

**AIR EMISSION PERMIT NO. 13700112- 006**

**IS ISSUED TO**

**Western Lake Superior Sanitary District (WLSSD)**

Western Lake Superior Sanitary District  
2626 Courtland Street  
Duluth, St. Louis County, MN 558061894

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  
Total Facility Operating Permit

Application Date  
January 9, 2003  
September, 2001

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. 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:** February 23, 2004

**Expiration:** February 23, 2009

Title I Conditions do not expire.

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Ann M. Foss  
Major Facilities Section Manager  
Majors and Remediation Division

for Sheryl A. Corrigan  
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
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Outside Metro Area	1-800-657-3864
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TTY	(651) 282-5332
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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 Western Lake Superior Sanitary District (WLSSD) facility treats domestic and industrial wastewater from the Duluth area. The sludge is treated with anaerobic digesters. Anaerobic digesters biologically decompose the sludge. The final product is sufficiently stable for storage and application to land. The by-products of anaerobic digestion are methane, carbon dioxide, and small amounts of nitrogen, hydrogen, hydrogen sulfide, and water. Gas from the anaerobic digesters is incinerated in a waste gas boiler or flare. Other sources at the site include the wastewater treatment, an emergency generator, and two heating boilers.

In it's previous permit, WLSSD was authorized to incinerate the sludge in two incinerators. Those incinerators, and the corresponding ancillary equipment have been decommissioned.

WLSSD also serves as a transfer station. The transfer station is referred to as the Truck Loading Facility (EU053). The Truck Loading Facility receives garbage from garbage trucks sized for residential street pickup. These trucks unload their contents at the Truck Loading Facility where it is then transferred by front-end loader into larger semi-trailer type trucks. All of the unloading and loading of garbage takes place inside the building. The building is not heated nor does it have an active ventilation system.

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

02/24/04

Facility Name: Western Lake Superior Sanitary District

Permit Number: 13700112 - 006

**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**

<b>What to do</b>	<b>Why to do it</b>
Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated, unless otherwise noted in Table A.	Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)
Operate the control equipment monitoring equipment whenever the control equipment is required to operate in compliance.	Minn. R. 7007.0800, subp. 2 Minn. R. 7007.0800, subp. 4
Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150.	Minn. R. 7011.0150
Retain all records at the stationary source for a period of five years from the date of monitoring, sampling, measurement, or reporting. 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.	Minn. R. 7007.0800, subp. 5(C); Minn. R. 7007.0800, subp. 2
Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment, and comply with the plan.	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)
Record keeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007.1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350, subp. 2), including records of the emissions resulting from those changes.	Minn. R. 7007.0800, subp. 5(B)
All submittals required by this permit must be certified by a responsible official as defined in Minn. R. 7007.0100, subp. 21. Submittals which must be provided on forms by the Commissioner are noted in Tables B and C. All submittals must be postmarked or received by the date specified in the tables.	Minn. R. 7007.0800, subp. 6; Minn. R. 7011.1215, subp. 5; Minn. R. 7007.0800, subp. 2
Application for Permit Amendment: If you need a permit amendment, submit application in accordance with the requirements of Minn. R. 7007.1150 through Minn. R. 7007.1500. Submittal dates vary, depending on the type of amendment needed.	Minn. R. 7007.1150 through Minn. R. 7007.1500
Emission Inventory Report: due 91 days after end of each calendar year following permit issuance (April 1). To be submitted on a form approved by the Commissioner.	Minn. R. 7019.3000 through Minn. R. 7019.3010
Emission Fees: due 60 days after receipt of an MPCA bill	Minn. R. 7002.0005 through Minn. R. 7002.0095
Extension Requests: The permittee may apply for an Administrative Amendment to extend a deadline in a permit by no more than 120 days, provided the proposed deadline extension meets the requirements of Minn. R. 7007.1400, subp. 1(H).	Minn. R. 7007.1400, subp. 1(H)
Inspections: Upon presentation of credentials and other documents as may be required by law, allow the Agency, or its representative, to enter the Permittee's premises, to have access to and copy any records required by this permit, to inspect at reasonable times (which include any time the source is operating) any facilities, equipment, practices or operations, and to sample or monitor any substances or parameters at any location.	Minn. R. 7007.0800, subp. 9(A)
Monitoring Equipment: Install or make needed repairs to monitoring equipment within 60 days of issuance of the permit if monitoring equipment is not installed and operational on the date the permit is issued.	Minn. R. 7007.0800, subp. 4(D)
Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(D)
Operation of Monitoring Equipment: Unless otherwise noted in Tables A, B, and/or C, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, such as for system breakdowns, repairs, calibration checks, and zero and span adjustments (as applicable). Monitoring records should reflect any such periods of process shutdown.	Minn. R. 7007.0800, subp. 4(D)

