



John R. Kasich, Governor  
Mary Taylor, Lt. Governor  
Craig W. Butler, Director

8/31/2016

Mr. Thomas Euclide  
Kent State University Heating Plant  
P.O. Box # 5190  
Kent, OH 44242

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL  
Facility ID: 1667040085  
Permit Number: P0120865  
Permit Type: Administrative Modification  
County: Portage

Certified Mail

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

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) Air Pollution Permit-to-Install (PTI) which will allow you to install or modify the described emissions unit(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, we urge you to read it carefully. Because this permit contains conditions and restrictions, please read it very carefully. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**
- **What should you do if you notice a spill or environmental emergency?**

**How to appeal this permit**

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

Environmental Review Appeals Commission  
77 South High Street, 17th Floor  
Columbus, OH 43215

## **How to save money, reduce pollution and reduce energy consumption**

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: [www.ohioairquality.org/clean\\_air](http://www.ohioairquality.org/clean_air)

## **How to give us feedback on your permitting experience**

Please complete a survey at [www.epa.ohio.gov/survey.aspx](http://www.epa.ohio.gov/survey.aspx) and give us feedback on your permitting experience. We value your opinion.

## **How to get an electronic copy of your permit**

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Division of Air Pollution Control (DAPC) Web page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc) by clicking the "Search for Permits" link under the Permitting topic on the Programs tab.

## **What should you do if you notice a spill or environmental emergency?**

Any spill or environmental emergency which may endanger human health or the environment should be reported to the Emergency Response 24-HOUR EMERGENCY SPILL HOTLINE toll-free at (800) 282-9378. Report non-emergency complaints to the appropriate district office or local air agency.

If you have any questions regarding your permit, please contact Akron Regional Air Quality Management District at (330)375-2480 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,



Michael E. Hopkins, P.E.  
Assistant Chief, Permitting Section, DAPC

Cc: U.S. EPA  
ARAQMD; Pennsylvania; West Virginia; Canada



**FINAL**

**Division of Air Pollution Control  
Permit-to-Install  
for  
Kent State University Heating Plant**

Facility ID: 1667040085  
Permit Number: P0120865  
Permit Type: Administrative Modification  
Issued: 8/31/2016  
Effective: 8/31/2016





**Division of Air Pollution Control**  
**Permit-to-Install**  
for  
Kent State University Heating Plant

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**Final Permit-to-Install**  
Kent State University Heating Plant  
**Permit Number:** P0120865  
**Facility ID:** 1667040085  
**Effective Date:** 8/31/2016

## Authorization

Facility ID: 1667040085  
Facility Description: Colleges, Universities, and Professional Schools.  
Application Number(s): A0055864  
Permit Number: P0120865  
Permit Description: Administrative modification for routine maintenance to replace the combustion engine with a like-for-like unit in a Solar Turbines Taurus 60 cogeneration stationary gas turbine.  
Permit Type: Administrative Modification  
Permit Fee: \$12.50  
Issue Date: 8/31/2016  
Effective Date: 8/31/2016

This document constitutes issuance to:

Kent State University Heating Plant  
P.O. Box 5190  
Kent, OH 44242-0001

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

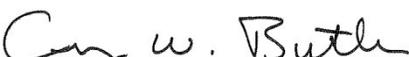
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Akron Regional Air Quality Management District  
1867 West Market St.  
Akron, OH 44313  
(330)375-2480

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

  
Craig W. Butler  
Director



**Final Permit-to-Install**  
Kent State University Heating Plant  
**Permit Number:** P0120865  
**Facility ID:** 1667040085  
**Effective Date:**8/31/2016

## Authorization (continued)

Permit Number: P0120865

Permit Description: Administrative modification for routine maintenance to replace the combustion engine with a like-for-like unit in a Solar Turbines Taurus 60 cogeneration stationary gas turbine.

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

|                                   |                        |
|-----------------------------------|------------------------|
| <b>Emissions Unit ID:</b>         | <b>B008</b>            |
| Company Equipment ID:             | Solar Gas Turbine GT-1 |
| Superseded Permit Number:         | 16-02332               |
| General Permit Category and Type: | Not Applicable         |



**Final Permit-to-Install**  
Kent State University Heating Plant  
**Permit Number:** P0120865  
**Facility ID:** 1667040085  
**Effective Date:** 8/31/2016

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

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

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

**2. Severability Clause**

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

**3. General Requirements**

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

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

#### **4. Monitoring and Related Record Keeping and Reporting Requirements**

- a) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
  - (1) The date, place (as defined in the permit), and time of sampling or measurements.
  - (2) The date(s) analyses were performed.
  - (3) The company or entity that performed the analyses.
  - (4) The analytical techniques or methods used.
  - (5) The results of such analyses.
  - (6) The operating conditions existing at the time of sampling or measurement.
- b) Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c) Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
  - (1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Akron Regional Air Quality Management District.

- (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 Akron Regional Air Quality Management District. 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 to the Akron Regional Air Quality Management District 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 Akron Regional Air Quality Management District in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06.

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

## 6. Compliance Requirements

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

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

Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a Responsible Official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.

- b) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
- (1) At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
  - (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
  - (3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
  - (4) As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- c) The permittee shall submit progress reports to the Akron Regional Air Quality Management District 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 Akron Regional Air Quality Management District.
- 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 Akron Regional Air Quality Management District. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

**10. Applicability**

This Permit-to-Install is applicable only to the emissions unit(s) identified in the Permit-to-Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s) not exempt from the requirement to obtain a Permit-to-Install.

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

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

Director within a reasonable time before the termination date and the permittee shows good cause for any such extension.

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

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

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

## 12. Permit-To-Operate Application

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

**13. Construction Compliance Certification**

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

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

**14. Public Disclosure**

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

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

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

**16. Fees**

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

**17. Permit Transfers**

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

**18. Risk Management Plans**

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

**19. Title IV Provisions**

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.



**Final Permit-to-Install**  
Kent State University Heating Plant  
**Permit Number:** P0120865  
**Facility ID:** 1667040085  
**Effective Date:** 8/31/2016

## **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. **OAC rule 3745-31-05(D) Special terms and conditions including federally enforceable limitations on potential to emit**

This facility includes the heating plant and campus-wide insignificant and trivial Title V status emissions units. The heating plant includes two identical natural gas/fuel oil-fired boilers (emissions units B006 and B007, each unit rated at 121 million Btu per hour heat input), a natural gas/fuel oil-fired cogeneration gas turbine (emissions unit B008, rated at 64.18 million Btu per hour), a natural gas-fired duct burner (emissions unit B009, rated at 76.2 million Btu per hour heat input), and a natural gas-fired cogeneration gas turbine (emissions unit B010, rated at 76.0 million Btu per hour).

In order for this facility to continue to avoid major new source review (NSR) program requirements, the following emissions limitations, operating restrictions, monitoring and record keeping, reporting and compliance demonstration requirements, shall apply to the heating plant, emissions units B006 through B010:

- a) **Emissions Limitations:**

Annual emissions, based upon a rolling, 12-month summation of the monthly emissions, shall be limited to the following:

Particulate emissions (PE): 9.5 tons per year;

Carbon monoxide (CO): 87.0 tons per year;

Nitrogen oxides (NO<sub>x</sub>): 99.0 tons per year; and

Sulfur dioxide (SO<sub>2</sub>): 99.0 tons per year.

- b) **Operational Restrictions:**

- (1) If burned exclusively, with no usage of gas, the maximum annual oil usage for emissions units B006 through B008, combined, shall not exceed 2.627 million gallons based upon a rolling, 12-month summation of the monthly oil usage rates;

- (2) If burned exclusively, with no usage of gas, the maximum annual oil usage for emissions unit B008 shall not exceed 0.740 million gallons based upon a rolling, 12-month summation of the monthly oil usage rates;

- (3) If burned exclusively, with no usage of oil, the maximum annual gas usage for emissions units B006 through B010, combined, shall not exceed 1414 million cubic feet based upon a rolling, 12-month summation of the monthly gas usage rates;

- (4) If oil is substituted for gas in emissions units B006 and/or B007, then the annual limit of 1414 million cubic feet of natural gas shall be reduced by 71.5 cubic feet for each gallon of oil burned; and
- (5) If oil is substituted for gas in emissions unit B008, then the annual limit of 1414 million cubic feet of natural gas shall be reduced by 540 cubic feet for each gallon of oil burned.

c) **Monitoring and/or Recordkeeping Requirements:**

The permittee shall maintain monthly records of the following information for emissions units B006 through B010, combined:

