁₀/PM_{2.5} emissions from startup/shutdown events for the present month, as recorded above, to the total PM/PM₁₀/PM_{2.5} emissions from startup/shutdown events for the previous 11 months, and converting to tons;
 - w. the rolling, 12-month summation of the PM/PM₁₀/PM_{2.5} emissions, in tons, including startup/shutdown emissions, calculated by adding the total PM/PM₁₀/PM_{2.5} emissions for the present month as recorded above, to the total PM/PM₁₀/PM_{2.5} emissions for the previous 11 months, and converting to tons;
 - x. the rolling, 12-month summation of the SO₂ emissions, in tons, during all periods of operation, calculated by adding the total SO₂ emissions for the present month, as recorded above, to the total SO₂ emissions for the previous 11 months, and converting to tons; and
 - y. the rolling, 12-month summation of the H₂SO₄ mist emissions, in tons, during all periods of operation, calculated by adding the total H₂SO₄ mist emissions for the present month as recorded above, to the total H₂SO₄ emissions for the previous 11 months, and converting to tons.
- (10) The permittee shall maintain monthly records of the CO₂e emissions from the calendar month as well as the rolling, 12-month CO₂e emissions, in tons. The CO₂e emissions shall be calculated using the global warming potentials identified in Table A-1 of 40 CFR Part 98; the CO₂ emissions factor identified in Table C-1 of 40 CFR Part 98 or after testing has been completed, the CO₂ results of the most recent stack test; and the CH₄ and N₂O emission factors identified in Table C-2 of 40 CFR Part 98.
- (11) The PTI application for emissions units P001 through P044 was evaluated based on the actual materials and the design parameters of the emissions units' exhaust systems, as specified by the permittee. The *Toxic Air Contaminant Statute*, ORC 3704.03(F), was applied to these emissions units 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 emitted at over one TPY using an air dispersion model such as AERSCREEN, AERMOD, ISCST3 or other Ohio EPA-approved model. The predicted one-hour maximum ground-level concentration results from the approved air dispersion model, were compared to the maximum acceptable ground-level concentration (MAGLC), calculated as described in Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A," as follows:

- a. The exposure limit, expressed as a time-weighted average concentration for a conventional eight-hour workday and a 40-hour workweek, for each toxic compound emitted from the emissions units (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):
 - i. 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 shall be used, if the chemical is listed; or
 - ii. Short-term exposure limit (STEL) 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 eight-hour TLV.
- b. The TLV is divided by 10 to adjust the standard from the working population to the general public.
- c. This standard is adjusted to account for the duration of the exposure or the operating hours of the emissions units, that is, 24 hours per day and 7 days per week, from that of 8 hours per day and 5 days per week.
- d. The resulting calculation shall be used to determine the MAGLC:

$$\frac{TLV}{10} \times \frac{8}{24} \times \frac{5}{7} = 4 \frac{TLV}{168} = MAGLC$$

- e. The following summarizes the results of dispersion modeling for the significant toxic contaminants or *worst-case* scenario for emissions units P001 through P044:
 - i. Toxic Contaminant: acetaldehyde
 TLV (mg/m³): 45.04
 Maximum Hourly Emission Rate (lb/hr):
 - (a) P001-P010 (each pair): 0.0467
 - (b) P011-P016 (each pair): 0.0505
 - (c) P017-P040 (each pair): 0.0149
 - (d) P041-P043 (each): 0.0002
 - (e) P044: 0.002
 Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 0.0874
 MAGLC (µg/m³): 790.4

- ii. Toxic Contaminant: Ammonia
TLV (mg/m³): 17.41
Maximum Hourly Emission Rate (lb/hr):
 - (a) P001-P010 (each pair): 8.06
 - (b) P011-P016 (each pair): 8.72
 - (c) P017-P040 (each pair): 2.50Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 11.39
MAGLC (µg/m³): 414.6
- iii. Toxic Contaminant: Ethylbenzene
TLV (mg/m³): 86.84
Maximum Hourly Emission Rate (lb/hr):
 - (a) P001-P010 (each pair): 0.0373
 - (b) P011-P016 (each pair): 0.0404
 - (c) P017-P040 (each pair): 0.0119Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 0.05
MAGLC (µg/m³): 2067.58
- iv. Toxic Contaminant: Formaldehyde
TLV (mg/m³): 0.1228
Maximum Hourly Emission Rate (lb/hr):
 - (a) P001-P010 (each pair): 0.2569
 - (b) P011-P016 (each pair): 0.2778
 - (c) P017-P040 (each pair): 0.082
 - (d) P041-P043 (each): 0.001
 - (e) P044: 0.003Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 0.3750
MAGLC (µg/m³): 2.9243
- v. Toxic Contaminant: Propylene oxide
TLV (mg/m³): 4.751
Maximum Hourly Emission Rate (lb/hr):
 - (a) P001-P010 (each pair): 0.0339
 - (b) P011-P016 (each pair): 0.0366
 - (c) P017-P040 (each pair): 0.0108Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 0.05
MAGLC (µg/m³): 113.1

- vi. Toxic Contaminant: Sulfuric acid
TLV (mg/m³): 0.2
Maximum Hourly Emission Rate (lb/hr):
- (a) P001-P010 (each pair): 0.44
 - (b) P011-P016 (each pair): 0.48
 - (c) P017-P040 (each pair): 0.058
 - (d) P041-P043 (each): 0.002
 - (e) P044: 0.0006
- Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 0.4509
MAGLC (µg/m³): 4.762
- vii. Toxic Contaminant: Toluene
TLV (mg/m³): 75.37
Maximum Hourly Emission Rate (lb/hr):
- (a) P001-P010 (each pair): 0.1518
 - (b) P011-P016 (each pair): 0.1641
 - (c) P017-P040 (each pair): 0.0484
 - (d) P041-P043 (each): 0.003
 - (e) P044: 0.001
- Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 0.2246
MAGLC (µg/m³): 1794.52
- viii. Toxic Contaminant: Xylene
TLV (mg/m³): 86.84
Maximum Hourly Emission Rate (lb/hr):
- (a) P001-P010 (each pair): 0.0747
 - (b) P011-P016 (each pair): 0.0808
 - (c) P017-P040 (each pair): 0.0238
 - (d) P041-P043 (each): 0.002
 - (e) P044: 0.001
- Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 0.1113
MAGLC (µg/m³): 2067.6

The permittee has demonstrated that emissions of acetaldehyde, ammonia, ethylbenzene, formaldehyde, propylene oxide, sulfuric acid, toluene, and xylene are calculated to be less than 80 percent of the 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).



- (12) Prior to making any physical changes to or changes in the method of operation of the emissions units that could impact the parameters or values that were used in the predicted one-hour maximum ground-level concentration, the permittee shall re-model any change to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the one-hour maximum ground-level concentration include, but are not limited to, the following:

- a. Changes in the composition of the materials used or the use of new materials, that would result in the emissions of a new toxic air contaminant with a lower TLV than the lowest TLV previously modeled.
- b. Changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application.
- c. Physical changes to the emissions units or exhaust parameters (for example, increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines the *Toxic Air Contaminant Statute, ORC 3704.03(F)*, will be satisfied for the above changes, Ohio EPA will not consider a change 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 each change meets the definition of a *modification*, the permittee shall apply for and obtain a final PTI 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.

- (13) 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)*:

- a. 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 (for example, the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.).
- b. The MAGLC for each significant toxic contaminant or worst-case contaminant, calculated per the Toxic Air Contaminant Statute, ORC 3704.03(F).
- c. A copy of the computer model run(s), that established the predicted one-hour maximum ground-level concentration that demonstrated the emissions units 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.
- d. 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 units or the materials applied.