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

02/24/04

Facility Name: Western Lake Superior Sanitary District

Permit Number: 13700112 - 006

<p>Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emission of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 3.</p> <p>At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner again when the shutdown is over.</p>	Minn. R. 7019.1000, subp. 3
<p>Breakdown Notifications: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 2.</p> <p>At the time of notification or as soon as possible thereafter, the owner or operator shall inform the Commissioner of the cause of the breakdown and the estimated duration. The owner or operator shall notify the Commissioner when the breakdown is over.</p>	Minn. R. 7019.1000, subp. 2
<p>Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.</p>	Minn. R. 7011.0020
<p>Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify the Commissioner or the state duty officer, either orally or by facsimile, of any deviation from permit conditions which could endanger human health or the environment.</p>	Minn. R. 7019.1000, subp. 1
<p>Notification of Deviations Endangering Human Health or the Environment Report: Within 2 working days of discovery, notify the Commissioner in writing of any deviation from permit conditions which could endanger human health or the environment. Include the following information in this written description:</p> <ol style="list-style-type: none"> <li>1. the cause of the deviation;</li> <li>2. the exact dates of the period of the deviation, if the deviation has been corrected;</li> <li>3. whether or not the deviation has been corrected;</li> <li>4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and</li> <li>5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.</li> </ol>	Minn. R. 7019.1000, subp. 1
<p>WLSSD shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.</p>	Minn. R. 7007.0800, subp. 16

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

02/24/04

Facility Name: Western Lake Superior Sanitary District

Permit Number: 13700112 - 006

**Subject Item:** GP 003 Heating Boilers**Associated Items:** EU 051 Heating Boiler

EU 052 Heating Boiler

What to do	Why to do it
Sulfur Content of Fuel: less than or equal to 0.05 percent by weight when burning oil.	Minn. R. 7007.1450: to limit potential emissions to minor amendment thresholds, also meets the requirements of 40 CFR 60, Subp. Dc
Opacity: less than or equal to 20 percent except for one 6 minute period per hour of not more than 27 percent.	40 CFR 60.43c(c)
Fuel use limited to natural gas and distillate oil.	Minn. R. 7007.0800, subp. 2
Obtain fuel supplier certifications for each shipment of oil, showing the sulfur content of the fuel burned.  Fuel supplier certification shall include the following information: The name of the oil supplier, and a statement from the supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR 60.41c.	40 CFR 60.48c(f)(1)
The heating boilers may operate at a total heat input capacity of 40 mmBtu per hour for any 1-hour period.  Calculate and record the heat input to each boiler each hour.	Minn. R. 7007.1450: to limit potential emissions to minor amendment thresholds
Record and maintain records of the amounts of each fuel combusted during each month as allowed by EPA's February 1992 memo.	40 CFR 60.48c(g)
Performance Test: due 180 days after Initial Startup or within 60 days of achieving maximum production capacity to measure opacity.	40 CFR 60.8 and 40 CFR 60.45c(a)(8)
Performance Test Notifications and Submittals;  Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-Test Meeting: due 7 day before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy: due 105 day after each Performance Test. The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.	Minn. R. 7017.2030, subp. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subp. 1-2

TABLE A: LIMITS AND OTHER REQUIREMENTS

02/24/04

Facility Name: Western Lake Superior Sanitary District  
Permit Number: 13700112 - 006

Subject Item: GP 004 Flare and Waste Gas Boiler

Associated Items: EU 050 Waste Gas Boiler  
EU 054 Flare

What to do	Why to do it
Total biogas flow shall not exceed 38,000 scf per hour.	Minn. R. 7007.1450, Minor Amendment
Flow monitors shall be installed on the flare and the waste gas boiler to measure and record the flow of biogas to each unit.	Minn. R. 7007.0800, subp. 4 and 5



