

**Synthetic Minor Determination and/or**  **Netting Determination**

Permit To Install **14-04966**

A. Source Description

The City of Lebanon maintains one diesel engine, five dual fuel fired engines, and two gas/diesel turbines for electric power generation. The City of Lebanon will operate the units only during times of high demand (peaking) or in times of emergency.

B. Facility Emissions and Attainment Status

The City of Lebanon's Maximum Potential Emissions in the absence of a Synthetic Minor Permit are 2681.70 TPY NO<sub>x</sub>, 748.57 TPY CO, 244.72 TPY SO<sub>2</sub>, 58.73 TPY PM/PM<sub>10</sub>, and 443.39 TPY OC. The City of Lebanon's Maximum Potential Emissions of Hazardous Air Pollutants remains less than 10 TPY of any single HAP and less than 25 TPY of total HAPs. The facility resides in Warren County which is designated as Attainment for all pollutants.

C. Source Emissions

The City of Lebanon's Potential (Allowable) Emissions, considering the enforceable fuel usage limits in this permit, are 45.96 TPY NO<sub>x</sub>, 19.42 TPY CO, 0.18 TPY SO<sub>2</sub>, 1.05 TPY PM/PM<sub>10</sub>, and 13.08 TPY OC, all based on rolling, 12-month summations.

D. Conclusion

The City of Lebanon will maintain monthly records in order to demonstrate compliance with the rolling, 12-month fuel usage and emissions limits pursuant to OAC rule 3745-31-05(A)(3) - Best Available Technology. This will allow the facility to operate as a Synthetic Minor facility and avoid the Part 70 Title V and PSD requirements.



State of Ohio Environmental Protection Agency

Street Address:

Mailing Address:

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

Lazarus Gov. Center

**RE: DRAFT PERMIT TO INSTALL  
WARREN COUNTY**

**CERTIFIED MAIL**

**Application No: 14-04966**

**DATE: 12/12/2000**

City of Lebanon  
Thomas Diegel  
50 South Broadway  
Lebanon, OH 45036-0000

You are hereby notified that the Ohio Environmental Protection Agency has made a draft action recommending that the Director issue a Permit to Install for the air contaminant source(s) [emissions unit(s)] shown on the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the proposed installation. A public notice concerning the draft permit will appear in the Ohio EPA Weekly Review and the newspaper in the county where the facility will be located. Public comments will be accepted by the field office within 30 days of the date of publication in the newspaper. Any comments you have on the draft permit should be directed to the appropriate field office within the comment period. A copy of your comments should also be mailed to Robert Hodanbosi, Division of Air Pollution Control, Ohio EPA, P.O. Box 1049, Columbus, OH, 43266-0149.

A Permit to Install may be issued in proposed of final form based on the draft action, any written public comments received within 30 days of the public notice, or record of a public meeting if one is held. You will be notified in writing of a scheduled public meeting. Upon issuance of a final Permit to Install a fee of **\$1200** will be due. Please do not submit any payment now.

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. If you have any questions about this draft permit, please contact the field office where you submitted your application, or Mike Ahern, Field Operations & Permit Section at (614) 644-3631.

Very truly yours,

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

CC: USEPA

HCDES

KY

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OH-KY-IN Reg Coun of Gov



**Permit To Install  
Terms and Conditions**

**Issue Date: To be entered upon final issuance  
Effective Date: To be entered upon final issuance**

**DRAFT PERMIT TO INSTALL 14-04966**

Application Number: 14-04966  
APS Premise Number: 1483060000  
Permit Fee: **To be entered upon final issuance**  
Name of Facility: City of Lebanon  
Person to Contact: Thomas Diegel  
Address: 50 South Broadway  
Lebanon, OH 45036-0000

Location of proposed air contaminant source(s) [emissions unit(s)]:  
**120 West South Street  
Lebanon, Ohio**

Description of proposed emissions unit(s):  
**Modification to five dual fuel engines and one diesel engine for electric power generation.**

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

Issued: To be entered upon final issuance

## 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

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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

**City of Lebanon**

**Facility ID: 1483060000**

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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

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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.

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**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**

<b><u>Pollutant</u></b>	<b><u>Tons Per Year</u></b>
NOx	45.96
CO	19.42
SO2	0.18
PM	1.05
PM10	1.05
OC	13.08

**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 - 700 KW Cooper Bessemer Diesel Engine for Electric Generation (Unit # 1)	OAC rule 3745-31-05(A)(3)	OAC rule 3745-17-11(B)(5)(b)
		OAC rule 3745-18-06(B)
	OAC rule 3745-31-05(D) Synthetic Minor to avoid PSD	
	OAC rule 3745-17-07(A)(1)	

Applicable Emissions  
Limitations/Control Measures

20.2 lbs/hr NO<sub>x</sub>  
5.4 lbs/hr CO  
0.8 lb/hr SO<sub>2</sub>  
0.6 lb/hr OC

See term A.2.a

The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1), OAC rule 3745-17-11(B)(5)(b) and OAC rule 3745-31-05(D).

2.02 TPY NO<sub>x</sub> \*  
0.54 TPY CO \*  
0.08 TPY SO<sub>2</sub>\*  
0.06 TPY OC\*  
0.04 TPY PM/PM<sub>10</sub>\*

\* The TPY emission limitations are based on a rolling, 12-month summation.

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

Particulate emissions from this emissions unit shall not exceed 0.062 pound per million Btu of actual heat input.

Exempt

**2. Additional Terms and Conditions**

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- 2.a** The SO<sub>2</sub> emissions from this emissions unit shall not exceed 0.13 pound per million Btu of actual heat input.
- 2.b** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the diesel fuel usage limitation, the sulfur content limit, and compliance with the applicable emissions limits.
- 2.c** The hourly emission limitations outlined above are based upon the emission unit's potential to emit. Therefore, no hourly records are required to demonstrate compliance with these limits.

**B. Operational Restrictions**

- 1. The maximum annual diesel fuel usage for this emissions unit shall not exceed 9197 gallons per year of diesel fuel, based upon a rolling, 12-month summation of the diesel fuel usage.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the usage levels specified in the following table:

<u>Month</u>	<u>Maximum Allowable Cumulative Diesel Fuel Usage (gallons)</u>
1	4599
1-2	4599
1-3	4599
1-4	4599
1-5	4599
1-6	4599
1-7	5365
1-8	6131
1-9	6898
1-10	7664
1-11	8430
1-12	9197

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual diesel fuel usage rate limitation shall be based upon a rolling, 12-month summation of the diesel fuel usage rates.

- 2. The quality of the fuel burned in this emissions unit shall have a combination of heat and sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.13

pound sulfur dioxide/MMBtu of actual heat input.

### C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information for this emissions unit:
  - a. the gallons of diesel fuel used for each month;
  - b. beginning after the first 12 calendar of operation following issuance of this permit, the updated rolling, 12-month summation of the diesel fuel used for the current month and the preceding eleven calendar months;
  - c. also during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative diesel fuel usage rate for each calendar month;
  - d. the NO<sub>x</sub>, CO, SO<sub>2</sub>, PM and OC emissions for each month; and
  - e. the updated rolling, 12-month summation of the NO<sub>x</sub>, CO, SO<sub>2</sub>, PM and OC emissions for the current month and the preceding eleven calendar months.
2. For each shipment of fuel oil (diesel fuel) received for burning in this emissions unit, the permittee shall 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 sulfur dioxide emission rate (in lbs/MMBtu).

The permittee shall collect or require the oil supplier to collect a representative grab sample for each shipment of oil that is received for burning in this emissions unit. The permittee shall perform or require the supplier to perform the analyses 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 Hamilton County Department of Environmental Services.

### D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 12-month diesel fuel limitation and/or all exceedances of the rolling, 12-month emissions limitations and, for the first 12 calendar months of operation following the issuance of this permit, all exceedances of the maximum allowable cumulative diesel fuel usage levels. The report shall include a copy of such records which contain the exceedance(s) and any corrective actions taken. If no exceedances occurred during the reporting period, the permittee shall state so in the report.

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Emissions Unit ID: **P001**

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2. The permittee shall submit deviation (excursion) reports which identify all shipments of oil which exceed the lbs/MMBtu SO<sub>2</sub> emission limitation. The report shall include a copy of the analytical results which contain the actual sulfur content and actual heat content of the oil and any corrective actions taken. If no exceedances occurred during the reporting period, the permittee shall state so in the report.
3. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

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

1. Emissions Limitations  
20.2 lbs/hr NO<sub>x</sub>  
2.02 TPY NO<sub>x</sub>

Compliance with the NO<sub>x</sub> emissions limitations shall be demonstrated by applying the emission factor (E.F.) from AP-42, Section 3.4, published October, 1996 in the following equations:

- a. actual fuel input (mmBtu/hr) x AP-42 E.F. (3.2 lbs NO<sub>x</sub>/mmBtu) = lbs/hr NO<sub>x</sub>; and
- b. actual fuel input (mmBtu/hr) x actual annual operating hours (hours/year) x AP-42 E.F. (3.2 lbs NO<sub>x</sub>/mmBtu) x ton/2000 lbs = TPY NO<sub>x</sub>.

