



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL MODIFICATION
WARREN COUNTY**

CERTIFIED MAIL

Street Address:

122 S. Front Street

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

Mailing Address:

Lazarus Gov. Center
P.O. Box 1049

Application No: 14-02068

DATE: 2/17/2004

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

Enclosed Please find a modification to the Ohio EPA Permit To Install referenced above which will modify the terms and conditions.

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

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

Sincerely,

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

CC: USEPA

HCDES



**Permit To Install
Terms and Conditions**

**Issue Date: 2/17/2004
Effective Date: 2/17/2004**

FINAL ADMINISTRATIVE MODIFICATION OF PERMIT TO INSTALL 14-02068

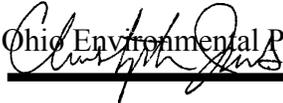
Application Number: 14-02068
APS Premise Number: 1483060000
Permit Fee: **\$75**
Name of Facility: City of Lebanon
Person to Contact: Thomas Diegel
Address: 50 South Broadway
Lebanon, OH 45036-0000

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

Description of proposed emissions unit(s):
Modification to account for new NOx emissions control system and other emission factor changes for the 12500 KW combustion turbine.

The above named entity is hereby granted a modification to the permit to install described above pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this modification 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 source(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 included in the application, the above described source(s) of pollutants will be granted the necessary operating permits.

This permit is granted subject to the conditions attached hereto.


Ohio Environmental Protection Agency

Director

Part I - GENERAL TERMS AND CONDITIONS

A. Permit to Install General Terms and Conditions

1. Compliance Requirements

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

2. Reporting Requirements

The permittee shall submit required reports in the following manner:

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

3. Records Retention Requirements

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

4. Inspections and Information Requests

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

City of Lebanon

PTI Application: 14-02068

Modification Issued: 2/17/2004

Facility ID: 1483060000

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

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

6. Permit Transfers

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

7. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

8. Termination of Permit to Install

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

9. Construction of New Sources(s)

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions

City of Lebanon

PTI Application: 14-02068

Modification Issued: 2/17/2004

Facility ID: 1483060000

and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

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

10. Public Disclosure

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

11. Applicability

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

12. Best Available Technology

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

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

a. If the permittee is required to apply for a Title V permit pursuant to OAC Chapter

City of Lebanon

PTI Application: 14-02068

Modification Issued: 2/17/2004

Facility ID: 1483060000

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

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

14. Construction Compliance Certification

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

15. Fees

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

B. Permit to Install Summary of Allowable Emissions

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

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

<u>Pollutant</u>	<u>Tons Per Year</u>
NOx	17.66
SO2	12.03
CO	3.02
PM	0.17
PM10	0.17
OC	0.16

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

A. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	40 CFR 60.332(a)(1)
B008 - 12500 KW GE Turbine for Electric Generation (Unit No. 2) with water injection system	OAC rule 3745-31-05(A)(3)	40 CFR 60.333(b)
		OAC rule 3745-17-07(A)(1)
		OAC rule 3745-17-11(B)(4)
	OAC rule 3745-31-05(D)	OAC rule 3745-18-06(F)
	40 CFR Part 60, Subpart GG	

OAC rule 3745-21-08

OAC rule 3745-23-06

Applicable Emissions
Limitations/Control Measures

- 84.1 lbs/hr NOx
- 14.4 lbs/hr CO
- 57.3 lbs/hr SO2
- 0.8 lb/hr PM (particulate emissions)
- 0.8 lb/hr PM10
- 0.8 lb/hr OC

The requirements of this rule also include compliance with the requirements of 40 CFR 60 Subpart GG and OAC rules 3745-31-05(D) and 3745-17-07(A)(1).

See T&C B.2.

- 17.66 TPY NOx*
- 3.02 TPY CO*
- 12.03 TPY SO2*
- 0.17 TPY PM*
- 0.17 TPY PM10*
- 0.16 TPY OC*

*Based upon rolling, 12-month summations.

See T&C B.1.

75 ppmv NOx at 15% oxygen and on a dry basis as calculated using the figure in 60.332(a)(1).

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

3745-31-05(A)(3).

Visible particulate emissions from any stack shall not exceed twenty percent (20%) opacity, as a six-minute average, except as specified by rule.

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

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

See term A.2.e.

See term A.2.f.

2. Additional Terms and Conditions

- 2.a** The permittee is exempt from using the water injection system for the control of NOx emissions when ice fog is deemed a traffic hazard. Ice fog means an atmospheric suspension of highly reflective ice crystals.
- 2.b** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the use of a water injection system for NOx emissions control, compliance with the applicable emissions limitations, compliance with the requirements pursuant to 40 CFR 60 Subpart GG for combustion turbines and compliance with the visible emissions limitation.
- 2.c** The hourly emission limitations outlined are based upon the emissions unit's Potential to Emit (PTE). Therefore, no hourly records are required to demonstrate compliance with these limits.
- 2.d** The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency. The requirements of 40 CFR Part 60 are also federally enforceable.
- 2.e** The design of the emissions unit and the technology associated with the current operating practices will satisfy the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08.

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

- 2.f** The design of the emissions unit and the technology associated with the current operating practices will satisfy the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06.

B. Operational Restrictions

1. The maximum annual operating hours for emissions unit B008 shall not exceed 420 hours, based upon a rolling, 12-month summation of the operating hours.

The permittee has existing records to demonstrate compliance with this limit upon permit issuance.

2. The permittee shall not burn any fuel in the combustion turbine which contains sulfur in excess of 0.30 % by weight.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain monthly records of the following information:
 - a. the operating hours for each month;
 - b. the updated rolling, 12-month summation of the operating hours for the current month and the preceding eleven calendar months;
 - c. the NO_x emissions for each month, in tons; the operating hours (hours/month) as recorded in C.1.a. above multiplied by the actual NO_x emissions rate established during the Initial Compliance Demonstration on August 29, 2002 (19.83 lbs NO_x/hour at 75% of maximum load) multiplied by 1 ton/2000 lbs;
 - d. the CO, SO₂, PM/PM₁₀, and OC emissions for each month, in tons; the operating hours (hours/month) as recorded in C.1.a. above multiplied by the maximum rated fuel input capacity (189.06 mmBtu/hour) multiplied by the emission factor in AP-42, Fifth Edition, 4/2000, Table 3.1-1 for distillate oil-fired turbines (lb/mmBtu) multiplied by 1 ton/2000 lbs; and
 - e. the updated rolling, 12-month summation of the NO_x, CO, SO₂, PM/PM₁₀ and OC emissions for the current month and the preceding eleven calendar months (the 12-month summation of the emissions as recorded in C.1.c. and C.1.d. above).
2. The permittee shall install and operate a continuous monitoring system to monitor and record the fuel consumption and the ratio of water to fuel being fired in the turbine. This system shall be accurate to +/- 5.0 percent and shall be approved by the Director.
3. 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 sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F).] The permittee shall also determine the nitrogen content of the oil. A shipment may be comprised of multiple tank truck loads from the same supplier's batch, or may be

represented by single or multiple pipeline deliveries from the same supplier's batch, and the quality of the oil for those loads or pipeline deliveries may be represented by a single batch analysis from the supplier.

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

The permittee shall maintain records of the oil burned in this emissions unit in accordance with either Alternative 1 or Alternative 2 described below:

a. Alternative 1:

For each shipment of oil received for burning in this emissions unit, the permittee shall collect or require the oil supplier to collect a representative grab sample of oil and maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/MMBTU). [The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F).] A shipment may be comprised of multiple tank truck loads from the same supplier's batch, and the quality of the oil for those loads may be represented by a single batch analysis from the supplier.

b. Alternative 2:

The permittee shall collect a representative grab sample of oil that is burned in this emissions unit for each day when the emission unit is in operation. If additional fuel oil is added to the tank serving this emissions unit on a day when the emissions unit is in operation, the permittee shall collect a sufficient number of grab samples to develop a composite sample representative of the fuel oil burned in this emissions unit.

A representative grab sample of oil does not need to be collected on days when this emissions unit is only operated for the purpose of "test-firing". The permittee shall maintain records of the total quantity of oil burned each day, except for the purpose of test-firing, the permittee's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/MMBTU). [The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F).]

