

217/217/785-1705

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT

PERMITTEE

Methodist Medical Center of Illinois
Attn: Terry Schadt
221 Northeast Glen Oak Avenue
Peoria, Illinois 61636

Application No.: 98110039

I.D. No.: 143065AEL

Applicant's Designation:

Date Received: July 26, 2011

Subject: Medical Center

Date Issued:

Expiration Date:

Location: 415 St. Marks Court, 900 Main Street, 112 Crescent Street and 221
Northeast Glen Oak Avenue, Peoria

This permit is hereby granted to the above-designated Permittee to OPERATE emission unit(s) and/or air pollution control equipment consisting of three (3) 38.3 mmBtu/hr natural gas/distillate fuel oil-fired boiler (Boilers #1, #2 and #3), one (1) 16.7 mmBtu/hour natural gas/distillate fuel oil-fired boiler (Boiler #4), five (5) natural gas-fired boilers with combined firing rate 31.1 mmBtu/hr, two (2) 1,360 kW diesel-powered emergency generators, one (1) 505 kW diesel-powered emergency generator, and (1) Ethylene Oxide (ETO) Sterilizer pursuant to 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 of nitrogen oxides (NO_x) and 100 tons/year of sulfur dioxide (SO₂)). As a result the source is excluded from the requirement to obtain a Clean Air Act Permit Program (CAAPP) permit. The maximum emissions of this source, as limited by the 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 ethylene oxide sterilizers are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Hospital Ethylene Oxide Sterilizers, 40 CFR 63, Subparts A and WWWW. The Illinois EPA is administering the NESHAP in Illinois on behalf of the United States EPA under a delegation agreement. Pursuant to 40 CFR 63.10382(a), you are subject to 40 CFR 63 Subpart WWWW if you own or operate an ethylene oxide sterilization facility at a hospital that is an area source of hazardous air pollutant (HAP) emissions.
 - b. Pursuant to 40 CFR 63.10384(a), if you have an existing affected source, you must comply with applicable requirements in 40 CFR 63 Subpart WWWW no later than December 29, 2008.

- c. Pursuant to 40 CFR 63.10390, you must sterilize full loads of items having a common aeration time, except under medically necessary circumstances, as that term is defined in 40 CFR 63.10448.
 - d. Pursuant to 40 CFR 63.10420, for each sterilization unit not equipped with an air pollution control device, you must demonstrate continuous compliance with the management practice standard in 40 CFR 63.10390 by recording the date and time of each sterilization cycle, whether each sterilization cycle contains a full load of items, and if not, a statement from a hospital central services staff, a hospital administrator, or a physician that it was medically necessary.
 - e. Pursuant to 40 CFR 63.10440, Table 1 to 40 CFR 63 Subpart WWWW shows which parts of the General Provisions in 40 CFR 63.1 through 63.16 apply to you.
- 3a. Pursuant to 35 Ill. Adm. Code 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to 35 Ill. Adm. Code 212.122.
- b. Pursuant to 35 Ill. Adm. Code 212.123(b), the emission of smoke or other particulate matter from any such emission unit may have an opacity greater than 30 percent but not greater than 60 percent for a period or periods aggregating 8 minutes in any 60 minute period provided that such opaque emissions permitted during any 60 minute period shall occur from only one such emission unit located within a 305 meters (1000 feet) radius from the center point of any other such emission unit owned or operated by such person, and provided further that such opaque emissions permitted from each such emission unit shall be limited to 3 times in any 24 hour period.
 - c. Pursuant to 35 Ill. Adm. Code 212.206, no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period to exceed 0.15 kg of particulate matter per MW-hour of actual heat input from any fuel combustion emission unit using liquid fuel exclusively (0.10 lbs/mmBtu).
 - d. Pursuant to 35 Ill. Adm. Code 212.301, no person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally toward the zenith at a point beyond the property line of the source.
 - e. Pursuant to 35 Ill. Adm. Code 212.321(a), no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in 35 Ill. Adm. Code 212.321(c).