2. Emissions Limitations  
5.4 lbs/hr CO  
0.54 TPY CO

Compliance with the CO emissions limitations shall be demonstrated by applying the emission factor (E.F.) from AP-42, Section 3.4, published October, 1996 in the following equations:

- a. actual fuel input (mmBtu/hr) x AP-42 E.F. (0.85 lb CO/mmBtu) = lbs/hr CO; and
- b. actual fuel input (mmBtu/hr) x actual annual operating hours (hours/year) x AP-42 E.F. (0.85 lbs CO/mmBtu) x ton/2000 lbs = TPY CO.

3. Emissions Limitations  
0.13 lb SO<sub>2</sub>/mmBtu  
0.8 lbs/hr SO<sub>2</sub>  
0.08 TPY SO<sub>2</sub>

Compliance with the SO<sub>2</sub> emissions limitations shall be demonstrated by applying the emission factor (E.F.) from AP-42, Section 3.4, published October, 1996 in the following equations, where s = % sulfur in fuel oil (for example, if sulfur content is 1.5%, then s = 1.5):

- a. AP-42 E.F. [1.01(s) lb SO<sub>2</sub>/mmBtu] = actual lbs SO<sub>2</sub>/mmBtu
- b. actual fuel input (mmBtu/hr) x AP-42 E.F. [1.01(s) lb SO<sub>2</sub>/mmBtu] = lbs/hr SO<sub>2</sub>; and
- c. actual fuel input (mmBtu/hr) x actual annual operating hours (hours/year) x AP-42 E.F. (1.01(s) lb SO<sub>2</sub>/mmBtu) x ton/2000 lbs = TPY SO<sub>2</sub>.

4. Emissions Limitations  
0.062 lb PM/PM<sub>10</sub>/mmBtu  
0.04 TPY PM/PM<sub>10</sub>

Compliance with the PM/PM<sub>10</sub> emissions limitations shall be demonstrated by applying the allowable PM emission limitation from OAC rule 3745-17-11(B)(5) in the following equations:

- a. actual fuel input (mmBtu/hr) x OAC allowable (0.062 lb PM/PM<sub>10</sub>/mmBtu) = lbs/hr PM/PM<sub>10</sub>; and
- b. actual fuel input (mmBtu/hr) x actual annual operating hours (hours/year) x OAC allowable (0.062 lb PM/PM<sub>10</sub>/mmBtu) x ton/2000 lbs = TPY PM/PM<sub>10</sub>.

5. Emissions Limitations  
0.6 lbs/hr OC  
0.06 TPY OC

Compliance with the OC emissions limitations shall be demonstrated by applying the emission factor (E.F.) from AP-42, Section 3.4, published October, 1996 in the following equations:

- a. actual fuel input (mmBtu/hr) x AP-42 E.F. (0.09 lb OC/mmBtu) = lbs/hr OC; and
- b. actual fuel input (mmBtu/hr) x actual annual operating hours (hours/year) x AP-42 E.F. (0.09 lb OC/mmBtu) x ton/2000 lbs = TPY OC.

6. Compliance with the visible particulate emissions limitation shall be demonstrated according to the procedures outlined in Method 9 of 40 CFR Part 60, Appendix A.
7. Compliance with the rolling, 12-month emissions limitations and rolling, 12-month fuel usage

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Emissions Unit ID: **P001**

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limitation shall be demonstrated by the recordkeeping requirements in section C.1.

**F. Miscellaneous Requirements**

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install 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 pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.
  
2. The following terms and conditions of this permit are federally enforceable: A., B.1, B.2, C.1, C.2, D.1, D.2, D.3 and E.1- E.7.

City of  
PTL

Emissions Unit ID: **P002**

Issued: To be entered upon final issuance

**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>	
P002 - 5600 KW Cooper Bessemer Dual Fuel Engine for Electric Generation (Unit # 8)	OAC rule 3745-31-05(A)(3)	OAC rule 3745-17-11(B)(5)(b)
		OAC rule 3745-18-06(G)
	OAC rule 3745-31-05(D) Synthetic Minor to avoid PSD	
	OAC rule 3745-17-07(A)(1)	

Applicable Emissions  
Limitations/Control Measures

144.4 lbs/hr NO<sub>x</sub>  
62.0 lbs/hr CO  
0.3 lb/hr SO<sub>2</sub>  
42.8 lbs/hr OC

See term A.2.a

The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1), OAC rule 3745-17-11(B)(5)(b) and OAC rule 3745-31-05(D).

14.44 TPY NO<sub>x</sub> \*  
6.2 TPY CO \*  
0.03 TPY SO<sub>2</sub>\*  
4.28 TPY OC\*  
0.33 TPY PM/PM<sub>10</sub>\*

\* The TPY emission limitations are based on a rolling, 12-month summation.

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

Particulate emissions from this emissions unit shall not exceed 0.062 pound per million Btu of actual heat input.

The emission limitation specified by this rule is less stringent than the emission limitation established

pursuant to OAC rule  
3745-31-05(A)(3).

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**2. Additional Terms and Conditions**

- 2.a** The SO2 emissions from this emissions unit shall not exceed 0.13 pound per million Btu of actual heat input.
- 2.b** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the fuel usage limitations, the sulfur content limit, and compliance with the applicable emissions limits.
- 2.c** The hourly emission limitations outlined above are based upon the emission unit's potential to emit. Therefore, no hourly records are required to demonstrate compliance with these limits.

**B. Operational Restrictions**

- 1. The maximum annual "dual fuel" (natural gas and diesel fuel) usage for this emissions unit shall not exceed 10.2 million cubic feet (mmcf) of natural gas per year and 3904 gallons of diesel fuel per year, based upon rolling, 12-month summations of the fuel usage rates.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the usage levels specified in the following table:

<u>Month</u>	<u>Maximum Allowable Cumulative Natural Gas Usage (mmcf)</u>	<u>Maximum Allowable Cumulative Diesel Fuel Usage (gallons)</u>
1	5.10	1952
1-2	5.10	1952
1-3	5.10	1952
1-4	5.10	1952
1-5	5.10	1952
1-6	5.10	1952
1-7	5.95	2277
1-8	6.80	2603
1-9	7.65	2928
1-10	8.50	3253
1-11	9.35	3579
1-12	10.20	3904

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual natural gas and diesel fuel usage rate limitations shall be based upon rolling, 12-month summations of the fuel usage rates.

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2. The quality of the fuel oil burned in this emissions unit shall have a combination of heat and sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.13 pound sulfur dioxide/MMBtu of actual heat input.

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

1. The permittee shall maintain monthly records of the following information for this emissions unit:
  - a. the cubic feet of natural gas and/or the gallons of diesel fuel used for each month;
  - b. beginning after the first 12 calendar of operation following issuance of this permit, the updated rolling, 12-month summation of the amount natural gas used, in millions of cubic feet, for the current month and the preceding eleven calendar months;
  - c. beginning after the first 12 calendar of operation following issuance of this permit, the updated rolling, 12-month summation of the amount of diesel fuel used, in gallons, for the current month and the preceding eleven calendar months;
  - d. also during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative natural gas usage rate for each calendar month;
  - e. also during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative diesel fuel usage rate for each calendar month;
  - f. the NO<sub>x</sub>, CO, SO<sub>2</sub>, PM and OC emissions for each month; and
  - g. the updated rolling, 12-month summation of the NO<sub>x</sub>, CO, SO<sub>2</sub>, PM and OC emissions for the current month and the preceding eleven calendar months.
2. For each shipment of oil received for burning in this emissions unit, the permittee shall 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 sulfur dioxide emission rate (in lbs/MMBtu).

The permittee shall collect or require the oil supplier to collect a representative grab sample for each shipment of oil that is received for burning in this emissions unit. The permittee shall perform or require the supplier to perform the analyses 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 Hamilton County Department of Environmental Services.

#### D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 12-month natural gas and diesel fuel limitation and/or all exceedances of the rolling, 12-month emissions limitations and, for the first 12 calendar months of operation following the issuance of this permit, all exceedances of the maximum allowable cumulative natural gas and diesel fuel usage levels. The report shall include a copy of such records which contain the exceedance(s) and any corrective actions taken. If no exceedances occurred during the reporting period, the permittee shall state so in the report.
2. The permittee shall submit deviation (excursion) reports which identify all shipments of oil which exceed the lbs/MMBtu SO<sub>2</sub> emission limitation. The report shall include a copy of the analytical results which contain the actual sulfur content and actual heat content of the oil and any corrective actions taken. If no exceedances occurred during the reporting period, the permittee shall state so in the report.
3. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

#### E. Testing Requirements

1. Emissions Limitations  
144.4 lbs/hr NO<sub>x</sub>  
14.44 TPY NO<sub>x</sub>

Compliance with the NO<sub>x</sub> emissions limitations shall be demonstrated by applying the emission factor (E.F.) from AP-42, Section 3.4, published October, 1996 in the following equations:

- a.  $\text{actual fuel input (mmBtu/hr)} \times \text{AP-42 E.F. (3.2 lbs NO}_x\text{/mmBtu)} = \text{lbs/hr NO}_x$ ; and
- b.  $\text{actual fuel input (mmBtu/hr)} \times \text{actual annual operating hours (hours/year)} \times \text{AP-42 E.F. (3.2 lbs NO}_x\text{/mmBtu)} \times \text{ton/2000 lbs} = \text{TPY NO}_x$ .

