



John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

3/6/2013

Ms. Joanne Reinhold
General Electric Aviation, Evendale Plant
One Neumann Way
Mail Drop N123
Cincinnati, OH 45215

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL

Facility ID: 1431150060
Permit Number: P0112127
Permit Type: Initial Installation
County: Hamilton

Certified Mail

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

Dear Permit Holder:

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

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

and Southwest Ohio Air Quality Agency
250 William Howard Taft Rd.
Cincinnati, OH 45219

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published in the newspaper. You will be notified in writing if a public hearing is scheduled. A decision on issuing a final permit-to-install will be made after consideration of comments received and oral testimony if a public hearing is conducted. Any permit fee that will be due upon issuance of a final Permit-to-Install is indicated in the Authorization section. Please do not submit any payment now. If you have any questions, please contact Southwest Ohio Air Quality Agency at (513)946-7777.

Sincerely,

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

Cc: U.S. EPA Region 5 -Via E-Mail Notification
SWOQA; Indiana; Kentucky



Permit Strategy Write-Up

1. Check all that apply:

Synthetic Minor Determination

Netting Determination

2. Source Description:

General Electric Aviation, Evendale Plant (GE Aviation) is a manufacturer of aircraft engines (military and commercial) and is located in Hamilton County, Ohio. The facility is a major stationary source of multiple criteria pollutants for purposes of both New Source Review (NSR) and Title V from operations such as fuel-burning sources (boilers, preheaters), engine test cells, and engine part coating operations.

This permit to install (PTI) is for the installation of two new test cells (emissions units P291 and P292) and four associated air preheaters (emissions units B053, B054, B055, and B056). Test Cell 1 (emissions unit P291) is a production test cell for engines/turbines fueled by liquid fuels or gaseous fuels. Test Cell A20 (emissions unit P292) is an engine component test cell fueled by liquid fuels or gaseous fuels. The four air preheaters (emissions units B053, B054, B055, and B056) are natural gas, indirect-fired air preheaters each with a maximum rated heat input capacity of 43 mmBtu/hr. The preheaters are designed for ultra high pressure and temperature operation and are associated with Test Cell A20 (P292).

3. Facility Emissions and Attainment Status:

GE Aviation is located in Hamilton County, Ohio, which is currently non-attainment for ozone (8-hour standard) and attainment for all other criteria pollutants. GE Aviation is currently a major stationary source for purposes of new source review permitting for emissions of particulate matter/particulate matter 10 microns and less in diameter/particulate matter 2.5 microns and less in diameter (PM/PM10/PM2.5), nitrogen oxides (NOx), carbon monoxide (CO), volatile organic compounds (VOC), sulfur dioxide (SO₂), and carbon dioxide equivalent (CO₂e) from existing gas/oil-fired boilers, gas-fired preheaters, engine test cells, and engine part coating operations.

4. Source Emissions:

Potential emissions from this project exceed the major modification NSR emission threshold levels for PM/PM10/PM2.5, NOx, CO, VOC, SO₂, and CO₂e. The facility has requested federally enforceable emissions limitations for CO, VOC, SO₂, PM/PM10/PM2.5, and CO₂e from emissions units B053, B054, B055, B056, P291, and P292, combined, in order to avoid triggering a major modification under new source review (NSR). The facility has requested emission limitations for NOx emissions to less than the potential to emit, however, NOx emissions are subject to both the Prevention of Significant Deterioration (PSD) and Non-Attainment NSR permitting requirements.



5. Conclusion:

The permittee has proposed federally enforceable emission limitations of 99.9 TPY of CO, 39.9 TPY of VOC, 9.9 TPY of PM/PM10/PM2.5, 24.9 TPY of SO₂, and 74,000 TPY of CO_{2e} based upon rolling, 12-month summations; has proposed associated operational and emissions record keeping and reporting requirements to demonstrate compliance with these limitations; and, has accepted the terms and conditions of this permit which will limit emissions of CO, VOC, PM/PM10/PM2.5, SO₂, and CO_{2e} as synthetic minor so that the overall impact of the project will not trigger non-attainment NSR or PSD review requirements for these pollutants. The permittee has proposed NO_x emission limitations of 92.0 TPY from P291, 80.0 TPY from P292, and 3.9 TPY from emissions units B053, B054, B055, and B056, combined, in order to satisfy lowest achievable emission rate (LAER) and best available control technology (BACT) requirements listed in NSR permitting requirements. The permittee has also obtained the required number of NO_x emission offsets as outlined by the Non-Attainment NSR regulations. The facility will maintain records and be subject to reporting as outlined in the permit to ensure compliance with the voluntary synthetic minor and NO_x emission limitations.

6. Please provide additional notes or comments as necessary:

None

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

<u>Pollutant</u>	<u>Tons Per Year</u>
NO _x	175.9
CO	99.9
VOC	39.9
PM/PM10/PM2.5	9.9
SO ₂	24.9
CO _{2e}	74,000



**STAFF DETERMINATION FOR THE APPLICATION TO CONSTRUCT
UNDER BOTH THE PREVENTION OF SIGNIFICANT DETERIORATION
AND NON-ATTAINMENT REVIEW REGULATIONS
FOR GE AVIATION
LOCATED IN HAMILTON COUNTY, OHIO
PTI NO. P0112127**

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 emission increases in attainment areas for major stationary sources, which are facilities with the potential to emit 250 tons per year or more of any pollutant regulated under the Clean Air Act, or 100 tons per year or more if the source is included in one of 28 source categories. In nonattainment areas, the definition of major stationary source is one having at least 100 tons per year potential emissions. A major modification is one resulting in a contemporaneous net increase in emissions which exceeds the significance level of one or more pollutants. Any changes in actual emissions within this five- or ten-year period are considered to be contemporaneous. In addition, Ohio has incorporated the PSD and NSR requirements by rule under OAC 3745-31, and currently has a program that is fully approved by USEPA. For PM_{2.5}, Ohio will have to use the requirements established in 40 CFR Part 51, Appendix S until the Ohio Administrative Code regulations are modified to include PM_{2.5} emissions.

Both PSD and nonattainment NSR rules require that certain analyses be performed before a facility can obtain a permit authorizing construction of a new source or major modification to a major 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 for which the new source is a major stationary source.
- 2) Ambient Air Quality Review - An analysis must be completed to ensure the continued maintenance of the National Ambient Air Quality Standards (NAAQS) and that any increases in ambient air pollutant concentrations do not exceed the incremental values set pursuant to the Clean Air Act.

For nonattainment areas, the requirements are:

- 1) Lowest Achievable Emission Rate (LAER)
 - a) The most stringent emission limitation that is contained in the implementation plan of any state for such class or category of emissions unit, unless the owner or operator of the proposed emissions unit demonstrates that such limitations are not achievable; or,
 - b) The most stringent emission limitation that is achieved in practice by such class or category of emissions unit.



This limitation, when applied to a major modification, means lowest achievable emissions rate for the new or modified emissions units within the stationary source. In no event shall the application of this term permit a proposed new or modified emissions unit to emit any air pollutant in excess of the allowable amount under applicable new source standards of performance.

2) Compliance certification

The applicant must certify that all existing major stationary sources owned or operated by the applicant (or any entity controlling, controlled by, or under common control with the applicant) in Ohio as the proposed major stationary source or major modification are in compliance with all applicable emission limitations and standards under the Clean Air Act (or are in compliance with an expeditious schedule which is federally enforceable or contained in a court decree).

3) Emission offsets

a) Emission reductions (offsets) from existing air contaminant sources in the area of the proposed major stationary source or major modification (whether or not under the same ownership) are required such that there will be reasonable progress, as determined by the director, toward attainment of the applicable national ambient air quality standard.

b) Only intra air pollutant emission offsets will be acceptable (e.g., hydrocarbon increases may not be offset against sulfur dioxide reductions), except interprecursor offsetting is permitted for PM_{2.5} emissions.

c) Emission offsets must meet the baseline limitations of rule 3745-31-24 of the Administrative Code, the location limitations of rule 3745-31-25 of the Administrative Code, and the offset ratio limitations of rule 3745-31-26 of the Administrative Code.

d) Emission offsets are required only for those air pollutants for which the increased allowable emissions exceed the significant emission rates.

e) The total tonnage of increased emissions, in tons per year, resulting from a major modification that must be offset in accordance with Section 173 of the Clean Air Act shall be determined by summing the difference between the allowable emissions after the major modification and the actual emissions before the modification for each emissions unit.

4) Net air quality benefit

The emission offsets must provide a positive net air quality benefit in the affected area pursuant to rule 3745-31-25 of the Administrative Code. Atmospheric dispersion modeling is not necessary for VOCs and nitrogen oxides in ozone nonattainment areas. Instead, complying with the requirements of paragraphs (A)(1) to (A)(3) of rule 3745-31-22 and rule 3745-31-25 of the Administrative Code will be considered adequate to meet this condition.

Finally, New Source Performance Standards (NSPS), National Emission Standards of Hazardous Air Pollutants (NESHAP), State Implementation Plan (SIP) emission standards, and public participation requirements must be followed in all cases.



Site Description

The GE Aviation facility is located in Evendale, Ohio, Hamilton County.

This area is classified as nonattainment for ozone (volatile organic compounds and nitrogen oxides) and attainment for all other criteria pollutants, including total suspended particulate matter (PM), particulate matter 10 microns and less in diameter (PM₁₀), particulate matter 2.5 microns and less in diameter (PM_{2.5}), sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), and lead (Pb).

Facility Description

GE Aviation owns and operates a large industrial complex in Evendale, Ohio, that assembles and tests aircraft and aero-derivative engines as well as gas turbines.

This permitting action involves the installation of two new test cells at the facility.

They are:

- Test Cell 1 – A new test cell located within an existing building, designed to accommodate testing of production gas turbines as a final, quality assurance function of manufacturing.
- Test Cell A20 – A new test cell in a new building at the north end of the facility, designed to accommodate research and development testing of combustor components.

Testing of production gas turbines involves tests in a series of (typical) brief acceptance tests runs with appropriate instrumentation in place to evaluate performance in meeting engineering specifications and customer contractual requirements. Information obtained from testing may include a calculated efficiency (or thrust of mechanical power) of the machine, heat rate, air flow, vibration data, and emission data, as well as mechanical testing of air, fuel, and lubrication systems.