- (1) the monthly amount of oil burned (gallons);
- (2) the rolling, 12-month amount of oil burned (gallons);
- (3) the monthly amount of gas burned (cubic feet);
- (4) the rolling, 12-month amount of gas burned (cubic feet);
- (5) the monthly emissions (tons) for each of PE, CO, NO<sub>x</sub> and SO<sub>2</sub>; and
- (6) the rolling, 12-month emission rates (tons) for each of PE, CO, NO<sub>x</sub> and SO<sub>2</sub>.

d) **Reporting Requirements:**

The permittee shall submit quarterly deviation (excursion) reports for the heating plant, emissions units B006 through B010, that identify:

- (1) all exceedances of the rolling, 12-month fuel usage rates, each for oil and gas, as specified above in Operational Restrictions in this term (term #2 of the “**B. Facility-Wide Terms and Conditions**”), that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit; and
- (2) all exceedances of the rolling, 12-month emission rates, for PE, CO, NO<sub>x</sub> and SO<sub>2</sub>, for emissions units B006 through B010, combined, as specified above in Emissions Limitations in this term (term #2 of the “**B. Facility-Wide Terms and Conditions**”), that restrict the potential to emit (PTE) for emissions of PE, CO, NO<sub>x</sub> and SO<sub>2</sub> and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
- (3) the probable cause of each deviation (excursion);
- (4) any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
- (5) the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted,electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

e) **Compliance Demonstration Requirements:**

Compliance with the above 9.5 tons per year PE, 87.0 tons per year CO, 99.0 tons per year NOx and 99.0 tons per year SO2 emissions limitations,based upon a rolling, 12-month summation of the monthly emissions, shall be demonstrated in accordance with the above Monitoring and/or Recordkeeping Requirements in this term (term #2 of the "**B. Facility-Wide Terms and Conditions**") using the synthetic minor potential to emit strategy in "Permit to Install Application Supporting Documentation" prepared 10/21/03 by David Marczely, Environmental Design Group, 450 Grant Street, Akron, Ohio 44311, and contained in the application for Permit to Install #16-02332 that was issued final 05/11/2004.



**Final Permit-to-Install**  
Kent State University Heating Plant  
**Permit Number:** P0120865  
**Facility ID:** 1667040085  
**Effective Date:** 8/31/2016

## **C. Emissions Unit Terms and Conditions**

**1. B008, Solar Gas Turbine GT-1**

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

Combustion Turbine CT 1 – Engine Replacement

- 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) b)(1)(f), b)(2)(c) through (e), and g)(1).
- b) Applicable Emissions Limitations and/or Control Requirements
  - (1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

|    | Applicable Rules/Requirements                                    | Applicable Emissions Limitations/Control Measures   |
|----|--|---|
| a. | OAC rule 3745-31-05(A)(3)<br><br>Best Available Technology (BAT) | Visible particulate emissions (PE) shall not exceed 20% opacity, as a 6-minute average.<br><br>PE shall not exceed 0.014 pound per million Btu heat input.<br><br>Carbon monoxide (CO) emissions shall not exceed 0.13 pound per million Btu heat input.<br><br><u>When burning gas:</u><br><br>Nitrogen oxides (NO <sub>x</sub> ) emissions shall not exceed 0.10 pound per million Btu heat input (25 ppmvd, mathematically adjusted to 15% oxygen as a diluent).<br><br><u>When burning oil:</u><br><br>NO <sub>x</sub> emissions shall not exceed 0.40 pound per million Btu heat input (98 ppmvd, mathematically adjusted to 15% oxygen as a diluent).<br><br>The requirements of OAC rule 3745-31-05(A)(3) also include compliance with the requirements of OAC rules 3745-18-06(A), 3745-18-06(F) and 3745-31-05(D), |