**TABLE A: LIMITS AND OTHER REQUIREMENTS**

02/24/04

Facility Name: Western Lake Superior Sanitary District

Permit Number: 13700112 - 006

**Subject Item:** EU 049 Backup Generator HHW**Associated Items:** SV 076 Emergency generator

What to do	Why to do it
Opacity: less than or equal to 20 percent opacity . The permittee shall not cause or permit the emission of visible air contaminants from the engine in excess of 20 percent opacity for more than ten consecutive seconds once operating temperatures have been obtained.	Minn. R. 7011.2300, subp. 1
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input	Minn. R. 7011.2300, subp. 2
Performance Test Methods: Upon the request of the Commissioner testing shall be done in accordance with Minn. R. 7017.2001-2060.	Minn. R. 7017.2020, subp. 1

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

02/24/04

Facility Name: Western Lake Superior Sanitary District

Permit Number: 13700112 - 006

**Subject Item:** EU 050 Waste Gas Boiler**Associated Items:** GP 004 Flare and Waste Gas Boiler

SV 079 Waste gas boiler stack

What to do	Why to do it
Sulfur Content of Fuel: less than or equal to 0.05 percent by weight when burning oil.	Minn. R. 7007.1450: to limit potential emissions to minor amendment thresholds, also meets the requirements of 40 CFR 60.42c(d)
Fuels limited to bio-gas and distillate oil.	Minn. R. 7007.0800, subp. 2
Obtain fuel supplier certifications for each shipment of oil, showing the sulfur content of the fuel burned.  Fuel supplier certification shall include the following information: The name of the oil supplier, and a statement from the supplier that the oil complies with the specifications under the definition of distillate oil in 40 CFR 60.41c, and a statement that the maximum sulfur content is 0.05%.	40 CFR 60.45c(f)(1)
Record and maintain records of the amounts of each fuel combusted during each month as is allowed by EPA's February 1992 memo..	40 CFR 60.48c(g)

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

02/24/04

Facility Name: Western Lake Superior Sanitary District

Permit Number: 13700112 - 006

**Subject Item:** EU 054 Flare**Associated Items:** GP 004 Flare and Waste Gas Boiler

SV 082 Flare

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011. 0735.	Minn. R. 7011.0610, subp. 1(A)(1)
Opacity: less than or equal to 20 percent except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0610, subp. 1(A)(2)
Performance Test Methods: Upon the request of the Commissioner testing shall be done in accordance with Minn. R. 7017.2001-2060.	Minn. R. 7017.2020, subp. 1

## TABLE B: SUBMITTALS

02/24/04

Facility Name: Western Lake Superior Sanitary District  
Permit Number: 13700112 - 006

Table B lists most of the submittals required by this permit. Please note that some submittal requirements may appear in Table A or, if applicable, within a compliance schedule located in Table C. Table B is divided into two sections in order to separately list one-time only and recurrent submittal requirements.

Each submittal must be postmarked or received by the date specified in the applicable Table. Those submittals required by parts 7007.0100 to 7007.1850 must be certified by a responsible official, defined in Minn. R. 7007.0100, subp. 21. Other submittals shall be certified as appropriate if certification is required by an applicable rule or permit condition.

Send any application for a permit or permit amendment to:

Permit Technical Advisor  
Permit Section  
Air Quality Division  
Minnesota Pollution Control Agency  
520 Lafayette Road North  
St. Paul, Minnesota 55155-4194

Also, where required by an applicable rule or permit condition, send to the Permit Technical Advisor notices of:

- accumulated insignificant activities,
- installation of control equipment,
- replacement of an emissions unit, and
- changes that contravene a permit term.

Unless another person is identified in the applicable Table, send all other submittals to:

Supervisor  
Compliance Determination Unit  
Air Quality Division  
Minnesota Pollution Control Agency  
520 Lafayette Road North  
St. Paul, Minnesota 55155-4194

Send submittals that are required to be submitted to the U.S. EPA regional office to:

Mr. George Czerniak  
Air and Radiation Branch  
EPA Region V  
77 West Jackson Boulevard  
Chicago, Illinois 60604

Send submittals that are required by the Acid Rain Program to:

U.S. Environmental Protection Agency  
Clean Air Markets Division  
1200 Pennsylvania Avenue NW (6204N)  
Washington, D.C. 20460