2. Emissions Limitations  
62.0 lbs/hr CO  
6.2 TPY CO

Compliance with the CO emissions limitations shall be demonstrated by applying the emission factor (E.F.) from AP-42, Section 3.4, published October, 1996 in the following equations:

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- a. actual fuel input (mmBtu/hr) x AP-42 E.F. (0.85 lb CO/mmBtu) = lbs/hr CO; and
- b. actual fuel input (mmBtu/hr) x actual annual operating hours (hours/year) x AP-42 E.F. (0.85 lbs CO/mmBtu) x ton/2000 lbs = TPY CO.

3. Emissions Limitations  
0.13 lb SO<sub>2</sub>/mmBtu  
0.3 lbs/hr SO<sub>2</sub>  
0.03 TPY SO<sub>2</sub>

Compliance with the SO<sub>2</sub> emissions limitations shall be demonstrated by applying the emission factor (E.F.) from AP-42, Section 3.4, published October, 1996 in the following equations, where s = % sulfur in fuel oil (for example, if sulfur content is 1.5%, then s = 1.5):

- a. AP-42 E.F. [1.01(s) lb SO<sub>2</sub>/mmBtu] = actual lbs SO<sub>2</sub>/mmBtu
- b. actual fuel input (mmBtu/hr) x AP-42 E.F. [1.01(s) lb SO<sub>2</sub>/mmBtu] = lbs/hr SO<sub>2</sub>; and
- c. actual fuel input (mmBtu/hr) x actual annual operating hours (hours/year) x AP-42 E.F. (1.01(s) lb SO<sub>2</sub>/mmBtu) x ton/2000 lbs = TPY SO<sub>2</sub>.

4. Emissions Limitations  
0.062 lb PM/PM<sub>10</sub>/mmBtu  
0.33 TPY PM/PM<sub>10</sub>

Compliance with the PM/PM<sub>10</sub> emissions limitations shall be demonstrated by applying the allowable PM emission limitation from OAC rule 3745-17-11(B)(5) in the following equations:

- a. actual fuel input (mmBtu/hr) x OAC allowable (0.062 lb PM/PM<sub>10</sub>/mmBtu) = lbs/hr PM/PM<sub>10</sub>; and
- b. actual fuel input (mmBtu/hr) x actual annual operating hours (hours/year) x OAC allowable (0.062 lb PM/PM<sub>10</sub>/mmBtu) x ton/2000 lbs = TPY PM/PM<sub>10</sub>.

5. Emissions Limitations  
42.8 lbs/hr OC  
4.28 TPY OC

Compliance with the OC emissions limitations shall be demonstrated by applying the emission

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factor (E.F.) from AP-42, Section 3.4, published October, 1996 in the following equations:

- a. actual fuel input (mmBtu/hr) x AP-42 E.F. (0.09 lb OC/mmBtu) = lbs/hr OC; and
  - b. actual fuel input (mmBtu/hr) x actual annual operating hours (hours/year) x AP-42 E.F. (0.09 lb OC/mmBtu) x ton/2000 lbs = TPY OC.
6. Compliance with the visible particulate emissions limitation shall be demonstrated according to the procedures outlined in Method 9 of 40 CFR Part 60, Appendix A.
  7. Compliance with the rolling, 12-month emissions limitations and rolling, 12-month natural gas and diesel fuel limitation shall be demonstrated by the recordkeeping requirements in section C.1.

#### **F. Miscellaneous Requirements**

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install 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 pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.
2. The following terms and conditions of this permit are federally enforceable: A., B.1, B.2, C.1, C.2, D.1, D.2, D.3 and E.1- E.7.

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**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>	
P003 - 1245 KW Worthington Dual Fuel Engine for Electric Generation (Unit # 3)	OAC rule 3745-31-05(A)(3)	OAC rule 3745-17-11(B)(5)(b)
		OAC rule 3745-18-06(G)
	OAC rule 3745-31-05(D) Synthetic Minor to avoid PSD	
	OAC rule 3745-17-07(A)(1)	

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<u>Applicable Emissions Limitations/Control Measures</u>	emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
29.9 lbs/hr NO <sub>x</sub> 12.9 lbs/hr CO 0.1 lb/hr SO <sub>2</sub> 8.9 lb/hr OC	
See term A.2.a	
The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1), OAC rule 3745-17-11(B)(5)(b) and OAC rule 3745-31-05(D).	
4.79 TPY NO <sub>x</sub> * 2.06 TPY CO * 0.01 TPY SO <sub>2</sub> * 1.42 TPY OC* 0.11 TPY PM/PM <sub>10</sub> *	
* The TPY emission limitations are based on a rolling, 12-month summation.	
Visible particulate emissions from this emissions unit shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.	
Particulate emissions from this emissions unit shall not exceed 0.062 pound per million Btu of actual heat input.	
The emission limitation specified by this rule is less stringent than the	

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**2. Additional Terms and Conditions**

- 2.a** The SO<sub>2</sub> emissions from this emissions unit shall not exceed 0.13 pound per million Btu of actual heat input.
- 2.b** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the fuel usage limitations, the sulfur content limit, and compliance with the applicable emissions limits.
- 2.c** The hourly emission limitations outlined above are based upon the emission unit's potential to emit. Therefore, no hourly records are required to demonstrate compliance with these limits.

**B. Operational Restrictions**

- 1. The maximum annual "dual fuel" (natural gas and diesel fuel) usage for this emissions unit shall not exceed 3.4 million cubic feet (mmcf) of natural gas per year nor 1294 gallons of diesel fuel per year, based upon rolling, 12-month summations of the fuel usage rates.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the usage levels specified in the following table:

<u>Month</u>	<u>Maximum Allowable Cumulative Natural Gas Usage (mmcf)</u>	<u>Maximum Allowable Cumulative Diesel Fuel Usage (gallons)</u>
1	1.70	647
1-2	1.70	647
1-3	1.70	647
1-4	1.70	647
1-5	1.70	647
1-6	1.70	647
1-7	1.98	755
1-8	2.27	863
1-9	2.55	971
1-10	2.83	1078
1-11	3.12	1186
1-12	3.40	1294

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual natural gas and diesel fuel usage rate limitations shall be based upon rolling, 12-month summations of the fuel usage rates.

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2. The quality of the fuel oil burned in this emissions unit shall have a combination of heat and sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.13 pound sulfur dioxide/MMBtu of actual heat input.

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

1. The permittee shall maintain monthly records of the following information for this emissions unit:
  - a. the cubic feet of natural gas and/or the gallons of diesel fuel used for each month;
  - b. beginning after the first 12 calendar of operation following issuance of this permit, the updated rolling, 12-month summation of the amount natural gas used, in millions of cubic feet, for the current month and the preceding eleven calendar months;
  - c. beginning after the first 12 calendar of operation following issuance of this permit, the updated rolling, 12-month summation of the amount of diesel fuel used, in gallons, for the current month and the preceding eleven calendar months;
  - d. also during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative natural gas usage rate for each calendar month;
  - e. also during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative diesel fuel usage rate for each calendar month;
  - f. the NO<sub>x</sub>, CO, SO<sub>2</sub>, PM and OC emissions for each month; and
  - g. the updated rolling, 12-month summation of the NO<sub>x</sub>, CO, SO<sub>2</sub>, PM and OC emissions for the current month and the preceding eleven calendar months.
2. For each shipment of oil received for burning in this emissions unit, the permittee shall 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 sulfur dioxide emission rate (in lbs/MMBtu).

The permittee shall collect or require the oil supplier to collect a representative grab sample for each shipment of oil that is received for burning in this emissions unit. The permittee shall perform or require the supplier to perform the analyses 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 Hamilton County Department of Environmental Services.

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#### D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 12-month natural gas and diesel fuel limitation and/or all exceedances of the rolling, 12-month emissions limitations and, for the first 12 calendar months of operation following the issuance of this permit, all exceedances of the maximum allowable cumulative natural gas and diesel fuel usage levels. The report shall include a copy of such records which contain the exceedance(s) and any corrective actions taken. If no exceedances occurred during the reporting period, the permittee shall state so in the report.
2. The permittee shall submit deviation (excursion) reports which identify all shipments of oil which exceed the lbs/MMBtu SO<sub>2</sub> emission limitation. The report shall include a copy of the analytical results which contain the actual sulfur content and actual heat content of the oil and any corrective actions taken. If no exceedances occurred during the reporting period, the permittee shall state so in the report.
3. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

#### E. Testing Requirements

1. Emissions Limitations  
29.9 lbs/hr NO<sub>x</sub>  
4.79 TPY NO<sub>x</sub>

Compliance with the NO<sub>x</sub> emissions limitations shall be demonstrated by applying the emission factor (E.F.) from AP-42, Section 3.4, published October, 1996 in the following equations:

- a.  $\text{actual fuel input (mmBtu/hr)} \times \text{AP-42 E.F. (3.2 lbs NO}_x\text{/mmBtu)} = \text{lbs/hr NO}_x$ ; and
- b.  $\text{actual fuel input (mmBtu/hr)} \times \text{actual annual operating hours (hours/year)} \times \text{AP-42 E.F. (3.2 lbs NO}_x\text{/mmBtu)} \times \text{ton/2000 lbs} = \text{TPY NO}_x$ .

2. Emissions Limitations  
12.9 lbs/hr CO  
2.06 TPY CO

Compliance with the CO emissions limitations shall be demonstrated by applying the emission factor (E.F.) from AP-42, Section 3.4, published October, 1996 in the following equations:

- a. actual fuel input (mmBtu/hr) x AP-42 E.F. (0.85 lb CO/mmBtu) = lbs/hr CO; and
- b. actual fuel input (mmBtu/hr) x actual annual operating hours (hours/year) x AP-42 E.F. (0.85 lbs CO/mmBtu) x ton/2000 lbs = TPY CO.

- 3. Emissions Limitations
  - 0.13 lb SO<sub>2</sub>/mmBtu
  - 0.1 lbs/hr SO<sub>2</sub>
  - 0.01 TPY SO<sub>2</sub>

Compliance with the SO<sub>2</sub> emissions limitations shall be demonstrated by applying the emission factor (E.F.) from AP-42, Section 3.4, published October, 1996 in the following equations, where s = % sulfur in fuel oil (for example, if sulfur content is 1.5%, then s = 1.5):

- a. AP-42 E.F. [1.01(s) lb SO<sub>2</sub>/mmBtu] = actual lbs SO<sub>2</sub>/mmBtu
- b. actual fuel input (mmBtu/hr) x AP-42 E.F. [1.01(s) lb SO<sub>2</sub>/mmBtu] = lbs/hr SO<sub>2</sub>; and
- c. actual fuel input (mmBtu/hr) x actual annual operating hours (hours/year) x AP-42 E.F. (1.01(s) lb SO<sub>2</sub>/mmBtu) x ton/2000 lbs = TPY SO<sub>2</sub>.

- 4. Emissions Limitations
  - 0.062 lb PM/PM<sub>10</sub>/mmBtu
  - 0.11 TPY PM/PM<sub>10</sub>

Compliance with the PM/PM<sub>10</sub> emissions limitations shall be demonstrated by applying the allowable PM emission limitation from OAC rule 3745-17-11(B)(5) in the following equations:

- a. actual fuel input (mmBtu/hr) x OAC allowable (0.062 lb PM/PM<sub>10</sub>/mmBtu) = lbs/hr PM/PM<sub>10</sub>; and
- b. actual fuel input (mmBtu/hr) x actual annual operating hours (hours/year) x OAC allowable (0.062 lb PM/PM<sub>10</sub>/mmBtu) x ton/2000 lbs = TPY PM/PM<sub>10</sub>.

- 5. Emissions Limitations
  - 8.9 lbs/hr OC
  - 1.42 TPY OC

Compliance with the OC emissions limitations shall be demonstrated by applying the emission factor (E.F.) from AP-42, Section 3.4, published October, 1996 in the following equations:

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- a. actual fuel input (mmBtu/hr) x AP-42 E.F. (0.09 lb OC/mmBtu) = lbs/hr OC; and
  - b. actual fuel input (mmBtu/hr) x actual annual operating hours (hours/year) x AP-42 E.F. (0.09 lb OC/mmBtu) x ton/2000 lbs = TPY OC.
6. Compliance with the visible particulate emissions limitation shall be demonstrated according to the procedures outlined in Method 9 of 40 CFR Part 60, Appendix A.
  7. Compliance with the rolling, 12-month emissions limitations and rolling, 12-month natural gas and diesel fuel limitation shall be demonstrated by the recordkeeping requirements in section C.1.

#### **F. Miscellaneous Requirements**

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install 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 pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.
2. The following terms and conditions of this permit are federally enforceable: A., B.1, B.2, C.1, C.2, D.1, D.2, D.3 and E.1- E.7.

**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>	
P004 - 1245 KW Worthington Dual Fuel Engine for Electric Generation (Unit # 4)	OAC rule 3745-31-05(A)(3)	OAC rule 3745-17-11(B)(5)(b)
		OAC rule 3745-18-06(G)
	OAC rule 3745-31-05(D) Synthetic Minor to avoid PSD	
	OAC rule 3745-17-07(A)(1)	

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<u>Applicable Emissions Limitations/Control Measures</u>	emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
29.9 lbs/hr NO <sub>x</sub> 12.9 lbs/hr CO 0.1 lb/hr SO <sub>2</sub> 8.9 lb/hr OC	
See term A.2.a	
The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1), OAC rule 3745-17-11(B)(5)(b) and OAC rule 3745-31-05(D).	
4.79 TPY NO <sub>x</sub> * 2.06 TPY CO * 0.01 TPY SO <sub>2</sub> * 1.42 TPY OC* 0.11 TPY PM/PM <sub>10</sub> *	
* The TPY emission limitations are based on a rolling, 12-month summation.	
Visible particulate emissions from this emissions unit shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.	
Particulate emissions from this emissions unit shall not exceed 0.062 pound per million Btu of actual heat input.	
The emission limitation specified by this rule is less stringent than the	

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**2. Additional Terms and Conditions**

- 2.a** The SO2 emissions from this emissions unit shall not exceed 0.13 pound per million Btu of actual heat input.
- 2.b** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the fuel usage limitations, the sulfur content limit, and compliance with the applicable emissions limits.
- 2.c** The hourly emission limitations outlined above are based upon the emission unit's potential to emit. Therefore, no hourly records are required to demonstrate compliance with these limits.

**B. Operational Restrictions**

- 1. The maximum annual "dual fuel" (natural gas and diesel fuel) usage for this emissions unit shall not exceed 3.4 million cubic feet (mmcf) of natural gas per year nor 1294 gallons of diesel fuel per year, based upon rolling, 12-month summations of the fuel usage rates.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the usage levels specified in the following table:

<u>Month</u>	<u>Maximum Allowable Cumulative Natural Gas Usage (mmcf)</u>	<u>Maximum Allowable Cumulative Diesel Fuel Usage (gallons)</u>
1	1.70	647
1-2	1.70	647
1-3	1.70	647
1-4	1.70	647
1-5	1.70	647
1-6	1.70	647
1-7	1.98	755
1-8	2.27	863
1-9	2.55	971
1-10	2.83	1078
1-11	3.12	1186
1-12	3.40	1294

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual natural gas and diesel fuel usage rate limitations shall be based upon rolling, 12-month summations of the fuel usage rates.

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2. The quality of the fuel oil burned in this emissions unit shall have a combination of heat and sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.13 pound sulfur dioxide/MMBtu of actual heat input.

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

1. The permittee shall maintain monthly records of the following information for this emissions unit:
  - a. the cubic feet of natural gas and/or the gallons of diesel fuel used for each month;
  - b. beginning after the first 12 calendar of operation following issuance of this permit, the updated rolling, 12-month summation of the amount natural gas used, in millions of cubic feet, for the current month and the preceding eleven calendar months;
  - c. beginning after the first 12 calendar of operation following issuance of this permit, the updated rolling, 12-month summation of the amount of diesel fuel used, in gallons, for the current month and the preceding eleven calendar months;
  - d. also during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative natural gas usage rate for each calendar month;
  - e. also during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative diesel fuel usage rate for each calendar month;
  - f. the NO<sub>x</sub>, CO, SO<sub>2</sub>, PM and OC emissions for each month; and
  - g. the updated rolling, 12-month summation of the NO<sub>x</sub>, CO, SO<sub>2</sub>, PM and OC emissions for the current month and the preceding eleven calendar months.
2. For each shipment of oil received for burning in this emissions unit, the permittee shall 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 sulfur dioxide emission rate (in lbs/MMBtu).

The permittee shall collect or require the oil supplier to collect a representative grab sample for each shipment of oil that is received for burning in this emissions unit. The permittee shall perform or require the supplier to perform the analyses 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 Hamilton County Department of Environmental Services.

