



State of Ohio Environmental Protection Agency

Street Address:

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Mailing Address:

Lazarus Gov. Center  
P.O. Box 1049  
Columbus, OH 43216-1049

**RE: FINAL PERMIT TO INSTALL  
KNOX COUNTY  
Application No: 01-8006**

**CERTIFIED MAIL**

	TOXIC REVIEW
	PSD
X	SYNTHETIC MINOR
	CEMS
	MACT
	NSPS
	NESHAPS
	NETTING
	MAJOR NON-ATTAINMENT
	MODELING SUBMITTED
	GASOLINE DISPENSING FACILITY

**DATE: November 17, 1999**

Cooper Energy Services  
Louis Burcsak  
105 North Sandusky Street  
Mount Vernon, OH 43050

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 Director's 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  
236 East Town Street, Room 300  
Columbus, Ohio 43215

Very truly yours,

Thomas G. Rigo, Manager  
Field Operations and Permit Section  
Division of Air Pollution Control

cc: USEPA  
DAPC, CDO



**FINAL PERMIT TO INSTALL 01-8006**

Application Number: 01-8006

APS Premise Number: 0142010112

Permit Fee: **\$200**

Name of Facility: Cooper Energy Services

Person to Contact: Louis Burcsak

Address: 105 North Sandusky Street  
Mount Vernon, OH 43050

Location of proposed air contaminant source(s) [emissions unit(s)]:

**105 North Sandusky Street  
Mount Vernon, Ohio**

Description of proposed emissions unit(s):

**MODIFICATION OF LIMITS FOR 1 RECIPROCATING ENGINE TEST STAND.**

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

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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 Related to Monitoring and Recordkeeping 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 are inadequate 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 prove to be inadequate 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 application must be made to the Director for the installation or modification of any other emissions unit(s).

**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 thirty (30) days after commencing operation of the emissions unit(s) covered by this permit.

**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>
Facility Limits	Engines
*NOx w/NG	59.38
w/diesel	11.70
*CO w/NG	71.25
w/diesel	3.12
*VOC w/NG	29.69
w/diesel	4.34
*PM w/NG	1.78
w/diesel	0.16
*SOx w/NG	0.04
w/diesel	1.30

- limits are for all facility reciprocating engines (16)

**PART II: SPECIAL TERMS AND CONDITIONS**

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

- 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>	<u>Applicable Emissions Limitations/Control Measures</u>
Reciprocating Engine /Compressor Test Stand (stack 74-S-17) using Natural Gas and Diesel	OAC rule 3745-17-11(B)(5)	Particulate emissions shall not exceed 0.062 pound per MMBtu of actual heat input for large bore internal combustion engine; and shall not exceed 0.31 pound per MMBtu of actual heat input for a small bore internal combustion engine;
	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed twenty per cent opacity, as a six-minute average, except as otherwise specified by rule;
	OAC rule 3745-18-06(G)	Sulfur dioxide emissions shall not exceed 0.5 pound per MMBtu of actual heat input;
	OAC rule 3745-18-06(A)	Exempt from SO <sub>2</sub> limitations when burning only natural gas having a heat content greater than 950 Btu per standard cubic feet and a sulfur content less than 0.6 pound per million standard cubic feet;
	OAC rule 3745-31-05	Hourly emissions from the combustion of natural gas in this emissions unit shall not exceed the following limits:  49.40 lbs NO <sub>x</sub> /hr; 59.28 lbs CO/hr; 24.70 lbs VOC/hr; 1.48 lbs PM/hr; and 0.03 lb SO <sub>2</sub> /hr

OAC rule 3745-31-05(D)

Hourly emissions from the combustion of diesel fuel in this emissions unit shall not exceed the following limits:

105.75 lbs NO<sub>x</sub>/hr;  
28.20 lbs CO/hr;  
39.25 lbs VOC/hr;  
1.46 lbs PM/hr; and  
11.75 lbs SO<sub>2</sub>/hr

Annual emissions from the combustion of natural gas in engines using this fuel, including emissions units P008, P009, P010, P011, P012, P013, P014, P015, P016, P017, P018, P022, P027, P028, P029, and P030 shall not exceed the following limits:

59.38 tons NO<sub>x</sub> per rolling 12- months;  
71.25 tons CO per rolling 12- months;  
29.69 tons VOC per rolling 12- months;  
1.78 tons PM per rolling 12- months;  
and  
0.04 ton SO<sub>2</sub> per rolling 12- months

Annual emissions from the combustion of diesel fuel in all engines burning this fuel, including emissions units P008, P009, P010, P011, P012, P013, P014, P015, P016, P017, P018, P022, P027, P028, P029, and P030 shall not exceed the following limits:

11.70 tons NO<sub>x</sub> per rolling 12- months;  
3.12 tons CO per rolling 12- months;  
4.34 tons VOC per rolling 12- months;  
0.16 ton PM per rolling 12- months;  
and  
1.30 tons SO<sub>2</sub> per rolling 12- months

See Section B1 through B4  
See Section A.2

## 2. Additional Terms and Conditions

Fuel usage shall be tracked on a rolling 12-month basis for all R&D reciprocating engines; this shall include other petroleum distillates used in turbines that may be installed in emission unit test stand P028.

**B. Operational Restrictions**

1. This emissions unit shall only be fired with natural gas or diesel fuel.
2. Annual natural gas usage in all R&D reciprocating test engines (and turbines in P028), emissions units P008, P009, P010, P011, P012, P013, P014, P015, P016, P017, P018, P022, P027, P028, P029, and P030, shall not exceed 125,000,000 cubic feet per rolling 12-months; and

Annual diesel fuel usage in all R&D reciprocating test engines (including other petroleum distillates used in P028 when testing a turbine), emissions units P008, P009, P010, P011, P012, P013, P014, P015, P016, P017, P018, P022, P027, P028, P029, and P030, shall not exceed 40,000 gallons per rolling 12-months.

3. The quality of the diesel fuel burned in this emissions unit shall meet the following specifications on an "as received" basis:
  - a. a sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.5 pound sulfur dioxide/MMBtu actual heat input; and
  - b. greater than 130,000 Btu/gallon of diesel fuel.

Compliance with the above-mentioned specifications shall be determined by using monitoring and testing methods described Sections C and E of this permit.

4. To ensure enforceability during the first 12 calendar months of operation, the fuel usage in all reciprocating engines (and turbines in P028) tested in emissions units P008, P009, P010, P011, P012, P013, P014, P015, P016, P017, P018, P022, P027, P028, P029, and P030 shall not exceed the following natural gas and diesel fuel (\*distillate) usage limits, as specified in the following table:

Month	Natural Gas (ft3)	Diesel/Distillate fuels*(gal)
1	10,416,666	3,333
2	20,833,333	6,666
3	31,250,000	10,000
4	41,666,666	13,333
5	52,083,333	16,666
6	62,500,000	20,000
7	72,916,666	23,333
8	83,333,333	26,666
9	93,750,000	30,000
10	104,166,666	33,333
11	114,583,333	36,666
12	125,000,000	40,000

After the first twelve months, compliance shall be demonstrated by maintaining 12-month rolling records of fuel usage.

\* if a turbine is installed at test stand unit P028, this fuel limit shall include other distillate fuels (e.g. kerosene or jet fuel)

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

1. The facility shall install, maintain, and operate, in accordance with the manufacturers specifications, instrumentation sufficient to track all natural gas and oil usage for each engine and engine/compressor unit tested at this test stand during periods of operation. Records of natural gas and oil usage shall be maintained for each engine installed at the test stand, as per Section C.3 below.
2. The facility shall maintain a record of the company identification of each reciprocating engine installed at this test stand, which would reference the engine size based on the heat input needed at peak load in MMBtu per hour and/or gigajoules per hour and the date each engine was installed and removed from the test stand.
3. The permittee shall maintain monthly records which include the following:
  - a. the total fuel burned, natural gas (ft<sup>3</sup>) and/or diesel fuel (gallons), in the engine or engine/compressor units tested at this test stand during the month; and
  - b. the rolling, 12-month summation of each type fuel used in emissions units P008, P009, P010, P011, P012, P013, P014, P015, P016, P017, P018, P022, P027, P028, P029, and P030.
4. The permittee shall collect or require the oil supplier to collect a representative grab sample for each shipment of diesel fuel that is received for burning in this emissions unit. The permittee shall perform or require the supplier to perform the analysis for sulfur content and heat content in accordance with the following ASTM methods: ASTM method D4294, ASTM method D240, or ASTM method 6010 for sulfur content; and ASTM method D240 for heat content. Alternative, equivalent methods may be used upon written approval by the Ohio EPA Central District Office. For each shipment of diesel fuel received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received and the permittee's or oil supplier's analysis for sulfur content and heat content.
5. With each shipment of diesel fuel received or with any change in the quality of natural gas received at the facility, the representative sulfur dioxide emission rate from fuels shall be calculated as specified in OAC rule 3745-18-04(F):
  - a. each shipment of diesel fuel received shall be tested for the sulfur content and heat content or the oil supplier's analysis shall be provided, and the records of testing results maintained, per Section C.4. Until stack testing is conducted, as per Section E.8, the SO<sub>2</sub> per MMBtu emissions shall be determined per OAC rule 3745-18-04(F)(2);
  - b. for natural gas that has been documented (and maintained on record) to have a heat content

greater than 950 Btu per standard cubic foot and a sulfur content less than 0.5 pound per million standard cubic feet, the sulfur dioxide emission rate shall be considered to be equal to and recorded as 0.0 pound of sulfur dioxide per MM Btu, per 3745-18-04(F)(4); and

- c. for natural gas with a heat content equal to or less than 950 Btu per standard cubic foot and/or a sulfur content equal to or more than 0.6 pound per million standard cubic feet, the representative sulfur dioxide emission rate from any sample shall be determined per OAC rule 3745-18-04(F)(3).

#### **D. Reporting Requirements**

1. The permittee shall submit, on a quarterly basis, copies of the permittee's or oil supplier's analysis for each shipment of diesel fuel which is received for burning in this emissions unit. The permittee's or oil supplier's analysis shall document the sulfur content (percent) and heat content (Btu/gallon) for each shipment of diesel. The following information shall also be included with the copies of the permittee's or oil supplier's analysis:
  - a. the total quantity of diesel fuel received in each shipment (gallons);
  - b. the weighted\* average sulfur dioxide emission rate (pounds/MMBtu) for the diesel fuel received during the calendar month; and
  - c. the weighted\* average heat content (Btu/gallon) of the diesel fuel received during the calendar month.

These quarterly reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the oil shipments received and fuel usage during the previous calendar quarters.

\* In proportion to the quantity of diesel received in each shipment during the month

2. The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling 12-month fuel usage limitations and/or limits established for the first 12 calendar months of operation following issuance of this permit, as per Section B.4. These reports are due by the date described in Part 1 - General Terms and Conditions of this permit under Section A.
3. The permittee shall also submit annual reports which specify the total emissions and fuel usage from this emissions unit for the previous calendar year. The annual fuel usage report shall be submitted by January 31<sup>st</sup> of each year. The emissions report may be satisfied by including this source in the submission of the annual Fee Emission Report or may be submitted with the fuel usage report.

#### **E. Testing Requirements**

Compliance with the emission limitations contained in this permit shall be determined in accordance with the following methods:

1. Emission Limitation

0.062 pound PM per million Btu of actual heat input for large bore internal combustion engine

0.31 pound PM per million Btu of actual heat input for small bore internal combustion engine

Applicable Compliance Method

Compliance shall be demonstrated by using the appropriate emission factors from "Compilation of Air Pollutant Emission Factors", Fifth Edition (AP-42) Table 3.4-2 and 3.2-2 (or other factors approved by the Ohio EPA), or if required, testing of the exhaust stack, using Methods 1 through 5, found in 40 CFR Part 60, Appendix A:

Pollutant	Emission Factor	Source of Factor
PM w/ diesel	0.062 lb PM/MM Btu	AP-42 Table 3.4-2
PM w/ natural gas	0.03 lb PM/MM Btu	AP-42 Table 3.2-2

2. Emission limitation

0.5 lb SO<sub>2</sub>/mm Btu actual heat input

Applicable Compliance Method

Compliance shall be demonstrated by testing the sulfur content and heat content of each shipment of diesel fuel received and maintaining records of these testing results or the oil supplier's analysis, per Section C.4. Until stack testing is conducted, as per Section E.8, the SO<sub>2</sub> per MMBtu emissions shall be calculated per OAC rule 3745-18-04(F)(2) as follows:

$ER = (1 \times 10E6) / H \times D \times S \times 1.974$ , where:

ER = emission rate in pounds of SO<sub>2</sub> per MM Btu  
 H = the heat content of the liquid fuel in Btu per gallon  
 D = the density of the liquid fuel in pounds per gallon; and  
 S = the decimal fraction of sulfur in the liquid fuel

For natural gas that has been documented (and maintained on record) to have a heat content greater than 950 Btu per standard cubic foot and a sulfur content less than 0.5 pound per million standard cubic feet, the sulfur dioxide emission rate shall be considered to be equal to and recorded as 0.0 pound of sulfur dioxide per MM Btu, per 3745-18-04(F)(4); and

