

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT  
RENEWAL

PERMITTEE

Lutheran General Hospital  
Attn: Dan Pietrucha  
1775 Dempster St.  
Park Ridge, Illinois 60068

Application No.: 73050040

I.D. No.: 031246AAA

Applicant's Designation:

Date Received: January 4, 2000

Subject: Boilers, Generators, ETO & Tanks

Date Issued: October 13, 2000

Expiration Date: October 13, 2005

Location: 1775 Dempster St., Park Ridge

Permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of three boilers, thirty-six other boilers, furnaces, unit heaters and domestic hot water heaters, two ethylene oxides sterilizers, and nine standby engine generators as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This federally enforceable state operating permit is issued to limit the emissions of nitrogen oxides from this hospital to less than 100 tons/year, as further described in Attachment A. As a result, the source is excluded from the requirements to obtain a Clean Air Act Permit Program permit.
- b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.
- c. This permit supersedes the current permit(s) issued for this location.
2. No person shall cause or allow the emission of sulfur dioxide into the atmosphere from each individual boiler in any one hour period when burning residual fuel oil exclusively to exceed 1.0 lbs/mmBtu.
3. No person shall cause or allow the emission of sulfur dioxide into the atmosphere from each individual fuel combustion emission source in any one hour period when burning distillate fuel oil to exceed 0.3 lb/mmBtu.
4. No person shall cause or allow the emission of sulfur dioxide into the atmosphere from any generator to exceed 2,000 ppm.
- 5a. Operation of the three boilers and 34 hot water heating units shall not exceed the following limits:

Gas Usage: Residential and Commercial (up to 10 mmBtu/hr):  
6,600,000 scf/month and 26,000,000 scf/yr

Small Industrial (10-100 mmBtu/hr): 55,000,000 scf/month  
and 230,000,000 scf/year

#2 Fuel Oil Usage: 75,000 gallons/month and 75,000 gallons/year.

- b. i. At the above location, the Permittee shall not keep, store, or utilize a fuel with a sulfur content greater than 0.3 weight percent for distillate fuel oil.
  - ii. The Illinois EPA shall be allowed to sample all fuels stored at the source.
  - c. These limits define the potential emissions of nitrogen oxides and sulfur dioxide and are based on the actual emission determined from maximum production capacity & standard emission factors.
  - d. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months.
- 6a. Operation of the two ethylene oxide sterilizers shall not exceed the following limits:
- Ethylene Oxide Usage: 268 lbs/month and 1.61 ton/year.
- b. These limits define the potential emissions of the ethylene oxide sterilizers operation and are based on the actual emissions determined from maximum production capacity and material balance.
- 7a. Operation of the eight standby engine generators fired on #2 fuel oil shall not exceed the following limits:
- |                   |         |
|-------------------|---------|
| Caterpillar D353C | 200 KW  |
| Caterpillar D349  | 750 KW  |
| Caterpillar 3512  | 1000 KW |
| Caterpillar 3412  | 620 KW  |
| Caterpillar 3508  | 750 KW  |
| Caterpillar D343  | 200 KW  |
| Caterpillar 3406  | 110 KW  |
| Caterpillar 502   | 350 KW  |
| Kohler 30ROZJ     | 43 KW   |
- Individual Engine Operating Hours: 75 hr/month and 75 hr/yr  
#2 Fuel Oil Usage for Nine Engine Generators: 1892 gal/month  
and 22,696 gal/yr
- b. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months.
- 8a. Within 30 days of a written request from the Illinois EPA the Permittee shall submit data on the sulfur content by weight of representative #2 fuel oil, determined by laboratory analysis.

- b. The submitted information shall include the sulfur content by weight of the #2 fuel oil a justification of why this is representative, and a description of the sampling procedures and documentation for the analysis.
  - c. The Illinois EPA may provide additional time for the performance of this testing upon request from the Permittee which shows that it is not feasible to perform representative testing within 30 days.
- 9a. The Permittee shall maintain records of the following items:
- i. Natural gas usage for the three boilers and 36 heating units (scf/month and scf/year).  
  
Gas Usage: Residential and commercial (up to 10 mmBtu/hr) in scf/month and scf/year.  
  
Small Industries (10-100 mmBtu/hr) in scf/month and scf/year.
  - ii. Ethylene oxide and usage (pounds/month and ton/year).
  - iii. Operating time of 8 engine generators (hour/month and hour/year).
  - iv. #2 fuel oil usage for the nine engine generators (gal/month and gal/year).
  - v. #2 fuel oil usage for the three boilers and 36 heating units (gal/month and gal/year).
  - vi. Sulfur content of #2 fuel oil.
- b. These records shall be kept at a readily accessible location at the plant for at least 3 years from the date of entry and shall be made available for inspection and copying by the USEPA and Illinois EPA upon request.
10. If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences. This report should be sent to:

Illinois Environmental Protection Agency  
Division of Air Pollution Control  
Compliance Section (#40)  
P.O. Box 19506

Springfield, Illinois 62794-9506

11. This permit supersedes the current permits issued for this location.
12. Organic liquid by-products or waste materials shall not be used at this source without written approval from the Illinois EPA.
13. No person shall cause or allow the emission of carbon monoxide into the atmosphere from each individual boiler to exceed 200 ppm, corrected to 50% excess air.
14. The Permittee shall submit the following additional information with the Annual Emission Report, due May 1st each year: Natural gas usage, Ethylene oxide usage, and #2 fuel oil usage from the prior calendar year.
15. It should be noted that the fuel oil storage tanks are exempted from state permit requirements, pursuant to 35 Ill. Adm. Code 201.146(n)(3).

