



**AIR EMISSION PERMIT NO. 10900005-001**

**IS ISSUED TO**

**Olmsted County**

**OLMSTED WASTE-TO-ENERGY FACILITY**

**301 Silver Creek Road Northeast**

**Rochester, Olmsted County, Minnesota 55906**

The emission units, control equipment and emission stacks at the stationary source authorized in this permit are as described in the following permit application:

Permit Type	Application Date
Total Facility Operating Permit	04/14/95

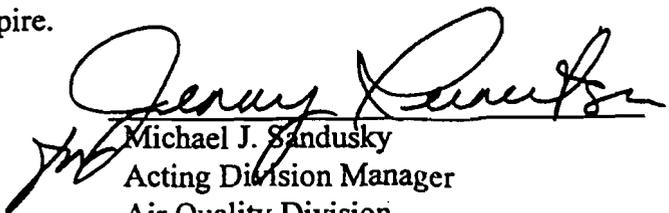
This permit authorizes the Permittee to operate the stationary source at the address listed above unless otherwise noted in Table A. The Permittee must comply with all the conditions of the permit and with all general conditions listed in Minn. R. 7007.0800, subp. 16, and all standard permit requirements listed in 40 CFR § 70.6(a) which are incorporated by reference. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500. Terms used in the permit as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

**Permit Type:**Federal ; Part 70

**Issue Date:** June 5, 1997

**Expiration:**

All Title I Conditions do not expire.

  
Michael J. Sandusky  
Acting Division Manager  
Air Quality Division

for Peder A. Larson  
Commissioner  
Minnesota Pollution Control Agency

CAA:lao

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**NOTICE TO THE PERMITTEE:**

Your stationary source may be subject to the requirements of the Minnesota Pollution Control Agency's (MPCA) solid waste, hazardous waste, and water quality programs. If you wish to obtain information on these programs, including information on obtaining any required permits, please contact the MPCA general information number at:

Metro Area	(612)296-6300
Outside Metro Area	1-800-657-3864
TTY	(612)282-5332

The rule governing these programs are contained in Minn. R. chs. 7000-7105. Written questions may be sent to: Minnesota Pollution Control Agency, 520 Lafayette Road North, St. Paul, Minnesota 55155-4194.

Questions about this air emission permit or about air quality requirements can also be directed to the telephone numbers and address listed above.

**PERMIT SHIELD:**

Subject to the limitations in Minn. R. 7007.1800, compliance with the conditions of this permit shall be deemed compliance with the specific provision of the applicable requirement identified in the permit as the basis of each condition. Any requirements which have been determined not to apply are listed in Table A of this permit.

The permit shield, however does not apply to: Minn. R. ch. 7030 (Noise Pollution Control).

**FACILITY DESCRIPTION:**

The cogeneration facility covered by this permit is a district heating and cooling plant as well as an electric power generating station. The energy produced is used to supply buildings in the area with various utility needs, including building heat, process steam, air conditioning, and electrical power. Excess electrical power produced is sold to the Southern Minnesota Municipal Power Agency.

Energy is produced mainly through combustion of municipal solid waste in two mass burn, stoker-fired, excess air combustion units (EU001 and EU002) equipped with high-efficiency Electrostatic Precipitators (ESPs). Each combustion unit is rated at a nominal heat input of approximately 46.5 million Btus/hour, which equates to a nominal capacity of 100 tons of waste per day per unit, depending on the heat content of the waste. The combustors can also burn natural gas, which is used at start-up and as necessary in addition to waste combustion to maintain temperatures within the optimal range. The Olmsted Waste-to-Energy Facility (OWEF) receives and burns approximately 59,000 tons of mixed municipal solid waste annually from the Counties of Olmsted and Dodge.

Emissions from each combustor are continuously monitored for Carbon Monoxide (CO), Sulfur Dioxide (SO<sub>2</sub>), opacity, Carbon Dioxide or Oxygen (CO<sub>2</sub> or O<sub>2</sub>), and stack gas flow rate. Many operating parameters, including ESP inlet temperature and steam flow, are also monitored continuously.

