

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT

PERMITTEE

City of Chicago, Department of Water
Attn: Conrad Bazylewski
1000 East Ohio Street
Chicago, Illinois 60611

Application No.: 76040020 I.D. No.: 031600DVM
Applicant's Designation: Date Received: May 4, 1996
Subject: Boilers and Storage Tanks
Date Issued: January 13, 1997 Expiration Date: January 13, 2002
Location: 1000 East Ohio Street, Chicago

This permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of 5 boilers, 2 diesel engine emergency generators, and 7 storage tanks, 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/yr for sulfur dioxide). As a result, the source is excluded from the requirements 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 permit(s) for this location.
- 2a. Natural gas and #2 fuel oil shall be the only fuels fired in the 5 boilers.
- b. Combined fuel usage and fuel combustion emissions of nitrogen oxide (NO_x), carbon monoxide (CO), volatile organic material (VOM), sulfur dioxide (SO₂), and particulate matter (PM) from the 5 boilers shall not exceed the following limits when firing natural gas:

| <u>Pollutant</u> | <u>Fuel Usage</u> | | <u>Emission Factor</u> | <u>Emissions</u> | |
|------------------|-------------------|-----------------|------------------------|------------------|-------------|
| | <u>mmscf/Mo</u> | <u>mmscf/Yr</u> | <u>Lb/mmscf</u> | <u>Lb/Mo</u> | <u>T/Yr</u> |
| NO _x | 17 | 200 | 140 | 2380 | 14.0 |
| CO | 17 | 200 | 35 | 595 | 3.5 |

| | | | | | |
|-----------------|----|-----|------|-------|------|
| VOM | 17 | 200 | 2.8 | 47.6 | 0.3 |
| SO ₂ | 17 | 200 | 0.6 | 10.2 | 0.1 |
| PM | 17 | 200 | 13.7 | 232.9 | 1.37 |

- c. Combined fuel usage and fuel combustion emissions of nitrogen oxide (NO_x), carbon monoxide (CO), volatile organic material (VOM), sulfur dioxide (SO₂), and particulate matter (PM) from the 5 boilers shall not exceed the following limits when firing #2 fuel oil:

| <u>Pollutant</u> | <u>Fuel Usage</u> | | <u>Emission Factor</u> | <u>Emissions</u> | |
|------------------|-------------------|----------------|------------------------|------------------|-------------|
| | <u>mgal/Mo</u> | <u>mgal/Yr</u> | <u>Lb/mgal</u> | <u>Lb/Mo</u> | <u>T/Yr</u> |
| NO _x | 13 | 150 | 20 | 260 | 1.50 |
| CO | 13 | 150 | 5 | 65 | 0.38 |
| VOM | 13 | 150 | 0.2 | 2.6 | 0.02 |
| SO ₂ | 13 | 150 | 39.2 | 509.6 | 2.94 |
| PM | 13 | 150 | 2 | 26 | 0.15 |

These limits are based upon the maximum total natural gas and #2 fuel oil usage and standard AP-42 emission factors as indicated above.

- 3a. Diesel fuel oil shall be the only fuel fired in the 2 emergency generators.
- b. The operating hours and NO_x, CO, VOM, and SO₂ emissions from each diesel engine emergency generator shall not exceed the following limits:

| <u>Pollutant</u> | <u>Rated Power Output</u> | <u>Emission Factor</u> | <u>Operating Hours</u> | | <u>Emissions</u> | |
|------------------|---------------------------|------------------------|------------------------|----------------|------------------|---------------|
| | <u>Horsepower</u> | <u>(Lb/Hp-Hr)</u> | <u>(Hr/Mo)</u> | <u>(Hr/Yr)</u> | <u>(T/Mo)</u> | <u>(T/Yr)</u> |
| NO _x | 625 | 0.024 | 168 | 168 | 1.26 | 1.26 |
| CO | 625 | 0.0053 | 168 | 168 | 0.28 | 0.28 |
| VOM | 625 | 0.0007 | 168 | 168 | 0.04 | 0.04 |
| SO ₂ | 625 | 0.0004 | 168 | 168 | 0.02 | 0.02 |

These limits are based upon the rated power output and the maximum operating hours indicated in the permit application of each generator and standard AP-42 emission factors as indicated above.

4. Compliance with annual limits shall be determined on a monthly basis from the sum of the data from the previous month plus the preceding 11 months (i.e., a 12 month running total).
- 5a. The Permittee shall maintain records of the following items for the plant:
- i. Natural gas usage (mmscf/month and mmscf/year) for the 5 boilers.

- ii. #2 fuel oil usage (mgal/month and mgal/yr) for the 5 boilers.
- iii. Operating hours (hr/month and hr/yr) of the 2 emergency generators.