Testing includes a wide range of operating conditions. The duration of total testing varies, but is most typically in the range of 3 to 15 fired hours, with test duration historically averaging approximately 7.5 fired hours along with firing with numerous different fuel types (e.g. diesel, jet and biofuel or natural gas). Emissions generated are ducted to one or more stacks.

Research and development testing of combustor components takes place in test cells that are designed to accommodate an evolving matrix of combustor components engineered and developed by GE Aviation.

Routine testing activities involve adding or replacing associated equipment (e.g. instrumentation, ductwork, adapters, skids, flow dividers, air compressors, starting equipment, and electrical and fuel hookups) and similar adaptations of associated equipment to accommodate new or different components in a given cell.

These test cells are operated to provide data to GE Aviation engineering team in the development of new products or enhancement of current products. The testing normally occurs over a period of months on a highly intermittent basis as data and design reviews are frequently required to determine the validity of the testing and to modify the test scope as required.

Testing involves the firing of a number of different fuel types (e.g. diesel, jet and biofuel or natural gas) and emissions generated are ducted to one or more stacks.



Also as part of this project installation are four new air preheaters associated with the Test Cell A20 project.

New Source Review (NSR)/PSD Applicability

The current GE Aviation facility meets the definition for a major stationary source for both non-attainment (NSR) and attainment (PSD) as defined in 3745-31-01 of Ohio’s Administrative Code.

GE Aviation is located within an area designated as non-attainment for ozone. The current GE Aviation facility, including fugitive emissions, has the potential to emit greater than 100 tons per year of NOx and VOC which is a precursor to ozone. Hamilton County does not currently have a NOx waiver in place. Therefore, the current GE Aviation facility is a non-attainment major stationary source for NOx and VOC.

GE Aviation is located in an area designated as attainment for PM, PM10, PM2.5, SO2, NOx, CO, and lead. The GE Aviation facility is one of the 28 stationary source categories (combined fossil-fuel fired boilers with >250 mmBtu/hour heat input) that has the potential to emit greater than 100 tons per year of NOx, CO, and SO2. Therefore, the current GE Aviation facility is an attainment major stationary source for the following pollutants: NOx, CO, and SO2.

The proposed installations by GE Aviation in this permitting action are deemed to be a physical change in or change in the method of operation at a current major stationary source. The proposed installations result in a significant increase in emissions as specified in 3745-31-01 of the Ohio Administrative Code (in this case, NOx for PSD and NOx for non-attainment) that trigger a major modification at a current major stationary source (see Table 1-1 on page 1-2 of the GE Aviation air permit-to-install application and Table 1 listed below). Once a facility triggers a major modification, the facility is required to perform either a PSD and/or non-attainment analysis for those pollutants.

In this case, the GE Aviation facility must comply with the attainment provisions listed in 3745-31-11 thru 20 of the Ohio Administrative Code for NOx, but not for PM, PM10, PM2.5, SO2, CO, lead, and greenhouse gases (GHG). Emissions of PM, PM10, PM2.5, SO2, CO, and GHG will be below the significant emission level amounts by accepting annual mass emission restrictions below which would trigger those provisions. Potential lead emissions are below the significant emission level amount at the potential to emit of the project; therefore, no annual mass emission restriction for lead is necessary. GE Aviation must comply with the non-attainment provisions listed in 3745-21 thru 27 of Ohio’s Administrative Code and/or 40 CFR Part 51, Appendix S for the following pollutants: NOx, as an ozone precursor, but not for VOC. VOC emissions are below the significant emission level amounts (40 tons per year) by accepting an annual mass emission restriction below which would trigger those provisions.

TABLE 1

GE AVIATION TEST CELL PROJECT POLLUTANT EMISSION RATES

Pollutant	Allowable Emission Rate (in tpy)	Significant Emissions Threshold (in tpy)
Carbon Monoxide	99.9	100
Nitrogen Oxides	175.9	40
Sulfur Dioxide	24.9	40
Particulate Matter (filterable)	9.9	25
PM10 (filterable and condensable for purposes of non-attainment and PSD review)	9.9	15



Pollutant	Allowable Emission Rate (in tpy)	Significant Emissions Threshold (in tpy)
PM2.5 (filterable and condensable for purposes of non-attainment and PSD review).	9.9	10
Volatile Organic Compounds	39.9	40
Lead	0.035*	0.6
GHG	74000	75000

*based upon potential to emit, whereas, the other allowable emissions are based upon the above-mentioned restrictions in emissions.

Applicability of 40 CFR Part 60 (NSPS)

1) NSPS Subpart KKKK, Standards of Stationary Combustion Turbines

The requirements of 40 Code of Federal Regulations (CFR) Part 60, Subpart KKKK, Standards of Stationary Combustion Turbines, are not applicable to either Test Cell 1 or Test Cell A20 for the following reasons:

- a) Test Cell 1 is not subject to this rule based upon the exemption for turbine cells/stands in section 60.4310(d) and the definition in section 40.4420 that states combustion turbine test cell/stand means any apparatus used for testing uninstalled stationary or uninstalled mobile (motive) combustion turbines; and
- b) Test Cell A20 does not meet the affected source definition under this rule because components of an engine are being tested, not combustion turbines as defined in that Subpart.

2) NSPS Subpart GG, Standards of Stationary Gas Turbines

The requirements of 40 Code of Federal Regulations (CFR) Part 60, Subpart GG, Standards of Stationary Gas Turbines, is not applicable to Test Cell A20 and Test Cell 1 for the same reasons that it is not subject to NSPS Subpart KKKK.

3) NSPS Subpart Dc, Small Steam Generating Units

The four new air preheaters associated with the Test Cell A20 project are not subject to this Subpart based upon two US EPA applicability determinations (control numbers PS36 and 0300116) which indicate that these preheaters are not, by definition, steam generating units.

Neither Test Cell 1 nor Test Cell A20 are subject this Subpart due to not meeting the definition of affected sources under this rule.

Applicability of 40 CFR Part 63 (MACT)

1) MACT Subpart YYYY, Stationary Combustion Turbines

Pursuant to section 63.6090(b)(5), combustion turbine engine test cells/stands do not have to meet the requirements of this Subpart, but may have to meet the requirements of Subpart A of this part if subject



to another Subpart. No initial notification is necessary, even if the unit appears to be subject to other requirements for initial notification.

2) MACT Subpart P P P P P, Engine Test Cells

Neither Test Cell 1 nor Test Cell A20 are subject to this Subpart based upon a letter from Mark Smith of Region 7 to Douglas Campbell dated 2/8/2010, and the preamble to final rule in FR Vol 68, no. 101, page 28777, 5/3/2003 and the rule affected source definitions in 63.9290.

3) MACT Subpart D D D D D, Boilers and Process Heaters

The air preheaters are subject to this subpart.

See specific requirements listed and/or referenced in the permit.

Control Technology Review (LAER and BACT)

In accordance with OAC rules 3745-31-22 and 3745-31-01, "Lowest achievable emission rate" or "LAER" determinations are to be based upon the following:

- The most stringent emission limitation that is contained in the implementation plan of any state for such class or category of emissions unit, unless the owner or operator of the proposed emissions unit demonstrates that such limitations are not achievable; or
- The most stringent emission limitation that is achieved in practice by such class or category of emissions unit.

This limitation, when applied to a major modification, means the lowest achievable emission rate for the new or modified emissions units within the stationary source. In no event shall the application of this term permit a proposed new or modified emissions unit to emit any air pollutant in excess of the amount allowable under applicable new source standards of performance.

The requirement to conduct a BACT analysis and determination is set forth in section 165(a)(4) of the Clean Air Act (Act), in federal regulations at 40 CFR Part 52.21.(j) and also in OAC rules 3745-31-15(C) and 3745-31-01(S). The BACT requirement is defined as:

“an emissions limitation (including a visible emissions standard) based on the maximum degree of reduction for each regulated NSR pollutant which would be emitted from any proposed major stationary source or major modification which the director, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such major stationary source or major modification through application of production processes or available methods, systems and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant that would exceed the emissions allowed by any applicable standard under 40 CFR Parts 60, 61, and 63. If the director determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible, a design, equipment, work practice, operational standard, or combination thereof, may be approved by the director instead to satisfy the requirement for the application of best available control technology. Such standard shall, to the degree possible, set forth the emissions reduction achievable by implementation of such design, equipment,



work practice or operation and shall provide for compliance by means which achieve equivalent results.”

The BACT process was further formalized in a memorandum by USEPA on December 1, 1987 and in the draft New Source Review Workshop Manual (EPA 1990b) issued on March 15, 1990, by introducing a “top-down” concept for BACT analysis. The top-down process requires that all available control technologies be ranked in descending order of control effectiveness. The BACT process first examines the most stringent - or top - alternative. That alternative is established as BACT unless it is demonstrated that technical considerations, or energy, environmental, or economic impacts justify a conclusion that the most stringent technology is not applicable. If the most stringent technology is eliminated, then the next most stringent alternative is considered, and this process is continued until an acceptable BACT is selected.

The objective of the BACT analysis is to conduct pollutant-specific control technology evaluation per USEPA requirements. The BACT evaluation steps consist of:

- Step 1: identify all control technologies;
- Step 2: eliminate technically infeasible options;
- Step 3: rank remaining control technologies by control effectiveness;
- Step 4: evaluate most effective controls and document results; and
- Step 5: select the most effective control based on energy, environmental and economic impacts (generally the feasible technology that is also considered to be cost effective).

LAER/BACT Analysis: Test Cell 1 Ohio EPA emissions unit number P291.

Emissions unit	LAER/BACT Control Technology	LAER Emission Rate for NOx (tpy)	BACT Emission Rate for NOx (tpy)
Test Cell 1	Annual emission limitations as presented in Section 3 of the application.	92.0	92.0

LAER/BACT Analysis: Test Cell A20 and Preheaters Ohio EPA emissions units number P292, B053, B054, B055, B056.

Emissions unit	LAER/BACT Control Technology	LAER Emission Rate for NOx (tpy)	BACT Emission Rate for NOx (tpy)
Test Cell A20	Annual emission limitations as presented in Section 3 of the application	80.0	80.0
Four indirect-fired air preheaters (for Test Cell A20)	Annual emission limitations as presented in Section 3 of the application	3.9	3.9



Emission Offsets

The permittee is required to provide emission offsets for NOx as part of the nonattainment requirements contained in OAC rule 3745-31. Offsets were obtained from Smart Papers Holdings LLC (14-09-04-0212). Emission offsets were a result of a permanent shutdown of the facility and will be federally enforceable upon issuance of the final action of the director.