**TABLE B: RECURRENT SUBMITTALS**

02/24/04

Facility Name: Western Lake Superior Sanitary District

Permit Number: 13700112 - 006

What to send	When to send	Portion of Facility Affected
Quarterly Report	due 30 days after end of each calendar quarter following Permit Issuance. The reports shall include: (1) Calendar dates covered in the reporting period, (2) Records of the fuel supplier certifications, and (3) A signed statement by the owner or operator that the records submitted represent all of the oil combusted during the reporting period.	EU050
Quarterly Report	due 30 days after end of each calendar quarter following Permit Issuance. The reports shall include: (1) Calendar dates covered in the reporting period, (2) Records of the fuel supplier certifications, and (3) A signed statement by the owner or operator that the records submitted represent all of the oil combusted during the reporting period.	GP003
Semiannual Deviations Report	due 30 days after end of each calendar half-year starting 01/10/2000 . This report includes deviations that are recorded by a continuous monitoring system, a periodic monitoring system, or deviations that are identified through recordkeeping. Deviation Reporting Forms DRF-1 and DRF-2 shall be used.	Total Facility
Compliance Certification	due 30 days after end of each calendar year starting 01/10/2000 To be submitted on a form approved by the Commisioner, both to the Commissioner, and to the U.S. EPA Regional Office in Chicago. This report covers all deviations experienced during the calendar year. The EPA copy shall be addressed to Mr. George Czerniak, Chief, Air Enforcement and Compliance Assurance Branch, Air and Radiation Division, EPA Region V, 77 West Jackson Boulevard, Chicago, Illinois 60604.	Total Facility

APPENDIX MATERIAL

Facility Name: Western Lake Superior Sanitary District

Permit Number: 13700112-006

***Insignificant Activities Required to Be Listed***

EU Number	Description	IA Regulation	Applicable Regulations
EU001	Duluth influent channel and screw pumps	Minn. R. 7007.1300, subp. 4	
EU002	Duluth influent channel and screw pumps	“	
EU003	Bar screen channel	“	
EU004	Bar screen channel	“	
EU008	BSC or grit classifier?	“	
EU009	BSC or grit cyclone?	“	
EU010	BSC or screening conveyors?	“	
EU011	BSC or scum ejector?	“	
EU012	BSC or grit loading	“	
EU013	Oxygenation basin influent and grit tank influent	“	
EU014	Oxygenation basin influent and grit tank influent	“	
EU016	Secondary sedimentation tank influent	“	
EU018	Mixed liquor channel and tank drainage	“	
EU020	Mixed media filters	“	
EU023	Sludge storage tank	“	
EU024	Safety Kleen parts washer	“	
EU025	Safety Kleen parts washer	“	
EU026	Lime silos or conveyance?	“	Minn. R. 7011.0715
EU027	Lime silos or conveyance?	“	Minn. R. 7011.0715
EU048	HHW paint bulking operation	“	
EU049	Emergency generator	“	Minn. R. 7011.2300
FS004	Chlorination tank influent channel	“	
FS005	Chlorination tank	“	
FS007	Final effluent channel	“	
EU055	70kW Micro Turbine	“	Minn. R. 7011.2300
EU056	70kW Micro Turbine	“	Minn. R. 7011.2300

**TECHNICAL SUPPORT DOCUMENT**  
**For**  
**DRAFT AIR EMISSION PERMIT NO. 13700112-006**

This technical support document is for all the interested parties of the draft permit. The purpose of this document is to set forth the legal and factual basis for the draft permit conditions, including references to the applicable statutory or regulatory provisions.

## **1. General Information**

### **1.1. Applicant and Stationary Source Location:**

Owner and Operator Address and Phone Number (list both if different)	Facility Address (SIC Code: 4952/4953)
Western Lake Superior Sanitary District 2626 Courtland Street Duluth, Minnesota 55806-1894 (218) 722-3336	Western Lake Superior Sanitary District 2626 Courtland Street Duluth, Minnesota 55806-1894 St. Louis County

Western Lake Superior Sanitary District (WLSSD) is a publicly owned treatment works whose its primary function is to treat municipal and industrial wastewater. The facility also includes household hazardous waste collection. The facility is located in Duluth, St. Louis County, Minnesota, and operates under the Standard Classification Code (SIC) 4959.

The wastewater treatment facility was constructed between 1975 and 1978. The plant officially began operations in January of 1979. The plant provides advance secondary treatment to domestic and industrial wastewater from ten municipalities and three major wood product industries. Wastewater is collected by an extensive interceptor system. The municipalities serviced are in St. Louis and Carlton counties and include the cities of Duluth, Cloquet, Carlton, Esko, (Thomson Township), Scanlon, Wrenshall, Hermantown, Proctor, and Thompson.