- (14) The permittee shall maintain a record of any change made to a parameter or value entered in the dispersion model used to demonstrate compliance with the *Toxic Air Contaminant Statute*, ORC 3704.03(F), through the predicted one-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.
- (15) See 40 CFR Part 60, Subpart KKKKa (40 CFR 60.4300a – 60.4420a).
- (16) See 40 CFR Part 63, Subpart YYYY (40 CFR 63.6080 – 63.6175).

e) Reporting Requirements

- (1) The permittee shall submit a completed Emissions Activity Category (EAC) form for the turbine within 30 days after placement on its concrete pad.
- (2) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
 - a. all exceedances of the rolling 12-month restrictions on the amount of time spent in startup and/or shutdown;
 - b. all exceedances of the rolling, 12-month NO_x, CO, VOC, PM/PM₁₀/PM_{2.5}, SO₂, H₂SO₄ mist, and/or CO₂e emissions limitations;
 - c. each period of time (start time and date, and end time and date) when the emissions unit was in operation, excluding periods of startup and shutdown, when the emissions were not controlled by the dry low-NO_x burners, SCR system, and/or oxidation catalyst; and
 - d. each period of time (start time and date, and end time and date) when the emissions unit was in operation, excluding periods of startup and shutdown, when any parameter monitored to verify the proper operation of the dry low-NO_x burners, SCR system, and/or oxidation catalyst was outside of the acceptable range.

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

- (3) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and the NO_x CEMS:
 - a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous 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 Ohio EPA, Central Office documenting all instances of NO_x emissions in excess of the applicable emissions standard that is determined in accordance with 40 CFR 60.4320a(b). 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).



- b. These quarterly reports shall include the following:
- i. the manufacturer and model number of the continuous NO_x and other associated monitors;
 - ii. a description of any change in the equipment that comprises the CEMS, including any change to the hardware, changes to the software that may affect CEMS readings, and/or changes in the location of the CEMS sample probe;
 - iii. the excess emissions report (EER)*, i.e., a summary of any exceedances during the calendar quarter, as specified above;
 - iv. the total operating time (hours) of the emissions unit;
 - v. the total operating time of the NO_x CEMS while the emissions unit was in operation;
 - vi. results and dates of quarterly cylinder gas audits;
 - vii. 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));
 - viii. unless previously submitted, the results of any relative accuracy test audit showing the continuous NO_x monitor out-of-control and the compliant results following any corrective actions;
 - ix. the date, time, and duration of any/each malfunction** of the NO_x CEMS, emissions unit, and/or control equipment and the reason (if known) and the corrective actions taken (if any) for each event; and
 - x. the date, time, and duration of any downtime** of the NO_x CEMS and/or control equipment while the emissions unit was in operation and the reason (if known) and the corrective actions taken (if any) for each event.

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

* where no excess emissions have occurred or the continuous 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 of whether there is an exceedance of any applicable limit

- (4) The permittee shall submit annual reports that include any changes to any parameter or value entered in the dispersion model used to demonstrate compliance with the *Toxic Air Contaminant Statute*, ORC 3704.03(F), through the predicted one-hour maximum ground-level concentration. The report shall include:
- a. The original model input.
 - b. The updated model input.



- c. The reason for each change to any input parameter.
- d. A summary of the results of the updated modeling, including the input changes.
- e. A statement that the model results indicate that the one-hour maximum ground-level concentration is less than 80 percent of the MAGLC.

If no changes to the emissions, emissions units or the exhaust stacks have been made during the reporting period, then the report shall include a statement to that effect. This report shall be postmarked or delivered no later than January 31 following the end of each calendar year.

(5) See 40 CFR Part 60, Subpart KKKKa (40 CFR 60.4300a – 60.4420a).

(6) See 40 CFR Part 63, Subpart YYYY (40 CFR 63.6080 – 63.6175).

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emissions Limitations:

NO_x emissions shall not exceed 2.0 ppmvd at 15% O₂ and 1.21 lb/hr, excluding periods of startup and shutdown.

CO emissions shall not exceed 2.0 ppmvd at 15% O₂ and 0.74 lb/hr, excluding periods of startup and shutdown.

VOC emissions shall not exceed 3.0 ppmvd at 15% O₂ and 0.70 lb/hr, excluding periods of startup and shutdown.

PE shall not exceed 0.040 lb/MMBtu actual heat input.

PM/PM₁₀/PM_{2.5} emissions shall not exceed 1.31 lb/hr and 0.007 lb/MMBtu, excluding periods of startup and shutdown.

Emissions of H₂SO₄ mist shall not exceed 0.03 lb/hr and 0.0002 lb/MMBtu.

Visible PE from the stack serving this emissions unit shall not exceed 10% opacity as a 6-minute average.

Applicable Compliance Method:

Compliance shall be demonstrated through emissions testing performed in accordance with f)(2) below and the monitoring and recordkeeping specified above.

b. Emissions Limitation:

The permittee must not discharge into the atmosphere from the stationary combustion turbine any gases that contain an amount of NO_x that exceeds the applicable emissions standard that is determined in accordance with 40 CFR 60.4320a(b).



Applicable Compliance Method:

Initial compliance shall be demonstrated through emissions testing performed in accordance with f)(2) below and the applicable requirements in 40 CFR 60.4333a and 60.4405a.

Ongoing compliance shall be demonstrated using a CEMS for measuring NO_x emissions according to the provisions in 40 CFR 60.4345a. and 60.4350a.

c. Emissions Limitations:

SO₂ emissions shall not exceed 0.26 lb/hr and 0.0014 lb/MMBtu.

The permittee must not cause to be discharged into the atmosphere any gases that contain an amount of SO₂ exceeding either 0.90 lb/MWh of gross energy output or 0.060 lb SO₂/MMBtu heat input.

Applicable Compliance Method:

Compliance shall be demonstrated through one of the following: 40 CFR 60.4333a(d)(3) and the monitoring and recordkeeping requirements specified above, or 40 CFR 60.4333a(d)(1) and emissions testing performed in accordance with f)(2) below.

d. Emissions Limitation:

CO₂e emissions shall not exceed 1,253 lb/MW-hr gross energy output at full load ISO conditions.

Applicable Compliance Method:

Because more than 99% of the CO₂e emissions result from CO₂ emissions, compliance with the lb/MW-hr emissions limitations will be demonstrated if the CO₂ emissions measured during testing performed in accordance with f)(2) below do not exceed 1,253 lb/MW-hr.

e. Emissions Limitations:

NO_x emissions shall not exceed 5.5 tons per rolling, 12-month period, including start-up and shutdown emissions.

CO emissions shall not exceed 8.1 tons per rolling, 12-month period, including start-up and shutdown emissions.

VOC emissions shall not exceed 4.3 tons per rolling, 12-month period, including start-up and shutdown emissions.

PM/PM₁₀/PM_{2.5} emissions shall not exceed 5.7 tons per rolling, 12-month period, including start-up and shutdown emissions.

SO₂ emissions shall not exceed 1.1 tons per rolling, 12-month period.

Emissions of H₂SO₄ mist shall not exceed 0.1 tons per rolling, 12-month period.

CO₂e emissions shall not exceed 95,653 tons per rolling, 12-month period.



Applicable Compliance Method:

Compliance with the rolling, 12-month emissions limitations shall be demonstrated in accordance with the monitoring and recordkeeping specified in d) above.

f. Emissions Limitation:

The permittee must limit the concentration of formaldehyde to 91 ppbvd at 15-percent oxygen, except during turbine startup.

Applicable Compliance Method:

Compliance shall be demonstrated through emissions testing performed in accordance with f)(2) below and the applicable requirements specified in 40 CFR 63.6110 through 63.6140 and Tables 3 through 5 of 40 CFR Part 63, Subpart YYYY.