Smart Papers Holdings LLC(14-09-04-0212)

The Smart Papers Holdings LLC facility permanently shut down emissions units B010 and B020 on March 27, 2012, and the NOx emission offset calculations meet the actual emission definition, as specified OAC rule 3745-31-01. The actual emission definition requires the use of the preceding 24 month period from the date of the permanent reduction activity, however, the Director can allow a facility to request a different baseline period if the facility can show that the alternative time period is more representative of normal emission unit operation. Smart Papers Holdings LLC chose to use the period (January 2009 thru December 2010) as their baseline period to calculate actual emissions. Based on the information Smart Papers Holdings LLC submitted to Ohio EPA, we believe that this period is representative of normal operation. In addition, these emission offsets meet the minimum federal requirements of being permanent, surplus, quantifiable, and federally enforceable. The total amount of emission offsets, as described below, will be federally enforceable upon issuance of the final action of the director.

From January 2009 thru December 2010, Smart Papers Holdings LLC produced a 24 month average actual emissions of 257.31 tons of NOx. The NOx actual emissions and subsequent emission offsets as a result of a permanent shutdown meet the requirements contained in OAC Chapter 3745-31. The total above mentioned tons per year values can be used as emission offsets for this permit to meet the nonattainment requirements of OAC rule 3745-31-22.

Modeling Summary:

The GE Aviation facility is located in AQCR 079 in Hamilton County in Evendale, Ohio. The area is attainment for all criteria pollutants, except Ozone. U.S. EPA regulations require the establishment of baseline air quality in the vicinity of the proposed project. This is normally accomplished using representative air quality monitoring data. Air quality modeling can be utilized to demonstrate that the project will have less than a threshold impact. This threshold impact is identified as the PSD monitoring de minimus level. If the projected impact from the proposed project exceeds this level, ambient data must be collected or existing representative data must be identified which is representative of the area.

GE Aviation has conducted ambient air quality modeling to determine the potential impact due to the proposed installation. NO₂ impacts from the proposed installation are below their respective PSD monitoring de minimus level. Ohio EPA has identified representative NO₂ data for use by GE Aviation in this project. Therefore, GE Aviation would not be required to perform preconstruction or post-construction monitoring. The following are the projected impacts:

Pollutant	Modeled Period	Modeled Impact	Monitoring De Minimus
NO ₂	Annual	0.203 ug/m ³	14 ug/m ³



Modeling

Air quality dispersion was conducted to assess the effect of this modification on the national ambient air quality standards (NAAQS) and for the PSD increments. AERMOD (version 07026) was used in the regulatory default, rural mode. Five years of representative meteorological data (Cincinnati - Northern Kentucky International Airport) was used. Building downwash was incorporated into the AERMOD estimates.

Peak impacts of NO₂ were below their respective PSD significant impact levels. Therefore, no additional modeling to address PSD increments and NAAQS were necessary.

Pollutant	Averaging Period	Modeled Impact	Significant Impact Level
NO ₂	Annual	0.203 ug/m ³	1 ug/m ³
NO ₂	1-hour	9.56 ug/m ³	10 ug/m ³

Net Air Quality Benefit

The requirement to provide a net air quality benefit has been met by this project for NO_x. In accordance with OAC rule 3745-31-22(A)(4), compliance with the requirements of (A)(1) - (3) and OAC rule 3745-31-25 is sufficient.

Secondary Impact Analysis

GE Aviation has demonstrated that the predicted pollutant concentrations throughout the study area are below the secondary NAAQS thresholds. The secondary NAAQS are designed to limit the amount of pollutants in the ambient air to levels below those which could have an adverse impact on human welfare, soils and vegetation. The modeling analyses demonstrate that no significant impacts on human welfare, soils or vegetation will occur from the proposed modification.

See specific details in the air permit-to-install application.

Conclusions

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 installation will comply with all applicable State and Federal environmental regulations and that the requirements for nonattainment and attainment area review are satisfied. Therefore, the Ohio EPA staff recommends that a permit to install be issued to GE Aviation for the installation of Test Cell 1, Test Cell A20, and the four air preheaters associated with Test Cell A20.

PUBLIC NOTICE PUBLIC HEARING
 Issuance of Draft Air Pollution Permit-To-Install
 General Electric Aviation, Evendale Plant

Issue Date: 03/06/2013

Permit Number: P0112127

Permit Type: Initial Installation

Permit Description: Installation of Test Cell 1 for Production Gas Turbines, installation of Test Cell A20 for R&D Engine Components, and Installation of Four Gas-Fired Air Preheaters at the General Electric Aviation Evendale Plant.

Facility ID: 1431150060

Facility Location: One Neumann Way
 Cincinnati, OH 45215

Facility Description: Manufactures turbine engines and parts

The Director of the Ohio Environmental Protection Agency, 50 West Town Street, Columbus Ohio has issued a draft action of an air pollution control permit-to-install (PTI) for the facility at the location identified above on the date indicated. This draft permit proposes to allow the installation of a test cell to be used for research and development of new jet engine components along with four new air preheaters associated with that test cell and another test cell used for testing of production gas turbine engines.

The proposed allowable air emission rates are listed below, in tons per year.

<u>Pollutant</u>	<u>TPY</u>
PM	9.9
PM ₁₀	9.9
PM _{2.5}	9.9
NO _x	175.9
CO	99.9
VOC	39.9
SO ₂	24.9
GHG	74000

This facility is subject to the applicable provisions of the Non-Attainment New Source Review (NNSR) and the Prevention of Significant Deterioration (PSD) regulations. The proposed project will trigger PSD and NNSR for NO_x.

The ambient air impact for criteria pollutants allowed by this permit is as follows:

<u>Pollutant</u>	<u>Averaging Period</u>	<u>Modeled</u>	<u>Rule/Policy Allowed</u>	<u>Basis</u>
		<u>Ambient Impact</u>	<u>Ambient Impact</u>	
NO _x	Annual	0.203 (ug/m)	12.5 (ug/m)	½ PSD Increment

The modeling impact complies with the PSD rules and with Ohio EPA's policy because it consumes no more than one half of the available increment for the pollutant NO_x.

A public hearing and information session on the draft air permit is scheduled for April 16, 2013, at the Evendale Recreation Center, Evendale Room, 10500 Reading Road, Evendale, Ohio 45241. The public information session will commence at 6:30 p.m. and the hearing will follow immediately to accept comments on the draft permit. A presiding officer will be present and may limit oral testimony to ensure that all parties are heard.

All interested persons are entitled to attend or be represented and give written or oral comments on the draft permit at the hearing. Written comments on the draft permit must be received by the close of the business day on April 18, 2013. Comments received after this date will not be considered to be a part of the official record. Written comments may be submitted at the hearing or sent to: Amy Kesterman, Southwest Ohio Air Quality Agency, 250 William Howard Taft Road, Cincinnati, OH 45219

Copies of the draft permit application and technical support information may be reviewed at <http://epa.ohio.gov/dapc/permitsonline.aspx> by entering the permit # and/or copies made by first calling to make an appointment with Amy Kesterman of the Southwest Ohio Air Quality Agency at the above address during normal business hours. Telephone number: (513) 946-7749.



DRAFT

**Division of Air Pollution Control
Permit-to-Install
for
General Electric Aviation, Evendale Plant**

Facility ID:	1431150060
Permit Number:	P0112127
Permit Type:	Initial Installation
Issued:	3/6/2013
Effective:	To be entered upon final issuance



Division of Air Pollution Control
Permit-to-Install
for
General Electric Aviation, Evendale Plant

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Draft Permit-to-Install
General Electric Aviation, Evendale Plant
Permit Number: P0112127
Facility ID: 1431150060
Effective Date: To be entered upon final issuance

Authorization

Facility ID: 1431150060
Facility Description: Manufactures turbine engines and parts
Application Number(s): A0045201, A0046928
Permit Number: P0112127
Permit Description: Installation of Test Cell 1 for Production Gas Turbines, installation of Test Cell A20 for R&D Engine Components, and Installation of Four Gas-Fired Air Preheaters at the General Electric Aviation Evendale Plant.
Permit Type: Initial Installation
Permit Fee: \$1,200.00 *DO NOT send payment at this time, subject to change before final issuance*
Issue Date: 3/6/2013
Effective Date: To be entered upon final issuance

This document constitutes issuance to:

General Electric Aviation, Evendale Plant
One Neumann Way
Cincinnati, OH 45215

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

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

Southwest Ohio Air Quality Agency
250 William Howard Taft Rd.
Cincinnati, OH 45219
(513)946-7777

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Scott J. Nally
Director



Authorization (continued)

Permit Number: P0112127

Permit Description: Installation of Test Cell 1 for Production Gas Turbines, installation of Test Cell A20 for R&D Engine Components, and Installation of Four Gas-Fired Air Preheaters at the General Electric Aviation Evendale Plant.

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

Emissions Unit ID:	P291
Company Equipment ID:	Test Cell 1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P292
Company Equipment ID:	Test Cell A20
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

Group Name: Preheaters A - D

Emissions Unit ID:	B053
Company Equipment ID:	Cell A20 Preheater A
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B054
Company Equipment ID:	Cell A20 Preheater B
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B055
Company Equipment ID:	Cell A20 Preheater C
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B056
Company Equipment ID:	Cell A20 Preheater D
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



Draft Permit-to-Install
General Electric Aviation, Evendale Plant
Permit Number: P0112127
Facility ID: 1431150060
Effective Date: To be entered upon final issuance

A. Standard Terms and Conditions



1. Federally Enforceable Standard Terms and Conditions

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

2. Severability Clause

- a) A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.
- b) All terms and conditions designated in parts B and C of this permit are federally enforceable as a practical matter, if they are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under State law only, only if specifically identified in this permit as such.

3. General Requirements

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



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

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 Southwest Ohio Air Quality Agency.



- (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 Southwest Ohio Air Quality Agency. The written reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See 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 (i.e., postmarked) to the Southwest Ohio Air Quality Agency every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
 - (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 Southwest Ohio Air Quality Agency in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06.