For natural gas with a heat content equal to or less than 950 Btu per standard cubic foot and/or a sulfur content equal to or more than 0.6 pound per million standard cubic feet, the representative sulfur dioxide emission rate from any sample shall be calculated per OAC rule 3745-18-04(F)(3) as follows:

$ER = (1 \times 10E6) / H \times D \times S \times 1.998$ , where:

ER = emission rate in pounds of SO<sub>2</sub> per MM Btu  
 H = the heat content of the gaseous fuel in Btu per standard cubic foot  
 D = the density of the gaseous fuel in Btu per standard cubic foot; and

S = the decimal fraction of sulfur in the gaseous fuel

3. Emission limitation

Visible particulate emissions shall not exceed 20% opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method

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

4. Rolling 12-month emission limitations from distillate fuels

Rolling 12-month emission limits from diesel fuel combustion in all facility reciprocating engines and kerosene, jet fuel, and all other petroleum distillate oil combustion in all turbines installed in emissions unit P028:

- 11.70 tons NOx per rolling 12 months;
- 3.12 tons CO per rolling 12 months;
- 4.34 tons VOC per rolling 12 months;
- 0.16 ton PM per rolling 12 months; and
- 1.30 tons SO2 per rolling 12 months

Applicable Compliance Method

Compliance with the annual 12-month rolling emissions from the combustion of distillate fuel oils in all reciprocating engines (and any turbine installed in emissions unit P028), including emissions units P008, P009, P010, P011, P012, P013, P014, P015, P016, P017, P018, P022, P027, P028, P029, and P030, shall be demonstrated through the monthly recordkeeping of the total total diesel fuel, kerosene, jet fuel, and any other petroleum distillate oil consumed in all reciprocating engines and turbines using these fuels, and adding the rolling 12-month total distillate fuel usage each month. Emissions shall be calculated using the following emission factors from "Compilation of Air Pollutant Emission Factors", Fifth Edition (AP-42) Table 3.4-2 for reciprocating engines and Table 3.1-1 for turbines dated 10/96, or other factors derived from testing and approved by the Ohio EPA Central District Office:

Reciprocating Engine:

Pollutant	Emission Factor	Source of Factor
NOx w/ diesel	4.50 lbs/MM Btu	Facility Testing Results
CO w/ diesel	1.20 lbs/MM Btu	Facility Testing Results
VOC w/ diesel	1.67 lbs/MM Btu	Facility Testing Results
PM w/ diesel	0.062 lb/MM Btu	AP-42 Table 3.4-2
SO2 w/ diesel	0.50 lb/MM Btu	Limit from 3745-18-06(G)

5. Rolling 12-month emission limitations from natural gas

Rolling 12-month emission limits for natural gas combustion in all facility reciprocating engines and all turbines installed in emissions unit P028:

- 59.38 tons NOx per rolling 12 months;
- 71.25 tons CO per rolling 12 months;
- 29.69 tons VOC per rolling 12 months;
- 1.78 tons PM per rolling 12 months; and
- 0.04 ton SO2 per rolling 12 months

Applicable Compliance Method

Compliance with the annual 12-month rolling emissions from the combustion of natural gas in all reciprocating engines (and any turbine installed in emissions unit P028), including sources P008, P009, P010, P011, P012, P013, P014, P015, P016, P017, P018, P022, P027, P028, P029, and P030, shall be demonstrated through the monthly recordkeeping of the total natural gas consumed in all facility engines and turbines (P028) using natural gas, and adding the rolling 12-month total natural gas usage each month. Emissions shall be calculated using the following emission factors from "Compilation of Air Pollutant Emission Factors", Fifth Edition (AP-42) Table 3.2-2 for reciprocating engines and Table 3.1-1 and 3.2-1 for turbines dated 10/96, or other factors derived from testing and approved by the Ohio EPA Central District Office:

Reciprocating Engines:

Pollutant	Emission Factor	Source of Factor
NOx w/ natural gas	1.00 lb/MM Btu	Facility Testing Results
CO w/ natural gas	1.20 lbs/MM Btu	Facility Testing Results
VOC w/ natural gas	0.50 lb/MM Btu	Facility Testing Results
PM w/ natural gas	0.03 lb/MM Btu	AP-42 Table 3.2-2
SO2 w/ natural gas	0.0007 lb/MM Btu	Facility Testing Results

