

AIR EMISSION PERMIT NO. 13700112- 007

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 applications:

Permit Type
Total Facility Operating Permit
Moderate Amendment

Application Date
01/09/2003
02/04/2005

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. 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/True Minor for NSR **Moderate Amendment**

Issue Date: February 23, 2004 May 17, 2005

Expiration: February 23, 2009
All Title I Conditions do not expire.

Richard J. Sandberg, Manager
Air Quality Permits Section
Industrial 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
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 Western Lake Superior Sanitary District (WLSSD) facility treats domestic and industrial wastewater from the Duluth area. The sludge is treated with anaerobic digesters, which 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, emergency generators, and two heating boilers. WLSSD has previously been 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.

PER006 – This was the reissuance of the Part 70 Operating Permit, for a period of five years.

PER007 – This permit authorizes installation of an emergency generator outside of Building 10.

TABLE A: LIMITS AND OTHER REQUIREMENTS

05/17/05

Facility Name: Western Lake Superior Sanitary District

Permit Number: 13700112 - 007

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
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

05/17/05

Facility Name: Western Lake Superior Sanitary District

Permit Number: 13700112 - 007

<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"> 1. the cause of the deviation; 2. the exact dates of the period of the deviation, if the deviation has been corrected; 3. whether or not the deviation has been corrected; 4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and 5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation. 	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

05/17/05

Facility Name: Western Lake Superior Sanitary District

Permit Number: 13700112 - 007

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

05/17/05

Facility Name: Western Lake Superior Sanitary District

Permit Number: 13700112 - 007

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

05/17/05

Facility Name: Western Lake Superior Sanitary District

Permit Number: 13700112 - 007

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

05/17/05

Facility Name: Western Lake Superior Sanitary District

Permit Number: 13700112 - 007

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

05/17/05

Facility Name: Western Lake Superior Sanitary District

Permit Number: 13700112 - 007

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 A: LIMITS AND OTHER REQUIREMENTS

05/17/05

Facility Name: Western Lake Superior Sanitary District

Permit Number: 13700112 - 007

Subject Item: EU 057 Emergency Generator**Associated Items:** SV 084 Emergency Generator

What to do	Why to do it
EMISSION LIMITS	hdr
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 attained.	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
OPERATING CONDITIONS	hdr
Fuel type: No. 2 fuel oil only, by design.	Minn. R. 7005.0100, subp. 35a
Sulfur Content of Fuel: less than or equal to 0.05 percent by weight	Minn. R. 7005.0100, subp. 35a
RECORDINGKEEPING REQUIREMENTS	hdr
Hours of Operation: The Permittee shall maintain documentation on site that the unit is an emergency diesel generator by design that qualifies under the U.S. EPA memorandum entitled "Calculating Potential to Emit (PTE) for Emergency Generators" dated September 6, 1995, limiting operation to 500 hours per year.	Minn. R. 7007.0800, subp. 4 & 5
Fuel Supplier Certification: The Permittee shall obtain and maintain a fuel supplier certification for each shipment of No. 2 fuel oil, certifying that the sulfur content does not exceed 0.05% by weight.	Minn. R. 7007.0800, subps. 4 & 5

TABLE B: SUBMITTALS

05/17/05

Facility Name: Western Lake Superior Sanitary District
Permit Number: 13700112 - 007

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

05/17/05

Facility Name: Western Lake Superior Sanitary District

Permit Number: 13700112 - 007

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 Commissioner, 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

Facility Name: Western Lake Superior Sanitary District
Permit Number: 13700112-007

