



State of Ohio Environmental Protection Agency

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

**CERTIFIED MAIL**

Street Address:

122 S. Front Street

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

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Lazarus Gov. Center  
P.O. Box 1049

**Application No: 14-05021**

**DATE:** 11/29/2001

Mc Cullough-Hyde Memorial Hospital  
John Sherron  
110 North Poplar Street  
Oxford, OH 450561204

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  
236 East Town Street, Room 300  
Columbus, Ohio 43215

Very truly yours,

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

CC: USEPA

HCDES



**Permit To Install  
Terms and Conditions**

**Issue Date: 11/29/2001  
Effective Date: 11/29/2001**

FINAL ADMINISTRATIVE MODIFICATION OF PERMIT TO INSTALL 14-05021

Application Number: 14-05021  
APS Premise Number: 1409090032  
Permit Fee: **\$200**  
Name of Facility: Mc Cullough-Hyde Memorial Hospital  
Person to Contact: John Sherron  
Address: 110 North Poplar Street  
Oxford, OH 450561204

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

**110 North Poplar Street  
Oxford, Ohio**

Description of proposed emissions unit(s):

**1-1850 bhp emergency and peaking generator - modification of PTI 14-05021 issued 1/11/01.**

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 Related to Monitoring and Record keeping Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or record keeping 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 record keeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

#### 3. Records Retention Requirements

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

#### 4. Inspections and Information Requests

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

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

**5. Scheduled Maintenance/Malfunction Reporting**

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

**6. Permit Transfers**

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

**7. Air Pollution Nuisance**

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

**8. Termination of Permit to Install**

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

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

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

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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 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**

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

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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 thirty (30) 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>
NO <sub>x</sub>	12.65
OC	1.3
CO	2.4
SO <sub>2</sub>	2.25
PM/PM <sub>10</sub>	0.185

**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 - one 1850 bhp engine with a 1250 kW emergency and peaking generator	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-18-06(G)
	OAC rule 3745-17-11(B)(5)(b)
	OAC rule 3745-17-07(A)(1)

Applicable Emissions  
Limitations/Control Measures

25.4 lbs NO<sub>x</sub>/hr, 12.65 TPY NO<sub>x</sub>  
 2.5 lbs OC/hr, 1.3 TPY OC  
 4.7 lbs CO/hr, 2.4 TPY CO  
 4.5 lbs SO<sub>2</sub>/hr, 2.25 TPY SO<sub>2</sub>

0.185 TPY PM/PM<sub>10</sub> (combined  
 non-emergency and emergency  
 operation)

See T&C A.2.a. and A.2.b  
 See T&C B.4

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

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

0.062 lb PM/MMBtu actual heat  
 input (during non-emergency  
 operation)

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

## **2. Additional Terms and Conditions**

- 2.a** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by compliance with the emission limitations, hours of operation limitations and the use of 0.3% or less sulfur

diesel fuel.

- 2.b** The hourly emission limitations for NO<sub>x</sub>, OC, CO, and SO<sub>2</sub> (based on 0.3% sulfur), 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 combined maximum annual operating hours for this emissions unit shall not exceed 1000 hours. This total shall include all periods of operation to meet emergency and non-emergency loads and emissions unit testing. Emergency operation shall be defined as the period of time when the generator is used to supply power to the hospital because electrical power from the electricity distributor is curtailed or disrupted.
2. The permittee shall install equipment to continuously monitor the generator output (load) for emissions unit P001, in kilowatt- minutes, during all periods of operation. The permittee shall correlate the generator outputs (kW) to the percent of engine load (bhp) and fuel burned (gal/hour), and maintain records of supporting information for the correlation.
3. The operating load of this emissions unit and the quality of the fuel burned in this emissions unit shall have a heat content which is sufficient to comply with the allowable particulate emission limitation of 0.062 pound particulate matter/MMBtu of actual heat input when this emissions unit is operated to meet non-emergency loads.
4. 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 0.4 pound sulfur dioxide/MMBtu of actual heat input.
5. The permittee shall follow the manufacturer's recommendations, NFPA (National Fire Protection Association) recommendations, and good engineering practices in maintaining this diesel electric generator. The permittee shall retain records of any maintenance on this emissions unit on site.

## **C. Monitoring and/or Record keeping Requirements**

1. The permittee shall maintain daily records for this emissions unit which include :
  - a. An identification of the number of hours of operation of emissions unit P001;
  - b. An identification of when the emissions unit, P001, was operating to meet non-emergency load or emergency load. Monthly testing of this emissions unit shall be included in the

emergency load hours;

- c. An identification of the average daily output of the generator during non-emergency power generation and during all periods of operation, in kilowatts and as a percent of maximum load of the engine;
  - d. The average hourly bhp (c/a) during non-emergency power generation (for use in PM calculations); the average hourly bhp during all periods of operation, (for use in CO, OC, and SO<sub>2</sub> calculations); and
  - e. The PM/PM<sub>10</sub> emissions rate, in pounds per mmBtu during non-emergency power generation.
2. The permittee shall maintain monthly records for this emissions unit that include:
- a. A monthly volume-weighted average of the heat content of the fuel based on the analyses for each shipment of fuel oil received by the permittee;
  - b. The total hours of operation to meet non-emergency load demands;
  - c. The total hours of operation to meet emergency load demands; and
  - d. The total combined hours of operation (b + c).
3. The permittee shall maintain annual records for this emissions unit that include:
- a. The total hours of operation to meet non-emergency load demands;
  - b. The total hours of operation to meet emergency load demands;
  - c. The total combined hours of operation (a + b);
  - d. The annual NO<sub>x</sub>, OC, CO, and SO<sub>2</sub> emissions, in tons per year, based on the combined hours of operation in T&C 3.c.
4. 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).) A shipment may be comprised of multiple tank truck loads from the same supplier's batch and the quality of the oil for those loads may be represented by a single batch

analysis from the supplier.

