



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL CERTIFIED MAIL  
BUTLER COUNTY**

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: 14-05021**

**DATE: 1/11/2001**

Mc Cullough-Hyde Memorial Hospital  
John Sherron  
110 North Poplar Street 110 North Poplar Street  
Oxford, OH 45056-1204

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

You are hereby notified that this action by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed within thirty (30) days after the notice of the 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

STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

**FINAL 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 110 North Poplar Street  
Oxford, OH 45056-1204

Location of proposed air contaminant source(s) [emissions unit(s)]:  
**110 North Poplar Street**  
**Oxford, Ohio, Ohio**

Description of proposed emissions unit(s):  
**1- 1850 bhp emergency and peaking generator.**

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



Director

## Part I - GENERAL TERMS AND CONDITIONS

### A. Permit to Install General Terms and Conditions

#### 1. Compliance Requirements

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

#### 2. Reporting Requirements Related to Monitoring and Recordkeeping Requirements

The permittee shall submit required reports in the following manner:

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

#### 3. Records Retention Requirements

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

#### 4. Inspections and Information Requests

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

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

#### **5. Scheduled Maintenance/Malfunction Reporting**

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

#### **6. Permit Transfers**

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

#### **7. Air Pollution Nuisance**

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

#### **8. Termination of Permit to Install**

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

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

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

Environmental Protection Agency if the proposed sources are inadequate or cannot meet applicable standards.

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

#### **10. Public Disclosure**

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

#### **11. Applicability**

This Permit to Install is applicable only to the emissions unit(s) identified in the Permit to Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

#### **12. Best Available Technology**

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

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

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within thirty (30) days after commencing operation of the emissions unit(s) covered by this permit.

**Mc Cullough-Hyde Memorial Hospital**  
**PTI Application: 14-05021**  
**Issued: 1/11/2001**

**Facility ID: 1409090032**

**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>	13.05
OC	11.3
CO	22.0
SO <sub>2</sub>	2.25
PM/PM <sub>10</sub>	1.4

**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 3745-17-11(B)(5)(b)  OAC rule 3745-17-07(A)(1)
	OAC rule 3745-18-06(G)	

**Mc Ct****PTI A****Issued: 1/11/2001**Emissions Unit ID: **P001**

Applicable Emissions  
Limitations/Control Measures

26.1 lbs NO<sub>x</sub>/hr, 13.05 TPY NO<sub>x</sub>  
 22.6 lbs OC/hr, 11.3 TPY OC  
 44.1 lbs CO/hr, 22.0 TPY CO  
 4.5 lbs SO<sub>2</sub>/hr, 2.25 TPY SO<sub>2</sub>  
 0.71 lb PM/PM<sub>10</sub> /hr, (during  
 peaking loads)  
 2.8 lbs PM/PM<sub>10</sub> /hr, (during  
 emergency loads and monthly  
 testing),  
 1.4 TPY PM/PM<sub>10</sub> (combined  
 peak load 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 peak loads)

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 low sulfur diesel fuel.
- 2.b** The hourly emission limitations for NO<sub>x</sub>, OC, CO, SO<sub>2</sub>, and PM (during emergency loads) 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 peak loads and emissions unit testing.
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 (kWm) to the percent of engine load (bhp-hr), 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 peak 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.

## **C. Monitoring and/or Recordkeeping 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 whether the emissions unit, P001, was operating to meet peak 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 peak load power generation, in kilowatt-minutes and as a percent of maximum load of the engine;
  - d. the gallons of diesel fuel used each day;
  - e. an amount of the fuel used in gallons per hour (d/a) for days when the emissions unit was used to meet peak load demands; and
  - f. the PM/PM10 emissions rate, in pounds per hour during peak load power generation.
2. The permittee shall maintain monthly records for this emissions unit that include:
  - a. a monthly 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 peak 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 peak 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.; and
  - e. the combined annual PM emissions, in tons per year.
4. 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 density, ash content, sulfur content and heat content and the calculated sulfur dioxide emission rate (in lbs/MMBtu) and the calculated particulate matter emission rate (in lbs/MMBtu).