Backup energy for use during combustor maintenance is provided by a natural-gas-fired boiler (EU004). A diesel generator (EU003) provides emergency electrical power and occasional peaking capacity.

Ash produced in the course of waste combustion is stored in an enclosed area at the facility. The ash is transported using covered trucks to a permitted ash-only cell at Olmsted County's Kalmar Landfill. The OWEF also includes several other waste management facilities, including recycling, household hazardous waste collection, and yard waste composting facilities. The applicant estimated air emissions from these potential sources and determined that they are insignificant activities per Minn. R. 7007.1300.

#### PTE and Applicable Rules

The "limited, controlled Potential To Emit" (PTE) shown below represents the maximum emissions which the facility could emit without violating permit limits. For pollutants which do not have permit limits, the PTE represents the maximum potential emissions assuming that control equipment is operating.

**Table 1B. Total Facility Potential to Emit and Actual Emissions Summary**

Pollutant	Limited, Controlled Potential to Emit (tons/year)	Actual Emissions (Avg. 1993 & 1994) (tons/year)
Particulate Matter (PM)	13.49	6.63
Particulate Matter less than 10 micron (PM <sub>10</sub> )	9.36	2.94
Sulfur Dioxide (SO <sub>2</sub> )	87.82	77.74
Nitrogen Oxides (NO <sub>x</sub> )	166.66	91.23
Volatile Organic Compounds (VOCs)/Ozone	2.21	0.40
Carbon Monoxide (CO)	31.74	14.18
Lead	0.07	0.06
Hydrogen Chloride (HCl)	58.08	52.06
Total HAPS (including HCl)	58.89	52.85

The facility is major under 40 CFR pt. 70. To avoid classification as a major source under New Source Review, this permit contains conditions to limit emissions of SO<sub>2</sub>, NO<sub>x</sub> and PM, making the facility a “synthetic minor source” for these pollutants. The facility is a “true minor source” for all other criteria pollutants. The facility is located in an area which is designated non-attainment for SO<sub>2</sub>.

**Permitting Action**

This permit action is a reissuance of an existing permit as required by Title V of the 1990, Clean Air Act Amendments, codified in 40 CFR pt. 70. Most of the emission limits and operating conditions of this permit remain the same as in the past. Changes that have been made are summarized in the Technical Support Document for this permit.

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

05/29/97

Facility Name: Olmsted Waste-to-Energy Facility

Permit Number: 10900005 - 001

Table A contains limits and other requirements with which your facility must comply. The limits are located in the first column of the table (What To do). The limits can be emission limits or operational limits. This column also contains the actions that you must take and the records you must keep to show that you are complying with the limits. The second column of Table A (Why to do it) lists the regulatory basis for these limits. Appendices included as conditions of your permit are listed in Table A under total facility requirements.

Subject Item: Total Facility

What to do	Why to do it
<p>Recordkeeping: Unless stated otherwise in this permit, retain all records at the stationary source for a period of five years from the date of monitoring, sample, measurement, or report. Records which must be retained at the stationary source include all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instruments, and copies of all reports required by the permit.</p>	<p>Title I Condition: State Implementation Plan for SO<sub>2</sub>; Minn. R. 7007.0800, subp. 5(C); Minn. R. 7011.1285, subp. 1</p>

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

05/29/97

Facility Name: Olmsted Waste-to-Energy Facility

Permit Number: 10900005 - 001

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**TABLE A: LIMITS AND OTHER REQUIREMENTS**

05/29/97

Facility Name: Olmsted Waste-to-Energy Facility

Permit Number: 10900005 - 001

Subject Item: GP 001 Waste combustors  
 Associated Items: EU 001 Municipal Waste Combustor Unit #1  
 EU 002 Municipal Waste Combustor Unit #2