#### D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 12-month natural gas and diesel fuel limitation and/or all exceedances of the rolling, 12-month emissions limitations and, for the first 12 calendar months of operation following the issuance of this permit, all exceedances of the maximum allowable cumulative natural gas and diesel fuel usage levels. The report shall include a copy of such records which contain the exceedance(s) and any corrective actions taken. If no exceedances occurred during the reporting period, the permittee shall state so in the report.
2. The permittee shall submit deviation (excursion) reports which identify all shipments of oil which exceed the lbs/MMBtu SO<sub>2</sub> emission limitation. The report shall include a copy of the analytical results which contain the actual sulfur content and actual heat content of the oil and any corrective actions taken. If no exceedances occurred during the reporting period, the permittee shall state so in the report.
3. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

#### E. Testing Requirements

1. Emissions Limitations  
29.9 lbs/hr NO<sub>x</sub>  
4.79 TPY NO<sub>x</sub>

Compliance with the NO<sub>x</sub> emissions limitations shall be demonstrated by applying the emission factor (E.F.) from AP-42, Section 3.4, published October, 1996 in the following equations:

- a.  $\text{actual fuel input (mmBtu/hr)} \times \text{AP-42 E.F. (3.2 lbs NO}_x\text{/mmBtu)} = \text{lbs/hr NO}_x$ ; and
- b.  $\text{actual fuel input (mmBtu/hr)} \times \text{actual annual operating hours (hours/year)} \times \text{AP-42 E.F. (3.2 lbs NO}_x\text{/mmBtu)} \times \text{ton/2000 lbs} = \text{TPY NO}_x$ .

2. Emissions Limitations  
12.9 lbs/hr CO  
2.06 TPY CO

Compliance with the CO emissions limitations shall be demonstrated by applying the emission factor (E.F.) from AP-42, Section 3.4, published October, 1996 in the following equations:

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- a. actual fuel input (mmBtu/hr) x AP-42 E.F. (0.85 lb CO/mmBtu) = lbs/hr CO; and
- b. actual fuel input (mmBtu/hr) x actual annual operating hours (hours/year) x AP-42 E.F. (0.85 lbs CO/mmBtu) x ton/2000 lbs = TPY CO.

3. Emissions Limitations  
0.13 lb SO<sub>2</sub>/mmBtu  
0.1 lbs/hr SO<sub>2</sub>  
0.01 TPY SO<sub>2</sub>

Compliance with the SO<sub>2</sub> emissions limitations shall be demonstrated by applying the emission factor (E.F.) from AP-42, Section 3.4, published October, 1996 in the following equations, where s = % sulfur in fuel oil (for example, if sulfur content is 1.5%, then s = 1.5):

- a. AP-42 E.F. [1.01(s) lb SO<sub>2</sub>/mmBtu] = actual lbs SO<sub>2</sub>/mmBtu
- b. actual fuel input (mmBtu/hr) x AP-42 E.F. [1.01(s) lb SO<sub>2</sub>/mmBtu] = lbs/hr SO<sub>2</sub>; and
- c. actual fuel input (mmBtu/hr) x actual annual operating hours (hours/year) x AP-42 E.F. (1.01(s) lb SO<sub>2</sub>/mmBtu) x ton/2000 lbs = TPY SO<sub>2</sub>.

4. Emissions Limitations  
0.062 lb PM/PM<sub>10</sub>/mmBtu  
0.11 TPY PM/PM<sub>10</sub>

Compliance with the PM/PM<sub>10</sub> emissions limitations shall be demonstrated by applying the allowable PM emission limitation from OAC rule 3745-17-11(B)(5) in the following equations:

- a. actual fuel input (mmBtu/hr) x OAC allowable (0.062 lb PM/PM<sub>10</sub>/mmBtu) = lbs/hr PM/PM<sub>10</sub>; and
- b. actual fuel input (mmBtu/hr) x actual annual operating hours (hours/year) x OAC allowable (0.062 lb PM/PM<sub>10</sub>/mmBtu) x ton/2000 lbs = TPY PM/PM<sub>10</sub>.

5. Emissions Limitations  
8.9 lbs/hr OC  
1.42 TPY OC

Compliance with the OC emissions limitations shall be demonstrated by applying the emission

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factor (E.F.) from AP-42, Section 3.4, published October, 1996 in the following equations:

- a. actual fuel input (mmBtu/hr) x AP-42 E.F. (0.09 lb OC/mmBtu) = lbs/hr OC; and
  - b. actual fuel input (mmBtu/hr) x actual annual operating hours (hours/year) x AP-42 E.F. (0.09 lb OC/mmBtu) x ton/2000 lbs = TPY OC.
6. Compliance with the visible particulate emissions limitation shall be demonstrated according to the procedures outlined in Method 9 of 40 CFR Part 60, Appendix A.
  7. Compliance with the rolling, 12-month emissions limitations and rolling, 12-month natural gas and diesel fuel limitation shall be demonstrated by the recordkeeping requirements in section C.1.

#### F. Miscellaneous Requirements

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install 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 pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.
2. The following terms and conditions of this permit are federally enforceable: A., B.1, B.2, C.1, C.2, D.1, D.2, D.3 and E.1- E.7.

City of  
PTI

Emissions Unit ID: **P005**

Issued: To be entered upon final issuance

**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>	
P005 - 2000 KW Cooper Bessemer Dual Fuel Engine for Electric Generation (Unit # 5)	OAC rule 3745-31-05(A)(3)	OAC rule 3745-17-11(B)(5)(b)
		OAC rule 3745-18-06(G)
	OAC rule 3745-31-05(D) Synthetic Minor to avoid PSD	
	OAC rule 3745-17-07(A)(1)	

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Emissions Unit ID: **P005**

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<u>Applicable Emissions Limitations/Control Measures</u>	emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
48.3 lbs/hr NO <sub>x</sub> 20.8 lbs/hr CO 0.1 lb/hr SO <sub>2</sub> 14.3 lb/hr OC	
See term A.2.a	
The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1), OAC rule 3745-17-11(B)(5)(b) and OAC rule 3745-31-05(D).	
7.73 TPY NO <sub>x</sub> * 3.32 TPY CO * 0.02 TPY SO <sub>2</sub> * 2.29 TPY OC* 0.18 TPY PM/PM <sub>10</sub> *	
* The TPY emission limitations are based on a rolling, 12-month summation.	
Visible particulate emissions from this emissions unit shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.	
Particulate emissions from this emissions unit shall not exceed 0.062 pound per million Btu of actual heat input.	
The emission limitation specified by this rule is less stringent than the	

**Issued: To be entered upon final issuance**

**2. Additional Terms and Conditions**

- 2.a** The SO2 emissions from this emissions unit shall not exceed 0.13 pound per million Btu of actual heat input.
- 2.b** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the fuel usage limitations, the sulfur content limit, and compliance with the applicable emissions limits.
- 2.c** The hourly emission limitations outlined above are based upon the emission unit's potential to emit. Therefore, no hourly records are required to demonstrate compliance with these limits.

**B. Operational Restrictions**

- 1. The maximum annual "dual fuel" (natural gas and diesel fuel) usage for this emissions unit shall not exceed 5.4 million cubic feet (mmcf) of natural gas per year nor 2091 gallons of diesel fuel per year, based upon rolling, 12-month summations of the fuel usage rates.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the usage levels specified in the following table:

<u>Month</u>	<u>Maximum Allowable Cumulative Natural Gas Usage (mmcf)</u>	<u>Maximum Allowable Cumulative Diesel Fuel Usage (gallons)</u>
1	2.70	1046
1-2	2.70	1046
1-3	2.70	1046
1-4	2.70	1046
1-5	2.70	1046
1-6	2.70	1046
1-7	3.15	1220
1-8	3.60	1395
1-9	4.05	1569
1-10	4.50	1743
1-11	4.95	1917
1-12	5.40	2091

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual natural gas and diesel fuel usage rate limitations shall be based upon rolling, 12-month summations of the fuel usage rates.

Emissions Unit ID: **P005**

2. The quality of the fuel oil burned in this emissions unit shall have a combination of heat and sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.13 pound sulfur dioxide/MMBtu of actual heat input.

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

1. The permittee shall maintain monthly records of the following information for this emissions unit:
  - a. the cubic feet of natural gas and/or the gallons of diesel fuel used for each month;
  - b. beginning after the first 12 calendar of operation following issuance of this permit, the updated rolling, 12-month summation of the amount natural gas used, in millions of cubic feet, for the current month and the preceding eleven calendar months;
  - c. beginning after the first 12 calendar of operation following issuance of this permit, the updated rolling, 12-month summation of the amount of diesel fuel used, in gallons, for the current month and the preceding eleven calendar months;
  - d. also during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative natural gas usage rate for each calendar month;
  - e. also during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative diesel fuel usage rate for each calendar month.
  - f. the NO<sub>x</sub>, CO, SO<sub>2</sub>, PM and OC emissions for each month; and
  - g. the updated rolling, 12-month summation of the NO<sub>x</sub>, CO, SO<sub>2</sub>, PM and OC emissions for the current month and the preceding eleven calendar months.
2. For each shipment of oil received for burning in this emissions unit, the permittee shall 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 sulfur dioxide emission rate (in lbs/MMBtu).

The permittee shall collect or require the oil supplier to collect a representative grab sample for each shipment of oil that is received for burning in this emissions unit. The permittee shall perform or require the supplier to perform the analyses 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 Hamilton County Department of Environmental Services.

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#### D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 12-month natural gas and diesel fuel limitation and/or all exceedances of the rolling, 12-month emissions limitations and, for the first 12 calendar months of operation following the issuance of this permit, all exceedances of the maximum allowable cumulative natural gas and diesel fuel usage levels. The report shall include a copy of such records which contain the exceedance(s) and any corrective actions taken. If no exceedances occurred during the reporting period, the permittee shall state so in the report.
2. The permittee shall submit deviation (excursion) reports which identify all shipments of oil which exceed the lbs/MMBtu SO<sub>2</sub> emission limitation. The report shall include a copy of the analytical results which contain the actual sulfur content and actual heat content of the oil and any corrective actions taken. If no exceedances occurred during the reporting period, the permittee shall state so in the report.
3. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

#### E. Testing Requirements

1. Emissions Limitations  
48.3 lbs/hr NO<sub>x</sub>  
7.73 TPY NO<sub>x</sub>

Compliance with the NO<sub>x</sub> emissions limitations shall be demonstrated by applying the emission factor (E.F.) from AP-42, Section 3.4, published October, 1996 in the following equations:

- a.  $\text{actual fuel input (mmBtu/hr)} \times \text{AP-42 E.F. (3.2 lbs NO}_x\text{/mmBtu)} = \text{lbs/hr NO}_x$ ; and
- b.  $\text{actual fuel input (mmBtu/hr)} \times \text{actual annual operating hours (hours/year)} \times \text{AP-42 E.F. (3.2 lbs NO}_x\text{/mmBtu)} \times \text{ton/2000 lbs} = \text{TPY NO}_x$ .

2. Emissions Limitations  
20.8 lbs/hr CO  
3.32 TPY CO

Compliance with the CO emissions limitations shall be demonstrated by applying the emission factor (E.F.) from AP-42, Section 3.4, published October, 1996 in the following equations:

- a. actual fuel input (mmBtu/hr) x AP-42 E.F. (0.85 lb CO/mmBtu) = lbs/hr CO; and
- b. actual fuel input (mmBtu/hr) x actual annual operating hours (hours/year) x AP-42 E.F. (0.85 lbs CO/mmBtu) x ton/2000 lbs = TPY CO.

3. Emissions Limitations  
0.13 lb SO<sub>2</sub>/mmBtu  
0.1 lbs/hr SO<sub>2</sub>  
0.02 TPY SO<sub>2</sub>

Compliance with the SO<sub>2</sub> emissions limitations shall be demonstrated by applying the emission factor (E.F.) from AP-42, Section 3.4, published October, 1996 in the following equations, where s = % sulfur in fuel oil (for example, if sulfur content is 1.5%, then s = 1.5):

- a. AP-42 E.F. [1.01(s) lb SO<sub>2</sub>/mmBtu] = actual lbs SO<sub>2</sub>/mmBtu
- b. actual fuel input (mmBtu/hr) x AP-42 E.F. [1.01(s) lb SO<sub>2</sub>/mmBtu] = lbs/hr SO<sub>2</sub>; and
- c. actual fuel input (mmBtu/hr) x actual annual operating hours (hours/year) x AP-42 E.F. (1.01(s) lb SO<sub>2</sub>/mmBtu) x ton/2000 lbs = TPY SO<sub>2</sub>.

4. Emissions Limitations  
0.062 lb PM/PM<sub>10</sub>/mmBtu  
0.18 TPY PM/PM<sub>10</sub>

Compliance with the PM/PM<sub>10</sub> emissions limitations shall be demonstrated by applying the allowable PM emission limitation from OAC rule 3745-17-11(B)(5) in the following equations:

- a. actual fuel input (mmBtu/hr) x OAC allowable (0.062 lb PM/PM<sub>10</sub>/mmBtu) = lbs/hr PM/PM<sub>10</sub>; and
- b. actual fuel input (mmBtu/hr) x actual annual operating hours (hours/year) x OAC allowable (0.062 lb PM/PM<sub>10</sub>/mmBtu) x ton/2000 lbs = TPY PM/PM<sub>10</sub>.

5. Emissions Limitations  
14.3 lbs/hr OC  
2.29 TPY OC

Compliance with the OC emissions limitations shall be demonstrated by applying the emission factor (E.F.) from AP-42, Section 3.4, published October, 1996 in the following equations:

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Emissions Unit ID: **P005**

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- a. actual fuel input (mmBtu/hr) x AP-42 E.F. (0.09 lb OC/mmBtu) = lbs/hr OC; and
  - b. actual fuel input (mmBtu/hr) x actual annual operating hours (hours/year) x AP-42 E.F. (0.09 lb OC/mmBtu) x ton/2000 lbs = TPY OC.
6. Compliance with the visible particulate emissions limitation shall be demonstrated according to the procedures outlined in Method 9 of 40 CFR Part 60, Appendix A.
  7. Compliance with the rolling, 12-month emissions limitations and rolling, 12-month natural gas and diesel fuel limitation shall be demonstrated by the recordkeeping requirements in section C.1.

#### **F. Miscellaneous Requirements**

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install 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 pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.
2. The following terms and conditions of this permit are federally enforceable: A., B.1, B.2, C.1, C.2, D.1, D.2, D.3 and E.1- E.7.

**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>	
P006 - 3500 KW Cooper Bessemer Dual Fuel Engine for Electric Generation (Unit # 6)	OAC rule 3745-31-05(A)(3)	OAC rule 3745-17-11(B)(5)(b)
		OAC rule 3745-18-06(G)
	OAC rule 3745-31-05(D) Synthetic Minor to avoid PSD	
	OAC rule 3745-17-07(A)(1)	

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PTI

Emissions Unit ID: **P006**

**Issued: To be entered upon final issuance**

<u>Applicable Emissions Limitations/Control Measures</u>	emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
76.2 lbs/hr NO <sub>x</sub> 32.7 lbs/hr CO 0.2 lb/hr SO <sub>2</sub> 22.6 lb/hr OC	
See term A.2.a	
The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1), OAC rule 3745-17-11(B)(5)(b) and OAC rule 3745-31-05(D).	
12.19 TPY NO <sub>x</sub> * 5.24 TPY CO * 0.03 TPY SO <sub>2</sub> * 3.61 TPY OC* 0.28 TPY PM/PM <sub>10</sub> *	
* The TPY emission limitations are based on a rolling, 12-month summation.	
Visible particulate emissions from this emissions unit shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.	
Particulate emissions from this emissions unit shall not exceed 0.062 pound per million Btu of actual heat input.	
The emission limitation specified by this rule is less stringent than the	

**Issued: To be entered upon final issuance**

**2. Additional Terms and Conditions**

- 2.a** The SO2 emissions from this emissions unit shall not exceed 0.13 pound per million Btu of actual heat input.
- 2.b** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the fuel usage limitations, the sulfur content limit, and compliance with the applicable emissions limits.
- 2.c** The hourly emission limitations outlined above are based upon the emission unit's potential to emit. Therefore, no hourly records are required to demonstrate compliance with these limits.

**B. Operational Restrictions**

- 1. The maximum annual "dual fuel" (natural gas and diesel fuel) usage for this emissions unit shall not exceed 5.4 million cubic feet (mmcf) of natural gas per year nor 2091 gallons of diesel fuel per year, based upon rolling, 12-month summations of the fuel usage rates.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the usage levels specified in the following table:

<u>Month</u>	<u>Maximum Allowable Cumulative Natural Gas Usage (mmcf)</u>	<u>Maximum Allowable Cumulative Diesel Fuel Usage (gallons)</u>
1	4.30	1648
1-2	4.30	1648
1-3	4.30	1648
1-4	4.30	1648
1-5	4.30	1648
1-6	4.30	1648
1-7	5.02	1923
1-8	5.73	2197
1-9	6.45	2472
1-10	7.17	2747
1-11	7.88	3021
1-12	8.60	3296

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual natural gas and diesel fuel usage rate limitations shall be based upon rolling, 12-month summations of the fuel usage rates.

Emissions Unit ID: P006

2. The quality of the fuel oil burned in this emissions unit shall have a combination of heat and sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitation of 0.13 pound sulfur dioxide/MMBtu of actual heat input.

