



State of Ohio Environmental Protection Agency

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

**CERTIFIED MAIL**

Street Address:

122 S. Front Street

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

Mailing Address:

Lazarus Gov. Center  
P.O. Box 1049

**Application No: 14-05546**

**DATE: 6/10/2004**

University of Cincinnati  
Jan-Arthur Utrecht  
210218 51 West Corry Boulevard  
Cincinnati, OH 452210218

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

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

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

Environmental Review Appeals Commission  
309 South Fourth Street, Room 222  
Columbus, Ohio 43215

Sincerely,

Michael W. Ahern, Supervisor  
Field Operations and Permit Section  
Division of Air Pollution Control

cc: USEPA

HCDES



**Permit To Install  
Terms and Conditions**

**Issue Date: 6/10/2004  
Effective Date: 6/10/2004**

**FINAL PERMIT TO INSTALL 14-05546**

Application Number: 14-05546  
APS Premise Number: 1431384117  
Permit Fee: **\$200**  
Name of Facility: University of Cincinnati  
Person to Contact: Jan-Arthur Utrecht  
Address: 210218 51 West Corry Boulevard  
Cincinnati, OH 452210218

Location of proposed air contaminant source(s) [emissions unit(s)]:  
**8570 Reading Road  
Cincinnati, Ohio**

Description of proposed emissions unit(s):  
**1495 bhp engine with a 1000 kW (10.1 mmBtu/hour) emergency and peak-shaving generator.**

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

## Part I - GENERAL TERMS AND CONDITIONS

### A. Permit to Install General Terms and Conditions

#### 1. Compliance Requirements

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

#### 2. Reporting Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

#### 3. Records Retention Requirements

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.

#### 4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized

representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

**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 of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. 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 emissions unit(s) that is (are) served by such control system(s).

**6. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

**7. 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.

**8. Termination of Permit to Install**

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

**9. Construction of New Sources(s)**

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio

Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

**10. 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.

**11. Applicability**

This Permit To Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate Permit To Install for the installation or modification of any other emissions unit(s) are required for any emissions unit for which a Permit To Install is required.

**12. Best Available Technology**

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

**13. Source Operation and Operating Permit Requirements After Completion of Construction**

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the emissions unit(s) covered by this permit.

University of Cincinnati  
 PTI Application: 14-05546  
 Issued: 6/10/2004

Facility ID: 1431384117

#### 14. Construction Compliance Certification

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit to Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

#### 15. Fees

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

### B. Permit to Install Summary of Allowable Emissions

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

SUMMARY (for informational purposes only)  
 TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons Per Year</u>
PE	0.29
PM10	0.24
SO2	1.54
NOx	15.87
CO	3.53
OC	0.55

**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**

**A. Applicable Emissions Limitations and/or Control Requirements**

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	
P001 - A 1495 bhp diesel engine with a 1000 kW emergency and peaking generator	OAC rule 3745-31-05(A)(3)	OAC rule 3745-17-07(A)(1)
		OAC rule 3745-17-11(B)(5)(b)
		OAC rule 3745-18-06(G)
		OAC rule 3745-21-08(B)
		OAC rule 3745-23-06(B)

Applicable Emissions  
Limitations/Control Measures

0.029 lb PE(PM)/MMBTU\*; 0.29  
TPY PE(PM)  
0.024 lb PM10/MMBTU\*; 0.24  
TPY PM10  
0.154 lb SO2/MMBTU\*; 1.54 TPY  
SO2  
15.87 lbs NOx/hr\*; 15.87 TPY  
NOx  
3.53 lbs CO/hr\*; 3.53 TPY CO  
0.55 lb OC/hr\*; 0.55 TPY OC

\*These emission limitations are based upon the emissions unit's potential to emit. Therefore, no records are required to demonstrate compliance with these limits.

See terms and conditions B.1 and B.2.

Visible particulate emissions from any stack shall not exceed 10 percent opacity, as a six-minute average, except as specified by rule.

The requirements of this rule also include compliance with the requirements of OAC rule 3745-23-06(B).

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

The emission limitation specified by

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

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

See term and condition A.2.a

See term and condition A.2.b

**2. Additional Terms and Conditions**

- 2.a** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08 by committing to comply with the best available technology requirements established in Permit to Install 14-05546.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to 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 the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.b** The permittee shall satisfy the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by complying with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this permit to install.
- 2.c.** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by compliance with the visible emission limitations, mass emission limitations, hours of operation limitation and the use of diesel fuel with a maximum sulfur content of 0.3%.

**B. Operational Restrictions**

1. The maximum annual operating hours for this emissions unit shall not exceed 2000 hours.
2. The permittee shall burn only low-sulfur diesel fuel in this emissions unit that is 0.3% sulfur, by weight, or less. Compliance with this specification shall be determined by using analytical results provided by the permittee or oil supplier for each shipment of diesel fuel.

**C. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall collect and record the following information for this emissions unit:
  - a. the total hours of operation for this emissions unit for each month; and
  - b. the year-to-date summation of the hours of operation for this emissions unit.
2. For each day during which the permittee burns a fuel other than diesel fuel, the permittee shall maintain a record of the type and quantity of the fuel burned in this emissions unit.
3. For each shipment of diesel fuel (oil) received for burning in this emissions unit, the permittee shall collect or require the oil supplier to collect a representative grab sample of oil and maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated SO<sub>2</sub> emission rate (in lbs/mmBtu). The SO<sub>2</sub> emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F). A shipment may be comprised of multiple tank truck loads from the same supplier's batch, and the quality of the oil for those loads may be represented by a single batch analysis from the supplier.

The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with 40 CFR Part 60, Appendix A, Method 19, or the appropriate ASTM methods (such as, ASTM methods D240 and D4294), or equivalent methods as approved by the Director.

**D. Reporting Requirements**

1. The permittee shall submit quarterly deviation (excursion) reports to the Hamilton County Department of Environmental Services that identify the following:
  - a. each day when a fuel other than diesel fuel was burned in this emissions unit;

Emissions Unit ID: P001

- b. all exceedances of the annual hours of operation limitation (January 31 report only); and
  - c. all exceedances of the fuel sulfur content in term and condition B.2.
2. The quarterly deviation reports shall be submitted in accordance with the reporting requirements specified in Part I - General Terms and Conditions.

## E. Testing Requirements

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

Emission Limitations:

0.029 lb PE/MMBTU; 0.29 TPY PE  
0.024 lb PM10/MMBTU; 0.24 TPY PM10

Applicable Compliance Method:

The short term PE emission limitation was established based on the manufacturer's emission factor of 0.29 lb PE/hr and 0.24 lb PM10/hr divided by the rated heat input, 10.1 MMBTU/hr, as submitted in the PTI application 14-05546 on March 5, 2004. Maximum PE emissions are at 100% load or 1495 bhp.

If required, the permittee shall demonstrate compliance with the hourly PE emission limitation through emission tests performed in accordance with Method 5 of 40 CFR Part 60, Appendix A. PM10 was calculated at 0.822 times PE emissions.

Compliance with the annual emission limitations for the pollutants specified above are ensured if compliance is maintained with the maximum annual operating hours (i.e., 2000 hours per calendar year). The annual emissions shall be calculated by multiplying the hourly emission rate by the annual operating hours, and dividing by 2,000 lbs/ton.

Emission Limitations:

0.154 lb SO<sub>2</sub>/MMBTU; 1.54 TPY SO<sub>2</sub>

Applicable Compliance Method:

The short term SO<sub>2</sub> emission limitation was established by multiplying the manufacturer's emission factor of 1165 g/hr, as submitted in the PTI application 14-05546 on March 5, 2004, by 0.3/0.5 (permitted maximum to tested sulfur content ratio) by 0.0022046 lb/g, and divided by the rated heat input, 10.1 MMBTU/hr. Maximum SO<sub>2</sub> emissions occur at 100% load or 1495 bhp.

The permittee shall perform or require the supplier to perform the analyses for sulfur content and

heat content in accordance with 40 CFR Part 60, Appendix A, Method 19, or the appropriate ASTM methods (such as, ASTM methods D240 and D4294), or equivalent methods as approved by the Director. The SO<sub>2</sub> emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F).

Emissions Unit ID: **P001**

Compliance with the annual emission limitations for the pollutants specified above are ensured if compliance is maintained with the maximum allowable fuel sulfur content and the maximum annual operating hours (i.e., 2000 hours per calendar year). The annual emissions shall be calculated by multiplying the hourly emission rate by the annual operating hours, and dividing by 2,000 lbs/ton.

## Emission Limitations:

15.87 lbs NO<sub>x</sub>/hr; 15.87 TPY NO<sub>x</sub>

## Applicable Compliance Method:

The hourly NO<sub>x</sub> emission limitation was established by multiplying the manufacturer's emission factor of 7200 g/hr, as submitted in the PTI application 14-05546 on March 5, 2004, by 0.0022046 lb/g. Maximum NO<sub>x</sub> emissions occur at 75% load or 1121.25 bhp.

If required, the permittee shall demonstrate compliance with the hourly NO<sub>x</sub> emission limitation through emission tests performed in accordance with Methods 1- 4 and 7 of 40 CFR Part 60, Appendix A.

Compliance with the annual emission limitations for the pollutants specified above are ensured if compliance is maintained with the maximum annual operating hours (i.e., 2000 hours per calendar year). The annual emissions shall be calculated by multiplying the hourly emission rate by the annual operating hours, and dividing by 2,000 lbs/ton.

## Emission Limitations:

3.53 lbs CO/hr; 3.53 TPY CO

## Applicable Compliance Method:

The hourly CO emission limitation was established by multiplying the manufacturer's emission factor of 1600 g/hr, as submitted in the PTI application 14-05546 on March 5, 2004, by 0.0022046 lb/g. Maximum CO emissions occur at 100 % load or 1495 bhp.

If required, the permittee shall demonstrate compliance with the hourly CO emission limitation through emission tests performed in accordance with Methods 1- 4 and 10 of 40 CFR Part 60, Appendix A.

Compliance with the annual emission limitations for the pollutants specified above are ensured if compliance is maintained with the maximum annual operating hours (i.e., 2000 hours per calendar year). The annual emissions shall be calculated by multiplying the hourly emission rate by the annual operating hours, and dividing by 2,000 lbs/ton.

## Emission Limitations:

14

**Unive]**

**PTI A**

**Issued: 6/10/2004**

Emissions Unit ID: **P001**

0.55 lb OC/hr; 0.55 TPY OC

Applicable Compliance Method:

The hourly OC emission limitation was established by multiplying the manufacturer's emission factor of 248 g/hr, as submitted in the PTI application 14-05546 on March 5, 2004, by 0.0022046 lb/g. Maximum OC emissions occur at 10 % load or 149.5 bhp.

If required, the permittee shall demonstrate compliance with the hourly OC emission limitation through emission tests performed in accordance with Methods 1-4 and 25 of 40 CFR Part 60, Appendix A.

Compliance with the annual emission limitations for the pollutants specified above are ensured if compliance is maintained with the maximum annual operating hours (i.e., 2000 hours per calendar year). The annual emissions shall be calculated by multiplying the hourly emission rate by the annual operating hours, and dividing by 2,000 lbs/ton.

2. Visible Emissions Limitation:

Visible PE from any stack shall not exceed 10% opacity, as a 6-minute average, except as specified by rule.

Applicable Compliance Method:

If required, compliance with the visible PE limitation shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Test Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

3. Operating Hours Restriction:

2000 hours per calendar year

Applicable Compliance Method:

Compliance with the operating hours restriction in term and condition B.1 shall be determined by the record keeping requirements specified in term and condition C.1.

4. Compliance with the fuel oil sulfur limitation in term B.2 shall be demonstrated by the record keeping in term C.3.

**F. Miscellaneous Requirements**

None