What to do	Why to do it
Sulfur Dioxide: less than or equal to 22.6 lbs/hour using 365 Day Rolling Average calculated daily for EU001 and EU002 combined. The Permittee shall use the sum of the SO2 emissions data measured by the SO2 CEM on each emission unit in GP 001, to determine compliance with this limit.	Title I condition: to restrict potential emission increase due to GP 001 installation to less than significant as defined by 40 CFR pt. 51 and 40 CFR Section 52.24
Sulfur Dioxide: less than or equal to 67 lbs/hour using 24 Hour Block Average calculated every 24 hours for EU001 and EU002 combined. The Permittee shall use the sum of the SO2 emissions data measured by the SO2 CEM on each emission unit in GP 001, to determine compliance with this limit.	Title I condition: State Implementation Plan for SO2; Minn. R. 7009.0020
Sulfur Dioxide: less than or equal to 154 lbs/hour using 3 Hour Average (Block Average) calculated every 3 hours for EU001 and EU002 combined. The Permittee shall use the sum of the SO2 emissions data measured by the SO2 CEM on each emission unit in GP 001, to determine compliance with this limit.	Title I condition: State Implementation Plan for SO2; Minn. R. 7009.0020
Reporting: Report exceedances of SO2 emission limits, or deviations of other permit conditions applicable to the waste combustors cited as "Title 1 Condition: State Implementation Plan", as part of the Waste Combustor Quarterly Report (see Table B). Label any such exceedances as "SIP Deviations" in the report.	Title I condition: State Implementation Plan for SO2; Minn. R. 7007.0800, subp. 6
Monitor: Operate and maintain a sulfur dioxide CEMS on each waste combustor unit in accordance with the Olmsted CEMS QA/QA Plan.	Title I condition: to restrict potential emission increase due to GP 001 installation to less than significant as defined by 40 CFR pt. 51 and 40 CFR Section 52.24; Minn. R. 7011.1260, subp. 3(C)

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

05/29/97

Facility Name: Olmsted Waste-to-Energy Facility

Permit Number: 10900005 - 001

Subject Item: EU 001 Municipal Waste Combustor Unit #1

Associated Items: CE 001 Electrostatic Precipitator - High Efficiency

SV.001

What to do	Why to do it

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

05/29/97

Facility Name: Olmsted Waste-to-Energy Facility

Permit Number: 10900005 - 001

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**TABLE A: LIMITS AND OTHER REQUIREMENTS**

05/29/97

Facility Name: Olmsted Waste-to-Energy Facility

Permit Number: 10900005 - 001

Subject Item: EU 002      Municipal Waste Combustor Unit #2  
Associated Items: CE 002      Electrostatic Precipitator - High Efficiency  
SV 002

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**TABLE A: LIMITS AND OTHER REQUIREMENTS**

05/29/97

Facility Name: Olmsted Waste-to-Energy Facility

Permit Number: 10900005 - 001

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**TABLE A: LIMITS AND OTHER REQUIREMENTS**

05/29/97

Facility Name: Olmsted Waste-to-Energy Facility

Permit Number: 10900005 - 001

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**TABLE A: LIMITS AND OTHER REQUIREMENTS**

05/29/97

Facility Name: Olmsted Waste-to-Energy Facility

Permit Number: 10900005 - 001

Subject Item: EU 003 Emergency Diesel Generator

Associated Items: SV 003

What to do	Why to do it
Sulfur Content of Fuel: less than or equal to 0.05 percent by weight in fuel oil.	Title I Condition: State Implementation Plan for SO <sub>2</sub> ; Title I Condition: to restrict potential emission increases to less than significant as defined by 40 CFR pt. 51 and 40 CFR Section 52.24
Fuel Usage: less than 48,000 gallons/year using 12 Month Rolling Sum of very low sulfur distillate fuel oil.	Title I Condition: State Implementation Plan for SO <sub>2</sub> ; Title I Condition: to restrict potential emission increases to less than significant as defined by 40 CFR pt. 51 and 40 CFR Section 52.24; Minn. R. 7009.0020
Monitoring and Recordkeeping: Maintain on-site records which include the following information: 1. the amount of fuel combusted each month as determined using fuel meter readings; 2. the 12-month rolling sum of fuel use for the previous 12-month period, determined by the 15th day of each month; and 3. fuel oil sulfur content. Records must include fuel supplier certification and a certified statement from the Permittee that the records represent all fuel oil combusted. Fuel supplier certification must include the name of the oil supplier and a statement from the oil supplier that the oil complies with the EU 003 fuel sulfur content limit.	Title I Condition: State Implementation Plan for SO <sub>2</sub> ; Title I Condition: to restrict potential emission increases to less than significant as defined by 40 CFR pt. 51 and 40 CFR Section 52.24
Reporting: For EU 003, report deviations from permit conditions cited as "Title I Condition: State Implementation Plan" as part of the Semi-Annual Deviations Report (see Table B). Label any such exceedances as "SIP Deviations" in the report.	Title I Condition: State Implementation Plan for SO <sub>2</sub> ; Minn. R. 7007.0800, subp. 6