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	NA
EU002	Duluth influent channel and screw pumps	Minn. R. 7007.1300, subp. 4	NA
EU003	Bar screen channel	Minn. R. 7007.1300, subp. 4	NA
EU004	Bar screen channel	Minn. R. 7007.1300, subp. 4	NA
EU008	Grit classifier (BSC)	Minn. R. 7007.1300, subp. 4	NA
EU009	Grit cyclone (BSC)	Minn. R. 7007.1300, subp. 4	NA
EU010	Screening conveyors (BSC)	Minn. R. 7007.1300, subp. 4	NA
EU011	Scum ejector (BSC)?	Minn. R. 7007.1300, subp. 4	NA
EU012	BSC or grit loading	Minn. R. 7007.1300, subp. 4	NA
EU013	Oxygenation basin influent and grit tank influent	Minn. R. 7007.1300, subp. 4	NA
EU014	Oxygenation basin influent and grit tank influent	Minn. R. 7007.1300, subp. 4	NA
EU016	Secondary sedimentation tank influent	Minn. R. 7007.1300, subp. 4	NA
EU018	Mixed liquor channel and tank drainage	Minn. R. 7007.1300, subp. 4	NA
EU020	Mixed media filters	Minn. R. 7007.1300, subp. 4	NA
EU023	Sludge storage tank	Minn. R. 7007.1300, subp. 4	NA
EU024	Safety Kleen parts washer	Minn. R. 7007.1300, subp. 4	NA
EU025	Safety Kleen parts washer	Minn. R. 7007.1300, subp. 4	NA
EU026	Lime silos	Minn. R. 7007.1300, subp. 4	Minn. R. 7011.0715
EU027	Lime silos	Minn. R. 7007.1300, subp. 4	Minn. R. 7011.0715
EU048	HHW paint bulking operation	Minn. R. 7007.1300, subp. 4	NA

EU Number	Description	IA Regulation	Applicable Regulations
EU049	Emergency generator	Minn. R. 7007.1300, subp. 4	Minn. R. 7011.2300
FS004	Chlorination tank influent channel	Minn. R. 7007.1300, subp. 4	NA
FS005	Chlorination tank	Minn. R. 7007.1300, subp. 4	NA
FS007	Final effluent channel	Minn. R. 7007.1300, subp. 4	NA
EU055	70kW Micro Turbine	Minn. R. 7007.1300, subp. 4	Minn. R. 7011.2300
EU056	70kW Micro Turbine	Minn. R. 7007.1300, subp. 4	Minn. R. 7011.2300

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 13700112-007

This technical support document is intended for all parties interested in the permit and to meet the requirements that have been set forth by the federal and state regulations (40 CFR § 70.7(a)(5) and Minn. R. 7007.0850, subp.1). The purpose of this document is to provide the legal and factual justification for each applicable requirement or policy decision considered in the determination to issue the permit.

1. General Information

1.1. Applicant and Stationary Source Location:

Applicant/Address	Stationary Source/Address (SIC Code: 4959)
Western Lake Superior Sanitary District 2626 Courtland Street Duluth, MN 55806	2626 Courtland Street Duluth St. Louis County
Contact: Caroline Clement Phone: (218) 740-4760	

1.2. Description of the Facility

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.

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.

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.

1.3 Description of the Activities Allowed by this Permit Action

This moderate amendment authorizes installation and operation of an emergency generator, identified in the permit as EU057. Emissions not associated with this modification were also updated in the Delta database.

1.4. Facility Emissions:

Table 1. Title I Emissions Increase Summary

Pollutant	Emissions Increase from the Modification(tpy)	PSD Significant Thresholds for major sources	NSR Review Required? (Yes or No)
PM	0.34	250	No
PM ₁₀	0.28	250	No
NO _x	11.08	250	No
SO ₂	0.25	250	No
CO	4.17	250	No
Ozone (VOC)	0.4	250	No
Lead	0	250	No

Table 2. Non-Title I Emissions Increase Summary – Proposed New Generator

Pollutant	After Change (lb/hr)	Before Change (lb/hr)	Net Change (lb/hr)	Insignificant Modification Thresholds (lb/hr <)	Minor and Moderate Amendment Thresholds (lb/hr < or ≥)	Type of Amendment (Minor or Moderate)
PM ₁₀	1.13	0	1.13	0.855	3.42	Minor
NO _x	44.3	0	44.3	2.28	9.13	Moderate
SO ₂	0.99	0	0.99	2.28	9.13	Minor
CO	16.66	0	16.66	5.70	22.80	Minor
VOC	1.61	0	1.61	2.28	9.13	Minor
Lead	Neg.	0	Neg.	0.025	0.11	minor

Table 3. Total Facility Potential to Emit Summary *

	PM tpy	PM ₁₀ tpy	SO ₂ tpy	NO _x tpy	CO tpy	VOC tpy	Single HAP tpy	All HAPs tpy
Total Facility Limited Potential Emissions	18.5	8.07	39.8	49.9	101.0	16.0	5.9	11.0

* (Includes insignificant activities quantified by the applicant)

Table 4. Facility Classification

Classification	Major/Affected Source	Synthetic Minor	Minor
PSD			PM, PM ₁₀ , VOC, NO _x , SO ₂ , CO
Part 70 Permit Program	CO		PM ₁₀ , VOC, NO _x , SO ₂ , HAP

2. Regulatory and/or Statutory Basis

New Source Review

The facility is a true minor source under New Source Review.

