

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT -- NSPS SOURCE -- RENEWAL

PERMITTEE

Rockford Memorial Hospital
Attn: John Acardo
2400 North Rockton Avenue
Rockford, Illinois 61103

Application No.: 73010808

I.D. No.: 201030API

Applicant's Designation:

Date Received: December 30, 1998

Subject: Hospital

Date Issued: May 19, 1999

Expiration Date: May 19, 2004

Location: 2400 Rockton Avenue, Rockford

This permit is hereby granted to the above-designated Permittee to OPERATE emission unit(s) and/or air pollution control equipment consisting of three boilers, one medical waste incinerator, three ethylene oxide sterilizers and two stand-by diesel engines-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 air pollutants from the source to less than major source thresholds (i.e., 100 tons/year for nitrogen oxides (NO_x) and sulfur dioxide (SO₂), 10 tons/year for a single hazardous air pollutant (HAP) and 25 tons/year for totaled HAP). As a result the source is excluded from the requirement to obtain a Clean Air Act Permit Program permit. The maximum emissions of this source as limited by conditions of this permit, are described in Attachment A.
- b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.
- c. This permit supersedes all operating permits issued for this location.
- 2a. The Burham boiler is subject to New Source Performance Standards (NSPS), 40 CFR 60, Subparts A and Dc. The Illinois EPA is administering these standards in Illinois on behalf of the United States EPA under a delegation agreement.
- b. Sulfur Dioxide emission from the boiler shall not exceed the applicable limit pursuant to 40 CFR 60.42c(d).
- c. At all times the Permittee shall, to the extent practicable, maintain and operate the boiler, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions.
- 3a. This permit is issued based on the medical waste incinerator not being subject to the requirements of 40 CFR Part 60, Subpart Ec AStandards of Performance for Hospital/Medical/Infectious Waste Incinerators@ because construction of this incinerator commenced before June 20, 1996.
- b. This permit does not relieve the Permittee from compliance with any future state and/or federal rules that should be adopted in accordance with 40 CFR Part 60, Subpart Ce A Emission Guidelines and Compliance Times for Hospital/Medical/Infectious Waste Incinerators@.

4. 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 (35 Ill. Adm. Code 216.121).
5. 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 distillate fuel oil exclusively to exceed 0.3 lbs/mmBtu (Ill. Adm. Code 214.122 and 214.161).
6. No person shall cause or allow the emission of particulate matter into the atmosphere from the incinerator to exceed 0.1 grains per standard cubic foot of effluent gases corrected to 12% carbon dioxide (Ill. Adm. Code 212.181(d)).
7. No person shall cause or allow the emission of carbon monoxide into the atmosphere from the incinerator to exceed 500 ppm, corrected to 50% excess air (35 Ill. Adm. Code 216.141).
8. Operation of the boilers shall not exceed the following limits:

a. Natural Gas firing mode:

Natural Gas usage: 45 mmscf/month, 450 mmscf/year

<u>Pollutant</u>	<u>Emission Factor</u> (Lb/mmscf)	<u>Emissions</u>	
		(Ton/Mo)	(Ton/Yr)
Nitrogen Oxide (NO _x)	100	2.3	22.5
Carbon Monoxide (CO)	84	1.9	18.9
Particulate Matter (PM)	7.6	0.2	1.7
Volatile Organic Material (VOM)	5.5	0.1	1.2

b. Distillate Fuel Oil firing mode:

Fuel Oil usage: 475,000 gal/month, 875,000 gal/year

<u>Pollutant</u>	<u>Emission Factor</u> (Lb/10 ³ Gal)	<u>Emissions</u>	
		(Ton/Mo)	(Ton/Yr)
Sulfur Dioxide (SO ₂)	41	9.7	17.9
Nitrogen Oxide (NO _x)	20	4.8	8.8
Carbon Monoxide (CO)	5	1.2	2.2
Particulate Matter (PM)	2	0.5	0.9

These limits are based on the maximum operating rate and standard emission factors given by AP-42. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the preceding 12 months.

- 9a. Operation and emissions of the incinerator shall not exceed the following limits:

<u>Process Rate</u> (Lb/Hr)	<u>Operating Hours</u>		<u>E M I S S I O N S</u>					
	(Hr/Mo)	(Hr/Yr)	<u>PM</u>		<u>CO</u>		<u>HCl</u>	
			(Lb/Hr)	(Ton/Yr)	(Lb/Hr)	(Ton/Yr)	(Lb/Hr)	(Ton/Yr)
900	250	2,500	2.8	3.5	3.0	3.8	6.9	8.6

These limits define the potential emissions of the incinerator and are based on the allowable emissions for PM per 35 Ill. Adm. Code 212.181(d) and HCl and CO emissions derived from the stack test data.

- b. Only Type 7 Waste (general hospital waste) may be incinerated and at a rate not to exceed 900 pounds per hour. Of the total charge fed to the incinerator no more than 10% may be pathological waste. The permit does not allow the burning of any pathological waste alone.
 - c. Medical waste incinerator shall be equipped with an afterburner combustion chamber temperature indicator and strip chart recorder or disk storage for the afterburner combustion temperature.
 - d. The afterburner combustion chamber shall be preheated to the manufacturer's recommended temperature but not lower than 1400EF, before any waste is loaded into the incinerator, and this temperature shall be maintained during incineration.
 - e. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the preceding 12 months.
10. Operation of the three ethylene oxide sterilizers shall not exceed the following limits:

Ethylene Oxide Usage: 21 lbs/month and 0.13 tons/year total for 3 sterilizers.

- 11. Operation of the two stand-by diesel engines shall not exceed the following limits:

Power Rate (HP)	Operating Hours (Hr/Yr)	E NO _x (Lb/Hr)(T/Yr)	M (Lb/Hr)(T/Yr)	I CO (Lb/Hr)(T/Yr)	S (Lb/Hr)(T/Yr)	S PM (Lb/Hr)(T/Yr)	I O (Lb/Hr)(T/Yr)	N (Lb/Hr)(T/Yr)	S VOM (Lb/Hr)(T/Yr)
997	240	58.0	3.5	17.8	1.1	1.9	0.1	1.5	0.1

These limits define the potential emissions of the diesel engines and are based on the manufacturer's emission factors. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the preceding 12 months.

- 12. The emissions of Hazardous Air Pollutants (HAP) as listed in Section 112(b) of the Clean Air Act shall not equal or exceed 10 tons per year of any single HAP or 25 tons per year of any combination of such HAPs, or such lesser quantity as USEPA may establish in rule which would require the Permittee to obtain a CAAPP permit from the Illinois EPA. As a result of this condition, this permit is issued based on the emissions of any HAP from this source not triggering the requirement to obtain a CAAPP permit from the Illinois EPA.
- 13a. The Permittee shall maintain daily records of the following items:
 - i. Operating temperature of incinerator chambers; and
 - ii. Waste composition fed to the incinerator.

- b. The Permittee shall maintain monthly records of the following items:
 - i. Natural gas usage (mmscf/month and mmscf/year);
 - ii. Distillate fuel oil usage for the boilers (gal/month and gal/year);
 - iii. Sulfur content of the oil;
 - iv. Ethylene oxide usage (pounds/month and pounds/year); and
 - v. Operating hours for the incinerator and 2 engines (hr/month and hr/year).
- 14. All records and logs required by this permit shall be retained at a easily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to the Illinois EPA or USEPA request for records during the course of a source inspection.
- 15. 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 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.
- 16. The Permittee shall submit the following additional information with the Annual Emissions Report, due May 1st of each year: annual fuel usage and incinerator throughput. If there have been no exceedances during the prior calendar year, the Annual Emission Report shall include a statement to that effect.
- 17. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Illinois EPA
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Illinois EPA
Division of Air Pollution Control
5415 North university
Peoria, Illinois 61614

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

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

DES:VJB:jar

cc: Illinois EPA, FOS Region 2
Illinois EPA, Compliance Section
USEPA

Attachment A - Emissions Summary

This attachment provides a summary of the maximum emission from the hospital operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from such source. This is combustion of 450 mmscf of natural gas and 875,000 gallons of fuel oil in the boilers, 240 hours of combined diesel engines operation, 2,500 hours of incinerator operations and usage of 0.13 tons of ethylene oxide. The resulting maximum emissions are well below 100 tons per year of NO_x and SO₂ and 10 tons per year for any individual HAP and 25 tons per year for totaled HAPs at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that material is handled, and control measures are more effective than required in this permit.

1. Boilers emissions:

a. Natural Gas firing mode:

<u>Pollutant</u>	<u>Emission Factor (Lb/mmscf)</u>	<u>Emissions</u>	
		<u>(Ton/Mo)</u>	<u>(Ton/Yr)</u>
Nitrogen Oxide (NO _x)	100	2.3	22.5
Carbon Monoxide (CO)	84	1.9	18.9
Particulate Matter (PM)	7.6	0.2	1.7
Volatile Organic Material (VOM)	5.5	0.1	1.2

b. Distillate Fuel Oil firing mode:

<u>Pollutant</u>	<u>Emission Factor (Lb/10³ Gal)</u>	<u>Emissions</u>	
		<u>(Ton/Mo)</u>	<u>(Ton/Yr)</u>
Sulfur Dioxide (SO ₂)	41	9.7	17.9
Nitrogen Oxide (NO _x)	20	4.8	8.8
Carbon Monoxide (CO)	5	1.2	2.2
Particulate Matter (PM)	2	0.5	0.9

2. Emissions from the incinerator:

E M I S S I O N S					
PM		CO		HCl	
<u>(Lb/Hr)</u>	<u>(Ton/Yr)</u>	<u>(Lb/Hr)</u>	<u>(Ton/Yr)</u>	<u>(Lb/Hr)</u>	<u>(Ton/Yr)</u>
2.8	3.5	3.0	3.8	6.9	8.6

3. Emissions from the 3 ethylene oxide sterilizers.

<u>Emission Unit</u>	<u>Volatile Organic Material Emissions</u>	
	<u>(Lb/Mo)</u>	<u>(Ton/Yr)</u>
3 Sterilizers	21	0.13

4. Emissions from the diesel engines:

E M I S S I O N S

<u>NO_x</u> <u>(Lb/Hr) (T/Yr)</u>		<u>CO</u> <u>(Lb/Hr) (T/Yr)</u>		<u>PM</u> <u>(Lb/Hr) (T/Yr)</u>		<u>VOM</u> <u>(Lb/Hr) (T/Yr)</u>	
58.0	3.5	17.8	1.1	1.9	0.1	1.5	0.1

VJB:ja