D. Reporting Requirements

Emissions Unit ID: **B008**

1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 12-month operating hours limitation and/or all exceedances of the rolling, 12-month emissions limitations. 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. The permittee shall submit the reports by January 31, April 30, July 31 and October 31 of each year and shall cover the previous calendar quarters (October through December, January through March, April through June and July through September, respectively).
2. The permittee shall submit excess emissions and monitoring systems performance reports to the Hamilton County Department of Environmental Services semiannually, except when more frequent reporting is specifically required by an applicable subpart or the Hamilton County Department of Environmental Services, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source.

Periods of excess NO_x emissions that shall be reported are defined as any one-hour period during which the average water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance with 40 CFR 60.332(a) by the performance test required in 40 CFR 60.8 or any period during which the fuel-bound nitrogen of the fuel is greater than the maximum nitrogen content allowed by the fuel-bound nitrogen allowance used during the most recent performance test which demonstrated compliance.

The permittee shall submit the reports by January 31 and July 31 of each year and shall cover the previous 6-month period (July through December and January through June, respectively).

Written reports of excess emissions shall include the following information:

- a. the magnitude of excess emissions computed in accordance with § 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions;
 - b. specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted;
 - c. the date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments;
 - d. when no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report; and
 - e. the average water-to-fuel ratio, average fuel consumption, ambient conditions, gas turbine load and nitrogen content of the fuel during the period of excess emissions.
3. The permittee shall notify the Hamilton County Department of Environmental Services in writing of any record which shows a deviation of the allowable sulfur dioxide limitation based upon the calculated sulfur dioxide emission rates from Section C.3 above. The notification shall include a copy of such record and shall be sent to the Hamilton County Department of Environmental Services within 45 days after the deviation occurs.
 4. The permittee shall submit reports by January 31 and July 31 of each year and shall cover the previous 6-month period (July through December and January through June, respectively) which identify the requirements in 40 CFR 60.333(c)(3) when claiming the exemption for ice fog as outlined in term A.2.a.

E. Testing Requirements

1. Emissions Limitations

84.1 lbs/hr NO_x

75 ppmv NO_x at 15% oxygen and on a dry basis

Applicable Compliance Methods

If testing is required to demonstrate compliance with the allowable emission limitation of 75 ppmv NO_x (which corresponds to 84.1 lbs/hr NO_x) then testing shall be conducted using the following method: Method 20 of 40 CFR 60, Appendix A.

14

City of Lebanon

PTI Application: 14-02068

Modif

Facility ID: 1483060000

Emissions Unit ID: B008

2. Emissions Limitations

14.4 lbs/hr CO
57.3 lbs/hr SO₂
0.8 lb/hr PM
0.8 lb/hr PM₁₀
0.8 lb/hr OC

Applicable Compliance Methods

Compliance with the lbs/hr emissions limitations may be demonstrated by multiplying the actual fuel input rate (mmBtu/hour) at any given time by the emission factors in AP-42, Fifth Edition, 4/2000, Tables 3.1-1 and 3.1-2a for distillate oil-fired turbines (lb/mmBtu) = lbs pollutant/hr

3. Emissions Limitations

17.66 TPY NO_x*
3.02 TPY CO*
12.03 TPY SO₂*
0.17 TPY PM*
0.17 TPY PM₁₀*
0.16 TPY OC*

*Based upon rolling, 12-month summations.

Applicable Compliance Methods

Compliance with the rolling, 12-month NO_x, CO, SO₂, PM/PM₁₀ and OC emissions limitations shall be demonstrated by the record keeping requirement in term C.1.e.;

4. Emissions Limitation

VEs from any stack shall not exceed twenty percent (20%) opacity, as a six-minute average

Applicable Compliance Method

Compliance shall be determined in accordance with Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996.

5. Emissions Limitation

The permittee shall not burn any fuel in the combustion turbine which contains sulfur in excess of 0.30 % by weight

Applicable Compliance Method

Compliance with sulfur content limitation shall be demonstrated by the record keeping requirement in term C.3.

6. Emissions Limitation

The maximum annual operating hours for emissions unit B008 shall not exceed 420 hours, based upon a rolling, 12-month summation of the operating hours.

Applicable Compliance Method

Compliance with hours of operation limitation shall be demonstrated by the record keeping requirement in term C.1.

F. Miscellaneous Requirements

1. The following terms and conditions of this permit are federally enforceable: A, B, C, D and E.