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

05/29/97

Facility Name: Olmsted Waste-to-Energy Facility

Permit Number: 10900005 - 001

Subject Item: EU 004 Auxiliary Boiler

Associated Items: SV 004

What to do	Why to do it
Sulfur Content of Fuel: less than or equal to 0.05 percent by weight in fuel oil.	Title I Condition: to restrict the potential emission increase due to EU 004 installation to less than significant as defined by 40 CFR pt. 51 and 40 CFR Section 52.24; ensures compliance with 40 CFR 60.42c(d)
Limitation on EU 004 fuel oil use during waste combustor operation: Fuel oil combustion in EU 004 is prohibited when both EU 001 and EU 002 in operation. When only EU 001 or EU 002 is in operation, EU 004 may be fired on very low sulfur (0.05% by weight) fuel oil to a maximum steaming capacity of 37.5 Kpph, on an hourly basis. When both EU 001 and EU 002 are shutdown, EU 004 may be fired on very low sulfur (0.05% by weight) fuel oil, without steaming capacity restriction.	Title I Condition: State Implementation Plan for SO <sub>2</sub> ; Minn. R. 7009.0020
Recordkeeping requirements for EU 004 operation: For each hour that EU 004 is operating, the Permittee shall record the fuel type combusted in EU 004, the EU 004 steam production (in Kpph), and a statement of whether or not EU 001 and/or EU 002 are operating.	Title I Condition: State Implementation Plan for SO <sub>2</sub>
Fuel Usage: less than or equal to 286,000 gallons/year using 12 Month Rolling Sum of very low sulfur (0.05% by weight) distillate fuel oil.	Title I Condition: to restrict the potential emission increase due to EU 004 installation to less than significant as defined by 40 CFR pt. 51 and 40 CFR Section 52.24
Reporting: For EU 004, report deviations from permit conditions related to "Title I Condition: State Implementation Plan for SO <sub>2</sub> " as part of the Semi-Annual Deviations Report (see Table B). Label any such exceedances as "SIP Deviations" in the report.	Title I Condition: State Implementation Plan for SO <sub>2</sub> ; Minn. R. 7007.0800, subp. 6

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

05/29/97

Facility Name: Olmsted Waste-to-Energy Facility

Permit Number: 10900005 - 001

Subject Item: CE 001 Electrostatic Precipitator - High Efficiency

Associated Items: EU 001 Municipal Waste Combustor Unit #1

What to do	Why to do it

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

05/29/97

Facility Name: Olmsted Waste-to-Energy Facility

Permit Number: 10900005 - 001

Subject Item: CE 002 Electrostatic Precipitator - High Efficiency

Associated Items: EU 002 Municipal Waste Combustor Unit #2

What to do	Why to do it

**TABLE B: SUBMITTALS**

5/29/97



**TABLE B: RECURRENT SUBMITTALS**

05/29/97

Facility Name: Olmsted Waste-to-Energy Facility

Permit Number: 10900005 - 001

<b>What to send</b>	<b>When to send</b>	<b>Portion of Facility Affected</b>

**TABLE B: RECURRENT SUBMITTALS**

05/29/97

Facility Name: Olmsted Waste-to-Energy Facility

Permit Number: 10900005 - 001

<b>What to send</b>	<b>When to send</b>	<b>Portion of Facility Affected</b>

**TABLE C: COMPLIANCE SCHEDULE**

05/29/97

Facility Name: Olmsted Waste-to-Energy Facility

Permit Number: 10900005 - 001