- 4a. Pursuant to 35 Ill. Adm. Code 214.122(b)(2), no person shall cause or allow the emission of sulfur dioxide into the atmosphere in any one hour period from any new fuel combustion source with actual heat input smaller than, or equal to, 73.2 MW (250 mmBtu/hour), burning liquid fuel exclusively to exceed 0.46 kg of sulfur dioxide per MW-hour of actual heat input when distillate fuel oil is burned (0.3 lbs/mmBtu).
- b. Pursuant to 35 Ill. Adm. Code 214.301, no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission source to excess 2000 ppm.
- c. Pursuant to 35 Ill. Adm. Code 214.304, the emissions from the burning of fuel at process emission sources located in the Chicago or St. Louis (Illinois) major metropolitan areas shall comply with applicable limitations of 35 Ill. Adm. Code Subparts B through F.
- d. Pursuant to 35 Ill. Adm. Code 216.121, no person shall cause or allow the emission of carbon monoxide (CO) into the atmosphere from any fuel combustion emission source with actual heat input greater than 2.9 MW (10 mmBtu/hour) to exceed 200 ppm, corrected to 50 percent excess air.
5. Pursuant to 35 Ill. Adm. Code 215.301, no person shall cause or allow the discharge of more than 3.6 kg/hour (8 lbs/hour) of organic material into the atmosphere from any emission unit, except as provided in 35 Ill. Adm. Code 215.302, 215.303, or 215.304 and the following exception: If no odor nuisance exists the limitation of 35 Ill. Adm. Code 215 Subpart G shall only apply to photochemically reactive material.
- 6a. This permit is issued based on the three existing emergency diesel engine/generators not being subject to the requirements of 40 CFR 63 Subpart ZZZZ. Pursuant to 40 CFR 63.6585(f)(3), existing institutional emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in 40 CFR 63.6640(f)(4)(ii) are not subject to 40 CFR 63 Subpart ZZZZ. The stationary RICE must meet the definition of an emergency stationary RICE in 40 CFR 63.6675, which includes operating according to the provisions specified in 40 CFR 63.6640(f).
- b. Pursuant to 40 CFR 63.6590(a)(iii), for stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.
- c. However, in order to be exempt from Subpart ZZZZ you must operate the emergency engines/generators according to the following:
 - i. If you own or operate an emergency stationary RICE, you must operate the emergency stationary RICE according to the requirements in 40 CFR 63.6640 (f)(1) through (4) of this

section. In order for the engine to be considered an emergency stationary RICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (4) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (4) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

- A. There is no time limit on the use of emergency stationary RICE in emergency situations.
- B. You may operate your emergency stationary RICE for any combination of the purposes specified below for a maximum of 100 hours per calendar year.
 - 1. Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.
 - 2. Emergency stationary RICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see § 63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.
 - 3. Emergency stationary RICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.
- C. Any operation for non-emergency situations as allowed below counts as part of the 100 hours per calendar year allowed

1. Emergency stationary RICE located at area sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraphs (f)(4)(i) and (ii) of this section, the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.
7. Pursuant to 40 CFR 63.360(e), Subpart O - Ethylene Oxide Emission Standards for sterilization facilities does not apply to ethylene oxide sterilization operations at stationary sources such as hospitals, doctors offices, clinics, or other facilities whose primary purpose is to provide medical services to humans or animals.
8. This permit is issued based on the boilers operated at the facility not being subject to the requirements of the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers Area Sources, 40 CFR 63 Subpart JJJJJJ. Pursuant to 40 CFR 63.11195(e), gas-fired boilers are not subject to 40 CFR 63 Subpart JJJJJJ. Per definition in 40 CFR 63.11237, gas-fired boiler includes any boiler that burns gaseous fuels not combined with any solid fuels, burns liquid fuel only during periods of gas curtailment, gas supply emergencies, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year.
- 9a. In the event that the operation of these emission unit results in an odor nuisance, the Permittee shall take appropriate and necessary actions to minimize odors, including but not limited to, changes in raw material or installation of controls, in order to eliminate the odor nuisance.
- b. The boilers and diesel engines shall only be operated with natural gas or number 1 or 2 fuel oil. The use of any other fuel in the boilers and diesel engines requires that the Permittee first obtain a construction permit from the Illinois EPA and then perform stack testing to verify compliance with all applicable requirements.
- c. At the above location, the Permittee shall not keep, store, or utilize distillate fuel oil (Grades No. 1 and 2) with a sulfur content greater than 0.28 weight percent.
- 10a. Operation and emissions of the boilers shall not exceed the following limits:

- i. Natural Gas Usage: 51 mmscf/mo, 505 mmscf/yr

<u>Pollutant</u>	<u>Emission Factor</u> (lbs/mmscf)	<u>Emissions</u>	
		(Tons/Mo)	(Tons/Yr)
Carbon Monoxide (CO)	84.0	2.1	21.2
Nitrogen Oxide (NO _x)	100.0	2.6	25.3
Particulate Matter (PM)	7.6	0.2	1.9
Volatile Organic Material (VOM)	5.5	0.1	1.4

These limits are based on the maximum firing rate of the boilers and standard emission factors (Tables 1.4-1 and 1.4-2, AP-42, Fifth Edition, Volume I, Supplement D, July 1998)

- ii. Distillate fuel oil usage: 40,000 gal/mo, 400,000 gal/yr.

<u>Pollutant</u>	<u>Emission Factor</u> (lb/1,000 Gal)	<u>Emissions</u>	
		(Tons/Mo)	(Tons/Yr)
Carbon Monoxide (CO)	5.0	0.1	1.0
Nitrogen Oxide (NO _x)	20.0	0.4	4.0
Particulate Matter (PM)	2.0	0.04	0.4
Sulfur Dioxide (SO ₂)	39.8	0.8	8.0
Volatile Organic Material (VOM)	0.34	0.01	0.07

These limits are based on fuel usage, sulfur content in the fuel 0.28%, and standard emission factors (Tables 1.3-1 and 1.3-3, AP-42, Fifth Edition, Volume I, Supplement E, September 1998).

- b. Operation and emissions of the three emergency diesel/generators shall not exceed the following limits:

Combined power rating: 4,322 hp
Operating hours: 500 hrs/yr

<u>Pollutant</u>	<u>Emission Factor</u> (Lb/hp-Hr)	<u>Emissions</u>	
		(Tons/Mo)	(Tons/Yr)
Carbon Monoxide (CO)	0.0055	5.9	5.9
Nitrogen Oxide (NO _x)	0.024	25.9	25.9
Particulate Matter (PM)	0.0007	0.76	0.76
Sulfur Dioxide (SO ₂)	0.0023	2.5	2.5
Volatile Organic Material (VOM)	0.0006	0.65	0.65

These limits are based on fuel usage, sulfur content in the fuel 0.3%, and standard emission factors (Table 3.4-1, AP-42, Fifth Edition, Volume I, Supplement E, October 1996).

- c. This permit is issued based on negligible usage and emissions of volatile organic material (VOM) from the ETO sterilizer. For this reason, usage and emissions of VOM from each shall not exceed nominal rates of 0.1 lb/hour and 0.44 tons/year.

