

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT - RENEWAL
PERMITTEE

Elmhurst Memorial Hospital
Attn: Marcia Franzen
200 Berteau
Elmhurst, Illinois 60126

Application No.: 91010084
Applicant's Designation: ELMHOSP
Subject: Hospital
Date Issued: December 11, 2000
Location: 200 Berteau, Elmhurst

I.D. No.: 043035AFK
Date Received: June 9, 2000
Expiration Date: December 11, 2005

Permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of 1 ETO sterilizer, 4 boilers, 5 emergency generators, 3 underground storage tanks, and 3 gas fired dryers 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 oxide from the source to less than the levels at which the source would be a major source (i.e., 100 tons/yr), 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.
- 2a. Operation of the boilers in natural gas mode shall not exceed the following limits:
 - i. Natural gas shall be the only fuel fired in boilers 1 and 3.
 - ii. Emissions and operation of all four boilers combined in natural gas mode:

Pollutant	Natural Gas Usage		Emission	Emission	
	(10 ⁶ scf/Mo)	(10 ⁶ scf/Yr)	Factor (Lbs/10 ⁶ scf)	(Ton/Mo)	(Ton/Yr)
NO _x	60	500	100	3.00	25.00
CO	60	500	84	2.52	21.00
VOM	60	500	5.5	0.17	1.38
SO ₂	60	500	0.6	0.02	0.15
PM	60	500	1.9	0.06	0.48

These limits are based on maximum gas usage and standard emission factors.

b. Operation of Boiler 4 and 5 in #2 fuel oil mode (diesel fuel) shall not exceed the following limits:

i. The sulfur content of the fuel shall not exceed 0.30 percent by weight.

ii.

Pollutant	Fuel Oil Usage		Emission	Emission	
	(10 ³ Gal/Mo)	(10 ³ Gal/Yr)	Factor (Lbs/1000 Gal)	(Ton/Mo)	(Ton/Yr)
NO _x	250	900	20.00	2.50	9.00
CO	250	900	5.00	0.63	2.25
VOM	250	900	0.2	0.03	0.09
SO ₂	250	900	42.6	5.33	19.17
PM	250	900	2.0	0.25	0.9

These limits are based on maximum fuel oil usage and standard emission factors.

iii. The Illinois EPA shall be allowed to sample all fuels stored at the above location.

c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the proceeding 11 months.

3a. Operation of the 3 dryers shall not exceed the following limits:

i. Natural gas shall be the only fuel fired in all 3 dryers.

ii. Emissions and operation of three dryers combined shall not exceed the following limits:

Pollutant	Natural Gas Usage		Emission	Emission	
	(10 ⁶ scf/Mo)	(10 ⁶ scf/Yr)	Factor (Lbs/10 ⁶ scf)	(Ton/Mo)	(Ton/Yr)
NO _x	5.0	59.0	100	0.25	2.96
CO	5.0	59.0	84	0.21	2.48
VOM	5.0	59.0	5.5	0.01	0.16
SO ₂	5.0	59.0	0.6	0.01	0.02
PM	5.0	59.0	1.9	0.01	0.06

These limits are based on maximum natural gas usage and standard emission factors.

b. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the proceeding 11 months.

- 4a. Number 2 fuel (diesel fuel) shall be the only fuel fired in the five generators.
- b. The sulfur content of the fuel shall not exceed 0.30 percent by weight.
- c. i. Emission and operation of Generator 1, 2, and 3 combined shall not exceed the following limits:

<u>Pollutant</u>	<u>Fuel Oil Usage (Gallon/Year)</u>	<u>Emission Factor (Lbs/10⁶ Btu)</u>	<u>Emission (Ton/Yr)</u>
NO _x	20,000	4.41	6.17
CO	20,000	0.95	1.33
SO ₂	20,000	0.29	0.14
PM	20,000	0.31	0.43

These limits are based on maximum fuel usage, heat content of fuel oil (140,000 Btu/gallon), and standard emission factors. Compliance with the annual standard shall be determined monthly from the last 12 months of data.

- ii. Emission and operation of generator 4 and 5 combined shall not exceed the following limits:

<u>Pollutant</u>	<u>Fuel Oil Usage (Gallon/Year)</u>	<u>Emission Factor (Lbs/10⁶ Btu)</u>	<u>Emission (Ton/Yr)</u>
NO _x	30,000	3.2	6.72
CO	30,000	0.85	1.78
VOM	30,000	0.09	0.19
SO ₂	30,000	0.28	0.64
PM	30,000	0.1	0.21

These limits are based on maximum fuel usage, heat content of fuel oil (140,000 Btu/gallon), and standard emission factors. Compliance with annual limits shall be determined monthly from the last 12 months of data.

- d. The Illinois EPA shall be allowed to sample all fuels stored at the above location.
- e. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the proceeding 11 months.
- 5a. Within 30 days of written request from the Illinois EPA the Permittee shall submit data on the sulfur content by weight of representative #2 fuel oil, determined by the laboratory analysis.
- b. The submitted data 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.
- 6a. The Permittee shall maintain monthly records of the following items:
 - i. Natural gas usage (10^6 scf/month and 10^6 scf/year) for all four boilers and three dryers.
 - ii. #2 fuel oil usage (gallons/month and gallons/year) for each of the boiler: 4 and 5; generator 1, 2 and 3; and generator 4 and 5.
 - iii. Ethylene oxide usage in the sterilizer.
 - iv. NO_x emissions as calculated by AP-42 emission factors and the actual natural gas usage, #2 fuel oil usage and operating hours, (ton/month and ton/year), for boilers and dryer operating on natural gas, and for boilers and generators operating on #2 fuel oil, respectively.
- b. These records shall be retained 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 Illinois EPA and USEPA upon request.
- 7. Any exceedance of the requirements of this permit determined by the records required by Condition 6 shall be reported by the Permittee by submitting a quarterly report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the end of the quarter. The report shall include the emissions on an hourly basis, a copy of the relevant records, and a description of the excess or violation and efforts to reduce emissions and future occurrences.
- 8. This permit is issued based on negligible emissions of volatile organic material from the one ethylene oxide sterilizer. For this purpose emissions from each emission source, shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/yr.
- 9. This permit is issued based on negligible emissions of volatile organic material from three underground storage tanks. For this purpose emissions from each emission source shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/yr.
- 10. The Permittee shall submit an Annual Emissions Statement to the Illinois EPA by May 1st of each year. This report shall include as a minimum: natural gas usage, operating hours and nitrogen oxide emissions from the prior calendar year. If there have been no excesses during the prior calendar year the Annual Emissions Statement shall include a statement to that effect.

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Please note that this permit has been revised to show change in operation and recordkeeping as to the Permittee shall keep records of fuel usage instead of operating hours of equipment. This revision does not relax monitoring, recordkeeping, or reporting requirements contained in federally enforceable conditions of this permit. This permit continues to assure that this source would not be a major source for purpose of CAAPP.

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

DES:JDC:jar

cc: Illinois EPA, FOS Region 1
Illinois EPA, CMU
USEPA

Attachment A - Emissions Summary

1. Fuel combustion emissions of nitrogen oxide (NO_x), carbon monoxide (CO), volatile organic material (VOM), sulfur dioxide (SO₂), and particulate matter (PM) from the boilers:

a.

Pollutant	Natural Gas Usage		Emission	Emission	
	(10 ⁶ scf/Mo)	(10 ⁶ scf/Yr)	Factor (Lbs/10 ⁶ scf)	(Ton/Mo)	(Ton/Yr)
NO _x	60	500	100	3.00	25.00
CO	60	500	84	2.52	21.00
VOM	60	500	5.5	0.17	1.38
SO ₂	60	500	0.6	0.02	0.15
PM	60	500	1.9	0.06	0.48

Pollutant	Fuel Oil Usage		Emission	Emission	
	(10 ³ Gal/Mo)	(10 ³ Gal/Yr)	Factor (Lbs/1000 Gal)	(Ton/Mo)	(Ton/Yr)
NO _x	250	900	20.00	2.50	9.00
CO	250	900	5.00	0.63	2.25
VOM	250	900	0.2	0.03	0.09
SO ₂	250	900	42.6	5.33	19.17
PM	250	900	2.0	0.25	0.9

- b. These tables define the potential emissions of the boilers and are based on the fuel fired rate and standard emission factors as indicated in the permit application.

2. Gas-fired fuel combustion emissions of nitrogen oxides (NO_x), carbon monoxide (CO) and particulate matter (PM) from the dryers:

a.

Pollutant	Natural Gas Usage		Emission	Emission	
	(10 ⁶ scf/Mo)	(10 ⁶ scf/Yr)	Factor (Lbs/10 ⁶ scf)	(Ton/Mo)	(Ton/Yr)
NO _x	5.0	59.0	100	0.25	2.96
CO	5.0	59.0	84	0.21	2.48
VOM	5.0	59.0	5.5	0.01	0.16
SO ₂	5.0	59.0	0.6	0.01	0.02
PM	5.0	59.0	1.9	0.01	0.06

- b. This table defines the potential emissions of dryers and are based on the fuel fired and standard emission factors as indicated in the permit application.

3. Fuel combustion emissions of nitrogen oxides (NO_x) and carbon monoxide (CO) from the generators:

a.

Pollutant	Fuel Oil Usage	Emission	Emission
	(Gallon/Year)	Factor (Lbs/10 ⁶ Btu)	(Ton/Yr)
NO _x	20,000	4.41	6.17
CO	20,000	0.95	1.33

SO ₂	20,000	0.29	0.14
PM	20,000	0.31	0.43

b.

<u>Pollutant</u>	<u>Fuel Oil Usage (Gallon/Year)</u>	<u>Emission Factor (Lbs/10⁶ Btu)</u>	<u>Emission (Ton/Yr)</u>
NO _x	30,000	3.2	6.72
CO	30,000	0.85	1.78
VOM	30,000	0.09	0.19
SO ₂	30,000	0.28	0.64
PM	30,000	0.1	0.21

c. These tables define the potential emissions of the generators and is based on the fuel usage and standard emission factors as indicated in the permit application.

4. This permit is issued based on negligible emissions of volatile organic material from the one ethylene oxide sterilizer. For this purpose emissions from each emission source, shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/yr.
5. This permit is issued based on negligible emissions of volatile organic material from three underground storage tanks. For this purpose emissions from each emission source shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/yr.

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