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

6. Compliance Requirements

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



- c) 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.
- d) The permittee shall submit progress reports to the Southwest Ohio Air Quality Agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
 - (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 Southwest Ohio Air Quality Agency.
- b) Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have



been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the Southwest Ohio Air Quality Agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

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).

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

- a) This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.
- b) If applicable, authorization to install any new emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party 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 Ohio EPA's "Air Services" along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).



- d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

No emissions unit certified by the authorized official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

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

12. Permit-To-Operate Application

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

13. Construction Compliance Certification

The applicant shall identify the following dates in the online 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 (i.e., postmarked), 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.



Draft Permit-to-Install
General Electric Aviation, Evendale Plant
Permit Number: P0112127
Facility ID: 1431150060
Effective Date: To be entered upon final issuance

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. Emissions Offset Requirements:

The permittee shall submit a letter to the Southwest Ohio Air Quality Agency and to Ohio EPA, prior to start up, documenting that General Electric Aviation, Evendale Plant obtained legal ownership of the emission offsets from Smart Papers Holdings, LLC (Facility ID 1409040212): 193.49 tons per year (TPY) of NOx. In accordance with OAC rule 3745-31-26(A)(2) and (B), and 40 CFR Part 51, Appendix S, the minimum required offset ratio for NOx is 1.1 to 1.0.

Hamilton County is in marginal non-attainment for the eight hour ozone standard. In accordance with the requirements in OAC rule 3745-31-22(A)(3), emission reduction shall be used to offset the net emission increase generated by this project to provide a net air quality benefit as specified under OAC rule 3745-31-22(A)(4). The permanent shutdown or permanent emission reduction of sources as specified in the below table shall be approved by Ohio EPA as verified emission reduction credits (ERCs) as defined in OAC rule 3745-111-01 before General Electric Aviation, Evendale Plant begins operation of emissions units B053 (43 mmBtu/hr Natural Gas, Indirect-Fired Air Preheater A), B054 (43 mmBtu/hr Natural Gas, Indirect-Fired Air Preheater B), B055 (43 mmBtu/hr Natural Gas, Indirect-Fired Air Preheater C), B056 (43 mmBtu/hr Natural Gas, Indirect-Fired Air Preheater D), P291 (Production Test Cell 1 for Engines/Turbines fueled by Liquid Fuels (e.g. Diesel Fuel, Jet Fuel, Biofuels) or Gaseous Fuels), and P292 (Engine Component Test Cell A20 for Engine Components fueled by Liquid Fuels (e.g. Diesel Fuel, Jet Fuel, Biofuels) or Gaseous Fuels). Any verified ERCs that are not used for this permit to install (PTI) shall be banked in accordance with OAC rule 3745-31-24(I), OAC rule 3745-111-02, and OAC rule 3745-111-05:

A	B	C	D
Company Name and Facility ID Providing Offsets	Emissions Unit ID No. and Description	TPY of NOx ERC Used for PTI	Emission Reduction Activity and Date of Reduction
Smart Papers Holdings, LLC (Facility ID: 1409040212)	420 mmBtu/hr pulverized-dry bottom coal-fired boiler (Emissions Unit B010)	183.90	Permanent Shutdown March 27, 2012
	249 mmBtu/hour coal-fired boiler (Emissions Unit B020)	9.59	Permanent Shutdown March 27, 2012



3. In accordance with OAC rule 3745-31-22(A)(4), the emission offsets discussed above must provide a positive net air quality benefit in the affected area pursuant to OAC rule 3745-31-25. The permittee shall demonstrate compliance with OAC rule 3745-31-22(A)(4) by complying with the requirements listed in OAC rule 3745-31-22(A)(1), (A)(2), and (A)(3) as specified in the terms and conditions of this PTI.

4. The following emissions units contained in this permit are subject to 40 CFR Part 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants (NESHAP) Industrial, Commercial, and Institutional Boilers and Process heaters: B053, B054, B055, B056. The complete NESHAP requirements, including the NESHAP General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://www.ecfr.gov> or by contacting the appropriate Ohio EPA District office or local air agency.

The permittee shall comply with all applicable requirements of 40 CFR Part 63, Subpart DDDDD. The permittee shall also comply with all the applicable requirements of 40 CFR Part 63, Subpart A (General Provisions) as identified in Table 10 of 40 CFR Part 63, Subpart DDDDD. Compliance with all applicable requirements shall be achieved by the dates set forth in 40 CFR Part 63, Subpart DDDDD and Subpart A.



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C. Emissions Unit Terms and Conditions



1. P291, Test Cell 1

Operations, Property and/or Equipment Description:

Production Test Cell 1 for Engines/Turbines fueled by Liquid Fuels (e.g. Diesel Fuel, Jet Fuel, Biofuels) or Gaseous Fuels

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	ORC 3704.03(T) <i>Best Available Technology (BAT)</i>	Carbon monoxide (CO) emissions shall not exceed 5.1 pounds per mmBtu of actual heat input. Volatile organic compound (VOC) emissions shall not exceed 0.7 pound per mmBtu of actual heat input. Sulfur dioxide (SO ₂) emissions shall not exceed 0.11 pound per mmBtu of actual heat input. See b)(2)h. The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-10 through -27 for nitrogen oxides (NO _x) emissions.
b.	OAC rules 3745-31-21 through -27 <i>Nonattainment New Source Review</i>	Nitrogen oxides (NO _x) emissions shall not exceed 1.7 pounds per mmBtu of actual heat input. See b)(2)a., b)(2)f., and b)(2)h.
c.	OAC rules 3745-31-10 through -20 <i>Prevention of Significant Deterioration</i>	Nitrogen oxides (NO _x) emissions shall not exceed 1.7 pounds per mmBtu of actual heat input. See b)(2)a., b)(2)g., and b)(2)h.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001	<p>Particulate matter (PM) emissions (filterable and condensable), particulate matter 10 microns and less in diameter (PM10) emissions (filterable and condensable), and particulate matter 2.5 microns and less in diameter (PM2.5) emissions shall not exceed 0.038 pound per mmBtu of actual heat input.</p> <p>See b)(2)c. and b)(2)h.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D) for PM/PM10/PM2.5 emissions.</p>
e.	OAC rule 3745-31-05(C), as effective 12/1/2006	See b)(2)d.
f.	OAC rule 3745-31-05(D) <i>Synthetic Minor to Avoid New Source Review</i>	See b)(2)b. and c)(1).
g.	OAC rule 3745-18-06(E)	See b)(2)e.
h.	40 CFR Part 63, Subpart P P P P P	See b)(2)j.

(2) Additional Terms and Conditions

- a. The emissions of nitrogen oxides (NOx) from this emissions unit shall not exceed 92.0 tons per year, based upon a rolling, 12-month summation of the monthly emissions.
- b. The emissions from emissions units B053 (43 mmBtu/hr Natural Gas, Indirect-Fired Air Preheater A), B054 (43 mmBtu/hr Natural Gas, Indirect-Fired Air Preheater B), B055 (43 mmBtu/hr Natural Gas, Indirect-Fired Air Preheater C), B056 (43 mmBtu/hr Natural Gas, Indirect-Fired Air Preheater D), P291 (Production Test Cell 1 for Engines/Turbines fueled by Liquid Fuels (e.g. Diesel Fuel, Jet Fuel, Biofuels) or Gaseous Fuels), and P292 (Engine Component Test Cell A20 for Engine Components fueled by Liquid Fuels (e.g. Diesel Fuel, Jet Fuel, Biofuels) or Gaseous Fuels), combined, shall not exceed:
 - i. 99.9 tons per year of CO, based upon a rolling, 12-month summation of the monthly emissions;
 - ii. 39.9 tons per year of VOC, based upon a rolling, 12-month summation of the monthly emissions;



- iii. 9.9 tons per year of PM/PM10/PM2.5 (filterable and condensable), based upon a rolling, 12-month summation of the monthly emissions;
- iv. 24.9 tons per year of SO2, based upon a rolling, 12-month summation of the monthly emissions; and
- v. 74,000 tons per year of carbon dioxide equivalent (CO2e), based upon a rolling, 12-month summation of the monthly emissions.

To ensure enforceability during the first 12 calendar months of operation, the permittee shall not exceed the combined emission levels for the above-listed emissions units specified in the following table:

Month(s)	Maximum Allowable Cumulative Emissions of CO (tons)	Maximum Allowable Cumulative Emissions of VOC (tons)	Maximum Allowable Cumulative Emissions of PM/PM10/PM2.5 (tons)	Maximum Allowable Cumulative Emissions of SO2 (tons)	Maximum Allowable Cumulative Emissions of CO2e (tons)
1	24.99	9.99	2.49	6.24	18,500
1-2	34.98	13.98	3.48	8.73	25,900
1-3	44.97	17.97	4.47	11.22	33,300
1-4	49.96	19.96	4.96	12.46	37,000
1-5	54.95	21.95	5.45	13.7	40,700
1-6	59.94	23.94	5.94	14.94	44,400
1-7	69.93	27.93	6.93	17.43	51,800
1-8	79.92	31.92	7.92	19.92	59,200
1-9	89.91	35.91	8.91	22.41	66,600
1-10	99.9	39.9	9.9	24.9	74,000
1-11	99.9	39.9	9.9	24.9	74,000
1-12	99.9	39.9	9.9	24.9	74,000

- c. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code



(ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.

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

Permit to Install P0112127 for this air contaminant source takes into account the following voluntary restrictions (including the use of any applicable air pollution control equipment), as proposed by the permittee, for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3):

- i. for particulate matter (PM) emissions (filterable and condensable), particulate matter 10 microns and less in diameter (PM10) emissions (filterable and condensable), and particulate matter 2.5 microns and less in diameter (PM2.5) emissions: the emissions from the emissions units specified in b)(2)b. shall not exceed 9.9 TPY, based upon a rolling, 12-month summation.
- e. The sulfur dioxide emissions from this emissions unit are due solely to the combustion of liquid or gaseous fuels. Pursuant to OAC rule 3745-18-01(B)(14), the liquid or gaseous fuels and the combustion air are not considered to be part of the emissions unit's total process weight which is used in establishing the allowable sulfur dioxide emission limitation. The only other materials introduced into the emissions unit are the turbine engines or turbine engine components that are to be tested. The total weight of the turbine engines or turbine engine components greater than 1000 pounds could be used to establish the sulfur dioxide allowable emission limitation. However, using the total weight of the turbine engines or turbine engine components to establish the sulfur dioxide allowable emission limitation would yield a relatively high allowable sulfur dioxide emission limitation compared to the sulfur dioxide emissions generated by the combustion of the turbine fuels. Therefore, a sulfur dioxide emission limitation has not been established for this emissions unit. In addition, any turbine engine components that are less than 1000 pounds would be exempt from the requirements of OAC rule 3745-18-06(E) pursuant to OAC rule 3745-18-06(C).
- f. The permittee has performed a Lowest Achievable Emission Rate (LAER) review for NOx. The emission limitations based on the LAER requirements are listed under OAC rules 3745-31-21 through -27 in b)(1)b. above. It has been determined that emission limitations alone constitute LAER for this emissions unit.