- d. This permit is issued based on the potential to emit (PTE) for hazardous air pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act being less than 10 tons/year of any single HAP and 25 tons/year of any combination of such HAPs, or such less quantity as USEPA may establish by rule which would trigger applicability of the requirements of Section 112(g) of the Clean Air Act.
 - e. Compliance with the annual limits of this permit shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).
- 11a. Pursuant to 40 CFR 63.10432, you must keep the records specified in 40 CFR 63.10432(a) and (b).
- i. A copy of the Initial Notification of Compliance Status that you submitted to comply with 40 CFR 63 Subpart WWWW.
 - ii. Records required by 40 CFR 63.10420 for each sterilization unit not equipped with an air pollution control device.
- b. Pursuant to 40 CFR 63.10434(a), your records must be in a form suitable and readily available for expeditious review.
- c. Pursuant to 40 CFR 63.10434(b), you must keep each record for 5 years following the date of each record.
- d. Pursuant to 40 CFR 63.10434(c), you must keep each record onsite for at least 2 years after the date of each record. You may keep the records offsite for the remaining 3 years.
12. Pursuant to 40 CFR 63.10(b)(3), if an owner or operator determines that his or her stationary source that emits (or has the potential to emit, without considering controls) one or more hazardous air pollutants regulated by any standard established pursuant to Section 112(d) or (f) of the Clean Air Act, and that stationary source is in the source category regulated by the relevant standard, but that source is not subject to the relevant standard (or other requirement established under 40 CFR Part 63) because of limitations on the source's potential to emit or an exclusion, the owner or operator must keep a record of the applicability determination on site at the source for a period of 5 years after the determination, or until the source changes its operations to become an affected source, whichever comes first. The record of the applicability determination must be signed by the person making the determination and include an analysis (or other information) that demonstrates why the owner or operator believes the source is unaffected (e.g., because the source is an area source). The analysis (or other information) must be sufficiently detailed to allow the USEPA and/or Illinois EPA to make a finding about the source's applicability status with regard to the relevant standard or other requirement. If relevant, the analysis must be performed in accordance with requirements established in relevant subparts of 40 CFR Part 63 for this purpose for particular categories of stationary sources. If

relevant, the analysis should be performed in accordance with USEPA guidance materials published to assist sources in making applicability determinations under Section 112 of the Clean Air Act, if any. The requirements to determine applicability of a standard under 40 CFR 63.1(b)(3) and to record the results of that determination under 40 CFR 63.10(b)(3) shall not by themselves create an obligation for the owner or operator to obtain a Title V permit.

- 13a. The Permittee shall maintain records of the following items to demonstrate compliance with the Conditions of this permit:
- i. Natural gas usage for the boilers (mmscf/month and mmscf/year);
 - ii. Fuel oil usage for the boilers (gallons/month and gallons/year);
 - iii. Fuel oil usage for the diesel-powered emergency generator sets (gallons/month and gallons/year);
 - iv. Certification from the fuel oil supplier of the weight percent sulfur content of the distillate fuel oil used in the boilers and the diesel-powered generator sets with each fuel oil shipment received (weight %);
 - v. Each diesel generator operating hours (hours/month and hours/year);
 - vi. An inspection, maintenance and repair log of the diesel-powered generators listing each activity performed with date;
 - vii. Ethylene Oxide usage for the ethylene oxide sterilizers; and
 - viii. Monthly and annual emissions of CO, NO_x, PM, SO₂, VOM and HAPs from the source with supporting calculations (tons/month and tons/year).
- b. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least five (5) 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 storage device) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.
14. 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.

15. Two (2) copies of required reports and notifications shall be sent to:

Illinois Environmental Protection Agency
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's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
5415 North University
Peoria, Illinois 61614

If you have any questions on this, please call Randy Solomon at 217/785-1705.

Robert W. Bernoteit
Acting Manager, Permit Section
Division of Air Pollution Control

Date Signed: _____

RWB:

cc: Illinois EPA, FOS Region 2
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from the medical center 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 a plant. The resulting maximum emissions are below the levels, e.g., 100 tons/year of NO_x and SO₂ 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 less material is handled, and control measures are more effective than required in this permit.

Equipment	EMISSIONS (Tons/Year)				
	NO _x	SO ₂	CO	VOM	PM
Boilers (Natural Gas Firing)	21.2	--	21.2	1.2	1.9
Boilers (Fuel Oil Firing)	4.0	8.0	1.0	0.07	0.4
Diesel/Generators	25.9	2.5	5.9	0.65	0.76
ETO Sterilizer				0.44	
Totals:	51.1	10.5	28.1	2.4	3.1

RBS: