Facility Name: **University of Dayton**
Application Number: **08-3957**
Date: **May 26, 1999**

GENERAL PERMIT CONDITIONS

TERMINATION OF PERMIT TO INSTALL

Substantial construction for installation must take place within 18 months of the effective date of this permit. 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.

NOTICE OF INSPECTION

The Director of the Ohio Environmental Protection Agency, or his authorized representatives, may enter upon the premises of the above-named applicant during construction and operation at any reasonable time for the purpose of making inspections, conducting tests, or to examine records or reports pertaining to the construction, modification or installation of the source(s) of environmental pollutants identified within this permit.

CONSTRUCTION OF NEW SOURCES

The proposed source(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 are inadequate or cannot meet applicable standards.

If the construction of the proposed source(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 Ohio Administrative Code (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 applicable standards.

PERMIT TO INSTALL FEE

In accordance with Ohio Revised Code 3745.11, the specified Permit to Install fee must be remitted within 30 days of the effective date of this permit to install.

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.

APPLICABILITY

This Permit to Install is applicable only to the contaminant sources identified. Separate application must be made to the Director for the installation or modification of any other contaminant sources.

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.

PERMIT TO OPERATE APPLICATION

A Permit to Operate application must be submitted to the appropriate field office for each air contaminant source in this Permit to Install. In accordance with OAC Rule 3745-35-02, the application shall be filed no later than thirty days after commencement of operation.

SOURCE OPERATION 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 and regulations.

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Facility Name: **University of Dayton**
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Ohio EPA Source Number	Source Identification Number	BAT Determination	Applicable Federal & OAC Rules	Permit Allowable Mass Emissions and/or Control/Usage Requirements

AIR EMISSION SUMMARY

The air contaminant emissions units listed below comprise the Permit to Install for **University of Dayton** located in **Montgomery** County. The emissions units listed below shall not exceed the emission limits/control requirements contained in the table. This condition in no way limits the applicability of any other state or federal regulations. Additionally, this condition does not limit the applicability of additional special terms and conditions of this permit.

Ohio EPA Source Number

B036

B038

B036 Cont'd

B038 Cont'd

B037

B039

B037 Cont'd

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Ohio EPA Source Number	Source Identification Number	BAT Determination	Applicable Federal & OAC Rules	Permit Allowable Mass Emissions and/or Control/Usage Requirements
		Source Identification Description		
		17 mm Btu/ hour natural gas boiler		
			17 mm Btu/ hour natural gas boiler	
				17 mm Btu/ hour natural gas boiler
B039 Cont'd				
	B040 Cont'd			
B040				

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17 mm Btu/ hour natural gas boiler				
	17 mm Btu/ hour natural gas boiler			

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BAT Determination

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Ohio EPA Source Number	Source Identification Number	BAT Determination	Applicable Federal & OAC Rules	Permit Allowable Mass Emissions and/or Control/Usage Requirements

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Ohio EPA Source Number	Source Identification Number	BAT Determination	Applicable Federal & OAC Rules	Permit Allowable Mass Emissions and/or Control/Usage Requirements
	Applicable Federal & OAC Rules	NSPS 40 CFR Part 60, Subpart Dc		
	3745-17-10 (B)(1)	3745-17-07		
		3745-17-10 (B)(1)	NSPS 40 CFR Part 60, Subpart Dc	
	3745-31-05		3745-17-07	
		3745-31-05	3745-17-10 (B)(1)	NSPS 40 CFR Part 60, Subpart Dc
				3745-17-07
			3745-31-05	3745-17-10 (B)(1)
				3745-31-05

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Ohio EPA Source Number	Source Identification Number	BAT Determination	Applicable Federal & OAC Rules	Permit Allowable Mass Emissions and/or Control/Usage Requirements
			**	See A.1. below
NSPS 40 CFR Part 60, Subpart Dc 3745-17-07 3745-17-10 (B)(1)	NSPS 40 CFR Part 60, Subpart Dc 3745-17-07	Permit Allowable Mass Emissions and/or Control/Usage Requirements 0.020 pound of particulate emissions per mmBtu actual heat input*** 0.46 TPY particulate 0.14 pound of nitrogen oxides per mmBtu actual heat input; 10.42 TPY nitrogen oxides, with the total combined nitrogen oxides emissions for B036, B037, B038, B039, and B040 not to exceed 18.0 TPY as a rolling 12-month limit 0.084 pound of carbon monoxide per mmBtu actual heat input; 6.25 TPY carbon monoxide 5 percent opacity, as a 6-minute average See A.1. below	0.020 pound of particulate emissions per mmBtu actual heat input*** 0.46 TPY particulate 0.14 pound of nitrogen oxides per mmBtu actual heat input; 10.42 TPY nitrogen oxides, with the total combined nitrogen oxides emissions for B036, B037, B038, B039, and B040 not to exceed 18.0 TPY as a rolling 12-month limit 0.084 pound of carbon monoxide per mmBtu actual heat input; 6.25 TPY carbon monoxide 5 percent opacity, as a 6-minute average	**
				0.020 pound of particulate emissions per mmBtu actual heat input*** 0.46 TPY particulate 0.14 pound of nitrogen oxides per mmBtu actual heat input; 10.42 TPY nitrogen oxides, with the total combined nitrogen oxides emissions for B036, B037, B038, B039, and B040 not to exceed 18.0 TPY as a rolling 12-month limit 0.084 pound of carbon monoxide per mmBtu actual heat input; 6.25 TPY carbon monoxide 5 percent opacity, as a 6-minute average