WLSSD treats an average daily flow of wastewater of approximately 43 million gallons per day (MGD). The facility was designed to handle a peak flow of 87 MGD. Municipal customers account for 50 percent (at 43 MGD) of wastewater flow received by the facility with industry contributions accounting for the remaining inflow to the facility.

Previously, refuse derived fuel was also processed (handled and burned) at the facility. The boilers that burned refuse derived fuel, and the handling equipment have been decommissioned, sources associated with handling, shredding, storing, and conveying.

The wastewater treatment facility generates an average of 200 wet tons (moisture content of approximately 84 percent) of sewage sludge each day. At one time, WLSSD incinerated its sludge in fluidized bed boilers, along with coal, wood waste, refuse derived fuel and oil. Those incinerators have been decommissioned as of 2003. The sludge is now treated with biodigestors. WLSSD installed anaerobic digesters to handle the sludge that was previously combusted. Anaerobic digesters biologically decompose the sludge, producing a product that is sufficiently stable for storage and application to land. The by-products of anaerobic digestion are methane, carbon dioxide, and small amounts of nitrogen, hydrogen, hydrogen sulfide and water.

The sources that were decommissioned are listed below:

Identification EU#	CE#	SV#	Description
EU026	CE014, CE015, CE016	SV048, SV049	Lime Storage Silos (2)
EU027	CE014, CE015, CE016	SV048, SV049	Lime Storage Silos (2)
EU028		SV047	Lime Slacker (2)
EU033		SV050	Ash Clarifier
EU034		SV050	Ash Press
EU035		SV050	Sludge Filter Press
EU036		SV062 SV066	Startup Boiler
EU037	CE013	SV059	Sand Storage and Feed System
EU041-42	CE007, CE011, CE012	SV055 SV056 SV060 SV061	Fluidized Bed Reactor

### 1.3. Description of the Activities Allowed By This Permit Action

This permit is a reissuance of the total facility permit, and also authorizes the construction of two heating boilers (gas and oil fired), and a waste digester gas boiler and flare. Limits were set on fuel oil sulfur content initially by the Permittee to qualify the installation of the three boilers and flare as a minor amendment. With the limits, potential emissions from the facility are less than 100 tons per year and so the facility could qualify as a minor one under Part 70. The facility has chosen to retain its Part 70 permit, however.



Also reflected in this action is the decommissioning of sludge burning boilers.

1.4. Description of all amendments issued since the issuance of the last total facility permit.

Permit Number	Action Authorized
13700112-002	<b>Permit Action No. 002:</b> The Permittee eliminated Stack Vents (S/V) 057 and 058 from the fabric filter CE 001, for Dry Ash Coolers EU 038 and 039, and eliminated S/V 065 from fabric filter CE 003 for Dry Ash Conveyance system EU 040, by constructing ductwork from the fabric filters outlet to the sieve tray scrubber part of the venturi/sieve tray scrubber system for Fluidized Bed Reactor 1 (EU 041), and to the sieve tray scrubber part of the venturi/sieve tray scrubber system for Fluidized Bed Reactor 2 (EU 042). The emissions from the fabric filters can be directed to either sieve tray scrubber via dampers. The purpose of the changes was elimination of monitoring, recordkeeping and reporting requirements for the pressure drop through the fabric filters. The amendment was granted per Minn. R. 7007.1400, subp. 1(D)(3).
13700112-003	<b>Permit Action No. 003</b> was for increasing of the Particulate Matter (PM) limit for EU 045 (Conveyors Building 10). The original permit limit was set at 1.24 lbs per hour based upon an AP-42 emission factor with no safety factor added on. A performance test on EU 045 following issuance of the original Title V permit (Air Emission Permit No. 13700112-002) showed emissions to be at 3.3 lbs per hour. This permit set the emission limit at 4.0 lbs per hour which accounts for a safety factor of 1.2 added on to the stack tested value of 3.3 lbs per hour. This increase in the allowable particulate emissions amounted to a 12 ton per year potential increase. Adding this increase to the existing facility wide potential PM emissions still kept the facility nonmajor for PM for Prevention of Significant Deterioration permitting. The potential PM emissions increase was from 174 tons per year to 186 tons per year and the potential Particulate Matter less than 10 microns in size emissions increase was from 162 tons per year to 174 tons per year.
13700112-004	<b>Permit Action No. 004:</b> During 1999, municipal solid waste will become unavailable or of unreliable supply to WLSSD, and therefore WLSSD will not be able to produce RDF as a supplemental fuel for its fluid bed reactors. This permit action authorized use of coal in place of RDF as a supplemental fuel.