The permittee shall collect or require the oil supplier to collect a representative grab sample for

Emissions Unit ID: **P001**

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 ash content, 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 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 submit deviation (excursion) reports which identify all shipments of oil which exceed the lbs/MMBtu SO<sub>2</sub> emission limitation in T&C B.4. 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 to achieve compliance. If no exceedances occurred during the reporting period, the permittee shall state so in the report.
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

13.05 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:

- a. 
$$\frac{\text{g/bhp-hr} \times 1850 \text{ hp} \times 0.002205 \text{ lbs/g} \times \text{actual annual operating hours (hours/year)}}{\text{x ton/2000 lbs.}} = \text{TPY NO}_x$$

## 2. Emissions Limitations

## 11.3 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:

$$\text{a. } \frac{\text{g}}{\text{bhp-hr}} \times 1850 \text{ hp} \times 0.002205 \text{ lbs/g} \times \text{actual annual operating hours (hours/year)} \times \frac{1}{2000} = \text{TPY OC}$$

## 3. Emissions Limitations

## 22.0 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:

$$\text{a. } \frac{\text{g}}{\text{bhp-hr}} \times 1850 \text{ hp} \times 0.002205 \text{ lbs/g} \times \text{actual annual operating hours (hours/year)} \times \frac{1}{2000} = \text{TPY CO}$$

## 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.

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

- b.  $0.008 \text{ lb/hp-hr (s)} \times 1850 \text{ hp} = \text{actual lbs SO}_2/\text{hr}$   
s is based on the maximum sulfur content of the fuel during the calendar year.

- c. actual lbs SO<sub>2</sub>/hr x actual annual operating hours (hours/year) x ton/2000 lbs = TPY SO<sub>2</sub>.

5. Emissions Limitations

- 0.062 lb PM/PM<sub>10</sub> /MMBtu (peak load operation)  
 0.71 lb PM/PM<sub>10</sub> /hr (peak load operation)  
 1.4 TPY PM/PM<sub>10</sub> (combined emergency + peak load operation)

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

$$\text{gallons/hour} * \text{MMBtu/gallon} = \text{MMBtu/hour actual heat input}$$

$$\text{actual fuel input (MMBtu/hr)} * \text{OAC allowable (0.062 lb PM/PM}_{10}\text{/MMBtu)} = \text{lbs/hr PM/PM}_{10}$$

where mmBtu/gallon is the most recent monthly average of the heat content and gallons/hour is the hourly average required in C.1.e.

- b. Compliance with the particulate limit of 1.4 tons per year PM/PM<sub>10</sub> hour for combined emergency and peak load power generation shall be determined by the calculations specified below and fuel analyses required in C.4. The emissions factor ( g/bhp-hr) for emergency loads is an average of manufacturer supplied data over the range of loads.

$$\text{Total PM emissions} = \text{emergency PM emissions} + \text{peak load PM emissions}$$

Emergency loads:

$$\text{emissions factor } 0.268 \text{ (g/bhp-hr)} * 1850 \text{ hp} * 0.002205 \text{ lb/g} * \text{total actual hrs/ year} * \text{tons/2000 lbs.} = \text{TPY PM/PM}_{10} \text{ for emergency loads.}$$

Peak loads:

$$0.062 \text{ lb. PM/MMBtu} * \text{MMBtu/hr} * \text{actual hours at peak load per year} * \text{tons/2000 lbs.} = \text{TPY PM/PM}_{10} \text{ at peak loads}$$

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 recordkeeping 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 *peak loads* is approximately greater than or equal to 45% of the maximum rated output load for the engine. The permittee suggested tracking the generator output rather than the engine load. A correlation between the output of the generator in kWm and the engine output in bhp-hr 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.

**NEW SOURCE REVIEW FORM B**

PTI Number: 14-05021 Facility ID: 1409090032

FACILITY NAME Mc Cullough-Hyde Memorial Hospital

FACILITY DESCRIPTION 1- 1850 bhp emergency and peaking generator CITY/TWP Oxford, Ohio

SIC CODE 8062 SCC CODE 2-03-001-01 EMISSIONS UNIT ID P001

EMISSIONS UNIT DESCRIPTION 1- 1850 bhp engine with a 1250 kW emergency and peaking generator

DATE INSTALLED when permit received

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		0.71 lb/hr peak 1.1 lbs/hr emer.	0.4	0.71 lb/hr peak 2.8 lbs/hr emer.	1.4
PM <sub>10</sub>		0.71 lb/hr peak 1.1 lbs/hr emer.	0.4	0.71 lb/hr peak 2.8 lbs/hr emer.	1.4
Sulfur Dioxide		1.9	0.67	4.5 lb/hr	2.25
Organic Compounds		7.5	2.7	22.6 lbs/hr	11.3
Nitrogen Oxides		25.3	9.1	26.1 lbs/hr	13.05
Carbon Monoxide		12.8	4.6	44.1 lbs/hr	22.0
Lead					
Other: Air Toxics					

## APPLICABLE FEDERAL RULES:

NSPS? No NESHAP? No PSD? No OFFSET POLICY? No

## 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 hours of operation 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? \$ NA

**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: NA

**NEW SOURCE REVIEW FORM B**

PTI Number: 14-05021 Facility ID: 1409090032

FACILITY NAME Mc Cullough-Hyde Memorial Hospital

FACILITY DESCRIPTION 1- 1850 bhp emergency and peaking generator CITY/TWP Oxford, Ohio