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

1. The permittee shall maintain monthly records of the following information for this emissions unit:
  - a. the cubic feet of natural gas and/or the gallons of diesel fuel used for each month;
  - b. beginning after the first 12 calendar of operation following issuance of this permit, the updated rolling, 12-month summation of the amount natural gas used, in millions of cubic feet, for the current month and the preceding eleven calendar months;
  - c. beginning after the first 12 calendar of operation following issuance of this permit, the updated rolling, 12-month summation of the amount of diesel fuel used, in gallons, for the current month and the preceding eleven calendar months;
  - d. also during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative natural gas usage rate for each calendar month;
  - e. also during the first 12 calendar months of operation following issuance of this permit, the permittee shall record the cumulative diesel fuel usage rate for each calendar month;
  - f. the NO<sub>x</sub>, CO, SO<sub>2</sub>, PM and OC emissions for each month; and
  - g. the updated rolling, 12-month summation of the NO<sub>x</sub>, CO, SO<sub>2</sub>, PM and OC emissions for the current month and the preceding eleven calendar months.
2. For each shipment of oil received for burning in this emissions unit, the permittee shall 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 sulfur dioxide emission rate (in lbs/MMBtu).

The permittee shall collect or require the oil supplier to collect a representative grab sample for each shipment of oil that is received for burning in this emissions unit. The permittee shall perform or require the supplier to perform the analyses 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 Hamilton County Department of Environmental Services.

Issued: To be entered upon final issuance

#### D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 12-month natural gas and diesel fuel limitation and/or all exceedances of the rolling, 12-month emissions limitations and, for the first 12 calendar months of operation following the issuance of this permit, all exceedances of the maximum allowable cumulative natural gas and diesel fuel usage levels. The report shall include a copy of such records which contain the exceedance(s) and any corrective actions taken. If no exceedances occurred during the reporting period, the permittee shall state so in the report.
2. The permittee shall submit deviation (excursion) reports which identify all shipments of oil which exceed the lbs/MMBtu SO<sub>2</sub> emission limitation. The report shall include a copy of the analytical results which contain the actual sulfur content and actual heat content of the oil and any corrective actions taken. If no exceedances occurred during the reporting period, the permittee shall state so in the report.
3. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

#### E. Testing Requirements

1. Emissions Limitations  
76.2 lbs/hr NO<sub>x</sub>  
12.19 TPY NO<sub>x</sub>

Compliance with the NO<sub>x</sub> emissions limitations shall be demonstrated by applying the emission factor (E.F.) from AP-42, Section 3.4, published October, 1996 in the following equations:

- a.  $\text{actual fuel input (mmBtu/hr)} \times \text{AP-42 E.F. (3.2 lbs NO}_x\text{/mmBtu)} = \text{lbs/hr NO}_x$ ; and
- b.  $\text{actual fuel input (mmBtu/hr)} \times \text{actual annual operating hours (hours/year)} \times \text{AP-42 E.F. (3.2 lbs NO}_x\text{/mmBtu)} \times \text{ton/2000 lbs} = \text{TPY NO}_x$ .

2. Emissions Limitations  
32.7 lbs/hr CO  
5.24 TPY CO

Compliance with the CO emissions limitations shall be demonstrated by applying the emission factor (E.F.) from AP-42, Section 3.4, published October, 1996 in the following equations:

- a. actual fuel input (mmBtu/hr) x AP-42 E.F. (0.85 lb CO/mmBtu) = lbs/hr CO; and
- b. actual fuel input (mmBtu/hr) x actual annual operating hours (hours/year) x AP-42 E.F. (0.85 lbs CO/mmBtu) x ton/2000 lbs = TPY CO.

3. Emissions Limitations  
0.13 lb SO<sub>2</sub>/mmBtu  
0.2 lbs/hr SO<sub>2</sub>  
0.03 TPY SO<sub>2</sub>

Compliance with the SO<sub>2</sub> emissions limitations shall be demonstrated by applying the emission factor (E.F.) from AP-42, Section 3.4, published October, 1996 in the following equations, where s = % sulfur in fuel oil (for example, if sulfur content is 1.5%, then s = 1.5):

- a. AP-42 E.F. [1.01(s) lb SO<sub>2</sub>/mmBtu] = actual lbs SO<sub>2</sub>/mmBtu
- b. actual fuel input (mmBtu/hr) x AP-42 E.F. [1.01(s) lb SO<sub>2</sub>/mmBtu] = lbs/hr SO<sub>2</sub>; and
- c. actual fuel input (mmBtu/hr) x actual annual operating hours (hours/year) x AP-42 E.F. (1.01(s) lb SO<sub>2</sub>/mmBtu) x ton/2000 lbs = TPY SO<sub>2</sub>.

4. Emissions Limitations  
0.062 lb PM/PM<sub>10</sub>/mmBtu  
0.28 TPY PM/PM<sub>10</sub>

Compliance with the PM/PM<sub>10</sub> emissions limitations shall be demonstrated by applying the allowable PM emission limitation from OAC rule 3745-17-11(B)(5) in the following equations:

- a. actual fuel input (mmBtu/hr) x OAC allowable (0.062 lb PM/PM<sub>10</sub>/mmBtu) = lbs/hr PM/PM<sub>10</sub>; and
- b. actual fuel input (mmBtu/hr) x actual annual operating hours (hours/year) x OAC allowable (0.062 lb PM/PM<sub>10</sub>/mmBtu) x ton/2000 lbs = TPY PM/PM<sub>10</sub>.

5. Emissions Limitations  
22.6 lbs/hr OC  
3.61 TPY OC

Compliance with the OC emissions limitations shall be demonstrated by applying the emission factor (E.F.) from AP-42, Section 3.4, published October, 1996 in the following equations:

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Emissions Unit ID: **P006**

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- a. actual fuel input (mmBtu/hr) x AP-42 E.F. (0.09 lb OC/mmBtu) = lbs/hr OC; and
  - b. actual fuel input (mmBtu/hr) x actual annual operating hours (hours/year) x AP-42 E.F. (0.09 lb OC/mmBtu) x ton/2000 lbs = TPY OC.
6. Compliance with the visible particulate emissions limitation shall be demonstrated according to the procedures outlined in Method 9 of 40 CFR Part 60, Appendix A.
  7. Compliance with the rolling, 12-month emissions limitations and rolling, 12-month natural gas and diesel fuel limitation shall be demonstrated by the recordkeeping requirements in section C.1.

#### **F. Miscellaneous Requirements**

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install 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 pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.
2. The following terms and conditions of this permit are federally enforceable: A., B.1, B.2, C.1, C.2, D.1, D.2, D.3 and E.1- E.7.

**NEW SOURCE REVIEW FORM B**

PTI Number: 14-04966

Facility ID: 1483060000

FACILITY NAME City of Lebanon

FACILITY DESCRIPTION Modification to five dual fuel engines and CITY/TWP Lebanon

Emissions Unit ID: **P006**

SIC CODE 4911

SCC CODE 2-03-001-01

EMISSIONS UNIT ID P001

EMISSIONS UNIT DESCRIPTION 700 KW Cooper Bessemer Diesel Engine for Electric Generation (Unit # 1)

DATE INSTALLED Existing

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter		0.4 lb/hr	0.02 TPY	0.4 lb/hr	0.04 TPY
PM <sub>10</sub>		0.4 lb/hr	0.02 TPY	0.4 lb/hr	0.04 TPY
Sulfur Dioxide		0.8 lb/hr	0.04 TPY	0.8 lb/hr	0.08 TPY
Organic Compounds		0.6 lb/hr	0.03 TPY	0.6 lb/hr	0.06 TPY
Nitrogen Oxides		20.2 lbs/hr	1.00 TPY	20.2 lbs/hr	2.02 TPY
Carbon Monoxide		5.4 lbs/hr	0.27 TPY	5.4 lbs/hr	0.54 TPY
Lead					
Other: Air Toxics					

APPLICABLE FEDERAL RULES:

NSPS?

NESHAP?

PSD?

OFFSET POLICY?

**WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?****Enter Determination** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the diesel fuel usage limitation, the sulfur content limit, and compliance with the applicable emissions limits.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? No

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$0

**TOXIC AIR CONTAMINANTS**

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED\*? \_\_\_\_\_ YES x NO

IDENTIFY THE AIR CONTAMINANTS: \_\_\_\_\_



**NEW SOURCE REVIEW FORM B**

PTI Number: 14-04966

Facility ID: 1483060000

FACILITY NAME City of Lebanon

FACILITY DESCRIPTION Modification to five dual fuel engines and CITY/TWP Lebanon

Emissions Unit ID: **P006**

SIC CODE 4911

SCC CODE 2-03-001-01  
2-03-002-01

EMISSIONS UNIT ID P003

EMISSIONS UNIT DESCRIPTION 1245 KW Worthington Dual Fuel Engine for Electric Generation (Unit # 3)

DATE INSTALLED Existing

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter		0.7 lb/hr	0.03 TPY	0.7 lb/hr	0.11 TPY
PM <sub>10</sub>		0.7 lb/hr	0.03 TPY	0.7 lb/hr	0.11 TPY
Sulfur Dioxide		0.1 lb/hr	0.004 TPY	0.1 lb/hr	0.01 TPY
Organic Compounds		8.9 lbs/hr	0.44 TPY	8.9 lbs/hr	1.42 TPY
Nitrogen Oxides		29.9 lbs/hr	1.49 TPY	29.9 lbs/hr	4.79 TPY
Carbon Monoxide		12.9 lbs/hr	0.64 TPY	12.9 lbs/hr	2.06 TPY
Lead					
Other: Air Toxics					

APPLICABLE FEDERAL RULES:

NSPS?