- g. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), BACT for NO_x has been determined to be no control and is based upon design emissions levels. Compliance with BACT has been determined to be compliance with the emissions limitations established pursuant to OAC rules 3745-31-10 through -20 in b)(1)c. above.
 - h. The pound per mmBtu emission limitations for NO_x, CO, VOC, SO₂, and PM/PM₁₀/PM_{2.5} are based upon the emissions unit's potential to emit. Therefore, no additional monitoring, recordkeeping, or reporting are required to demonstrate compliance with these limitations.
 - i. Compliance with ORC 3704.03(T) shall be demonstrated by the emission limitations and compliance with applicable LAER/BACT requirements, record keeping, reporting, and emissions testing required by this permit that are associated with the above ORC 3704.03(T) limitations and requirements.
 - j. As defined in 40 CFR 63.9290, the General Electric Aviation – Evendale facility is identified as an existing affected source under 40 CFR Part 63, Subpart P. As provided for under 40 CFR 63.9290(b), as an existing affected source, the facility is specifically exempt from the requirements of 40 CFR Part 63, Subpart A and Subpart P. The new test cell (emissions unit P291) will become part of the existing affected source and also is exempt from the requirements of 40 CFR Part 63, Subpart A and Subpart P.
- c) Operational Restrictions
- (1) The permittee may not burn any liquid fuel which has a sulfur content greater than 0.1% by weight in this emissions unit.
- d) Monitoring and/or Recordkeeping Requirements
- (1) The permittee shall calculate the NO_x, CO, VOC, SO₂, PM/PM₁₀/PM_{2.5}, and CO_{2e} emissions from each engine test at this emissions unit by employing either the "Fuel Flow or Time at 3-Band Throttle Settings" methods or the "Instantaneous Emissions Tracking" system developed by General Electric Aviation.
 - (2) The permittee shall collect and record the following information monthly for this emissions unit when the "Fuel Flow or Time at 3-Band Throttle Settings" methods or the "Instantaneous Emissions Tracking" system for calculating NO_x, CO, VOC, SO₂, PM/PM₁₀/PM_{2.5}, and CO_{2e} emissions from an engine test is/are used:
 - a. the date each engine test was performed;
 - b. the type of engine that was tested;
 - c. identification of which method specified in d)(1) was employed to calculate emissions during each test;
 - d. the type(s) and amount(s) of fuel used during each test;



- e. the total hours of engine testing and the type and total amount of each fuel used, as determined by the automated instantaneous fuel flow tracker;
 - f. the total NOx, CO, VOC, SO2, PM/PM10/PM2.5, and CO2e emitted during each test, in tons (as described in the Emissions Protocol Document);
 - g. the total monthly CO, VOC, SO2, PM/PM10/PM2.5, and CO2e emissions, in tons (the summation of the emission totals contained in line f. for all tests performed during the month); and
 - h. in the event that data is unable to be captured, the permittee shall maintain records of the duration and any corrective actions taken to restore the monitoring equipment in a timely fashion.
- (3) The permittee shall maintain monthly records of the following information for this emissions unit in order to demonstrate compliance with the rolling, 12-month summation emission limitation:
- a. the total monthly emissions of NOx, in tons; and
 - b. the updated rolling, 12-month summation of NOx emissions, in tons, (the total amount of emissions for the current month plus the total amount of emissions for the previous eleven calendar months).
- (4) The permittee shall maintain monthly records of the following information in order to demonstrate compliance with the rolling, 12-month summation emission limitations:
- a. the total monthly emissions, in tons, of CO, VOC, SO2, PM/PM10/PM2.5, and CO2e for emissions units B053, B054, B055, B056, P291, and P292, combined; and
 - b. the updated rolling, 12-month summation of CO, VOC, SO2, PM/PM10/PM2.5, and CO2e emissions, in tons, for emissions units B053, B054, B055, B056, P291, and P292, combined, (the total amount of emissions for the current month plus the total amount of emissions for the previous eleven calendar months). During the first 12 calendar months of operation, the permittee shall record the updated cumulative CO, VOC, SO2, PM/PM10/PM2.5, and CO2e emissions, in tons, for each calendar month.
- (5) The permittee shall properly install, operate, and maintain equipment to continuously monitor the fuel flow for the emissions unit (in gallons per minute or cubic feet per minute) during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee. Fuel flow meters shall meet the requirements of 40 CFR Part 75, Appendix D, or an equivalent approved method, and shall be calibrated annually.



- (6) The permittee shall maintain records of the total quantity of liquid fuel received and the permittee's or fuel supplier's analyses for sulfur content.

Analysis for sulfur content from a representative sample of each liquid fuel storage tank shall be performed by the permittee on a frequency of once per calendar month for each liquid fuel combusted in this emissions unit. Analysis shall be performed in accordance with the appropriate ASTM methods, such as D4294, Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy-Dispersive X-Ray Fluorescence Spectrometry, or equivalent methods including D396-07.

Alternatively, the permittee shall maintain records of fuel supplier-provided analysis or certifications for each fuel shipment.

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
- a. any exceedances of the sulfur content limitation specified in c)(1); and
 - b. any exceedances of the rolling, 12-month emission limitations (or monthly cumulative emission limitations for the first 12 months of operation, if applicable) for NO_x, CO, VOC, SO₂, PM/PM₁₀/PM_{2.5}, and CO_{2e} specified in b)(2)a. and b)(2)b.

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

- (2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

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. Emission Limitations:

Carbon monoxide (CO) emissions shall not exceed 5.1 pounds per mmBtu of actual heat input.

Volatile organic compound (VOC) emissions shall not exceed 0.7 pound per mmBtu of actual heat input.

Sulfur dioxide (SO₂) emissions shall not exceed 0.11 pound per mmBtu of actual heat input.



Particulate matter (PM) emissions (filterable and condensable), particulate matter 10 microns and less in diameter (PM10) emissions (filterable and condensable), and particulate matter 2.5 microns and less in diameter (PM2.5) emissions shall not exceed 0.038 pound per mmBtu of actual heat input.

Nitrogen oxides (NOx) emissions shall not exceed 1.7 pounds per mmBtu of actual heat input and 92.0 tons per year, based upon a rolling, 12-month summation of the monthly emissions.

For emissions units B053, B054, B055, B056, P291, and P292, combined, emissions shall not exceed:

99.9 tons per year of CO, based upon a rolling, 12-month summation of the monthly emissions;

39.9 tons per year of VOC, based upon a rolling, 12-month summation of the monthly emissions;

9.9 tons per year of PM/PM10/PM2.5 (filterable and condensable), based upon a rolling, 12-month summation of the monthly emissions;

24.9 tons per year of SO₂, based upon a rolling, 12-month summation of the monthly emissions; and

74,000 tons per year of carbon dioxide equivalent (CO₂e), based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

The pound per mmBtu emission limitations are based on the emissions unit's potential to emit. The pound per mmBtu emission limitations are based on the permittee-supplied emission factors submitted in the application for PTI P0112127.

The permittee shall develop an Emissions Protocol Document which shall be maintained at the facility and shall be made available to the appropriate Ohio EPA District Office or local air agency upon request. The Emissions Protocol Document shall define procedures for (a) developing emission factors; (b) calculating emission rates; and (c) conducting periodic audits of the procedure. The permittee has developed emission factors pursuant to protocols referenced in 40 CFR Part 87, ICAO Annex 16, AP-42, and 40 CFR Part 98 for use in the emissions tracking and record keeping for engines tested at this facility.

Emission factors shall be developed for NO_x, CO, VOC, SO₂, PM/PM10/PM2.5 (filterable and condensable), and CO₂e for each new engine family to be tested at this facility. In the event that measured factors are not available, engineering judgment shall be used to develop estimated emission factors for each new engine family.



Draft Permit-to-Install

General Electric Aviation, Evendale Plant

Permit Number: P0112127

Facility ID: 1431150060

Effective Date: To be entered upon final issuance

The filterable portion of the PM/PM10/PM2.5 emissions factor shall be developed from facility information. The condensable portion of the PM/PM10/PM2.5 emissions factor shall be developed by calculating the ratio of the filterable particulate AP-42 emissions factor to the condensable particulate AP-42 emissions factor and applying it to the facility-developed filterable portion of the emissions factor.

Compliance with the annual emission limitations, in tons per year, shall be demonstrated by the record keeping requirements specified in d)(1) through d)(4). The permittee shall calculate the emission rates using the emission factors and the automated instantaneous fuel flow tracking required in d)(2)e. for emissions units P291 and P292, and fuel flow meters for emissions units B053, B054, B055, and B056.

The permittee shall conduct periodic audits to ensure continued operation of the emission tracking system. The permittee shall retain records to document the results of the periodic audits.

The permittee shall make provisions for the Ohio EPA and/or the Southwest Ohio Air Quality Agency to execute the same audit procedure at any time during normal business hours.

- (2) Compliance with the sulfur content of the liquid fuel restriction in c)(1) for this emissions unit shall be based upon the record keeping requirements as specified in d)(6).

g) Miscellaneous Requirements

- (1) None.



2. P292, Test Cell A20

Operations, Property and/or Equipment Description:

Engine Component Test Cell A20 for Engine Components fueled by Liquid Fuels (e.g. Diesel Fuel, Jet Fuel, Biofuels) or Gaseous Fuels

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	ORC 3704.03(T) <i>Best Available Technology (BAT)</i>	Carbon monoxide (CO) emissions shall not exceed 7.3 pounds per mmBtu of actual heat input. Volatile organic compound (VOC) emissions shall not exceed 0.7 pound per mmBtu of actual heat input. Sulfur dioxide (SO ₂) emissions shall not exceed 0.11 pound per mmBtu of actual heat input. See b)(2)h. The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-10 through -27 for nitrogen oxides (NO _x) emissions.
b.	OAC rules 3745-31-21 through -27 <i>Nonattainment New Source Review</i>	Nitrogen oxides (NO _x) emissions shall not exceed 4.4 pounds per mmBtu of actual heat input. See b)(2)a., b)(2)f., and b)(2)h.
c.	OAC rules 3745-31-10 through -20 <i>Prevention of Significant Deterioration</i>	Nitrogen oxides (NO _x) emissions shall not exceed 4.4 pounds per mmBtu of actual heat input. See b)(2)a., b)(2)g., and b)(2)h.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001	Particulate matter (PM) emissions (filterable and condensable), particulate matter 10 microns and less in diameter (PM10) emissions (filterable and condensable), and particulate matter 2.5 microns and less in diameter (PM2.5) emissions shall not exceed 0.038 pound per mmBtu of actual heat input. See b)(2)c. and b)(2)h.
e.	OAC rule 3745-31-05(A)(3)(b), as effective 12/1/2006	See b)(2)d.
f.	OAC rule 3745-31-05(D) <i>Synthetic Minor to Avoid New Source Review</i>	See b)(2)b. and c)(1).
g.	OAC rule 3745-18-06(E)	See b)(2)e.

(2) Additional Terms and Conditions

- a. The emissions of nitrogen oxides (NOx) from this emissions unit shall not exceed 80.0 tons per year, based upon a rolling, 12-month summation of the monthly emissions.
- b. The emissions from emissions units B053 (43 mmBtu/hr Natural Gas, Indirect-Fired Air Preheater A), B054 (43 mmBtu/hr Natural Gas, Indirect-Fired Air Preheater B), B055 (43 mmBtu/hr Natural Gas, Indirect-Fired Air Preheater C), B056 (43 mmBtu/hr Natural Gas, Indirect-Fired Air Preheater D), P291 (Production Test Cell 1 for Engines/Turbines fueled by Liquid Fuels (e.g. Diesel Fuel, Jet Fuel, Biofuels) or Gaseous Fuels), and P292 (Engine Component Test Cell A20 for Engine Components fueled by Liquid Fuels (e.g. Diesel Fuel, Jet Fuel, Biofuels) or Gaseous Fuels), combined, shall not exceed:
 - i. 99.9 tons per year of CO, based upon a rolling, 12-month summation of the monthly emissions;
 - ii. 39.9 tons per year of VOC, based upon a rolling, 12-month summation of the monthly emissions;
 - iii. 9.9 tons per year of PM/PM10/PM2.5 (filterable and condensable), based upon a rolling, 12-month summation of the monthly emissions;
 - iv. 24.9 tons per year of SO2, based upon a rolling, 12-month summation of the monthly emissions; and
 - v. 74,000 tons per year of carbon dioxide equivalent (CO2e), based upon a rolling, 12-month summation of the monthly emissions.



To ensure enforceability during the first 12 calendar months of operation, the permittee shall not exceed the combined emission levels for the above-listed emissions units specified in the following table:

Month(s)	Maximum Allowable Cumulative Emissions of CO (tons)	Maximum Allowable Cumulative Emissions of VOC (tons)	Maximum Allowable Cumulative Emissions of PM/PM10/PM2.5 (tons)	Maximum Allowable Cumulative Emissions of SO2 (tons)	Maximum Allowable Cumulative Emissions of CO2e (tons)
1	24.99	9.99	2.49	6.24	18,500
1-2	34.98	13.98	3.48	8.73	25,900
1-3	44.97	17.97	4.47	11.22	33,300
1-4	49.96	19.96	4.96	12.46	37,000
1-5	54.95	21.95	5.45	13.7	40,700
1-6	59.94	23.94	5.94	14.94	44,400
1-7	69.93	27.93	6.93	17.43	51,800
1-8	79.92	31.92	7.92	19.92	59,200
1-9	89.91	35.91	8.91	22.41	66,600
1-10	99.9	39.9	9.9	24.9	74,000
1-11	99.9	39.9	9.9	24.9	74,000
1-12	99.9	39.9	9.9	24.9	74,000

- c. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA



approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limitations/control measures no longer apply.

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

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate matter (PM) (filterable and condensable), particulate matter 10 microns and less in diameter (PM10) (filterable and condensable), and particulate matter 2.5 microns and less in diameter (PM2.5) emissions from this air contaminant source since the uncontrolled potential to emit for PM/PM10/PM2.5 is less than 10 tons per year.

- e. The sulfur dioxide emissions from this emissions unit are due solely to the combustion of liquid or gaseous fuels. Pursuant to OAC rule 3745-18-01(B)(14), the liquid or gaseous fuels and the combustion air are not considered to be part of the emissions unit's total process weight which is used in establishing the allowable sulfur dioxide emission limitation. The only other materials introduced into the emissions unit are the turbine engines or turbine engine components that are to be tested. The total weight of the turbine engines or turbine engine components greater than 1000 pounds could be used to establish the sulfur dioxide allowable emission limitation. However, using the total weight of the turbine engines or turbine engine components to establish the sulfur dioxide allowable emission limitation would yield a relatively high allowable sulfur dioxide emission limitation compared to the sulfur dioxide emissions generated by the combustion of the turbine fuels. Therefore, a sulfur dioxide emission limitation has not been established for this emissions unit. In addition, any turbine engine components that are less than 1000 pounds would be exempt from the requirements of OAC rule 3745-18-06(E) pursuant to OAC rule 3745-18-06(C).
- f. The permittee has performed a Lowest Achievable Emission Rate (LAER) review for NOx. The emission limitations based on the LAER requirements are listed under OAC rules 3745-31-21 through -27 in b)(1)b. above. It has been determined that emission limitations alone constitute LAER for this emissions unit.
- g. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), BACT for NOx has been determined to be no control and is based upon design emissions levels. Compliance with BACT has been determined to be compliance with the emissions limitations established pursuant to OAC rules 3745-31-10 through -20 in b)(1)c. above.
- h. The pound per mmBtu emission limitations for NOx, CO, VOC, SO2, and PM/PM10/PM2.5 are based upon the emissions unit's potential to emit. Therefore, no additional monitoring, recordkeeping, or reporting are required to demonstrate compliance with these limitations.



- i. Compliance with ORC 3704.03(T) shall be demonstrated by the emission limitations and compliance with applicable LAER/BACT requirements, record keeping, reporting, and emissions testing required by this permit that are associated with the above ORC 3704.03(T) limitations and requirements.
- c) Operational Restrictions
 - (1) The permittee may not burn any liquid fuel which has a sulfur content greater than 0.1% by weight in this emissions unit.
- d) Monitoring and/or Recordkeeping Requirements
 - (1) The permittee shall calculate the NO_x, CO, VOC, SO₂, PM/PM₁₀/PM_{2.5}, and CO_{2e} emissions from each engine test at this emissions unit by employing either the "Fuel Flow or Time at 4-Band Throttle Settings" methods or the "Instantaneous Emissions Tracking" system developed by General Electric Aviation.
 - (2) The permittee shall collect and record the following information monthly for this emissions unit when the "Fuel Flow or Time at 4-Band Throttle Settings" methods or the "Instantaneous Emissions Tracking" system for calculating NO_x, CO, VOC, SO₂, PM/PM₁₀/PM_{2.5}, and CO_{2e} emissions from an engine test is/are used:
 - a. the date each engine test was performed;
 - b. the type of engine that was tested;
 - c. identification of which method specified in d)(1) was employed to calculate emissions during each test;
 - d. the type(s) and amount(s) of fuel used during each test;
 - e. the total hours of engine testing and the type and total amount of each fuel used, as determined by the automated instantaneous fuel flow tracker;
 - f. the total NO_x, CO, VOC, SO₂, PM/PM₁₀/PM_{2.5}, and CO_{2e} emitted during each test, in tons (as described in the Emissions Protocol Document);
 - g. the total monthly CO, VOC, SO₂, PM/PM₁₀/PM_{2.5}, and CO_{2e} emissions, in tons (the summation of the emission totals contained in line f. for all tests performed during the month); and
 - h. in the event that data is unable to be captured, the permittee shall maintain records of the duration and any corrective actions taken to restore the monitoring equipment in a timely fashion.
 - (3) The permittee shall maintain monthly records of the following information for this emissions unit in order to demonstrate compliance with the rolling, 12-month summation emission limitation:
 - a. the total monthly emissions of NO_x, in tons; and



- b. the updated rolling, 12-month summation of NO_x emissions, in tons, (the total amount of emissions for the current month plus the total amount of emissions for the previous eleven calendar months).
- (4) The permittee shall maintain monthly records of the following information in order to demonstrate compliance with the rolling, 12-month summation emission limitations:
- a. the total monthly emissions, in tons, of CO, VOC, SO₂, PM/PM₁₀/PM_{2.5}, and CO_{2e} for emissions units B053, B054, B055, B056, P291, and P292, combined; and
 - b. the updated rolling, 12-month summation of CO, VOC, SO₂, PM/PM₁₀/PM_{2.5}, and CO_{2e} emissions, in tons, for emissions units B053, B054, B055, B056, P291, and P292, combined, (the total amount of emissions for the current month plus the total amount of emissions for the previous eleven calendar months). During the first 12 calendar months of operation, the permittee shall record the updated cumulative CO, VOC, SO₂, PM/PM₁₀/PM_{2.5}, and CO_{2e} emissions, in tons, for each calendar month.
- (5) The permittee shall properly install, operate, and maintain equipment to continuously monitor the fuel flow for the emissions unit (in gallons per minute or cubic feet per minute) during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee. Fuel flow meters shall meet the requirements of 40 CFR Part 75, Appendix D, or an equivalent approved method, and shall be calibrated annually.
- (6) The permittee shall maintain records of the total quantity of liquid fuel received and the permittee's or fuel supplier's analyses for sulfur content.

Analysis for sulfur content from a representative sample of each liquid fuel storage tank shall be performed by the permittee on a frequency of once per calendar month for each liquid fuel combusted in this emissions unit. Analysis shall be performed in accordance with the appropriate ASTM methods, such as D4294, Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy-Dispersive X-Ray Fluorescence Spectrometry, or equivalent methods including D396-07.

