

**Attachment 2: Copy of Joint Title I/Title V Document - Title I SIP Conditions Only**



**AIR EMISSION PERMIT NO. 10900005- 002**

**IS ISSUED TO**

Olmsted County

**OLMSTED WASTE-TO-ENERGY FACILITY**

301 Silver Creek Road Northeast  
Rochester, Olmsted County, MN 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(s):

Permit Type	Application Date	Permit Action #	Issuance Date
Total Facility Operating Permit	04/14/1995	-001	June 5, 1997
Total Facility Operating Permit - Reissuance	11/29/2001	-002	- see below
Construction Authorization for MSW #3		-002	-see below

This permit authorizes the Permittee to operate and construct 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. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500 and any additions or changes to conditions incorporated into Minnesota's State Implementation Plan (SIP) under 40 CFR § 52.1220, designated "Title I Condition: State Implementation Plan for SO<sub>2</sub>" must go through the federal SIP approval process before becoming effective.

Unless otherwise indicated, all the Minnesota rules cited as the origin of the permit terms are incorporated into the SIP under 40 CFR § 52.1220 or are part of Minnesota's approved Section 111(d) State Plan for Municipal Waste Combustors and as such are enforceable by U.S. Environmental Protection Agency (EPA) Administrator or citizens under the Clean Air Act. Terms used in the permit are as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

**Permit Type:** Federal; Pt 70/NSR Authorization

**Issue Date:** August 23, 2007

**Expiration:** August 23, 2012

All Title I Conditions do not expire.

  
Richard J. Sandberg, Manager  
Air Quality Permits Section  
Industrial Division

for **Brad Moore**  
Commissioner  
Minnesota Pollution Control Agency

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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	651-296-6300
Outside Metro Area	1-800-657-3864
TTY	651-282-5332

The rules 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. Subject to the limitations of Minn. R. 7007.1800 and 7017.0100, subp. 2, notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.

## **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 recovered from the waste-to-energy process is sold in the form of electric energy and district heating/cooling services.

Energy is produced mainly through combustion of municipal solid waste in two mass burn, stoker-fired, excess air combustion units (EU001 and EU002). 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 combustion unit emissions are controlled by a spray drier absorber, powdered activated carbon injection, and fabric filter baghouse. 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, Oxygen (O<sub>2</sub>), and stack gas flow rate. Additional operating parameters, including carbon additive, fabric filter inlet temperature and steam flow, are also monitored continuously.

Backup energy for use during combustor maintenance is provided by a diesel and natural gas-fired boiler (EU 004). A diesel generator (EU 003) provides emergency electrical power.

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.

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>.

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.

## **PERMIT ACTION 002**

This permit action authorizes the addition of new municipal waste combustor (EU 007) as well as a replacement of a larger emergency generator (EU 008).

The new municipal waste combustor (EU 007) is a mass burn, stoker-fired, excess air combustion units. The proposed unit is rated at a nominal heat input of approximately 93.5 million Btus/hour, which equates to a nominal capacity of 200 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 combustion unit emissions are controlled by a spray dryer absorber, powdered activated carbon injection, and fabric filter baghouse.

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

The facility is located in an area which is designated former non-attainment area for SO<sub>2</sub>. Accordingly, the previous SIP conditions have been maintained.

This permit action for both a construction authorization for the new municipal waste combustor (EU 007) as well as a replacement of a larger emergency generator (EU 008). In addition, this permit action is also a Part 70 reissuance.

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Olmsted Waste-to-Energy Facility

Permit Number: 10900005 - 002

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
OPERATIONAL LIMITS	hdr
TESTING REQUIREMENTS	hdr

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Olmsted Waste-to-Energy Facility

Permit Number: 10900005 - 002

MONITORING REQUIREMENTS	hdr
RECORDKEEPING	hdr
Recordkeeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Title I Condition: SIP for SO <sub>2</sub> ; Minn. R. 7007.0800, subp. 5(C)
REPORTING/SUBMITTALS	hdr
Reporting: Report exceedances of SO <sub>2</sub> 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 SO <sub>2</sub> ; Minn. R. 7007.0800, subp. 6

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Olmsted Waste-to-Energy Facility

Permit Number: 10900005 - 002

**Subject Item: GP 001 Waste Combustors (100 tpd)**

- Associated Items:**
- CE 003 Spray Dryer w/lime
  - CE 004 Spray Dryer w/lime
  - CE 005 Activated Carbon Adsorption
  - CE 006 Activated Carbon Adsorption
  - CE 007 Fabric Filter - High Temperature, i.e., T>250 Degrees F
  - CE 008 Fabric Filter - High Temperature, i.e., T>250 Degrees F
  - EU 001 Waste Combustor Unit #1
  - EU 002 Waste Combustor Unit #2
  - MR 001 Opacity COM
  - MR 002 Opacity COM
  - MR 003 Stack SO2 CEM
  - MR 004 Stack SO2 CEM
  - MR 005 CO CEM
  - MR 006 CO CEM
  - MR 009 O2 CEM
  - MR 010 O2 CEM
  - MR 011 Inlet SO2 CEM
  - MR 012 Inlet SO2 CEM
  - SV 001 Waste Combustor Unit #1
  - SV 002 Waste Combustor Unit #2