6. Hourly emission limits when using diesel fuel

105.75 lbs NO<sub>x</sub>/hr;  
 28.20 lbs CO/hr;  
 39.25 lbs VOC/hr;  
 1.46 lbs PM/hr; and  
 11.75 lbs SO<sub>2</sub>/hr

Applicable Compliance Method

Until testing has been completed, compliance with the hourly emission limits from the combustion of diesel fuel in the testing of any reciprocating engine installed at this test stand shall be demonstrated through the calculation of emissions from the largest fuel capacity engine that could be installed at this test stand and recordkeeping of the fuel consumed per hour. Emissions shall be calculated using the following emission factors from "Compilation of Air Pollutant Emission Factors", Fifth Edition (AP-42) Table 3.4-2 dated 10/96 or other factors derived from testing and approved by the Ohio EPA Central District Office:

Pollutant	Emission Factor	Source of Factor
NO <sub>x</sub> w/ diesel	4.50 lbs/MM Btu	Facility Testing Results (see Section E.8)
CO w/ diesel	1.20 lbs/MM Btu	Facility Testing Results (see Section E.8)
VOC w/ diesel	1.67 lbs/MM Btu	Facility Testing Results
PM w/ diesel	0.062 lb/MM Btu	AP-42 Table 3.4-2
SO <sub>x</sub> w/ diesel	0.50 lb/MM Btu	Limit from 3745-18-06(G) (and see Section C.4)

These emission factors shall be multiplied by the heat input (MM Btu) to obtain the emission rate.

7. Hourly Emission Limit when using natural gas

49.40 lbs NO<sub>x</sub>/hr;  
 59.28 lbs CO/hr;  
 24.70 lbs VOC/hr;  
 1.48 lbs PM/hr; and  
 0.03 lb SO<sub>2</sub>/hr

Applicable Compliance Method

Until testing has been completed, compliance with the hourly emission limits from the combustion of natural gas in the testing of any reciprocating engine installed at this test stand shall be demonstrated through the calculation of emissions from the largest fuel capacity engine that could be installed at this test stand and recordkeeping of the maximum fuel consumed per hour. Emissions shall be calculated using the following emission factors from "Compilation of Air Pollutant Emission Factors", Fifth Edition (AP-42) dated 10/96 or other factors derived from testing and approved by the Ohio EPA Central District Office:

Pollutant	Emission Factor	Source of Factor
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NOx w/ natural gas	1.00 lb/MM Btu	Facility Testing Results (see Section E.8)
CO w/ natural gas	1.20 lbs/MM Btu	Facility Testing Results (see Section E.8)
VOC w/ natural gas	0.50 lb/MM Btu	Facility Testing Results
PM w/ natural gas	0.03 lb/MM Btu	AP-42 Table 3.2-2
SOX w/ natural gas	0.0007 lb/MM Btu	Facility Testing Results

These emission factors shall be multiplied by the heat input (MM Btu) to obtain the emission rate.

8. Emission Limitation

105.75 lbs NOx/hr when using diesel fuel;  
28.20 lbs CO/hr when using diesel fuel;  
49.40 lbs NOx/hr when using natural gas; and  
59.28 lbs CO/hr when using natural gas

Applicable Compliance Method

The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- a. emission testing shall be conducted one time during the term of this permit and within 6 months after issuance of the permit;
- b. emission testing shall be conducted to demonstrate compliance with the hourly allowable mass emission rate of nitrogen oxides and carbon monoxide;
- c. the following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:

40 CFR Part 60, Appendix A, Methods 1 through 4, Method 7, Method 10, and Method 9

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

- d. tests shall be conducted using the largest engines installed using each fuel type, at the time testing is scheduled, and at any one of the emissions units represented in the rolling 12-month limits of this permit ( P008, P009, P010, P011, P012, P013, P014, P015, P016, P017, P018, P022, P027, P028, P029, or P030);
- e. testing shall be conducted while the emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the Ohio EPA Central District Office;

- f. not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA Central District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the tests, and the person(s) who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Ohio EPA Central District Office's refusal to accept the results of the emission tests;
- g. personnel from the Ohio EPA Central District Office shall be permitted to witness the tests, examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment; and
- h. a comprehensive written report on the results of the emissions tests shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA Central District Office within 30 days following completion of the tests. The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA Central District Office.

**F. Miscellaneous Requirements**

This Permit to Install (01-8006) replaces Permit to Install 01-4982