13700112-005	<p><b>Permit Action No. 005:</b> The permit for WLSSD had restricted emissions from the fluid bed reactors to 10 percent opacity regardless of the type of fuel or waste combusted. This 10 percent opacity limit is applicable when the fluid bed reactors combust fuels and/or wastes that qualify the units as waste combustors as defined by Minn. R. 7011.1201, subp. 46 or 40 CFR § 60.51(b). The 10 percent opacity limit is more stringent than the 20 percent opacity limit which is applicable when units burn fuels other than those that qualify the units as waste combustors. This permit action amended the permit to accurately reference the correct limit of 20 percent opacity which is applicable when burning fuels in combination with sewage sludge other than those fuels that qualify the units as waste combustors.</p>
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## 1.5. Facility Emissions:

Table 1. Total Facility Potential to Emit Summary:

EU #	SV#	Emission Unit Description	PM tpy	PM10 tpy	SO2 tpy	NOx tpy	CO tpy	VO C tpy	Pb tpy	Singe HAP tpy	All HAPs tpy
1,2	1-4	Duluth Influent Channel						0.221		0.430	0.440
	7,8	3-5, 8-12, Screening, grit						0.248		1.94	1.97
6,7	5,6	Grit tanks and collector						6.12		8.12	11.4
13,14	55,61	Oxygenation, grit in-efl.						0.798		1.34	1.60
15		Oxygenation tanks (4)						1.103		0.224	0.855
16		Secondary sed. tank infl.						0.052		0.040	0.051
17		Sec. settling tanks (4)						0.5		0.372	0.499
18		Mixed liq. Channel, drain						0.154		0.135	0.154
19		Flocculation tanks						0.527		0.407	0.527
20		Mixed media filters						0.006		0.003	0.006
22		Air flotation thickeners						0.835		0.805	0.835
23		Sludge storage tanks						0.009		0.007	0.009
24		Parts washer						0.24		neg	neg
25		Parts washer						0.24		neg	neg
48		Paint bulking operation						0.009		neg	neg
49		Back up generator	0.012	0.012	0.051	0.76	0.165	0.052	-	neg	neg
50		Waste gas boiler**	0.78	0.78	2.82	7.84	1.96	0.20		neg	neg
51		Heating boiler	2.50	2.50	9.01	25.03	14.02	0.92		0.039	0.058

52		Heating boiler*	2.50	2.50	9.01	25.03	14.02	0.92		0.039	0.058
53		Truck loading facility	0.79	0.79						neg	neg
54		Digester gas flare	1.84	1.84	27.6	4.33	81.1	0.6		neg	neg

\*Only one heating boiler may operate at a time

\*\*Worst case emissions are when the waste gas boiler is burning oil, all gas goes to the flare, and the heating boiler is operated on oil. HAPs not calculated as per instructions on form EC-13C; owners/operators of small combustion sources are not required to calculate HAP emissions.

	PM tpy	PM10 tpy	SO2 tpy	NOx tpy	CO tpy	VO C tpy	Pb tpy	Single HAP tpy	All HAPs tpy
Total Facility Limited Potential Emissions	5.92	5.92	39.5	37.9	97.2	12.8	neg	8.12	18.5

Table 2. Facility(TF) and Permit Classification

Classification (put x in appropriate box)	Major/Affected Source	*Synthetic Minor	*Minor
PSD (list pollutant)			PM, PM10, VOC, NOx, SO2, CO
NAAR (list pollutant) NA			
Part 70 Permit Program (list pollutant)			PM10, VOC, NOx, HAPs

\* Refers to potential emissions that are less than those specified as major by 40 CFR § 52.21, 40 CFR pt. 51 Appendix S, and 40 CFR pt. 70.