The permittee shall 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 40 CFR Part 60, Appendix A, Method 19, or the appropriate ASTM methods (such as, ASTM methods D240, D4294, D6010), or equivalent methods as approved by the Director.

#### D. Reporting Requirements

1. The permittee shall submit annual reports which identify any exceedances of the annual operating hours limitation in T&C B.1. as well as the corrective actions that were taken to achieve compliance. These reports shall be submitted by January 31 of each year.
2. The permittee shall submit deviation (excursion) reports which identify all exceedances of the lbs/MMBtu PM emission limitation in T&C B.3. This report shall include a copy of the analytical results which contain the actual heat content of the fuel oil and any corrective actions that were taken to achieve compliance. If no exceedances occurred during the reporting period, the permittee shall state so in the report.
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 specified in Section B.4 of this permit. 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 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 - The permittee may use the maximum hourly bhp in lieu of the average hourly bhp in the equations below to simplify compliance calculations, as long as emissions limitations are not exceeded.

12.65 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 PTI application 14-05021 as supplied by the manufacturer in the following equations:

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Emissions Unit ID: P001

a.  $\text{g/bhp-hr (E.F.)} \times \text{average hourly bhp} \times 0.002205 \text{ lb/g} \times \text{actual annual hours (hours/year)} \times \text{ton/2000 lbs.} = \text{TPY NO}_x$

**2. Emissions Limitations**

## 1.3 TPY OC

Compliance with the OC emissions limitations shall be demonstrated by applying the emission factor (E.F.) from PTI application 14-05021 as supplied by the manufacturer in the following equations:

a.  $\text{g/bhp-hr (E.F.)} \times \text{average hourly bhp} \times 0.002205 \text{ lb/g} \times \text{actual annual operating hours (hours/year)} \times \text{ton/2000 lbs.} = \text{TPY OC}$

**3. Emissions Limitations**

## 2.4 TPY CO

Compliance with the CO emissions limitations shall be demonstrated by applying the emission factor (E.F.) from PTI application 14-05021 as supplied by the manufacturer in the following equations:

a.  $\text{g/bhp-hr (E.F.)} \times \text{average hourly bhp} \times 0.002205 \text{ lb/g} \times \text{actual annual operating hours (hours/year)} \times \text{ton/2000 lbs.} = \text{TPY CO}$

**4. Emissions Limitations**0.4 lb SO<sub>2</sub>/MMBtu2.25 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 0.3%, then s = 0.3):

a. Compliance with the sulfur dioxide limit of 0.4 lb SO<sub>2</sub>/MMBtu shall be determined by the methods specified in OAC rule 3745-18-04(F)(2) and fuel analyses required in C.3.

$$[ 1,000,000 \text{ Btu/MMBtu/fuel heat content (Btu/gallon)} ] \times \text{density of the fuel (lbs./gal)} \times (s/100) \times 1.974 = \text{lbs. SO}_2/\text{MMBtu}$$

b.  $0.008 \text{ lb/bhp-hr (s)} \times \text{average hourly bhp} = \text{actual lbs SO}_2/\text{hr}$

s is based on the maximum sulfur content of the fuel during the calendar year.

- c.  $\text{Actual lbs SO}_2/\text{hr} \times \text{actual annual operating hours (hours/year)} \times \text{ton}/2000 \text{ lbs} = \text{TPY SO}_2.$

**5. Emissions Limitations:**

0.062 lb PM/PM<sub>10</sub> /MMBtu ( non-emergency operation)

0.185 TPY PM/PM<sub>10</sub> (combined emergency + non-emergency operation)

- a. Compliance with the 0.062 lb PM/PM<sub>10</sub> per MMBtu emissions limitations shall be demonstrated for non-emergency load operation by applying the following equations:

fuel use in gallons/hour is based on engine load  
 $\text{gallons/hour} \times \text{MMBtu/gallon} = \text{MMBtu/hour actual heat input}$   
 $\text{g/bhp-hr (E.F.)} \times \text{average hourly bhp during non-emergency operations}$   
 $\times 0.002205 \text{ lbs/g} = \text{lb PM/hour}$   
 $\text{lb PM/hour/MMBtu/hour} = \text{lb PM/PM}_{10} \text{ per MMBtu};$

where MMBtu/gallon is the monthly average of the fuel heat content required in C.2.a.

- b. Compliance with the particulate limit of 0.185 ton per year PM/PM<sub>10</sub> for combined emergency and non-emergency power generation is based on a 'worst case' situation of 1000 hours of operation at 0.37 lb/hour and 1850 bhp. No records are required unless the 1000 hours of operation is exceeded.
6. Compliance with the visible particulate emissions limitation in OAC rule 3745-17-07(A)(1) shall be determined by the method specified in 40 CFR Part 60, Appendix A, Test Method 9.
7. Compliance with the hours of operation limit in term B.1 shall be determined by the record keeping in T&C C. 3.

**F. Miscellaneous Requirements**

1. Based on engine information supplied in PTI 14-05021 for the maximum fuel use per hour and the heat content of the diesel fuel, the minimum required operating load for emissions unit P001 during periods of operation to meet non-emergency loads is greater than or equal to 38.1% of the maximum rated output load for the engine or 705 bhp. The permittee suggested tracking the generator output rather than the engine load. A correlation between the output of the generator in kW and the engine output in bhp shall be established by the permittee, submitted to this agency

for review, and kept on file at the facility for review.

2. 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.