If you have any questions on this, please call Jim Cobb at 217/782-2113.

Donald E. Sutton, P.E.  
Manager, Permit Section  
Division of Air Pollution Control

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cc: IEPA, FOS Region 1  
Lotus Notes

Attachment A - Emissions Summary

- 1a. Fuel combustion emissions of nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), volatile organic material (VOM), sulfur dioxide (SO<sub>2</sub>), and particulate matter (PM) from the residential and commercial furnaces shall not exceed the following:

<u>Pollutant</u>	<u>Gas Usage (mft<sup>3</sup>/Yr)</u>	<u>Emission Factor for Residential and Commercial Furnaces (Lb/mft<sup>3</sup>)</u>	<u>Emission (Ton/Yr)</u>
NO <sub>x</sub>	26	100	1.30
SO <sub>2</sub>	26	0.6	0.01
CO	26	84	1.09
VOM	26	5.5	0.07
PM	26	1.9	0.30

- b. Fuel combustion emissions of nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), volatile organic material (VOM), sulfur dioxide (SO<sub>2</sub>), and particulate matter (PM,) from Industrial boilers shall not exceed the following:

<u>Pollutant</u>	<u>Gas Usage (mft<sup>3</sup>/Yr)</u>	<u>Emission Factor for Small Industrial Boiler (Lb/mft<sup>3</sup>)</u>	<u>Emission (Ton/Yr)</u>
NO <sub>x</sub>	230	100	11.50
SO <sub>2</sub>	230	0.6	0.07
CO	230	84	9.66
VOM	230	5.5	0.63
PM	230	1.9	0.22

This table defines the potential emissions of the plant and are based on the fuel fired and standard emission factors at the maximum annual fuel usage.

2. #2 fuel oil-fired combustion emissions of nitrogen oxide (NO<sub>x</sub>), carbon monoxide (CO), volatile organic material (VOM), sulfur dioxide (SO<sub>2</sub>), and particulate matter (PM) shall not exceed the following:

<u>Pollutant</u>	<u>#2 Fuel Oil Usage (kgal/Yr)</u>	<u>Emission Factor (Lb/kgal)</u>	<u>Emission (Ton/Yr)</u>
NO <sub>x</sub>	75	20	0.75
SO <sub>2</sub>	75	42.6	1.60
CO	75	5	1.88
VOM	75	0.34	0.01
PM	75	2	0.08

This table defines the potential emissions of the boilers and are based on the fuel fired and standard emission factors at the maximum annual fuel usage.

- 3a. Emission of nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), particulate matter (PM), volatile organic material (VOM) from five standby Industrial engine generators shall not exceed the following limits:

<u>Pollutant</u>	<u>#2 Fuel Oil Usage (Gal/Yr)</u>	<u>Emission Factor (Lb/mmBtu)</u>	<u>Emission (Ton/Yr)</u>
NO <sub>x</sub>	5,093	4.41	1.57
SO <sub>2</sub>	5,093	0.29	0.10
CO	5,093	0.95	0.34
VOM	5,093	0.36	0.00
PM	5,093	0.31	0.13

This table defines the potential emissions of the five Industrial engine generators and is based on maximum emissions determined by standard emission factors and the generators operating at 100% load.

- b. Emission of nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), particulate matter (PM), volatile organic material (VOM) from four standby Large Stationary engine generators shall not exceed the following limits:

<u>Pollutant</u>	<u>#2 Fuel Oil Usage (Gal/Yr)</u>	<u>Emission Factor (Lb/mmBtu)</u>	<u>Emission (Ton/Yr)</u>
NO <sub>x</sub>	17,603	3.2	3.94
SO <sub>2</sub>	17,603	0.28	0.36
CO	17,603	0.85	1.05
VOM	17,603	0.09	0.11
PM	17,603	0.1	0.12

This table defines the potential emissions of 4 standby large stationary engine generators and is based on maximum emission determined by Standard emission factors and the generators operating at 100% load.

4. Emissions from the 2 ethylene oxide sterilizers.

<u>Emission Unit</u>	<u>Ethylene Oxide Usage (Lb/Year)</u>	<u>Volatile Organic Material Emissions</u>	
		<u>(Lb/Month)</u>	<u>(Ton/Year)</u>
2 Sterilizers	3,210	268	1.61

This table defines the potential emissions of the two ethylene oxide sterilizers and is based on maximum emissions determined by material balance and daily capacity.

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