NESHAP?

PSD?

OFFSET POLICY?

**WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?****Enter Determination** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the fuel usage limitations, the sulfur content limit, and compliance with the applicable emissions limits.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? No

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$0

**TOXIC AIR CONTAMINANTS**

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED\*? \_\_\_\_\_ YES x NO

IDENTIFY THE AIR CONTAMINANTS: \_\_\_\_\_

**NEW SC**

PTI Num

FACILITY

Emissions Unit ID: **P006**

FACILITY DESCRIPTION Modification to five dual fuel engines and one diesel engine for electric power generation.

CITY/TWP Lebanon

SIC CODE	4911	SCC CODE	2-03-001-01 2-03-002-01	EMISSIONS UNIT ID	P004
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EMISSIONS UNIT DESCRIPTION 1245 KW Worthington Dual Fuel Engine for Electric Generation (Unit # 4)

DATE INSTALLED Existing

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter		0.7 lb/hr	0.03 TPY	0.7 lb/hr	0.11 TPY
PM <sub>10</sub>		0.7 lb/hr	0.03 TPY	0.7 lb/hr	0.11 TPY
Sulfur Dioxide		0.1 lb/hr	0.004 TPY	0.1 lb/hr	0.01 TPY
Organic Compounds		8.9 lbs/hr	0.44 TPY	8.9 lbs/hr	1.42 TPY
Nitrogen Oxides		29.9 lbs/hr	1.49 TPY	29.9 lbs/hr	4.79 TPY
Carbon Monoxide		12.9 lbs/hr	0.64 TPY	12.9 lbs/hr	2.06 TPY
Lead					
Other: Air Toxics					

APPLICABLE FEDERAL RULES:

NSPS?

NESHAP?

PSD?

OFFSET POLICY?

**WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?**

**Enter Determination** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the fuel usage limitations, the sulfur content limit, and compliance with the applicable emissions limits.

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? No

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT? \$0

**TOXIC AIR CONTAMINANTS**

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED\*? YES x NO

IDENTIFY THE AIR CONTAMINANTS: \_\_\_\_\_





PTI Num

FACILITY

Emissions Unit ID: **P006** \_\_\_\_\_

FACILITY DESCRIPTION    Modification to five dual fuel engines and one diesel engine for electric power generation.

CITY/TWP    Lebanon

**Ohio EPA Permit to Install Information Form**

Please describe below any documentation which is being submitted with this recommendation (must be sent the same day). Electronic items should be submitted with the e-mail transmitting the PTI terms, and in software that CO can utilize. If mailing any hard copy, this section must be printed as a cover page. All items must be clearly labeled indicating the PTI name and number. Submit **hard copy items to Pam McGraner**, AQM&P, DAPC, Central Office, and electronic files to **airpti@epa.state.oh.us**

Please fill out the following. If the checkbox does not work, replace it with an 'X'

	<u>Electronic</u>	<u>Additional information File Name Convention (your PTI # plus this letter)</u>	<u>Hard Copy</u>	<u>None</u>
<u>Calculations (required)</u>	<input type="checkbox"/>	0000000c.wpd	<input checked="" type="checkbox"/>	
Modeling form/results	<input type="checkbox"/>	0000000s.wpd	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PTI Application (complete or partial)*	<input type="checkbox"/>	0000000a.wpd	<input type="checkbox"/>	<input checked="" type="checkbox"/>
BAT Study	<input type="checkbox"/>	0000000b.wpd	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other/misc.	<input type="checkbox"/>	0000000t.wpd	<input type="checkbox"/>	<input checked="" type="checkbox"/>

\* Mandatory for netting, PSD, nonattainment NSR, 112(g), 21-07(G)(9)(g) and 21-09(U)(2)(f) - 2 complete copies.

Please complete (see comment bubble to the left for additional instructions):

**NSR Discussion**

PTI 14-04966

City of Lebanon  
120 W. South Street  
Lebanon, Ohio 45036

OEPA Premise No. 1483060000

This PTI incorporates BAT requirements for Engines #1, #3, #4, #5, #6, and #8 in order to increase the allowable emissions and restrict the potential facility emissions through Synthetic Minor Terms and Conditions. Lebanon maintains these engines for electric generation during peaking or emergency times. The City of Lebanon also maintains and operates two Gas/Diesel Turbines for electric generation. The City of Lebanon will address the Synthetic Minor status of the turbines under a separate PTI application.

By restricting the potential NOx, CO, SO2, PM/PM10, and OC emissions, the City of Lebanon Power Plant will operate as a Synthetic Minor facility, thus avoiding the requirements of Title V and PSD. Regarding Title V applicability, the plant's actual emissions have remained less than 20% of the major source emissions thresholds. The City of Lebanon

**NEW SOURCE REVIEW FORM B**

PTI Number: 14-04966

Facility ID: 1483060000

FACILITY NAME City of Lebanon

FACILITY DESCRIPTION Modification to five dual fuel engines and CITY/TWP Lebanon

Emissions Unit ID: **P006**

notified Ohio EPA of this Presumed Inherent Physical Limitation in January 1996.

Engine Applicable Rules: OAC rules 3745-15-07, 17-07(A)(1), 17-11(B)(5), 31-05(A)(3), 31-05(D)

Engine BAT requirements: BAT requires limiting the annual operating hours, limiting the sulfur content of the diesel fuel to 0.13% by weight, compliance with the applicable emissions limits, and compliance with the rolling, 12-month limits.

Facility Emissions: Allowable emissions: 45.96 TPY NO<sub>x</sub>, 19.42 TPY CO, 0.18 TPY SO<sub>2</sub>, 1.05 TPY PM/PM<sub>10</sub>, 13.08 TPY OC based on rolling, 12-month summations.

The City of Lebanon will record the updated rolling, 12-month operating hours and actual emissions for each generator. None of the generators have a single Air Toxics Potential to Emit greater than 1 TPY. Therefore, this permit review does not include Air Toxics Modeling. Since the NO<sub>x</sub> emissions increases from the engines do not exceed the significant emissions threshold (25 TPY each), criteria pollutant modeling is not required (PSD/NAA).

Total PTI Fee: \$1200 (see Emissions Unit Information for Fee Calculations)

Prepared by: Kurt Smith

Date prepared: November 16, 2000

Please complete for these type permits (For PSD/NSR Permit, place mouse over this text):

**Synthetic Minor Determination and/or**  **Netting Determination**

Permit To Install **14-04966**

**A. Source Description**

The City of Lebanon maintains one diesel engine, five dual fuel fired engines, and two gas/diesel turbines for electric power generation. The City of Lebanon will operate the units only during times of high demand (peaking) or in times of emergency.

**B. Facility Emissions and Attainment Status**

The City of Lebanon's Maximum Potential Emissions in the absence of a Synthetic Minor Permit are 2681.70 TPY NO<sub>x</sub>, 748.57 TPY CO, 244.72 TPY SO<sub>2</sub>, 58.73 TPY PM/PM<sub>10</sub>, and 443.39 TPY OC. The City of Lebanon's Maximum Potential Emissions of Hazardous Air Pollutants remains less than 10 TPY of any single HAP and less than 25 TPY of total HAPs. The facility resides in Warren County which is designated as Attainment for all pollutants.

**C. Source Emissions**

60 **NEW SOURCE REVIEW FORM B**

PTI Number: 14-04966

Facility ID: 1483060000

FACILITY NAME City of Lebanon

FACILITY DESCRIPTION Modification to five dual fuel engines and CITY/TWP Lebanon

Emissions Unit ID: **P006**

The City of Lebanon's Potential (Allowable) Emissions, considering the enforceable fuel usage limits in this permit, are 45.96 TPY NO<sub>x</sub>, 19.42 TPY CO, 0.18 TPY SO<sub>2</sub>, 1.05 TPY PM/PM<sub>10</sub>, and 13.08 TPY OC, all based on rolling, 12-month summations.

D. Conclusion

The City of Lebanon will maintain monthly records in order to demonstrate compliance with the rolling, 12-month fuel usage and emissions limits pursuant to OAC rule 3745-31-05(A)(3) - Best Available Technology. This will allow the facility to operate as a Synthetic Minor facility and avoid the Part 70 Title V and PSD requirements.

PLEASE PROVIDE ADDITIONAL NOTES OR COMMENTS AS NECESSARY:

NONE

Please complete:

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

<u>Pollutant</u>	<u>Tons Per Year</u>
NO <sub>x</sub>	45.96
CO	19.42
SO <sub>2</sub>	0.18
PM	1.05
PM <sub>10</sub>	1.05
OC	13.08