## 2. Regulatory and/or Statutory Basis

Summary Regulatory and/or Statutory Basis of the Emission or operational Limit

### Regulatory Overview of Facility

*EU, GRP, or SV #	Applicable Regulations	**Comments:
FC	Minn. R. 7011.0150	Preventing Particulate Emissions from Becoming Airborne
GP003 Heating	40 CFR 60, Subp. Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

Boilers	40 CFR Part 70.2	Limit proposed on sulfur content of fuel oil to qualify the boiler installations as a minor amendment initially. The limit was not necessary to avoid major source status under new source review, and thus was not a Title I Condition. However, to render this source minor under 40 CFR Part 70, the conditions are now set as Title I Conditions
EU050 Waste Gas Boiler	40 CFR 60, Subp. Dc  40 CFR 52.21	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units  Limit proposed on sulfur content of fuel oil to qualify the boiler installations as a minor amendment initially. The limit was not necessary to avoid major source status under new source review, and thus was not a Title I Condition.
GP004 Waste Gas Boiler and Flare	Minn. R. 7007.1450	Limit proposed on total gas flow from anaerobic digesters. Limit is an estimate of potential gas generation from the digesters and is thus not necessary to avoid major source status under new source review.
EU049 Emergency Generator	Minn. R. 7011.2300	Standards of Performance For Stationary Internal Combustion Engines.
EU054 Flare	Minn. R. 7011.0610	Standards of Performance For Direct Heating Equipment

New Source Review: The source is a natural minor under new source review.

Part 70 Permit Program: This permit sets conditions on fuel sulfur content that limit potential emissions to less than 100 tons per year for sulfur dioxide. The facility has less than 100 tons potential of all other criteria pollutants, and less than the 10/25 thresholds for the Part 63, National Standards for Emissions of Hazardous Air Pollutant Programs. However, the source has chosen to retain its air emission permit as a Part 70 permit.

New Source Performance Standards: The three existing boilers on site are subject to 40 CFR 60, Subp. Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. The oil storage tanks are not subject to new source performance standards due to the date of installation.

#### National Emission Standards for Hazardous Air Pollutants (NESHAP)

The facility is not considered a major source for hazardous air pollutants, and is not subject to any of the standards that apply to minor sources of hazardous air pollutants.

#### Minnesota State Rules

Standards for preventing avoidable particulate matter from becoming airborne apply to the entire facility, and the emergency backup generator is subject to Minnesota Performance Standards for Internal Combustion Engines, Minn. R. 7011.2300. The Flare is subject to Minnesota Performance Standards for Direct Heating Equipment, Minn. R. 7011.0610.

### CAM

The facility is not subject to the continuous monitoring requirements under the 40 CFR pt. 63 regulations due to its size. None of the emission units has potential emissions that render the source itself major.

### **3.2 Periodic Monitoring**

In accordance with the Clean Air Act, it is the responsibility of the owner or operator of a facility to have sufficient knowledge of the facility to certify that the facility is in compliance with all applicable requirements.

In evaluating the monitoring included in the permit, the MPCA considers the following:

- The likelihood of violating the applicable requirements;
- Whether add-on controls are necessary to meet the emission limits;
- The variability of emissions over time;
- The type of monitoring, process, maintenance, or control equipment data already available for the emission unit;
- The technical and economic feasibility of possible periodic monitoring methods; and
- The kind of monitoring found on similar units elsewhere:

Table 4 summarizes the periodic monitoring requirements for those emission units for which the monitoring required by the applicable requirement is nonexistent or inadequate.

**Table 4. Periodic Monitoring**

<b>Emission Unit or Group</b>	<b>Requirement (basis)</b>	<b>Additional Monitoring</b>	<b>Discussion</b>
GP004, Flare and Waste Gas Boiler	Limit of 38,000 scf per hour, to limit modification to minor status	Measurement and recordkeeping of biogas flow to each unit.	
EU049	Opacity less than 20%,	None except testing at the request of the	Generator is gas fired and backup. It is unlikely to exceed the emission limits.

<b>Emission Unit or Group</b>	<b>Requirement (basis)</b>	<b>Additional Monitoring</b>	<b>Discussion</b>
Backup generator	sulfur dioxide less than 0.5 lb/mmBtu	Commissioner	
EU045 Flare	PM 1.t. 0.3 grains..., and opacity less than 10%	None except testing at the request of the Commissioner	Flare is gas fired and backup. It is unlikely to exceed the emission limits.

### **3.3 Insignificant Activities**

WLSSD has several operations which are classified as insignificant activities. These are listed in the Appendix to the permit

## **4. Conclusion**

Based on the information provided by the WLSSD, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 13700112-006 and this technical support document, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Jenny Reinertsen, Bob Beresford

Attachment: Emission Calculations  
Process Schematic  
Stack/Vent Information