What to do	Why to do it
<p>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.</p> <p>This requirement is satisfied with 77 ppm (16.3 lb/hr - 24 hour average) limit found in this Group.</p>	<p>Title I Condition: State Implementation Plan for SO2; Minn. R. 7009.0020</p>
<p>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.</p>	<p>Title I Condition: State Implementation Plan for SO2; Minn. R. 7009.0020</p>
<p>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.</p>	<p>Title I Condition: State Implementation Plan for SO2; Minn. R. 7007.0800, subp. 6</p>
<p>Monitor: Operate and maintain a sulfur dioxide CEMS on each waste combustor unit (EU 001 and EU 002) in accordance with the Olmsted CEMS QA/QA Plan.</p>	<p>Title I Condition: SIP for SO2; 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)</p>

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Olmsted Waste-to-Energy Facility

Permit Number: 10900005 - 002

Sulfur Dioxide: less than or equal to 77 parts per million by dry volume using 24-hour Geometric Average or 50 percent removal, whichever is less stringent. This limit is applied in accordance with the "Applicability of Standards" stated above. Must follow the monitoring requirements specified in 40 CFR Section 62.15175, 40 CFR Section 62.15180.	Title I Condition: SIP for SO <sub>2</sub> ; 40 CFR Section 62.15160(a)(2); 40 CFR Section 62.15175, 40 CFR Section 62.15180
OPERATIONAL LIMITS	hdr
AVERAGING PERIODS	hdr

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Olmsted Waste-to-Energy Facility

Permit Number: 10900005 - 002

**Subject Item:** EU 004 Auxiliary Boiler

**Associated Items:** SV 004 Auxilliary Boiler

What to do	Why to do it
Sulfur Content of Fuel: less than or equal to 15 parts per million , by weight, in fuel oil.	Title I Condition: SIP for SO2; 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)
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).	Title I Condition: State Implementation Plan for SO2
Fuel Usage: less than or equal to 286,000 gallons/year using 12-month Rolling Sum of ultra low sulfur (15 ppm, by weight,) distillate fuel oil.	Title I Condition: SIP for SO2; 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 cited as "Title I Condition: State Implementation Plan for SO2" 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 SO2; Minn. R. 7007.0800, subp. 6

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Olmsted Waste-to-Energy Facility

Permit Number: 10900005 - 002

**Subject Item: EU 007 Waste Combustor Unit #3**

- Associated Items:**
- CE 009 Selective Noncatalytic Reduction for NOX
  - CE 010 Spray Dryer w/lime
  - CE 011 Activated Carbon Adsorption
  - CE 012 Fabric Filter - High Temperature, i.e., T>250 Degrees F
  - MR 013 Opacity COM
  - MR 014 Stack SO2 CEM
  - MR 015 O2 CEM
  - MR 016 NOx CEM
  - MR 017 CO CEM
  - MR 018 Inlet SO2 CEM
  - SV 005 Waste Combustor Unit #3

What to do	Why to do it
PRECONSTRUCTION REQUIREMENTS	hdr
EMISSIONS LIMITS	hdr

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

A-24

08/23/07

Facility Name: Olmsted Waste-to-Energy Facility

Permit Number: 10900005 - 002

Sulfur Dioxide: less than or equal to 30 parts per million by dry volume using 24-hour Geometric Average or 80 percent removal, whichever is less stringent. This limit is applied in accordance with the "Applicability of Standards" stated above. Must follow the monitoring requirements specified in 40 CFR Section 60.1230, 40 CFR Section 60.1235.	Title I Condition: SIP for SO <sub>2</sub> ; 40 CFR Section 60.1215; 40 CFR Section 60.1230; 40 CFR Section 60.1235; Minn. R. 7011.1227, Table 2
OPERATIONAL LIMITS	hdr

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Olmsted Waste-to-Energy Facility

Permit Number: 10900005 - 002

Monitor: Operate and maintain a sulfur dioxide CEMS on waste combustor unit (EU 007) in accordance with the Olmsted CEMS QA/QA Plan.	Title I Condition: SIP for SO2
AVERAGING PERIODS	hdr

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: Olmsted Waste-to-Energy Facility

Permit Number: 10900005 - 002

**Subject Item:** EU 008 Emergency Diesel Generator

**Associated Items:** SV 006 Emergency Diesel Generator

What to do	Why to do it
EMISSION LIMITS	hdr
Sulfur Content of Fuel: less than or equal to 15 parts per million , by weight, in fuel oil.	Title I Condition: State Implementation Plan for SO2; 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
OPERATING CONDITIONS	hdr
Fuel Usage: less than 48,000 gallons/year using 12-month Rolling Sum of ultra sulfur distillate fuel oil.	Title I Condition: State Implementation Plan for SO2; 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

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

**A-38**

08/23/07

Facility Name: Olmsted Waste-to-Energy Facility

Permit Number: 10900005 - 002

RECORDKEEPING REQUIREMENTS	hdr
Reporting: For EU 008, 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 SO2; Minn. R. 7007.0800, subp. 6
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 008 fuel sulfur content limit.	Title I Condition: State Implementation Plan for SO2; 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
SUBMITTALS	hdr