Alternatively, the permittee shall maintain records of fuel supplier-provided analysis or certifications for each fuel shipment.

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
 - a. any exceedances of the sulfur content limitation specified in c)(1); and
 - b. any exceedances of the rolling, 12-month emission limitations (or monthly cumulative emission limitations for the first 12 months of operation, if applicable)



for NO_x, CO, VOC, SO₂, PM/PM₁₀/PM_{2.5}, and CO₂e specified in b)(2)a. and b)(2)b.

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

- (2) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

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. Emission Limitations:

Carbon monoxide (CO) emissions shall not exceed 7.3 pounds per mmBtu of actual heat input.

Volatile organic compound (VOC) emissions shall not exceed 0.7 pound per mmBtu of actual heat input.

Sulfur dioxide (SO₂) emissions shall not exceed 0.11 pound per mmBtu of actual heat input.

Particulate matter (PM) emissions (filterable and condensable), particulate matter 10 microns and less in diameter (PM₁₀) emissions (filterable and condensable), and particulate matter 2.5 microns and less in diameter (PM_{2.5}) emissions shall not exceed 0.038 pound per mmBtu of actual heat input.

Nitrogen oxides (NO_x) emissions shall not exceed 4.4 pounds per mmBtu of actual heat input and 80.0 tons per year (TPY), based upon a rolling, 12-month summation of the monthly emissions.

For emissions units B053, B054, B055, B056, P291, and P292, combined, emissions shall not exceed:

99.9 tons per year of CO, based upon a rolling, 12-month summation of the monthly emissions;

39.9 tons per year of VOC, based upon a rolling, 12-month summation of the monthly emissions;

9.9 tons per year of PM/PM₁₀/PM_{2.5} (filterable and condensable), based upon a rolling, 12-month summation of the monthly emissions;

24.9 tons per year of SO₂, based upon a rolling, 12-month summation of the monthly emissions; and



74,000 tons per year of carbon dioxide equivalent (CO₂e), based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

The pound per mmBtu emission limitations are based on the emissions unit's potential to emit. The pound per mmBtu emission limitations are based on the permittee-supplied emission factors submitted in the application for PTI P0112127.

The permittee shall develop an Emissions Protocol Document which shall be maintained at the facility and shall be made available to the appropriate Ohio EPA District Office or local air agency upon request. The Emissions Protocol Document shall define procedures for (a) developing emission factors; (b) calculating emission rates; and (c) conducting periodic audits of the procedure. The permittee has developed emission factors pursuant to protocols referenced in 40 CFR Part 87, ICAO Annex 16, AP-42, and 40 CFR Part 98 for use in the emissions tracking and record keeping for engines tested at this facility.

Emission factors shall be developed for NO_x, CO, VOC, SO₂, PM/PM₁₀/PM_{2.5} (filterable and condensable), and CO₂e for each new engine family to be tested at this facility. In the event that measured factors are not available, engineering judgment shall be used to develop estimated emission factors for each new engine family.

The filterable portion of the PM/PM₁₀/PM_{2.5} emissions factor shall be developed from facility information. The condensable portion of the PM/PM₁₀/PM_{2.5} emissions factor shall be developed by calculating the ratio of the filterable particulate AP-42 emissions factor to the condensable particulate AP-42 emissions factor and applying it to the facility-developed filterable portion of the emissions factor.

Compliance with the annual emission limitations, in tons per year, shall be demonstrated by the record keeping requirements specified in d)(1) through d)(4). The permittee shall calculate the emission rates using the emission factors and the automated instantaneous fuel flow tracking required in d)(2)e. for emissions units P291 and P292, and fuel flow meters for emissions units B053, B054, B055, and B056.

The permittee shall conduct periodic audits to ensure continued operation of the emission tracking system. The permittee shall retain records to document the results of the periodic audits.

The permittee shall make provisions for the Ohio EPA and/or the Southwest Ohio Air Quality Agency to execute the same audit procedure at any time during normal business hours.

- (2) Compliance with the sulfur content of the liquid fuel restriction in c)(1) for this emissions unit shall be based upon the record keeping requirements as specified in d)(6).



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g) Miscellaneous Requirements

(1) None.



3. Emissions Unit Group -Preheaters A - D: B053,B054,B055,B056,

EU ID	Operations, Property and/or Equipment Description
B053	43 mmBtu/hr Natural Gas, Indirect-Fired Air Preheater A
B054	43 mmBtu/hr Natural Gas, Indirect-Fired Air Preheater B
B055	43 mmBtu/hr Natural Gas, Indirect-Fired Air Preheater C
B056	43 mmBtu/hr Natural Gas, Indirect-Fired Air Preheater D

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	ORC 3704.03(T) <i>Best Available Technology (BAT)</i>	Carbon monoxide (CO) emissions shall not exceed 0.15 pound per mmBtu of actual heat input. See b)(2)g. The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-10 through -27 for nitrogen oxides (NOx) emissions.
b.	OAC rules 3745-31-21 through -27 <i>Nonattainment New Source Review</i>	Nitrogen oxides (NOx) emissions shall not exceed 0.14 pound per mmBtu of actual heat input, when operating at 60% to 100% of capacity. Nitrogen oxides (NOx) emissions shall not exceed 0.03 pound per mmBtu of actual heat input, when operating at 0% to 60% of capacity. See b)(2)a., b)(2)e., and b)(2)g.
c.	OAC rules 3745-31-10 through -20 <i>Prevention of Significant Deterioration</i>	Nitrogen oxides (NOx) emissions shall not exceed 0.14 pound per mmBtu of actual heat input, when operating at 60% to 100% of capacity.



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	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>Nitrogen oxides (NOx) emissions shall not exceed 0.03 pound per mmBtu of actual heat input, when operating at 0% to 60% of capacity.</p> <p>See b)(2)a., b)(2)f., and b)(2)g.</p>
d.	OAC rule 3745-31-05(A)(3), as effective 11/30/2001	<p>Volatile organic compound (VOC) emissions shall not exceed 0.005 pound per mmBtu of actual heat input.</p> <p>Particulate matter (PM) emissions (filterable and condensable), particulate matter 10 microns and less in diameter (PM10) emissions (filterable and condensable), and particulate matter 2.5 microns and less in diameter (PM2.5) emissions shall not exceed 0.007 pound per mmBtu of actual heat input.</p> <p>Sulfur dioxide (SO2) emissions shall not exceed 0.001 pound per mmBtu of actual heat input.</p> <p>See b)(2)c. and b)(2)g.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D) for VOC, PM/PM10/PM2.5, and SO2 emissions.</p>
e.	OAC rule 3745-31-05(A)(3)(b), as effective 12/1/2006	See b)(2)d.
f.	OAC rule 3745-31-05(D) <i>Synthetic Minor to Avoid New Source Review</i>	See b)(2)b.
g.	OAC rule 3745-17-10(B)(1)	Particulate emissions (PE) shall not exceed 0.020 pound per mmBtu of actual heat input.
h.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
i.	40 CFR Part 63, Subpart DDDDD [40 CFR 63.7480-7575]	Table 3 to 40 CFR Part 63, Subpart DDDDD – Work Practice Standards [40 CFR 63.7500].



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	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	In accordance with 63.7490 and 63.7499, the emissions units are new process heaters designed to burn gas 1 fuels and are subject to the work practice standards specified in this rule.]	Pursuant to 40 CFR 63.7495(a), the permittee shall comply with this subpart upon startup of the process heater(s).
j.	40 CFR Part 63, Subpart A (40 CFR 63.7505)	Table 10 to 40 CFR Part 63, Subpart DDDDD – Applicability of General Provisions (Subpart A) to Subpart DDDDD shows which parts of the General Provisions in 40 CFR Part 63.1-15 apply.

(2) Additional Terms and Conditions

- a. The emissions of nitrogen oxides (NOx) from emissions units B053 (43 mmBtu/hr Natural Gas, Indirect-Fired Air Preheater A), B054 (43 mmBtu/hr Natural Gas, Indirect-Fired Air Preheater B), B055 (43 mmBtu/hr Natural Gas, Indirect-Fired Air Preheater C), and B056 (43 mmBtu/hr Natural Gas, Indirect-Fired Air Preheater D), combined, shall not exceed 3.9 tons per year, based upon a rolling, 12-month summation of the monthly emissions.
- b. The emissions from emissions units B053, B054, B055, B056, P291 (Production Test Cell 1 for Engines/Turbines fueled by Liquid Fuels (e.g. Diesel Fuel, Jet Fuel, Biofuels) or Gaseous Fuels), and P292 (Engine Component Test Cell A20 for Engine Components fueled by Liquid Fuels (e.g. Diesel Fuel, Jet Fuel, Biofuels) or Gaseous Fuels), combined, shall not exceed:
 - i. 99.9 tons per year of CO, based upon a rolling, 12-month summation of the monthly emissions;
 - ii. 39.9 tons per year of VOC, based upon a rolling, 12-month summation of the monthly emissions;
 - iii. 9.9 tons per year of PM/PM10/PM2.5 (filterable and condensable), based upon a rolling, 12-month summation of the monthly emissions;
 - iv. 24.9 tons per year of SO2, based upon a rolling, 12-month summation of the monthly emissions; and
 - v. 74,000 tons per year of carbon dioxide equivalent (CO2e), based upon a rolling, 12-month summation of the monthly emissions.

To ensure enforceability during the first 12 calendar months of operation, the permittee shall not exceed the combined emission levels for the above-listed emissions units specified in the following table:



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Month(s)	Maximum Allowable Cumulative Emissions of CO (tons)	Maximum Allowable Cumulative Emissions of VOC (tons)	Maximum Allowable Cumulative Emissions of PM/PM10/PM2.5 (tons)	Maximum Allowable Cumulative Emissions of SO2 (tons)	Maximum Allowable Cumulative Emissions of CO2e (tons)
1	24.99	9.99	2.49	6.24	18,500
1-2	34.98	13.98	3.48	8.73	25,900
1-3	44.97	17.97	4.47	11.22	33,300
1-4	49.96	19.96	4.96	12.46	37,000
1-5	54.95	21.95	5.45	13.7	40,700
1-6	59.94	23.94	5.94	14.94	44,400
1-7	69.93	27.93	6.93	17.43	51,800
1-8	79.92	31.92	7.92	19.92	59,200
1-9	89.91	35.91	8.91	22.41	66,600
1-10	99.9	39.9	9.9	24.9	74,000
1-11	99.9	39.9	9.9	24.9	74,000
1-12	99.9	39.9	9.9	24.9	74,000

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



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

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the volatile organic compound (VOC), particulate matter (PM) (filterable and condensable), particulate matter 10 microns and less in diameter (PM10) (filterable and condensable), particulate matter 2.5 microns and less in diameter (PM2.5), and sulfur dioxide (SO₂) emissions from this air contaminant source since the uncontrolled potential to emit for VOC, PM/PM10/PM2.5, and SO₂ is each less than 10 tons per year.

- e. The permittee has performed a Lowest Achievable Emission Rate (LAER) review for NO_x. The emission limitations based on the LAER requirements are listed under OAC rules 3745-31-21 through -27 in b)(1)b. above. It has been determined that emission limitations alone constitute LAER for this emissions unit.
- f. Based on the "Prevention of Significant Deterioration" (PSD) analysis conducted to ensure the application of "Best Available Control Technology" (BACT), BACT for NO_x has been determined to be no control and is based upon design emissions levels. Compliance with BACT has been determined to be compliance with the emissions limitations established pursuant to OAC rules 3745-31-10 through -20 in b)(1)c. above.
- g. The pound per mmBtu emission limitations for NO_x, CO, VOC, SO₂, and PM/PM10/PM2.5 are based upon the emissions unit's potential to emit. Therefore, no additional monitoring, recordkeeping, or reporting are required to demonstrate compliance with these limitations.
- h. Compliance with ORC 3704.03(T) shall be demonstrated by the emission limitations and compliance with applicable LAER/BACT requirements, record keeping, reporting, and emissions testing required by this permit that are associated with the above ORC 3704.03(T) limitations and requirements.

c) **Operational Restrictions**

- (1) The permittee shall burn only natural gas in this emissions unit.
- (2) See 40 CFR Part 63, Subpart DDDDD (40 CFR 63.7480-7575) for applicable operating restrictions and work practices.

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

- (1) The permittee shall record the following information monthly for this emissions unit:
 - a. the hours of operation and amount of natural gas used, as determined by the fuel flow meter, while operating at 0% to 60% of capacity;
 - b. the hours of operation and amount of natural gas used, as determined by the fuel flow meter, while operating at 60% to 100% of capacity (Note: The emission rate



- of NO_x varies from 60% to 100% capacity, in accordance with a curve provided by the preheater manufacturer. The permittee may compute actual capacity, fuel used at that capacity, and NO_x emissions at that capacity.);
- c. the total hours of operation and amount of natural gas used, as determined by the fuel flow meter; and
 - d. the monthly NO_x, CO, VOC, SO₂, PM/PM₁₀/PM_{2.5}, and CO_{2e} emissions, in tons.
- (2) The permittee shall maintain monthly records of the following information in order to demonstrate compliance with the rolling, 12-month summation emission limitation:
- a. the total monthly emissions, in tons, of NO_x for emissions units B053, B054, B055, and B056, combined; and
 - b. the updated rolling, 12-month summation of NO_x emissions, in tons, for emissions units B053, B054, B055, and B056, combined (the total amount of emissions for the current month plus the total amount of emissions for the previous eleven calendar months).
- (3) The permittee shall maintain monthly records of the following information in order to demonstrate compliance with the rolling, 12-month summation emission limitations:
- a. the total monthly emissions, in tons, of CO, VOC, SO₂, PM/PM₁₀/PM_{2.5}, and CO_{2e} for emissions units B053, B054, B055, B056, P291, and P292, combined; and
 - b. the updated rolling, 12-month summation of CO, VOC, SO₂, PM/PM₁₀/PM_{2.5}, and CO_{2e} emissions, in tons, for emissions units B053, B054, B055, B056, P291, and P292, combined, (the total amount of emissions for the current month plus the total amount of emissions for the previous eleven calendar months). During the first 12 calendar months of operation, the permittee shall record the updated cumulative CO, VOC, SO₂, PM/PM₁₀/PM_{2.5}, and CO_{2e} emissions, in tons, for each calendar month.
- (4) The permittee shall properly install, operate, and maintain equipment to continuously monitor the fuel flow for the emissions unit (cubic feet per minute) during operation of this emissions unit, including periods of startup and shutdown. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee. Fuel flow meters shall meet the requirements of 40 CFR Part 75, Appendix D, or an equivalent approved method, and shall be calibrated annually.
- (5) For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.



- (6) See 40 CFR Part 63, Subpart DDDDD (40 CFR 63.7480-7575) for applicable monitoring and record keeping requirements.

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
 - a. any exceedances of the rolling, 12-month emission limitations (or monthly cumulative emission limitations for the first 12 months of operation, if applicable) for NO_x, CO, VOC, SO₂, PM/PM₁₀/PM_{2.5}, and CO₂e specified in b)(2)a. and b)(2)b.

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

- (2) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
- (3) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (4) See 40 CFR Part 63, Subpart DDDDD (40 CFR 63.7480-7575) for applicable reporting requirements.

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. Emission Limitations:

Carbon monoxide (CO) emissions shall not exceed 0.15 pound per mmBtu of actual heat input.

Volatile organic compound (VOC) emissions shall not exceed 0.005 pound per mmBtu of actual heat input.

Particulate matter (PM) emissions (filterable and condensable), particulate matter 10 microns and less in diameter (PM₁₀) emissions (filterable and condensable), and particulate matter 2.5 microns and less in diameter (PM_{2.5}) emissions shall not exceed 0.007 pound per mmBtu of actual heat input.

Sulfur dioxide (SO₂) emissions shall not exceed 0.001 pound per mmBtu of actual heat input.

Nitrogen oxides (NO_x) emissions shall not exceed 0.14 pound per mmBtu of actual heat input, when operating at 60% to 100% of capacity.



Nitrogen oxides (NO_x) emissions shall not exceed 0.03 pound per mmBtu of actual heat input, when operating at 0% to 60% of capacity.

Applicable Compliance Method:

The pound per mmBtu emission limitations are based on the emissions unit's potential to emit. The pound per mmBtu emission limitations are based on the permittee-supplied emission factors submitted in the application for PTI P0112127.

The pound per mmBtu NO_x and CO emissions limitations are based upon the manufacturer guaranteed emissions factors for this emissions unit.

The pound per mmBtu VOC, PM/PM₁₀/PM_{2.5}, and SO₂ emissions limitations are based upon the emissions factors and following equation from AP-42 Chapter 1.4 Natural Gas Combustion:

$$\left(\frac{\text{EF in lb of pollutant per million standard cubic feet of natural gas fired; AP-42 Table 1.4-2, dtd. 7/1998}}{(1020 \text{ mmBtu per million standard cubic feet of natural gas; AP-42 Table 1.4-2, dtd. 7/1998})} \right) = \text{lb of pollutant per mmBtu.}$$

If required, the permittee shall demonstrate compliance with these emission limitations through emission testing performed in accordance with the appropriate methods found in 40 CFR Part 60, Appendix A, or other U.S. EPA recognized test methods, with prior approval from the Ohio EPA.

b. Emission Limitations:

For emissions units B053, B054, B055, and B056, combined, NO_x emissions shall not exceed 3.9 tons per year, based upon a rolling, 12-month summation of the monthly emissions.

For emissions units B053, B054, B055, B056, P291, and P292, combined, emissions shall not exceed:

99.9 tons per year of CO, based upon a rolling, 12-month summation of the monthly emissions;

39.9 tons per year of VOC, based upon a rolling, 12-month summation of the monthly emissions;

9.9 tons per year of PM/PM₁₀/PM_{2.5} (filterable and condensable), based upon a rolling, 12-month summation of the monthly emissions;

24.9 tons per year of SO₂, based upon a rolling, 12-month summation of the monthly emissions; and

74,000 tons per year of carbon dioxide equivalent (CO₂e), based upon a rolling, 12-month summation of the monthly emissions.



Applicable Compliance Method:

The permittee shall develop an Emissions Protocol Document which shall be maintained at the facility and shall be made available to the appropriate Ohio EPA District Office or local air agency upon request. The Emissions Protocol Document shall define procedures for (a) developing emission factors; (b) calculating emission rates; and (c) conducting periodic audits of the procedure. The permittee has developed emission factors pursuant to protocols referenced in 40 CFR Part 87, ICAO Annex 16, AP-42, and 40 CFR Part 98 for use in the emissions tracking and record keeping for engines tested at this facility.

Emission factors shall be developed for NO_x, CO, VOC, SO₂, PM/PM₁₀/PM_{2.5} (filterable and condensable), and CO_{2e} for each new engine family to be tested at this facility. In the event that measured factors are not available, engineering judgment shall be used to develop estimated emission factors for each new engine family.

The filterable portion of the PM/PM₁₀/PM_{2.5} emissions factor shall be developed from facility information. The condensable portion of the PM/PM₁₀/PM_{2.5} emissions factor shall be developed by calculating the ratio of the filterable particulate AP-42 emissions factor to the condensable particulate AP-42 emissions factor and applying it to the facility-developed filterable portion of the emissions factor.

Compliance with the annual emission limitations, in tons per year, shall be demonstrated by the record keeping requirements specified in d)(1) through d)(3). The permittee shall calculate the emission rates using the emission factors and the automated instantaneous fuel flow tracking required for emissions units P291 and P292, and fuel flow meters for emissions units B053, B054, B055, and B056.

The permittee shall conduct periodic audits to ensure continued operation of the emission tracking system. The permittee shall retain records to document the results of the periodic audits.

The permittee shall make provisions for the Ohio EPA and/or the Southwest Ohio Air Quality Agency to execute the same audit procedure at any time during normal business hours.

c. Emission Limitation:

Particulate emissions (PE) shall not exceed 0.020 pound per mmBtu of actual heat input.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with the pound per mmBtu emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5 and procedures specified in OAC rule 3745-17-03(B)(9).



d. Emission Limitation:

Visible particulate emissions from the stack shall not exceed 20 percent opacity as a six-minute average, except as specified by rule.

Applicable Compliance Method:

Compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9, 40 CFR Part 60, Appendix A.

No visible emissions observations are specifically required to demonstrate compliance with this emission limitation but, if appropriate, may be required pursuant to OAC rule 3745-15-04(A).

g) Miscellaneous Requirements

(1) None.