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Ohio EPA Source Number	Source Identification Number	BAT Determination	Applicable Federal & OAC Rules	Permit Allowable Mass Emissions and/or Control/Usage Requirements
See A.1. below	TPY nitrogen oxides, with the total combined nitrogen oxides emissions for B036, B037, B038, B039, and B040 not to exceed 18.0 TPY as a rolling 12-month limit	heat input*** 0.46 TPY particulate 0.14 pound of nitrogen oxides per mmBtu actual heat input; 10.42 TPY nitrogen oxides, with the total combined nitrogen oxides emissions for B036, B037, B038, B039, and B040 not to exceed 18.0 TPY as a rolling 12-month limit		
0.020 pound of particulate emissions per mmBtu actual heat input**	0.084 pound of carbon monoxide per mmBtu actual heat input; 6.25 TPY carbon monoxide	0.084 pound of carbon monoxide per mmBtu actual heat input; 6.25 TPY carbon monoxide		
0.46 TPY particulate	5 percent opacity, as a 6-minute average	5 percent opacity, as a 6-minute average		
0.14 pound of nitrogen oxides per mmBtu actual heat input; 10.42	See A.1. below	See A.1. below		
	**	**		
	0.020 pound of particulate emissions per mmBtu actual			

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Ohio EPA Source Number	Source Identification Number	BAT Determination	Applicable Federal & OAC Rules	Permit Allowable Mass Emissions and/or Control/Usage Requirements

* BAT is compliance with the applicable OAC rule, allowable mass emission rates, and recordkeeping.

** The limit based on this rule is less stringent than the limit established pursuant to OAC rule 3745-31-05 above.

*** Compliance with the pound of particulate emission per mmBTU actual heat input limit from OAC rule 3745-17-10(B)(1) shall satisfy the BAT requirement of OAC rule 3745-31-05.

SUMMARY
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

Pollutant	Tons/Year
Particulate	2.3
NO_x	18.0
CO	31.25

NSPS REQUIREMENTS

The following sources are subject to the applicable provisions of the New Source Performance Standards (NSPS) as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60.

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Source Number	Source Description	NSPS Regulation (Subpart)
B036, B037, B038, B039, and B040	17 mmBtu natural gas boilers	Dc

The application and enforcement of these standards are delegated to the Ohio EPA. The requirements of 40 CFR Part 60 are also federally enforceable.

Pursuant to the NSPS, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:

a. construction date (no later than 30 days after such date);
b. anticipated start-up date (not more than 60 days or less than 30 days prior to such date);
c. actual start-up date (within 15 days after such date); and
d. date of performance testing (If required, at least 30 days prior to testing).

Reports are to be sent to:

Ohio Environmental Protection Agency
DAPC - Permit Management Unit
P.O. Box 163669
Columbus, OH 43216-3669

and **Regional Air Pollution Control**
451 West Third Street
Dayton, OH 45422

REPORTING REQUIREMENTS

Unless otherwise specified, reports required by the Permit to Install need only be submitted to **Regional Air Pollution Control, 451 West Third Street, Dayton, OH 45422.**

ADDITIONAL SPECIAL TERMS AND CONDITIONS

Facility Name: **University of Dayton**
Application Number: **08-3957**
Date: **May 26, 1999**

A. Additional Terms and Conditions

1. The NSPS regulation does not specify emission limits for units burning only natural gas.

2. The permittee operates five identical natural gas boilers identified by Ohio EPA IDs 0857040178 B036, B037, B038, B039, B040. Each boiler has a maximum rated capacity of 17 mmBtu/hr.

3. The maximum natural gas usage for the five boilers combined shall not exceed 257 million cubic feet based on a rolling, 12-month summation.

4. The emissions of nitrogen oxides from the five boilers combined shall not exceed 18.0 tons based on a rolling, 12-month summation.

B. Operational Restrictions

1. To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the following natural gas usage for the five boilers combined:

Months	Maximum, Cumulative Total Natural Gas Usage mm cft
1	21.42
1-2	42.84
2-3	64.26
3-4	85.68
4-5	107.10
5-6	128.52
6-7	149.94
7-8	171.36
8-9	192.78
9-10	214.20
10-11	235.62
11-12	257.00

After the first 12 calendar months of operation following the effective date of this permit, the permittee shall comply with the annual natural gas usage limitation based upon rolling 12-month summations.

