

c. Ethylene Oxide Sterilizers

| <u>Sterilant Gas (Lbs/Cycle)</u> | <u>Ethylene Oxide (%)</u> | <u>Usage (Cycles/Year)</u> | <u>Emissions Ethylene Oxide (Tons/Year)</u> |
|--------------------------------------|-----------------------------------|--------------------------------|---|
| 4.0 | 10 | 500 | 0.10 |

d. Fuel Oil Storage Tanks

| <u>Fuel Oils Storage</u> | <u>VOM Emissions (Tons/Year)</u> |
|--------------------------|----------------------------------|
| Two 20,000 Gallon Tanks | 0.00216 |

e. Fume Hood

| <u>Material</u> | <u>Amount Evaporated (Tons/Year)</u> | <u>VOM Emissions (Tons/Year)</u> |
|-----------------|--|--------------------------------------|
| Solvents | 0.367 | 0.367 |

Compliance with the above limits shall be determined from required records and applicable emission factors. Compliance with the annual limits shall be determined monthly using the last 12 months of data.

3. The Permittee shall maintain monthly records of the following items, and such other items as may be appropriate to allow the Illinois EPA to review compliance with the limits of this permit.

- a. Natural gas usage (mmcf).
- b. Boiler fuel oil usage (kgal).
- c. Emergency generator fuel oil usage (kgal).
- d. Sterilant gas usage and ethylene oxide content (lbs and %).
- e. Fume hood solvent usage and hazardous air pollutant content (lbs).
- f. Amount of waste incinerated (tons/month).
- g. Calculated monthly pollutant emissions (tons).

4. The emissions of Hazardous Air Pollutants (HAPs) 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.

5. All records and logs required by this permit shall be retained at a readily 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 an Illinois EPA or USEPA request for records during the course of a source inspection.
6. 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.
7. 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 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

Please note that this permit has been revised to remove the medical waste incinerator and the permit conditions limiting its operation.

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:psj

cc: Illinois EPA, FOS Region 2
Illinois EPA, Compliance Section
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from the medical center physical plant which supplies heating and emergency electrical energy and an ethylene oxide sterilization unit 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. By limiting natural gas and fuel oil usage the resulting air emissions are reduced. The resulting maximum emissions are well below the levels, e.g., 100 tons per year of nitrogen oxides 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.

1. Emissions and operation shall not exceed the following limits:

a. Boilers

| | | Boilers 1, 2, 3, and 4 | | | | | |
|-------------|-----------|------------------------|------|-----------------|-----------------|------|------|
| Natural Gas | | (Units) | PM | SO ₂ | NO _x | CO | VOM |
| (mmcf/Yr) | Factors* | (lb/mmcf) | 6.2 | 0.6 | 140 | 35 | 2.78 |
| 444.776 | Emissions | (ton/yr) | 1.22 | 0.12 | 27.66 | 6.91 | 0.55 |
| Oil | | (lb/kgal) | 2 | 42.6 | 20 | 5 | 0.34 |
| (kgal/Yr) | Factors* | (lb/kgal) | 0.40 | 8.52 | 4.00 | 1.00 | 0.07 |
| 400.000 | Emissions | (ton/yr) | | | | | |

| | | Boilers 6, 7, 8, 9 and 10 | | | | |
|--------------|-------------|-------------------------------------|-----------------|-----------------|------|-------|
| Total Boiler | Fuel Usage | Total Boilers Emissions (Tons/Year) | | | | |
| Natural Gas | Fuel Oil | PM | SO ₂ | NO _x | CO | (VOM) |
| (mmcf/Year) | (kgal/Year) | | | | | |
| 49.664 | 0.000 | 0.11 | 0.01 | 2.48 | 0.32 | 0.07 |

* AP-42 Tables 1.3-1 and 1.4-1 and 2

b. Emergency Generators

| Engine | Fuel Oil (kgal/Year) | Emissions (Tons/Year) | | | | |
|--------|-------------------------|-----------------------|-----------------|-----------------|------|------|
| | | PM | SO ₂ | NO _x | CO | VOM |
| G-1 | 47.760 | 1.04 | 0.97 | 14.82 | 3.19 | 1.21 |
| G-2 | 47.760 | 1.04 | 0.97 | 14.82 | 3.19 | 1.21 |
| Total | 95.520 | 2.08 | 1.94 | 29.64 | 6.38 | 2.42 |

c. Ethylene Oxide Sterilizers

| Sterilant Gas | Ethylene Oxide | Usage | Emissions |
|---------------|----------------|---------------|----------------|
| (Lbs/Cycle) | (%) | (Cycles/Year) | Ethylene Oxide |
| | | | (Tons/Year) |
| 4.0 | 10 | 500 | 0.10 |

d. Fuel Oil Storage Tanks

| <u>Fuel Oils Storage</u> | <u>VOM Emissions (Tons/Year)</u> |
|--------------------------|----------------------------------|
| Two 20,000 Gallon Tanks | 0.00216 |

e. Fume Hood

| <u>Material</u> | <u>Amount (Gal/Year)</u> | <u>Density (Lb/Gal)</u> | <u>VOM Emissions (Tons/Year)</u> |
|-----------------|------------------------------|-----------------------------|--------------------------------------|
| Xylene | 100 | 7.35 | 0.367 |

Compliance with the above limits shall be determined from required records and applicable emission factors.

f. Total Source Emissions

| <u>Equipment</u> | <u>EMISSIONS (Tons/Year)</u> | | | | |
|------------------|------------------------------|-----------------------|-----------------------|-----------|------------|
| | <u>PM</u> | <u>SO₂</u> | <u>NO_x</u> | <u>CO</u> | <u>VOM</u> |
| Boilers | 1.74 | 8.65 | 34.14 | 8.44 | 0.690 |
| Generators | 2.08 | 1.94 | 29.64 | 6.38 | 2.420 |
| Sterilizer | | | | | 0.100 |
| Fuel Tanks | | | | | 0.002 |
| Fume Hood | | | | | 0.367 |
| Total | 3.82 | 10.59 | 63.78 | 14.82 | 3.575 |

2. As a consequence of the requirements of this permit, the emissions of hazardous air pollutants (HAP) as listed in Section 112(b) of the Clean Air Act from this source will be less than 10 tons/year of any single HAP and 25 tons/year of any combination of such HAPs so that HAP emissions do not trigger the requirements to obtain a Clean Air Act Permit Program permit from the Illinois EPA.

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