

217-782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT REVISED

PERMITTEE

Oak Forest Hospital
Attn: Mr. Thomas R. Kennedy
15900 South Cicero Avenue
Oak Forest, Illinois 60452

Application No.: 85010011 I.D. No.: 031219AAI
Applicant's Designation: Date Received: February 16, 2000
Subject: Physical Plant
Date Issued: July 21, 2000 Expiration Date: July 21, 2005
Location: 15900 South Cicero Avenue, Oak Forest

Permit is here by granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of two natural gas and oil fired boilers rated at 59 mmBtu/hr, two natural gas and oil fired boilers rated at 40 mmBtu/hr, #2 fuel oil storage tanks: 3 @ 20,000 gal, 1 @ 6,000 gal, 2 @ 2,600 gal; 3 @ 2,000 gal, emergency generator: 1 @ 1,000 kW, 6 @ 500 kW; 1 @ 350 kW, and one Kelly model 1280/72 medical waste incinerator. 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 and volatile organic material to less than 25 tons/year and particulate matter, carbon monoxide and sulfur dioxide from this hospital to less than 100 tons/year, as further described in Attachment A. As a result, the source is excluded from requirements to obtain a Clean Air Act 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 particulate matter in to the atmosphere for the incinerator to exceed 0.1 grains per standard cubic foot to effluent gases corrected to 12% carbon dioxide.
3. 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.
4. 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.

5. 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.

6a. Operation of the four boilers shall not exceed the following limits:

- i. Boilers #1 and #4 Firing Rate: 59 mmBtu/hr gas and oil.
- ii. Boilers #2 and #3 Firing Rate: 40 mmBtu/hr gas and oil.
- iii. Sulfur Content of #2 Fuel Oil: 0.29% by wt.
- iv. Total Natural Gas Usage: 307 million cubic feet per year.
- v. Total Fuel Oil Usage: 10,670 gallons per year.

b. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the preceding 12 months.

c. The Illinois EPA shall be allowed to sample all fuels stored at the source.

7a. Operation of the incinerator shall not exceed the following limits:

- i. Only Type 7 waste (general hospital waste with not more than 10% pathological waste) may be incinerated and at a rate not to exceed 1,200 pounds per hour.
- ii. 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.
- iii. Medical waste incinerated: 104 tons/month and 1,250 tons/year.
- iv. This incinerator has been scheduled to cease operation by or before September 15, 2000 in accordance with 35 Ill. Adm. Code 229.116(a). The Permittee shall give written notice to the Compliance Section within 3 days of rendering the incinerator permanently inoperable in accordance with 35 Ill. Adm. Code 229.116(b).
- v. After the incinerator has been rendered permanently inoperable a permit application should be submitted to delete the incinerator from this permit.

b. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the preceding 12 months.

8a. Operation of the eight standby emergency generators fired on #2 diesel oil shall not exceed the following limit:

- i. Maximum individual engine operating hours: 500 hrs/year.

- ii. Maximum electric generation: 2175 Mw/year.
- b. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the preceding 12 months.

9a. The Permittee shall maintain daily records of the following items:

i. Operating temperature of the incinerator chamber.

b. The Permittee shall maintain monthly records of the following items:

i. Natural gas usage for the four boilers (per/month and per/year).

ii. Number 2 diesel oil usage for the four boilers (per/month and per/year).

iii. Electric generation (MWH) of the eight emergency generators.

iv. Operating hours for each of the four boilers, the incinerator and the 8 emergency generator engines.

v. Sulfur content of #2 diesel oil used.

c. The Permittee shall maintain hourly records of the pounds of waste incinerated.

d. 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 Illinois EPA upon request.

10a. Within 90 days of a written request from the Illinois EPA, pursuant to 35 Ill. Adm. Code 201.282 the nitrogen oxides (NO_x) and carbon monoxide (CO) emissions from the four boilers shall be measured by an approved testing service, during conditions which are

representative of the maximum performance. The Illinois EPA may provide additional time for the performance of this testing upon request for the Permittee which shows that it is not feasible to perform representative testing within 90 days.

b. i. The following methods and procedures shall be used for testing of emissions. Refer to 40 CFR 60, Appendix A for USEPA test methods:

Location of Sample Points	USEPA Method 1
Gas Flow and Velocity	USEPA Method 2
Molecular Weight	USEPA Method 3
Moisture	USEPA Method 4
Nitrogen Oxide	USEPA Method 7
Carbon Monoxide	USEPA Method 10
Hydrogen Chloride	USEPA Method 26

ii. A test shall consist of three separate runs each at least 60 minutes in duration. Compliance shall be determined from the average of the runs provided that the Illinois EPA may accept the

arithmetic mean of the runs in circumstances described in 40 CFR
60.8(f).

- c. The Illinois EPA shall be notified prior to these tests to enable the Illinois EPA to observe these tests. Notification of the actual date and expected time of testing shall be submitted a minimum of five (5) working days prior to the actual date. Notification of the actual date and expected time of testing shall be submitted a minimum of five (5) working days prior to the actual date of the tests. The Illinois EPA may, at its discretion, accept notification with shorter advance notice provided that such shorter notification does not interfere with the Illinois EPA's ability to observe the testing.
- 11a. Organic liquid by products or waste materials shall not be used at this source without written approval from the Illinois EPA.
 - b. The Permittee shall notify the Illinois EPA prior to any change in the type of fuel used at the source.
- 12. 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.

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: Region 1
Jennifer Pritchett, USEPA Region V

Attachment A - Emissions Summary

1. Emissions of nitrogen oxides (NO_x), carbon monoxide (CO), particulate matter (PM), sulfur dioxide and volatile organic material (VOM).

Boiler Emissions (Ton/Yr)

<u>Fuel</u>	<u>PM₁₀</u>	<u>SO₂</u>	<u>NO_x</u>	<u>CO</u>	<u>VOM</u>
Natural Gas	0.85	0.08	19.18	4.79	0.79
Fuel Oil	<u>0.01</u>	<u>0.23</u>	<u>0.107</u>	<u>0.027</u>	<u>0.01</u>
Total	0.86	0.31	19.287	4.817	0.8

This table defines the potential emissions from the four boilers based on the maximum emissions determined by standard emission factors and maximum firing rates.

2. Emissions from the incinerator, including hydrochloric acid (HCl).

Incinerator Emissions (Ton/Yr)

<u>PM₁₀</u>	<u>SO₂</u>	<u>NO_x</u>	<u>CO</u>	<u>VOM</u>
2.92	1.35	3.09	2.41	8.75

This table defines the potential emissions of the incinerator and is based on the allowable emissions for PM and CO from 35 Ill. Adm. Code 212.181(d) and 216.141, determined from the type of waste and hourly unit capacity.

3. Emissions of nitrogen oxides (NO_x), carbon monoxide (CO), particulate matter (PM), volatile organic material (VOM) from the eight emergency generator engines with a total generating capacity of 4350 kW and operating 500 hrs per year.

Emergency Generator Engines

<u>Emissions</u>	<u>PM₁₀</u>	<u>SO₂</u>	<u>NO_x</u>	<u>CO</u>	<u>VOM</u>
(Lbs/Hr)	Neg.	14.14	134.24	30.67	4.13
(Tons/Yr)	Neg.	3.53	33.56	7.67	1.03

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