2. This emissions unit shall be restricted to the use of natural gas at all times.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information for emissions units B036, B037, B038, B039, and B040 combined:

   a. the amount of natural gas burned (million cubic feet);

   b. the rolling, 12-month summation of natural gas usage (million cubic feet);

   c. the calculated emission rate of nitrogen oxides, in tons; and,

   d. the combined rolling, 12-month summation of the nitrogen oxides emissions rates, in tons.

2. 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 the permit. Such records may be maintained in computerized form.

D. <u>Reporting Requirements</u>

1. The permittee shall submit quarterly deviation (excursion) reports which identify all exceedances of:

   a. the rolling, 12-month, natural gas usage limitation;

   b. the rolling, 12-month, nitrogen oxides limitation; and,

   c. for the first 12 calendar months of operation following the issuance of this permit, the maximum allowable cumulative natural gas usage levels.

2. The quarterly deviation (excursion) reports shall be submitted in the following manner:

a. reports of any required monitoring and/or recordkeeping information shall be submitted to the Regional Air Pollution Control Agency; and,

b. except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviation (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected bt the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventative measures which have been or will be taken, shall be submitted to the Regional Air Pollution Control 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 IAC rule 3745-15-06).

3. The permittee shall also submit annual reports which specify (a) the total natural gas usage and (b) the nitrogen oxides emissions for emissions units B036, B037, B038, B039, and B040 for the previous calendar year. These reports shall be submitted by January 31 of each year.

E. Compliance Methodology

1. Compliance with the emission limitation(s) in this permit shall be determined in accordance with the following method (s):

a. Emission Limitation

0.020 pound of particulate per mmBtu actual heat input, when burning natural gas

Applicable Compliance Method

Compliance shall be determined by multiplying the maximum hourly gas burning capacity of the emissions unit (0.017 mm cft) by the AP-42 emission factor for natural gas (6.2 lbs part/mm cft) and dividing by the maximum hourly heat input capacity of the emissions unit (17 mmBtu/hr).

b. Emission Limitation

0.46 TPY particulate

Applicable Compliance Method

The 0.46 TPY limitation was developed by multiplying the 0.020 lb part./mmBtu limitation by the maximum hourly heat input capacity of the emissions unit (17 mmBtu/hr) and the maximum operating schedule of 8,760 hrs/yr, and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the pound/mmBtu limitation, compliance will also be shown with the annual limitation.

c. Emission Limitation

0.14 pound of nitrogen oxides per mmBtu actual heat input, when burning natural gas

Applicable Compliance Method

Compliance shall be determined by multiplying the maximum hourly gas burning capacity of the emissions unit (0.017 mm cft) by the AP-42 emission factor for natural gas (140 lbs NO_x/mm cft) and dividing by the maximum hourly heat input capacity of the emissions unit (17 mmBtu/hr).

d. Emission Limitation

10.42 TPY maximum nitrogen oxides

Applicable Compliance Method

The 10.42 TPY limitation was developed by multiplying the 0.14 lb NO_x/mmBtu limitation by the maximum hourly heat input capacity of the emissions unit (17 mmBtu/hr) and the maximum operating schedule of 8,760 hrs/yr, and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the pound/mmBtu limitation, compliance will also be shown with the annual limitation.

e. Emission Limitation

18.0 TPY total combined nitrogen oxide emissions for B036, B037, B038, B039, B040 as a rolling 12-month summation

Applicable Compliance Method

Compliance shall be based upon recordkeeping as specified in Section C.1.

f. Emission Limitation

0.084 pound of carbon monoxide per mmBtu actual heat input

Applicable Compliance Method

Compliance shall be determined by multiplying the maximum hourly gas burning capacity of the emissions unit (0.017 mm cft) by the AP-42 emission factor (2/98) for natural gas (84 lbs CO/mm cft) and dividing by the maximum hourly heat input capacity of the emissions unit (17 mmBtu/hr).

g. Emission Limitation

6.25 TPY carbon monoxide

Applicable Compliance Method

The 6.25 TPY limitation was developed by multiplying the 0.084 lb carbon monoxide/mmBtu limitation by the maximum hourly heat input capacity of the emissions unit (17 mmBtu/hr) and the maximum operating schedule of 8,760 hrs/yr, and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the pound/mmBtu limitation, compliance will also be shown with the annual limitation.

h. Emission Limitation

5 percent opacity, as a 6-minute average

Applicable Compliance Method

Compliance shall be determined by visible emission evaluations performed in accordance with OAC rule

3745-17-03(B) (1) using the methods and procedures specified in USEPA Reference Method 9.