|    | Applicable Rules/Requirements                    | Applicable Emissions Limitations/Control Measures   |
|----|--|---|
|    |  | and 40 CFR Part 60, Subpart A.<br><br>See b)(2)a. and b)(2)b.   |
| b. | OAC rule 3745-18-06(A)<br><br>[When burning gas] | Fuel burning equipment, stationary gas turbines, jet engine test stands and stationary internal combustion engines are exempt from paragraphs (D), (F) and (G) of this rule and from rules 3745-18-07 to 3745-18-94 of the Administrative Code during any calendar day in which natural gas is the only fuel burned.  |
| c. | OAC rule 3745-18-06(F)<br><br>[When burning oil] | Except as otherwise indicated in paragraph (H) of this rule or in rules 3745-18-07 to 3745-18-94 of the Administrative Code, no owner or operator of any stationary gas turbine shall cause or permit the maximum emission of sulfur dioxide from any source to exceed 0.5 pound of sulfur dioxide per MM Btu actual heat input.  |
| d. | OAC rule 3745-31-05(D)                           | See term #2 of <b>"B. Facility-Wide Terms and Conditions"</b> above.  |
| e. | OAC Chapter 3745-103                             | Exempt.<br>See b)(2)c.  |
| f. | OAC chapter 3745-110                             | Per definitions in OAC rule 3745-110-01, this combined cycle stationary combustion turbine is a "Stationary combustion turbine", and is an "affected source" located at an "affected facility". This affected source is subject to either the applicable emissions limits in OAC rule 3745-110-03(E)(1)(b), or the RACT studies for stationary sources requirements of OAC rule 3745-110-03(I). This emissions unit meets the applicability requirements of OAC rule 3745-110-02(A)(1) as an existing source located in Portage County.<br><br>The emission limitation by this rule specified for natural gas firing is less than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).<br><br>See b)(2)(d) through (e). |
| g. | 40 CFR Part 60, Subpart A                        | The permittee shall comply with all   |

|    | Applicable Rules/Requirements   | Applicable Emissions Limitations/Control Measures   |
|----|---|---|
|    |   | applicable requirements of 40 CFR Part 60, Subpart A (General Provisions).<br><br>See b)(2)f.   |
| h. | 40 CFR Part 75  | Exempt. See b)(2)c.   |
| i. | 40 CFR Part 63, Subpart YYYY  | Exempt. This stationary combustion turbine is not located at a major source of HAP emissions.   |
| j. | OAC rule 3745-17-07(A)<br>OAC rule 3745-17-11(B)(4)<br>40 CFR Part 60, Subpart GG | The emission limitations specified by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3). |

(2) Additional Terms and Conditions

- a. The PE, NO<sub>x</sub> and CO emissions limits established pursuant to OAC rule 3745-31-05(A)(3) and the SO<sub>2</sub> emissions limit from OAC rule 3745-18-06(F) are equal to or greater than the potential to emit for this emissions unit. Therefore, no monitoring, record keeping, or reporting requirements are necessary to ensure ongoing compliance with these emissions limits.
- b. The permittee shall apply for and, if required, obtain a modification to this permit or obtain a new final Permit-to-Install (PTI) prior to making any change to equipment, change in fuels burned, change in the method of operation, or any other change of this emissions unit that results in an increase in the allowable emissions or results in an increase in emissions of greater than the de minimis levels in OAC rule 3745-15-05 for any type of air contaminant not previously emitted.
- c. This emissions unit is exempt from the acid rain program requirements in 40 CFR Parts 72 and 75 and in OAC Chapter 3745-103 pursuant to the exemption for non-utility units specified in 40 CFR Part 72.6 (b)(8) and OAC rule 3745-103-02(B)(8).
- d. B008 is subject to the NO<sub>x</sub> RACT requirements of rule OAC 3745-110 when burning natural gas. [OAC 3745-110 is not applicable while burning distillate oil since oil is burned only during curtailments and thus B008 is exempt per OAC 3745-110-03 (K)(21) "Any affected source whose utilization in less than ten per cent of its capacity factor on an annual average basis over a three-year rolling period and less than twenty per cent of its capacity factor in any year of the three-year rolling period."] Except as otherwise provided in paragraphs (I) and (J) of this rule, on and after the compliance deadline specified by rule 3745-110-04 of the Administrative Code, pursuant to 3745-110-03 E.(2)(b) no owner or operator of a combined cycle turbine rated at 3.5 megawatts up to, and including 25.0 megawatts, shall allow or permit the discharge into the ambient air of any NO<sub>x</sub> emissions in excess of the following:

42.0 ppmvd, corrected to fifteen per cent oxygen, for combustion turbines firing only natural gas fuel, for both mechanical drive and electrical generation.

The above NO<sub>x</sub> RACT emission limit when firing natural gas is less stringent than the BAT limit in 1.b.1) a. above.

- e. On May 12, 2011, Ohio's NO<sub>x</sub> RACT rule, OAC Chapter 3745-110, became effective. However, this rule has not yet been approved by the 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 OAC Chapter 3745-110, the requirements of this rule will be enforceable under state law only.
- f. The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency. The requirements of 40 CFR Part 60 are also federally enforceable.

c) Operational Restrictions

- (1) No fuels, other than No. 2 fuel oil (with less than or equal to 0.5 per cent by weight sulfur) and natural gas, shall be burned in this emissions unit.

d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than natural gas and/or oil, as specified above, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
- (2) The permittee shall monitor the volume (i.e., the respective gallons of oil), and associated % by weight sulfur and heat content (Btu/gal) of the oil burned in the turbine. The frequency of determination of these values shall be as follows:
  - a. If the turbine is supplied fuel oil from a bulk storage tank, the values shall be determined by sampling each delivery prior to combining it with fuel oil already in the intended storage tank.
  - b. If the turbine is supplied fuel oil without intermediate bulk storage, the values shall be determined and recorded daily. The permittee or fuel oil vendors may develop custom schedules for determination of the values based on the design and operation of the affected facility and the characteristics of the fuel oil supply. These custom schedules shall be substantiated with data and must be approved by the administrator before they can be used to comply with this section.

e) Reporting Requirements

- (1) 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.

- (2) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas and/or oil, as specified above, was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

f) Testing Requirements

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

a. Emission Limitation:

Visible particulate emissions (PE) shall not exceed 20% opacity, as a 6-minute average.

Applicable Compliance Method:

If required, compliance with the stack visible PE limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

b. Emission Limitation:

PE shall not exceed 0.014 pound per million Btu heat input.

Applicable Compliance Methods:

The potential to emit is equal to the above emissions limitation, as demonstrated below:

$E = 0.014 \text{ lb PE/mmBtu heat input}$  [potential emissions per AP-42, 9/98, Table 3.1-1].

If required, the permittee shall demonstrate compliance based on the results of emission testing conducted in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.

c. Emission Limitation:

Carbon monoxide (CO) emissions shall not exceed 0.13 pound per million Btu heat input.

The potential to emit is equal to the above emission limitation, as demonstrated below:

$E = 0.13 \text{ lb CO/mmBtu heat input}$  [manufacturer's specifications, distillate oil-fired];



Applicable Compliance Method:

If required, the permittee shall demonstrate compliance based on the results of emission testing conducted in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 10.

d. Emission Limitation:

When burning gas:

Nitrogen oxides (NO<sub>x</sub>) emissions shall not exceed 0.10 pound per million Btu heat input (25 ppmvd, mathematically adjusted to 15% oxygen as a diluent).

When burning oil:

NO<sub>x</sub> emissions shall not exceed 0.40 pound per million Btu heat input (98 ppmvd, mathematically adjusted to 15% oxygen as a diluent).

Applicable Compliance Method:

The potential to emit is equal to the above emission limitations, as demonstrated below:

$E = 0.10 \text{ lb NO}_x/\text{mmBtu heat input [manufacturer's specifications, natural gas-fired]; \&}$

$E = 0.40 \text{ lb NO}_x/\text{mmBtu heat input [manufacturer's specifications, distillate oil-fired];}$

If required, the permittee shall demonstrate compliance based on the results of emission testing conducted in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 7E.

e. Emission Limitation:

When burning oil:

No owner or operator of any stationary gas turbine shall cause or permit the maximum emission of sulfur dioxide from any source to exceed 0.5 pound of sulfur dioxide per MM Btu actual heat input.

Applicable Compliance Method:

Compliance with the above emissions limit shall be demonstrated through the fuel oil quality record keeping requirements in section d)(2) above.

If required, the permittee shall demonstrate compliance based on the results of emission testing conducted in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 6.

- (2) Compliance with the fuel sulfur content restriction of this permit shall be determined by any qualified person as follows:
  - a. sulfur content: ASTM D 2880-71 shall be used for liquid fuels, and ASTM D 1072-80, D 3031-81, D 4084-82, or D 3246-81 shall be used for gaseous fuels. The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some fuel gases. Dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the approval of the Administrator.
  
- g) Miscellaneous Requirements
  - (1) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified Permit-to-Install (PTI) prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new PTI.