- b. 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 Agency and 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 Agency 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 Agency's Compliance Unit 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, a description of the exceedances or violation, and efforts to reduce emissions and future occurrences.

The following special conditions are not federally enforceable:

7. This permit is based upon negligible emissions of VOM from the 7 storage tanks. For this purpose emissions shall not exceed nominal emission rates of 0.1 lb/hr and 0.44 ton/yr from each tank.
8. The Permittee shall submit the following additional information with the Annual Emissions Report, due May 1st of each year:
 - a. Natural gas usage (mmscf/year) for the 5 boilers.
 - b. #2 fuel oil usage (mgal/yr) for the 5 boilers.
 - c. Operating hours (hr/yr) for the 2 emergency generators.

If there have been no exceedances during the prior calendar year, the Annual Emission Report shall include a statement to that effect.

9. 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)
1340 North Ninth Street
P.O. Box 19276
Springfield, Illinois 62794-9276

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

Illinois Environmental Protection Agency
Division of Air Pollution Control
Eisenhower Tower
1701 South First Avenue
Maywood, Illinois 60153

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10. The following Standard Conditions are not federally enforceable:
Standard Conditions 3(a), 8, 9, 10 and 11.

If you have any questions on this permit, please call Ray Pilapil at 217/782-2113.

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

DES:REP:jar

cc: IEPA, FOS Region 1
IEPA, Compliance Section
USEPA

Attachment A

This attachment provides a summary of the maximum emission of the boilers and storage tanks operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Agency used the annual operating scenario which results in maximum emissions from the plant. This is a maximum usage of natural gas and #2 fuel oil from the boilers and storage tanks. The resulting maximum emissions are below the threshold levels (e.g., 100 tons/yr for SO₂) at which this source would be considered a major source for purposes of the CAAPP. Actual emissions from this source will be less than predicted in this summary to the extent that usage is less than that allowed in this permit.

1a. Emissions from the 5 boilers when firing natural gas:

| <u>Pollutant</u> | <u>Fuel Usage</u> | | <u>Emission Factor</u> | <u>Emissions</u> | |
|------------------|-------------------|-----------------|------------------------|------------------|----------|
| | <u>mmscf/Mo</u> | <u>mmscf/Yr</u> | <u>Lb/mmscf</u> | <u>Lb/Mo</u> | <u>T</u> |
| NO _x | 17 | 200 | 140 | 2380 | 1 |
| CO | 17 | 200 | 35 | 595 | : |
| VOM | 17 | 200 | 2.8 | 47.6 | (|
| SO ₂ | 17 | 200 | 0.6 | 10.2 | (|
| PM | 17 | 200 | 13.7 | 232.9 | 1 |

b. Emissions from the 5 boilers when firing #2 fuel oil:

| <u>Pollutant</u> | <u>Fuel Usage</u> | | <u>Emission Factor</u> | <u>Emissions</u> | |
|------------------|-------------------|----------------|------------------------|------------------|----------|
| | <u>mgal/Mo</u> | <u>mgal/Yr</u> | <u>Lb/mgal</u> | <u>Lb/Mo</u> | <u>T</u> |
| NO _x | 13 | 150 | 20 | 260 | 1 |
| CO | 13 | 150 | 5 | 65 | 0 |
| VOM | 13 | 150 | 0.2 | 2.6 | 0 |
| SO ₂ | 13 | 150 | 39.2 | 509.6 | 2 |
| PM | 13 | 150 | 2 | 26 | 0 |

2. Emissions from the emergency generators:

| <u>Pollutant</u> | <u>Emissions</u> (T/Mo) (T/Yr) | <u>Rated Power</u> | <u>Emission</u> | <u>Operating Hours</u> | |
|------------------|-----------------------------------|--------------------|-------------------|------------------------|----------------|
| | | <u>Output</u> | <u>Factor</u> | <u>(Hr/Mo)</u> | <u>(Hr/Yr)</u> |
| | | <u>Horsepower</u> | <u>(Lb/Hp-Hr)</u> | | |
| NO _x | | 625 | 0.024 | 168 | 168 |
| 1.26 | 1.26 | | | | |
| CO | | 625 | 0.0053 | 168 | 168 |
| 0.28 | 0.28 | | | | |

| | | | | | |
|-----------------|------|-----|--------|-----|-----|
| VOM | | 625 | 0.0007 | 168 | 168 |
| 0.04 | 0.04 | | | | |
| SO ₂ | | 625 | 0.0004 | 168 | 168 |
| 0.02 | 0.02 | | | | |

3. This permit is based upon negligible emissions of VOM from the 7 storage tanks. For this purpose emissions shall not exceed nominal emission rates of 0.1 lb/hr and 0.44 ton/yr from each tank.

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