(2) 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 emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit.
- b. The emission testing shall be conducted to demonstrate initial compliance with the NO_x, CO, and VOC outlet concentrations; the lb/hr emissions limitations for NO_x, CO, VOC, PM/PM₁₀/PM_{2.5}, and H₂SO₄ mist; the lb/MMBtu emissions limitations for PE, PM/PM₁₀/PM_{2.5}, and H₂SO₄ mist; the lb/MW-hr emissions limitations for CO₂e; and the visible PE limitation.
- c. The emission testing shall be conducted to demonstrate initial compliance with the NO_x emissions limitations specified in 40 CFR 60.4320a and the SO₂ emissions limitation specified in 40 CFR 60.4330a and OAC rules 3745-31-10 through 3745-31-20 and 3745-31-34. If the permittee elects to demonstrate compliance with the SO₂ emission standard in 40 CFR 60.4330a using the methods specified in 40 CFR 60.4333a(d)(1), subsequent SO₂ performance tests shall be conducted on an annual basis (no more than 12 calendar months following the previous performance test), except as provided by rule.
- d. The emission testing shall be conducted to demonstrate initial compliance with the formaldehyde concentration limitation specified in 40 CFR 63.6100. Subsequent performance tests for formaldehyde concentration shall be conducted annually as specified in Table 3 of 40 CFR Part 63, Subpart YYYY.
- e. The following test method(s) shall be employed to demonstrate compliance with the above emissions limitations:

Pollutant	Applicable Test Method(s)
NO _x (lb/hr)	Methods 1 through 4 and 7E or 20 of 40 CFR Part 60, Appendix A
NO _x (ppm)	40 CFR 60.4405a and/or Methods 1 through 4 and 7E or 20 of 40 CFR Part 60, Appendix A



Pollutant	Applicable Test Method(s)
NO _x (NSPS)	40 CFR 60.4405a
CO	Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A
VOC	Methods 1 through 4 and 18 or 25A of 40 CFR Part 60, Appendix A
PE	Methods 1 through 5 of 40 CFR Part 60, Appendix A
PM/PM ₁₀ /PM _{2.5}	Methods 1 through 4 of 40 CFR Part 60, Appendix A and Methods 201A and 202 of 40 CFR Part 51, Appendix M
CO ₂	Methods 1 through 4 of 40 CFR Part 60, Appendix A, mass balance calculations using ASTM D1945-03 (Standard Test Method for Analysis of Natural Gas by Gas Chromatography) and/or ASTM D1826-94 (Standard Test Method for Calorific Value of Gases in Natural Gas Range by Continuous Recording Calorimeter).
Visible PE	Method 9 of 40 CFR Part 60, Appendix A
SO ₂	40 CFR 60.4415a
H ₂ SO ₄	Methods 1 through 4 and 8 of 40 CFR Part 60, Appendix A
Formaldehyde	The methods and procedures specified in 40 CFR 63.6120 and Tables 3 and 4 of 40 CFR Part 63, Subpart YYYY

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

- f. During the emissions testing, the emissions unit shall be operated under operational conditions approved in advance by the appropriate Ohio DO/LAA. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.) or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under *worst case* conditions expected during the life of the permit. As part of the information provided in the Intent to Test (ITT) notification form described below, the permittee shall provide a description of the emissions unit operational conditions they will meet during the emissions testing and describe why they believe *worst case* operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the appropriate Ohio EPA DO/LAA that the proposed operating conditions constitute *worst case*. Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.
- g. Not later than 60 days prior to the proposed test date(s), the permittee shall submit an ITT notification to the appropriate Ohio EPA DO/LAA. The ITT 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 DO/LAA's refusal to accept the results of the emission test(s).



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4. Emissions Unit Group - Emergency Generators: P041, P042, P043,

EU ID	Operations, Property and/or Equipment Description
P041	1,000 kWe (1,341 hp) Diesel-Fired Emergency Generator
P042	1,000 kWe (1,341 hp) Diesel-Fired Emergency Generator
P043	1,000 kWe (1,341 hp) Diesel-Fired Emergency Generator

- 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) See b)(1)j., d)(5) through d)(8), and e)(3) below.

- 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 rules 3745-31-10 through 3745-31-20 and 3745-31-34 [Prevention of Significant Deterioration of Air Quality]	The emissions unit shall be certified to meet the applicable emissions standards established pursuant to 40 CFR Part 60, Subpart IIII identified below. NO _x emissions shall not exceed 17.72 lb/hr and 0.89 tons per rolling, 12-month period. CO emissions shall not exceed 9.64 lb/hr and 0.48 tons per rolling, 12-month period. VOC emissions shall not exceed 0.86 lb/hr and 0.04 tons per rolling, 12-month period. PM/PM ₁₀ /PM _{2.5} emissions shall not exceed 0.55 lb/hr and 0.028 tons per rolling, 12-month period. SO ₂ emissions shall not exceed 0.0016 lb/MMBtu, 0.016 lb/hr, and 0.0008 tons per rolling, 12-month period.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		Emissions of H₂SO₄ mist shall not exceed 0.0025 lb/MMBtu, 0.0025 lb/hr, and 0.0001 tons per rolling, 12-month period. GHG emissions [regulated as CO₂ equivalent (CO₂e) emissions] shall not exceed 81.8 tons per rolling, 12-month period.
b.	OAC rule 3745-31-05(A)(3)(a)(ii)	The BAT requirements established under OAC rule 3745-31-05(A)(3) do not apply to the NO_x and CO emissions from this air contaminant source because the potential to emit for each pollutant is less than ten TPY taking into consideration the federally enforceable rule requirements established pursuant to 40 CFR Part 60, Subpart IIII. The BAT requirements established under OAC rule 3745-31-05(A)(3) do not apply to the VOC, PM₁₀, PM_{2.5}, and SO₂ emissions from this air contaminant source because the potential to emit for each pollutant is less than ten TPY.
c.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
d.	OAC rule 3745-17-11(B)(5)(a)	PE from the engine's exhaust shall not exceed 0.062 lb/MMBtu actual heat input.
e.	OAC rule 3745-18-06(G)	SO ₂ emissions shall not exceed 0.5 lb/MMBtu actual heat input.
f.	OAC rule 3745-110-03(A) through (G)	Exempt pursuant to OAC rule 3745-110-03(K)(18) because this emissions unit is subject to BACT requirements for NO _x emissions.
g.	40 CFR Part 60, Subpart IIII [40 CFR 60.4200 – 60.4219] 40 CFR 60.4202(a)(2) 40 CFR 60.4205(b)	The emissions unit shall be certified to meet the following emissions standards: 6.4 grams NO_x + NMHC/kW-hr; 3.5 grams CO/kW-hr;



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	40 CFR 60.4207(b) 40 CFR 60.4211(f) 40 CFR Part 1039, Appendix I, Tier 2 40 CFR 1039.105	0.20 grams PM/kW-hr; 20 percent opacity during the acceleration mode; 15 percent opacity during the lugging mode; and 50 percent opacity during the peaks in either the acceleration or lugging modes. See b)(2)a. through b)(2)d., c)(1), and c)(2) below.
h.	40 CFR Part 60, Subpart A [40 CFR 60.1 – 60.19]	Table 8 of 40 CFR Part 60, Subpart IIII- "Applicability of General Provisions to Subpart IIII" identifies which parts of the General Provisions in 40 CFR Part 60.1-19 apply.
i.	40 CFR Part 63, Subpart ZZZZ [40 CFR 63.6580 – 63.6675]	In accordance with 40 CFR 63.6590(b)(1), this emissions unit does not have to meet the requirements of 40 CFR Part 63, Subpart ZZZZ and 40 CFR Part 63, Subpart A except for the initial notification requirements of 40 CFR 63.6645(f).
j.	ORC 3704.03(F)(3)(c) and (F)(4) [Toxic Air Contaminant Statute]	See d)(5) through d)(8) and e)(3) below.