**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](mailto: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"/>	<input type="checkbox"/>
<u>Modeling form/results</u>	<input type="checkbox"/>	0000000s.wpd	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<u>PTI Application (complete or partial)*</u>	<input type="checkbox"/>	0000000a.wpd	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<u>BAT Study</u>	<input type="checkbox"/>	0000000b.wpd	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<u>Other/misc.</u>	<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 14-05021

McCullough-Hyde Memorial Hospital  
110 North Poplar Street  
Oxford, Ohio 45056-1204

PN: 1409090032

McCullough-Hyde Memorial Hospital has filed a permit to install (PTI) application for one 1850 hp diesel engine that drives a 1250 kW generator to meet emergency and peak electrical demand. The engine/generator (P001) operating hours will be limited to a maximum of 1000 hours per year, which will limit NAAQS and HAPs pollutant emissions such that Title V rules will not apply to this facility. The permittee intends to expand the hospital within three years.

Detroit Diesel/MTU manufactures the 4 cycle diesel engine (model 12V-4000) and Kohler Power Systems manufactures the generator. Emissions data obtained from the engine manufacturer were used to calculate nitrogen oxides (NOx), organic compounds (OC), particulate matter (PM/PM10), carbon monoxide (CO) and sulfur dioxide (SO2) emission rates.

Two sets of limits for particulate matter will be established in this permit -  
1) when the generator is used to meet peak loads,

In order to meet the PM/PM10 limits in OAC rule 3745-17-11(B)(5)(b) of 0.062 lb. PM/mmBtu, the permittee is required to adjust the load on the engine. Emissions of PM increase as the engine load decreases. Emissions of PM/PM10 vary with the heat content of the fuel and engine load. The approximate minimum engine load needed

**NEW SOURCE REVIEW FORM B**

PTI Number: 14-05021 Facility ID: 1409090032

FACILITY NAME Mc Cullough-Hyde Memorial Hospital

FACILITY DESCRIPTION	1- 1850 bhp emergency and peaking generator	CITY/TWP	Oxford, Ohio
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to meet the PM limit is 45% of maximum load, which includes a small emissions buffer.

2) when the generator is tested monthly and when the generator is used to meet emergency loads due to power curtailment by the utility company.

Allowable emissions for PM/PM10 are based on a "worst case" 10% load.

Allowable emissions for NO<sub>x</sub>, OC, CO, (during all operating periods) and PM/PM10 (during emergency load operation) are based on a "worst case" 10% load for all operating conditions. Allowable SO<sub>2</sub> limits are based on a 0.3%, by weight, sulfur content of the diesel fuel and the heat content of the fuel.

Expected actual and potential emissions rates for the engine are calculated on attached spreadsheets and summarized below:

	<u>Actual (TPY)</u>	<u>Allowable (TPY)</u>
NO <sub>x</sub>	9.1	13.05
OC	2.7	11.3
CO	4.6	22.0
SO <sub>2</sub>	0.67	2.2
PM /PM10 (peak + emergency)	0.4	1.4

Annual emissions limits are based on 1000 hours of operation per year. SO<sub>2</sub> limits are based on a maximum sulfur content of 0.3 percent by weight of the fuel. New source modeling is not required since the emission rates for toxic pollutants are less than 1 TPY.

Best Available Technology (BAT) as required by OAC 3745-31-05(A)(3) is satisfied for this source, P001, by the hours of operation limitation, the use of low sulfur diesel fuel, recordkeeping, and compliance with the applicable emissions limits.

Other applicable OAC rules are:

3745-31-05(A)(3) requires the use of BAT.

3745-17-07 (A) requires control of visible emissions

3745-17-11 (B)(5)(b) limits particulate emissions to 0.062 lb/mmBtu for large internal combustion engines greater than 600 hp according to the definition in 3745-17-01 (B)(24).

3745-18-06(G) limits SO<sub>2</sub> emissions to 0.5 lb. SO<sub>2</sub> /mmBtu actual heat input. This limit is less stringent than BAT.

This permit to install should be issued as a final permit.

Permit Fee: P001 \$200

**NEW SOURCE REVIEW FORM B**

PTI Number: 14-05021 Facility ID: 1409090032

FACILITY NAME Mc Cullough-Hyde Memorial Hospital

FACILITY DESCRIPTION	1- 1850 bhp emergency and peaking generator	CITY/TWP	Oxford, Ohio
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November 28, 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 ENTER PTI NUMBER HERE

- A. [Source Description](#)
- B. [Facility Emissions and Attainment Status](#)
- C. [Source Emissions](#)
- D. [Conclusion](#)

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>
NOx	13.05
OC	11.3
CO	22.0
SO2	2.25
PM/PM10	1.4