Part 70 Permit Program

The facility is a major source under the Part 70 permit program.

New Source Performance Standards (NSPS)

The three existing boilers on site are subject to 40 CFR 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. The oil storage tanks on site are not subject to NSPS, due to the date of installation. There are no NSPS applicable to the new emergency generator authorized by this permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

The facility is not a major HAP source, and therefore is not subject to NESHAP.

Compliance Assurance Monitoring (CAM)

There are no new CAM requirements at this time, since this is not a major amendment to a Part 70 permit, nor does the affected equipment use control equipment.

Minnesota State Rules

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

Table 5. Regulatory Overview of Units Affected by the Modification/Permit Amendment

EU, GP, or SV	Applicable Regulations	Comments:
EU057	Minn. R. 7011.2300	Standards of Performance for Stationary Internal Combustion Engines

3. Technical Information

3.1 Calculations of Potential to Emit and Emissions Increase Analysis

Emissions of the proposed new emergency generator (EU057) were calculated using emission factors from AP-42, based on 500 operating hours per year.

The facility is a non-major source under New Source Review. As such, the emissions increases for criteria pollutants must be 250 tpy to trigger New Source Review. Therefore, the modification authorized by this permit amendment (installation of an emergency generator) is a non-major modification under New Source Review.

Prior to this modification, the total facility emissions were less than 100 tpy for all criteria pollutants, and less than 10/25 tpy for single and combined HAPs. The potential emissions of the proposed emergency generator put the carbon monoxide emissions above 100 tpy. However, the facility already holds a Part 70 permit; after removing a significant quantity of emission sources in the past few years, the facility elected to retain their Part 70 permit, rather than getting a state operating permit. Therefore, the proposed installation of the emergency generator does not require the facility to get a new permit; an amendment to the existing permit is allowed.

The Emissions Summary in Delta was also corrected at this time. The emissions for all units which have been removed were designated as zero. Other corrections which were described in the Title V reissuance application, but which were not made at the time of permit reissuance, were also made. The calculations for EU057 and the changes from the reissuance which were incorporated at this time are included in Attachment 1 to this technical support document.

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

Table 6. Periodic Monitoring for Units Affected by this Permit Action

Emission Unit or Group	Requirement (basis)	Additional Monitoring	Discussion
EU057, Emergency generator	Opacity less than 20%, SO ₂ less than 0.5 lb/MMBtu, per Minn. R. 7011.2300 Fuel limited to diesel fuel, ≤ 0.05% sulfur by weight, as used to calculate potential emissions	Recordkeeping of sulfur content of fuel	SO ₂ limit will not be exceeded when using fuel with ≤ 0.05% sulfur by weight

3.3 Permit Organization

In general, the existing permit meets the MPCA Delta Guidance for ordering and grouping of requirements. One area where this permit deviates slightly from Delta guidance is in the use of appendices. While appendices are fully enforceable parts of the permit, in general, any requirement that the MPCA thinks should be tracked (e.g., limits, submittals, etc.), should be in Table A or B. The main reason is that the appendices are word processing sections and are not part of the tracking system. Violation of the appendices can be enforced, but the computer system will not automatically generate the necessary enforcement notices or documents. Staff must generate these.

3.4 Comments Received

EPA 45-day Review Period: April 1, 2005 – May 16, 2005

Comments were not received from EPA during their review period.

4. Conclusion

Based on the information provided by WLSSD, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 13700112-007 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: Toni Volkmeier (permit writer/engineer)
 Bob Beresford (enforcement)
 John Chikkala (peer reviewer)

Attachments: 1. PTE Summary and Emissions Calculations
 2. Facility Description and CD-01 Forms