(2) Additional Terms and Conditions

- a. In accordance with 40 CFR 60.4200(a)(2), this EU is a compression ignition (CI) stationary internal combustion engine (ICE) subject to requirements specified in 40 CFR Part 60, Subpart IIII.
- b. The emergency stationary CI ICE has been or shall be purchased certified by the manufacturer to emission standards as stringent as those identified in 40 CFR 60.4202(a)(2), including the Tier 2 standards in 40 CFR 1039, Appendix I for engines greater than or equal 750 horsepower (560 kilowatt) and the smoke standards as specified in 40 CFR 1039.105.
- c. The CI ICE shall be installed, operated, and maintained according to the manufacturer's emission-related written instructions and the permittee shall only change those emission-related settings that are allowed by the manufacturer. The CI ICE must also be installed and operated to meet the applicable requirements from 40 CFR Part 60, Subpart IIII; 40 CFR Part 1039, Control of Emissions from New and In-use Nonroad CI

Engines; and 40 CFR Part 1068, the General Compliance Provisions for Engine Programs. The permittee shall operate and maintain the stationary CI ICE to achieve the emissions standards established in 40 CFR 60.4205 over the entire life of the engine.

- d. The emergency stationary ICE must comply with the applicable requirements specified in 40 CFR 60.4211(f) in order to be considered an emergency stationary ICE under Part 60, Subpart IIII.

c) **Operational Restrictions**

- (1) The emergency stationary CI ICE shall burn only ultra-low sulfur diesel (ULSD) that meets the following per-gallon standards:
 - a. A maximum sulfur content of 15 ppm; and
 - b. A cetane index or aromatic contents, as follows:
 - i. A minimum cetane index of 40; or
 - ii. A maximum aromatic content of 35 volume percent.
- (2) The emergency stationary CI ICE shall not operate more than 100 non-emergency hours per rolling, 12-month period.
- (3) The permittee shall comply with the applicable operational restrictions necessary to demonstrate compliance with 40 CFR Part 60, Subpart IIII (40 CFR 60.4200 – 60.4219).

d) **Monitoring and/or Recordkeeping Requirements**

- (1) The permittee shall maintain the manufacturer's certification, to the applicable Tier 2 emission standards in 40 CFR 1039, Appendix I, on site or at a central location for all facility ICE and it shall be made available for review upon request. If the manufacturer's certification is not kept on site, the permittee shall maintain a log for the location of each ICE and it shall identify the agency-assigned emissions unit number, the manufacturer's identification number, and the identification number of the certificate. The manufacturer's operations manual and any written instructions or procedures developed by the permittee and approved by the manufacturer shall be maintained at the same location as the ICE.
- (2) The emergency stationary CI ICE shall be installed with a non-resettable hour meter prior to startup of the engine.
- (3) The permittee shall maintain monthly records of the following information:
 - a. the total number of hours the engine was in operation;
 - b. the number of hours spent in emergency operation;
 - c. what classified the operation as an emergency;
 - d. the number of hours spent in non-emergency operation;
 - e. the number of hours in maintenance checks and readiness testing; and
 - f. the rolling, 12-month summation of the number of hours the engine was in non-emergency operation.

- (4) The permittee shall maintain documents provided by the fuel oil supplier for each shipment of fuel oil to demonstrate compliance with the ULSD requirement. These documents must include the receipt or bill of lading that includes confirmation that the fuel meets the ULSD standard.
- (5) The PTI application for emissions units P001 through P044 was evaluated based on the actual materials and the design parameters of the emissions units' exhaust systems, as specified by the permittee. The *Toxic Air Contaminant Statute*, ORC 3704.03(F), was applied to these emissions units 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 emitted at over one TPY using an air dispersion model such as AERSCREEN, AERMOD, ISCST3 or other Ohio EPA-approved model. The predicted one-hour maximum ground-level concentration results from the approved air dispersion model, were compared to the maximum acceptable ground-level concentration (MAGLC), calculated as described in Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A," as follows:
 - a. The exposure limit, expressed as a time-weighted average concentration for a conventional eight-hour workday and a 40-hour workweek, for each toxic compound emitted from the emissions units (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):
 - i. 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 shall be used, if the chemical is listed; or
 - ii. Short-term exposure limit (STEL) 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 eight-hour TLV.
 - b. The TLV is divided by 10 to adjust the standard from the working population to the general public.
 - c. This standard is adjusted to account for the duration of the exposure or the operating hours of the emissions units, that is, 24 hours per day and 7 days per week, from that of 8 hours per day and 5 days per week.
 - d. The resulting calculation shall be used to determine the MAGLC:

$$\frac{TLV}{10} \times \frac{8}{24} \times \frac{5}{7} = 4 \frac{TLV}{168} = MAGLC$$
 - e. The following summarizes the results of dispersion modeling for the significant toxic contaminants or *worst-case* scenario for emissions units P001 through P044:

- i. Toxic Contaminant: acetaldehyde
TLV (mg/m³): 45.04
Maximum Hourly Emission Rate (lb/hr):
 - (a) P001-P010 (each pair): 0.0467
 - (b) P011-P016 (each pair): 0.0505
 - (c) P017-P040 (each pair): 0.0149
 - (d) P041-P043 (each): 0.0002
 - (e) P044: 0.002Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 0.0874
MAGLC (µg/m³): 790.4
- ii. Toxic Contaminant: Ammonia
TLV (mg/m³): 17.41
Maximum Hourly Emission Rate (lb/hr):
 - (a) P001-P010 (each pair): 8.06
 - (b) P011-P016 (each pair): 8.72
 - (c) P017-P040 (each pair): 2.50Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 11.39
MAGLC (µg/m³): 414.6
- iii. Toxic Contaminant: Ethylbenzene
TLV (mg/m³): 86.84
Maximum Hourly Emission Rate (lb/hr):
 - (a) P001-P010 (each pair): 0.0373
 - (b) P011-P016 (each pair): 0.0404
 - (c) P017-P040 (each pair): 0.0119Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 0.05
MAGLC (µg/m³): 2067.58
- iv. Toxic Contaminant: Formaldehyde
TLV (mg/m³): 0.1228
Maximum Hourly Emission Rate (lb/hr):
 - (a) P001-P010 (each pair): 0.2569
 - (b) P011-P016 (each pair): 0.2778
 - (c) P017-P040 (each pair): 0.082
 - (d) P041-P043 (each): 0.001
 - (e) P044: 0.003

Predicted One-Hour Maximum Ground-Level Concentration ($\mu\text{g}/\text{m}^3$): 0.3750
MAGLC ($\mu\text{g}/\text{m}^3$): 2.9243

- v. Toxic Contaminant: Propylene oxide
TLV (mg/m^3): 4.751
Maximum Hourly Emission Rate (lb/hr):

(a) P001-P010 (each pair): 0.0339

(b) P011-P016 (each pair): 0.0366

(c) P017-P040 (each pair): 0.0108

Predicted One-Hour Maximum Ground-Level Concentration ($\mu\text{g}/\text{m}^3$): 0.05
MAGLC ($\mu\text{g}/\text{m}^3$): 113.1

- vi. Toxic Contaminant: Sulfuric acid
TLV (mg/m^3): 0.2
Maximum Hourly Emission Rate (lb/hr):

(a) P001-P010 (each pair): 0.44

(b) P011-P016 (each pair): 0.48

(c) P017-P040 (each pair): 0.058

(d) P041-P043 (each): 0.002

(e) P044: 0.0006

Predicted One-Hour Maximum Ground-Level Concentration ($\mu\text{g}/\text{m}^3$): 0.4509
MAGLC ($\mu\text{g}/\text{m}^3$): 4.762

- vii. Toxic Contaminant: Toluene
TLV (mg/m^3): 75.37
Maximum Hourly Emission Rate (lb/hr):

(a) P001-P010 (each pair): 0.1518

(b) P011-P016 (each pair): 0.1641

(c) P017-P040 (each pair): 0.0484

(d) P041-P043 (each): 0.003

(e) P044: 0.001

Predicted One-Hour Maximum Ground-Level Concentration ($\mu\text{g}/\text{m}^3$): 0.2246
MAGLC ($\mu\text{g}/\text{m}^3$): 1794.52

- viii. Toxic Contaminant: Xylene
TLV (mg/m^3): 86.84
Maximum Hourly Emission Rate (lb/hr):

(a) P001-P010 (each pair): 0.0747

(b) P011-P016 (each pair): 0.0808

(c) P017-P040 (each pair): 0.0238

(d) P041-P043 (each): 0.002

(e) P044: 0.001

Predicted One-Hour Maximum Ground-Level Concentration ($\mu\text{g}/\text{m}^3$): 0.1113

MAGLC ($\mu\text{g}/\text{m}^3$): 2067.6

The permittee has demonstrated that emissions of acetaldehyde, ammonia, ethylbenzene, formaldehyde, propylene oxide, sulfuric acid, toluene, and xylene are calculated to be less than 80 percent of the 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).

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

If the permittee determines the *Toxic Air Contaminant Statute*, ORC 3704.03(F), will be satisfied for the above changes, Ohio EPA will not consider a change 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 each change meets the definition of a *modification*, the permittee shall apply for and obtain a final PTI 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.

- (7) 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):
- a. 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 (for

example, the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.).

- b. The MAGLC for each significant toxic contaminant or worst-case contaminant, calculated per the Toxic Air Contaminant Statute, ORC 3704.03(F).
 - c. A copy of the computer model run(s), that established the predicted one-hour maximum ground-level concentration that demonstrated the emissions units 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.
 - d. 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 units or the materials applied.
- (8) The permittee shall maintain a record of any change made to a parameter or value entered in the dispersion model used to demonstrate compliance with the *Toxic Air Contaminant Statute*, ORC 3704.03(F), through the predicted one-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.
- (9) The permittee shall comply with the applicable monitoring and/or recordkeeping requirements necessary to demonstrate compliance with 40 CFR Part 60, Subpart IIII (40 CFR 60.4200 – 60.4219).
- e) **Reporting Requirements**
- (1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
- a. each shipment of fuel oil that did not include the receipt or bill of lading confirming that the fuel oil meets the ULSD standard; and
 - b. all exceedances of the non-emergency operating hours restriction.
- The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions in Section A of this permit.
- (2) The permittee shall submit a completed Emissions Activity Category (EAC) form for the emergency stationary CI ICE within 30 days after placement on its concrete pad.
- (3) The permittee shall submit annual reports that include any changes to any parameter or value entered in the dispersion model used to demonstrate compliance with the *Toxic Air Contaminant Statute*, ORC 3704.03(F), through the predicted one-hour maximum ground-level concentration. The report shall include:
- a. The original model input.
 - b. The updated model input.
 - c. The reason for each change to any input parameter.
 - d. A summary of the results of the updated modeling, including the input changes.

- e. A statement that the model results indicate that the one-hour maximum ground-level concentration is less than 80 percent of the MAGLC.

If no changes to the emissions, emissions units or the exhaust stacks have been made during the reporting period, then the report shall include a statement to that effect. This report shall be postmarked or delivered no later than January 31 following the end of each calendar year.

- (4) The permittee shall comply with the applicable reporting requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart IIII (40 CFR 60.4200 – 60.4219).
- (5) The permittee shall comply with the initial notification requirements of 40 CFR 63.6645(f).

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

- a. Emissions Limitations:

NO_x emissions shall not exceed 17.7 lb/hr and 0.89 tons per rolling, 12-month period.

Applicable Compliance Method:

The hourly emissions limitation was established to reflect the potential-to-emit for this emissions unit based on the maximum rated horsepower of the engine (1,341 hp), the certified outlet emissions standard of 4.8 grams NMHC + NO_x/hp-hr, a conversion ratio of one lb/454 grams, and a safety factor of +25% to account for the difference between the certified emissions rate and the worst-case hourly emissions.

The rolling, 12-month emissions limitation was established by multiplying the hourly emissions limitation by the maximum non-emergency hours allowed per rolling, 12-month period (100 hours) and dividing by 2,000 to convert to tons.

If required, the permittee shall demonstrate compliance with the hourly emissions limitation in accordance with Methods 1 through 4 and 7E of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

- b. Emissions Limitations:

CO emissions shall not exceed 9.6 lb/hr and 0.48 tons per rolling, 12-month period.

Applicable Compliance Method:

The hourly emissions limitation was established to reflect the potential-to-emit for this emissions unit based on the maximum rated horsepower of the engine (1,341 hp), the certified outlet emissions standard of 2.61 grams CO/hp-hr, a conversion ratio of one lb/454 grams, and a safety factor of +25% to account for the difference between the certified emissions rate and the worst-case hourly emissions.

The rolling, 12-month emissions limitation was established by multiplying the hourly emissions limitation by the maximum non-emergency hours allowed per rolling, 12-month period (100 hours) and dividing by 2,000 to convert to tons.

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

c. Emissions Limitations:

VOC emissions shall not exceed 0.86 lb/hr and 0.04 tons per rolling, 12-month period.

Applicable Compliance Method:

The hourly emissions limitation was established to reflect the potential-to-emit for this emissions unit based on the maximum rated horsepower of the engine (1,341 hp), and an emissions factor of 0.00064155 lb VOC/hp-hr from US EPA AP-42 Compilation of Emissions Factors from Stationary Sources Table 3.4-1.

The rolling, 12-month emissions limitation was established by multiplying the hourly emissions limitation by the maximum non-emergency hours allowed per rolling, 12-month period (100 hours) and dividing by 2,000 to convert to tons.

If required, the permittee shall demonstrate compliance with the hourly emissions limitation in accordance with Methods 1 through 4 and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

d. Emissions Limitations:

PM/PM₁₀/PM_{2.5} emissions shall not exceed 0.55 lb/hr and 0.028 tons per rolling, 12-month period.

Applicable Compliance Method:

The hourly emissions limitation was established to reflect the potential-to-emit for this emissions unit based on the maximum rated horsepower of the engine (1,341 hp), the certified outlet emissions standard of 0.15 grams PM/hp-hr, a conversion ratio of one lb/454 grams, and a safety factor of +25% to account for the difference between the certified emissions rate and the worst-case hourly emissions.

The rolling, 12-month emissions limitation was established by multiplying the hourly emissions limitation by the maximum non-emergency hours allowed per rolling, 12-month period (100 hours) and dividing by 2,000 to convert to tons.

If required, the permittee shall demonstrate compliance with the hourly emissions limitation in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A and Methods 201/201A and 202 of 40 CFR Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

e. Emissions Limitations:

SO₂ emissions shall not exceed 0.0016 lb/MMBtu, 0.016 lb/hr, and 0.0008 tons per rolling, 12-month period.



Applicable Compliance Method:

The hourly emissions limitation was established to reflect the potential-to-emit for this emissions unit based on the maximum heat input capacity of the engine (10 MMBtu), and an emissions factor of 0.0016 lb SO₂/MMBtu.

The rolling, 12-month emissions limitation was established by multiplying the hourly emissions limitation by the maximum non-emergency hours allowed per rolling, 12-month period (100 hours) and dividing by 2,000 to convert to tons.

If required, the permittee shall demonstrate compliance with the hourly emissions limitation in accordance with Methods 1 through 4 and 6C of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

f. Emissions Limitations:

Emissions of H₂SO₄ mist shall not exceed 0.0025 lb/MMBtu, 0.0025 lb/hr, and 0.0001 tons per rolling, 12-month period.

Applicable Compliance Method:

The hourly emissions limitation was established to reflect the potential-to-emit for this emissions unit based on the maximum heat input capacity of the engine (10 MMBtu), an emissions factor of 0.0016 lb SO₂/MMBtu, a conservative estimate of 10% conversion of SO₂ to H₂SO₄, and converting to account for the difference in the molecular weight of H₂SO₄ compared with SO₂ (98/64).

The rolling, 12-month emissions limitation was established by multiplying the hourly emissions limitation by the maximum non-emergency hours allowed per rolling, 12-month period (100 hours) and dividing by 2,000 to convert to tons.

If required, the permittee shall demonstrate compliance with the hourly emissions limitation in accordance with Methods 1 through 4 and 8 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

g. Emissions Limitation:

CO₂ equivalent (CO₂e) emissions shall not exceed 81.8 tons per rolling, 12-month period.

Applicable Compliance Method:

The rolling, 12-month emissions limitation was established to reflect the potential-to-emit for this emissions unit and was determined by multiplying the maximum hourly emissions by the maximum non-emergency hours allowed per rolling, 12-month period (100 hours) and dividing by 2,000 to convert to tons.

The maximum hourly emissions were calculated to be 1,635.9 lb CO₂e/hr using the maximum heat input capacity for the engine (10 MMBtu), the emissions factors in 40

CFR Part 98, Tables C-1 and C-2, and the global warming potentials in 40 CFR Part 98, Table A-1.

h. Emissions Limitations:

The emissions unit shall be certified to meet the following emissions standards:

6.4 grams NO_x + NMHC/kW-hr;

3.5 grams CO/kW-hr;

0.20 grams PM/kW-hr;

20 percent opacity during the acceleration mode;

15 percent opacity during the lugging mode; and

50 percent opacity during the peaks in either the acceleration or lugging modes.

Applicable Compliance Method:

Compliance with the emissions limitations shall be based on the manufacturer's certification and by maintaining the engine according to the manufacturer's instructions.

The permittee shall comply with the applicable testing requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart IIII (40 CFR 60.4200 – 60.4219).

i. Emissions Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A.

j. Emissions Limitation:

PE from the engine's exhaust shall not exceed 0.062 lb/MMBtu actual heat input.

Applicable Compliance Method:

Compliance shall be determined based on the manufacturer's specification sheet.

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in OAC rule 3745-17-03(B)(10).

k. Emissions Limitation:

SO₂ emissions shall not exceed 0.5 lb/MMBtu actual heat input.

Applicable Compliance Method:

Compliance is demonstrated through the monitoring and recordkeeping requirements including confirmation that the fuel meets the ULSD standard.

g) Miscellaneous Requirements

(1) None.

5. P044, Fire Pump

Operations, Property and/or Equipment Description:

420 hp Diesel-Fired Emergency Firewater Pump 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) See b)(1)j., d)(5) through d)(8), and e)(3) below.

- 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 rules 3745-31-10 through 3745-31-20 and 3745-31-34 [Prevention of Significant Deterioration of Air Quality]	The emissions unit shall be certified to meet the applicable emissions standards established pursuant to 40 CFR Part 60, Subpart IIII identified below. NO_x emissions shall not exceed 3.5 lb/hr and 0.17 tons per rolling, 12-month period. CO emissions shall not exceed 3.0 lb/hr and 0.15 tons per rolling, 12-month period. VOC emissions shall not exceed 0.46 lb/hr and 0.02 tons per rolling, 12-month period. PM/PM₁₀/PM_{2.5} emissions shall not exceed 0.17 lb/hr and 0.009 tons per rolling, 12-month period. SO₂ emissions shall not exceed 0.0016 lb/MMBtu, 0.0048 lb/hr, and 0.0002 tons per rolling, 12-month period. Emissions of H₂SO₄ mist shall not exceed 0.0007 lb/MMBtu, 0.0074 lb/hr, and 0.0004 tons per rolling, 12-month period. GHG emissions [regulated as CO₂ equivalent (CO₂e) emissions] shall not exceed 24.5 tons per rolling, 12-month period.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-31-05(A)(3)(a)(ii)	The BAT requirements established under OAC rule 3745-31-05(A)(3) do not apply to the NO_x and CO emissions from this air contaminant source because the potential to emit for each pollutant is less than ten TPY taking into consideration the federally enforceable rule requirements established pursuant to 40 CFR Part 60, Subpart IIII. The BAT requirements established under OAC rule 3745-31-05(A)(3) do not apply to the VOC, PM₁₀, PM_{2.5}, and SO₂ emissions from this air contaminant source because the potential to emit for each pollutant is less than ten TPY.
c.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
d.	OAC rule 3745-17-11(B)(5)(a)	PE from the engine's exhaust shall not exceed 0.310 lb/MMBtu actual heat input.
e.	OAC rule 3745-18-06(G)	Exempt pursuant to OAC rule 3745-18-06(B) for stationary ICE with a rated heat input capacity less than ten MMBtu.
f.	OAC rule 3745-110-03(A) through (G)	Exempt pursuant to OAC rule 3745-110-03(K)(3) for stationary ICE having an energy output capacity of less than five hundred hp.
g.	40 CFR Part 60, Subpart IIII [40 CFR 60.4200 – 60.4219] 40 CFR 60.4205(c) 40 CFR 60.4207(b) 40 CFR 60.4211(f) Table 4	The emissions unit shall be certified to meet the following emissions standards: 4.0 grams NMHC + NO_x/kW-hr; 3.5 grams CO/kW-hr; and 0.20 grams PM/kW-hr. See b)(2)a. through b)(2)d., c)(1), and c)(2) below.
h.	40 CFR Part 60, Subpart A [40 CFR 60.1 – 60.19]	Table 8 of 40 CFR Part 60, Subpart IIII- "Applicability of General Provisions to Subpart IIII" identifies which parts of the General Provisions in 40 CFR Part 60.1 through 60.19 apply.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
i.	40 CFR Part 63, Subpart ZZZZ [40 CFR 63.6580 – 63.6675]	In accordance with 40 CFR 63.6590(c)(6), this emissions unit must meet the requirements of 40 CFR Part 63, Subpart ZZZZ by meeting the requirements of 40 CFR Part 60, Subpart IIII for compression ignition engines because it is a new, emergency, stationary RICE with a site rating of less than 500 brake hp located at a major source of HAP emissions. No further requirements apply for such engines under this part.
j.	ORC 3704.03(F)(3)(c) and (F)(4) [Toxic Air Contaminant Statute]	See d)(5) through d)(8) and e)(3) below.

(2) Additional Terms and Conditions

- a. In accordance with 40 CFR 60.4200(a)(2), this EU is a compression ignition (CI) stationary internal combustion engine (ICE) subject to requirements specified in 40 CFR Part 60, Subpart IIII.
- b. The emergency stationary CI ICE has been or shall be purchased certified by the manufacturer to emission standards as stringent as those identified in 40 CFR 60.4202(d) and found in Table 4 of 40 CFR Part 60, Subpart IIII for stationary fire pump engines greater than or equal to 300 horsepower (225 kilowatt) and less than 600 horsepower (450 kilowatt).
- c. The CI ICE shall be installed, operated, and maintained according to the manufacturer's emission-related written instructions and the permittee shall only change those emission-related settings that are allowed by the manufacturer. The CI ICE must also be installed and operated to meet the applicable requirements from 40 CFR Part 60, Subpart IIII. The permittee shall operate and maintain the stationary CI ICE to achieve the emissions standards established in 40 CFR 60.4205 over the entire life of the engine(s).
- d. The emergency stationary ICE must comply with the applicable requirements specified in 40 CFR 60.4211(f) in order to be considered an emergency stationary ICE under Part 60, Subpart IIII.

c) Operational Restrictions

- (1) The emergency stationary CI ICE shall burn only ultra-low sulfur diesel (ULSD) that meets the following per-gallon standards:
 - a. A maximum sulfur content of 15 ppm; and
 - b. A cetane index or aromatic contents, as follows:
 - i. A minimum cetane index of 40; or



- ii. A maximum aromatic content of 35 volume percent.
- (2) The emergency stationary CI ICE shall not operate more than 100 non-emergency hours per rolling, 12-month period.
- (3) The permittee shall comply with the applicable operational restrictions necessary to demonstrate compliance with 40 CFR Part 60, Subpart IIII (40 CFR 60.4200 – 60.4219).
- d) Monitoring and/or Recordkeeping Requirements
 - (1) The permittee shall maintain the manufacturer's certification, to the applicable emission standards in Table 4 of 40 CFR Part 60, Subpart IIII, on site or at a central location for all facility ICE and it shall be made available for review upon request. If the manufacturer's certification is not kept on site, the permittee shall maintain a log for the location of each ICE and it shall identify the agency-assigned emissions unit number, the manufacturer's identification number, and the identification number of the certificate. The manufacturer's operations manual and any written instructions or procedures developed by the permittee and approved by the manufacturer shall be maintained at the same location as the ICE.
 - (2) The emergency stationary CI ICE shall be installed with a non-resettable hour meter prior to startup of the engine.
 - (3) The permittee shall maintain monthly records of the following information:
 - a. the total number of hours the engine was in operation;
 - b. the number of hours spent in emergency operation;
 - c. what classified the operation as an emergency;
 - d. the number of hours spent in non-emergency operation;
 - e. the number of hours in maintenance checks and readiness testing; and
 - f. the rolling, 12-month summation of the number of hours the engine was in non-emergency operation.
 - (4) The permittee shall maintain documents provided by the fuel oil supplier for each shipment of fuel oil to demonstrate compliance with the ULSD requirement. These documents must include the receipt or bill of lading that includes confirmation that the fuel meets the ULSD standard.
 - (5) The PTI application for emissions units P001 through P044 was evaluated based on the actual materials and the design parameters of the emissions units' exhaust systems, as specified by the permittee. The *Toxic Air Contaminant Statute*, ORC 3704.03(F), was applied to these emissions units 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 emitted at over one TPY using an air dispersion model such as AERSCREEN, AERMOD, ISCST3 or other Ohio EPA-approved model. The predicted one-hour maximum ground-level concentration results from the approved air dispersion model, were compared to the maximum acceptable ground-level concentration (MAGLC), calculated as described in Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A," as follows:

- a. The exposure limit, expressed as a time-weighted average concentration for a conventional eight-hour workday and a 40-hour workweek, for each toxic compound emitted from the emissions units (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):
- i. 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 shall be used, if the chemical is listed; or
 - ii. Short-term exposure limit (STEL) 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 eight-hour TLV.
- b. The TLV is divided by 10 to adjust the standard from the working population to the general public.
- c. This standard is adjusted to account for the duration of the exposure or the operating hours of the emissions units, that is, 24 hours per day and 7 days per week, from that of 8 hours per day and 5 days per week.
- d. The resulting calculation shall be used to determine the MAGLC:

$$\frac{TLV}{10} \times \frac{8}{24} \times \frac{5}{7} = 4 \frac{TLV}{168} = MAGLC$$

- e. The following summarizes the results of dispersion modeling for the significant toxic contaminants or *worst-case* scenario for emissions units P001 through P044:
- i. Toxic Contaminant: acetaldehyde
TLV (mg/m³): 45.04
Maximum Hourly Emission Rate (lb/hr):
 - (a) P001-P010 (each pair): 0.0467
 - (b) P011-P016 (each pair): 0.0505
 - (c) P017-P040 (each pair): 0.0149
 - (d) P041-P043 (each): 0.0002
 - (e) P044: 0.002
Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 0.0874
MAGLC (µg/m³): 790.4

- ii. Toxic Contaminant: Ammonia
TLV (mg/m³): 17.41
Maximum Hourly Emission Rate (lb/hr):
 - (a) P001-P010 (each pair): 8.06
 - (b) P011-P016 (each pair): 8.72
 - (c) P017-P040 (each pair): 2.50Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 11.39
MAGLC (µg/m³): 414.6
- iii. Toxic Contaminant: Ethylbenzene
TLV (mg/m³): 86.84
Maximum Hourly Emission Rate (lb/hr):
 - (a) P001-P010 (each pair): 0.0373
 - (b) P011-P016 (each pair): 0.0404
 - (c) P017-P040 (each pair): 0.0119Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 0.05
MAGLC (µg/m³): 2067.58
- iv. Toxic Contaminant: Formaldehyde
TLV (mg/m³): 0.1228
Maximum Hourly Emission Rate (lb/hr):
 - (a) P001-P010 (each pair): 0.2569
 - (b) P011-P016 (each pair): 0.2778
 - (c) P017-P040 (each pair): 0.082
 - (d) P041-P043 (each): 0.001
 - (e) P044: 0.003Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 0.3750
MAGLC (µg/m³): 2.9243
- v. Toxic Contaminant: Propylene oxide
TLV (mg/m³): 4.751
Maximum Hourly Emission Rate (lb/hr):
 - (a) P001-P010 (each pair): 0.0339
 - (b) P011-P016 (each pair): 0.0366
 - (c) P017-P040 (each pair): 0.0108Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 0.05
MAGLC (µg/m³): 113.1

- vi. Toxic Contaminant: Sulfuric acid
TLV (mg/m³): 0.2
Maximum Hourly Emission Rate (lb/hr):
- (a) P001-P010 (each pair): 0.44
 - (b) P011-P016 (each pair): 0.48
 - (c) P017-P040 (each pair): 0.058
 - (d) P041-P043 (each): 0.002
 - (e) P044: 0.0006
- Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 0.4509
MAGLC (µg/m³): 4.762
- vii. Toxic Contaminant: Toluene
TLV (mg/m³): 75.37
Maximum Hourly Emission Rate (lb/hr):
- (a) P001-P010 (each pair): 0.1518
 - (b) P011-P016 (each pair): 0.1641
 - (c) P017-P040 (each pair): 0.0484
 - (d) P041-P043 (each): 0.003
 - (e) P044: 0.001
- Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 0.2246
MAGLC (µg/m³): 1794.52
- viii. Toxic Contaminant: Xylene
TLV (mg/m³): 86.84
Maximum Hourly Emission Rate (lb/hr):
- (a) P001-P010 (each pair): 0.0747
 - (b) P011-P016 (each pair): 0.0808
 - (c) P017-P040 (each pair): 0.0238
 - (d) P041-P043 (each): 0.002
 - (e) P044: 0.001
- Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 0.1113
MAGLC (µg/m³): 2067.6

The permittee has demonstrated that emissions of acetaldehyde, ammonia, ethylbenzene, formaldehyde, propylene oxide, sulfuric acid, toluene, and xylene are calculated to be less than 80 percent of the 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).



- (6) Prior to making any physical changes to or changes in the method of operation of the emissions units that could impact the parameters or values that were used in the predicted one-hour maximum ground-level concentration, the permittee shall re-model any change to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the one-hour maximum ground-level concentration include, but are not limited to, the following:

- a. Changes in the composition of the materials used or the use of new materials, that would result in the emissions of a new toxic air contaminant with a lower TLV than the lowest TLV previously modeled.
- b. Changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application.
- c. Physical changes to the emissions units or exhaust parameters (for example, increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines the *Toxic Air Contaminant Statute*, ORC 3704.03(F), will be satisfied for the above changes, Ohio EPA will not consider a change 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 each change meets the definition of a *modification*, the permittee shall apply for and obtain a final PTI 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.

- (7) 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):

- a. 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 (for example, the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.).
- b. The MAGLC for each significant toxic contaminant or worst-case contaminant, calculated per the Toxic Air Contaminant Statute, ORC 3704.03(F).
- c. A copy of the computer model run(s), that established the predicted one-hour maximum ground-level concentration that demonstrated the emissions units 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.
- d. 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 units or the materials applied.

- (8) The permittee shall maintain a record of any change made to a parameter or value entered in the dispersion model used to demonstrate compliance with the *Toxic Air Contaminant Statute*, ORC 3704.03(F), through the predicted one-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.
- (9) The permittee shall comply with the applicable monitoring and/or recordkeeping requirements necessary to demonstrate compliance with 40 CFR Part 60, Subpart IIII (40 CFR 60.4200 – 60.4219).

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
 - a. each shipment of fuel oil that did not include the receipt or bill of lading confirming that the fuel oil meets the ULSD standard; and
 - b. all exceedances of the non-emergency operating hours restriction.

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

- (2) The permittee shall submit a completed Emissions Activity Category (EAC) form for the emergency stationary CI ICE within 30 days after placement on its concrete pad.
- (3) The permittee shall submit annual reports that include any changes to any parameter or value entered in the dispersion model used to demonstrate compliance with the *Toxic Air Contaminant Statute*, ORC 3704.03(F), through the predicted one-hour maximum ground-level concentration. The report shall include:
 - a. The original model input.
 - b. The updated model input.
 - c. The reason for each change to any input parameter.
 - d. A summary of the results of the updated modeling, including the input changes.
 - e. A statement that the model results indicate that the one-hour maximum ground-level concentration is less than 80 percent of the MAGLC.

If no changes to the emissions, emissions units or the exhaust stacks have been made during the reporting period, then the report shall include a statement to that effect. This report shall be postmarked or delivered no later than January 31 following the end of each calendar year.

- (4) The permittee shall comply with the applicable reporting requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart IIII (40 CFR 60.4200 – 60.4219).

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:



a. Emissions Limitations:

NO_x emissions shall not exceed 3.5 lb/hr and 0.17 tons per rolling, 12-month period.

Applicable Compliance Method:

The hourly emissions limitation was established to reflect the potential-to-emit for this emissions unit based on the maximum rated horsepower of the engine (420 hp), the certified outlet emissions standard of 3.0 grams NMHC + NO_x/hp-hr, a conversion ratio of one lb/454 grams, and a safety factor of +25% to account for the difference between the certified emissions rate and the worst-case hourly emissions.

The rolling, 12-month emissions limitation was established by multiplying the hourly emissions limitation by the maximum non-emergency hours allowed per rolling, 12-month period (100 hours) and dividing by 2,000 to convert to tons.

If required, the permittee shall demonstrate compliance with the hourly emissions limitation in accordance with Methods 1 through 4 and 7E of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

b. Emissions Limitations:

CO emissions shall not exceed 3.0 lb/hr and 0.15 tons per rolling, 12-month period.

Applicable Compliance Method:

The hourly emissions limitation was established to reflect the potential-to-emit for this emissions unit based on the maximum rated horsepower of the engine (420 hp), the certified outlet emissions standard of 2.61 grams CO/hp-hr, a conversion ratio of one lb/454 grams, and a safety factor of +25% to account for the difference between the certified emissions rate and the worst-case hourly emissions.

The rolling, 12-month emissions limitation was established by multiplying the hourly emissions limitation by the maximum non-emergency hours allowed per rolling, 12-month period (100 hours) and dividing by 2,000 to convert to tons.

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

c. Emissions Limitations:

VOC emissions shall not exceed 0.46 lb/hr and 0.02 tons per rolling, 12-month period.

Applicable Compliance Method:

The hourly emissions limitation was established to reflect the potential-to-emit for this emissions unit based on the maximum rated horsepower of the engine (420 hp), the vendor-provided emissions rate of 0.4 grams VOC/hp-hr, a conversion ratio of one lb/454 grams, and a safety factor of +25% to account for the difference between the certified emissions rate and the worst-case hourly emissions.



The rolling, 12-month emissions limitation was established by multiplying the hourly emissions limitation by the maximum non-emergency hours allowed per rolling, 12-month period (100 hours) and dividing by 2,000 to convert to tons.

If required, the permittee shall demonstrate compliance with the hourly emissions limitation in accordance with Methods 1 through 4 and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

d. Emissions Limitations:

PM/PM₁₀/PM_{2.5} emissions shall not exceed 0.17 lb/hr and 0.009 tons per rolling, 12-month period.

Applicable Compliance Method:

The hourly emissions limitation was established to reflect the potential-to-emit for this emissions unit based on the maximum rated horsepower of the engine (420 hp), the certified outlet emissions standard of 0.2 grams PM/hp-hr, a conversion ratio of one lb/454 grams, and a safety factor of +25% to account for the difference between the certified emissions rate and the worst-case hourly emissions.

The rolling, 12-month emissions limitation was established by multiplying the hourly emissions limitation by the maximum non-emergency hours allowed per rolling, 12-month period (100 hours) and dividing by 2,000 to convert to tons.

If required, the permittee shall demonstrate compliance with the hourly emissions limitation in accordance with Methods 1 through 5 of 40 CFR Part 60, Appendix A and Methods 201/201A and 202 of 40 CFR Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

e. Emissions Limitations:

SO₂ emissions shall not exceed 0.0016 lb/MMBtu, 0.0048 lb/hr, and 0.0002 tons per rolling, 12-month period.

Applicable Compliance Method:

The hourly emissions limitation was established to reflect the potential-to-emit for this emissions unit based on the maximum heat input capacity of the engine (3 MMBtu), and an emissions factor of 0.0016 lb SO₂/MMBtu.

The rolling, 12-month emissions limitation was established by multiplying the hourly emissions limitation by the maximum non-emergency hours allowed per rolling, 12-month period (100 hours) and dividing by 2,000 to convert to tons.

If required, the permittee shall demonstrate compliance with the hourly emissions limitation in accordance with Methods 1 through 4 and 6C of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.



f. Emissions Limitations:

Emissions of H₂SO₄ mist shall not exceed 0.0007 lb/MMBtu, 0.0074 lb/hr, and 0.0004 tons per rolling, 12-month period.

Applicable Compliance Method:

The hourly emissions limitation was established to reflect the potential-to-emit for this emissions unit based on the maximum heat input capacity of the engine (3 MMBtu), an emissions factor of 0.0016 lb SO₂/MMBtu, a conservative estimate of 10% conversion of SO₂ to H₂SO₄, and converting to account for the difference in the molecular weight of H₂SO₄ compared with SO₂ (98/64).

The rolling, 12-month emissions limitation was established by multiplying the hourly emissions limitation by the maximum non-emergency hours allowed per rolling, 12-month period (100 hours) and dividing by 2,000 to convert to tons.

If required, the permittee shall demonstrate compliance with the hourly emissions limitation in accordance with Methods 1 through 4 and 8 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

g. Emissions Limitation:

CO₂e emissions shall not exceed 24.5 tons per rolling, 12-month period.

Applicable Compliance Method:

The rolling, 12-month emissions limitation was established to reflect the potential-to-emit for this emissions unit and was determined by multiplying the maximum hourly emissions by the maximum non-emergency hours allowed per rolling, 12-month period (100 hours) and dividing by 2,000 to convert to tons.

The maximum hourly emissions were calculated to be 490.7 lb CO₂e/hr using the maximum heat input capacity for the engine (3 MMBtu), the emissions factors in 40 CFR Part 98, Tables C-1 and C-2, and the global warming potentials in 40 CFR Part 98, Table A-1.

h. Emissions Limitations:

The emissions unit shall be certified to meet the following emissions standards:

4.0 grams NMHC + NO_x/kW-hr;

3.5 grams CO/kW-hr; and

0.20 grams PM/kW-hr.

Applicable Compliance Method:

Compliance with the emissions limitations shall be based on the manufacturer's certification and by maintaining the engine according to the manufacturer's instructions.

The permittee shall comply with the applicable testing requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart IIII (40 CFR 60.4200 – 60.4219).



i. Emissions Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance shall be determined through visible emissions observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A.

j. Emissions Limitation:

PE from the engine's exhaust shall not exceed 0.310 lb/MMBtu actual heat input.

Applicable Compliance Method:

Compliance shall be determined based on the manufacturer's specification sheet.

If required, the permittee shall demonstrate compliance with this emission limitation in accordance with the methods and procedures specified in OAC rule 3745-17-03(B)(10).

g) Miscellaneous Requirements

(1) None.