AIR EMISSION PERMIT NO. 12300053- 001

IS ISSUED TO

METROPOLITAN COUNCIL

METROPOLITAN WASTEWATER TREATMENT PLANT
2400 Childs Road
St. Paul, Ramsey County, Minnesota 55106

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
Total Facility Operating Permit	December 13, 1995

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 are as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

Permit Type: Federal; Part 70/Major for NSR

Issue Date: March 13, 2001

Expiration: March 13, 2006
All Title I Conditions do not expire.

Richard J. Sandberg, Manager
Major Facilities Section
Metro District

for Karen A. Studders, 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	(612) 296-6300
Outside Metro Area	1-800-657-3864
TTY	(612) 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. Certain requirements which have been determined not to apply are listed in Table A of this permit. 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.

The permit shield, however does not apply to:

1. Any national ambient air quality standards adopted under section 109 of the Clean Air Act or increment or visibility under Part C of Title I of the Clean Air Act, except those standards for PM_{10}.
2. Any state ambient air quality standard under Minn. R. ch. 7009, and
3. The state noise pollution control rules, Minn. R. ch. 7030.

FACILITY DESCRIPTION:

The Metropolitan Wastewater Treatment Plant is an advanced secondary wastewater treatment facility with a nominal design capacity of 250 million gallons per day. The plant is located on the east bank of the Mississippi River at mile 836. It is the principal sewage treatment facility for the Minneapolis and St. Paul metropolitan area serving more than 80 percent of the area's sewered population as well as commercial, institutional, and industrial wastewater generators. Solids removed in the wastewater treatment process are managed through incineration in six multiple hearth incinerators which are the primary source of air emissions from the facility. In addition, small amounts of scum from the treatment process and activated carbon from odor control systems are also incinerated. Emissions also result from operation of heating boilers, emergency generators, spray painting for maintenance, and aeration of the wastewater in the treatment process.

In addition to the air pollution control train and exhaust stack, each incinerator can exhaust through emergency relief stacks. Emissions through these emergency relief stacks bypass the air pollution control system.

The installation and occasional opening of emergency relief dampers is a necessary part of multiple hearth incinerator operation. Occasionally, conditions occur inside the incinerator that could result in gasses in the incinerator leaking into the building that houses the incinerators. This could cause a severe health hazard to plant workers. Occasionally, use of the emergency relief stacks is essential to protect plant workers and the incinerator itself from damage. Excessive use of the relief stacks or excessive leakage past the emergency relief dampers could be signs that the induced draft fans are not operating as intended or the bypass damper seals are not effectively sealing the damper.

In 1997 EPA issued a Notice of Violation/Finding of Violation (NOV/FOV) to the Metropolitan Council, alleging violation of emission limits from the controlled and emergency relief stacks. Subsequently, EPA filed a complaint against the Metropolitan Council in 1999. EPA and MCES have settled the complaint in the form of a Consent Decree which imposes compliance measures and calls for the replacement of the multiple hearth incinerators with new fluidized bed incinerators.

EPA recognized, and MPCA agrees, that the best long-term plan to eliminate emissions from the bypass stacks is the decommissioning of the current multiple hearth incinerators and replacement with some other technology. The MPCA recognizes that in the interim period prior to installation of the new solids handling system, there will be occasions where the emergency bypass dampers will be opened. Implementation of the conditions from the Civil Action No. 99-CV-1105 (Consent Decree) and good operating practices are intended to reduce the number of emergency bypass damper openings. The operational requirements in the permit that were taken from the Consent Decree are designed to reduce pollution control equipment bypasses but do not constitute a complete list of procedures constituting good operating practices.

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/13/01

Facility Name: Metropolitan Wastewater Treatment Plant

Permit Number: 12300053 - 001

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

Subject Item: **Total Facility**

What to do	Why to do it
OPERATIONAL REQUIREMENTS	hdr
Occurrence of the Exceedance: due 30 days after end of each year following Performance Test for HAP metals and HCl, the Permittee shall implement the Tier 1, 2 or 3 procedures if the test results indicate HAP metals in excess of 0.0522 lb/dry ton of sludge charged or HCl in excess of 0.04lb/dry ton of sludge charged. The Tier 1, 2, and 3 procedures are attached as Appendix A and are made part of this permit	Monitoring for limit to avoid classification as a major source under 40 CFR 63.2
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
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.	Minn. R. 7011.0020
Noise: The Permittee shall comply with the noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during the operation of any emission units. This is a state-only requirement and is not enforceable by the EPA Administrator, nor subject to the citizen suit provisions of section 304 of the Clean Air Act, 42 U.S.C. section 7604.	Minn. R. 7030.0010 through Minn. R. 7030.0080
The Permittee shall comply with the General Condtions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
PLANS	hdr
Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment. At a minimum, the O & M plan shall identify all air pollution control equipment and shall include a preventative maintenance program for that equipment, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment to proper operation to meet applicable permit conditions, a description of the employee training program for proper operation and maintenance of the control equipment, and the records kept to demonstrate plan implementation.	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)
Fugitive Control Plan: due 60 days after Permit Issuance. The plan shall identify all fugitive emission sources, primary and contingent control measures, and record keeping. The Permitee shall follow the actions and record keeping specified in the control plan. The plan may be amended by the Permittee with the Commissioner's approval. The permittee may be required to amend the control plan and/or install and operate particulate matter ambient air monitors if the Commissioner determines that the operation of the stationary source, together with other sources of particulate matter, creates conditions under which the Minnesota ambient air standard for particulate matter might be exceeded	Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2
Episode Emission Reduction Plan: Submit to the commissioner an episode emission reduction plan to be implemented at the facility or stationary source in the event of a declaration by the commissioner of an air pollution episode. The plan shall be submitted to the commissioner within 90 days of the designation of the area as having exceeded the alert levels in Minn. R. 7009.1060, Table 1, following all requirements found in Minn. R. 7009.1000 to 7009.1110.	Minn. R. 7009.1000 through 7009.1110
POLLUTION CONTROL EQUIPMENT REQUIREMENTS	hdr
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)
PERFORMANCE TESTING REQUIREMENTS	hdr
Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A or B. As provided in Minn. R. 7017.2020, subp. 2, the Permittee may conduct performance testing required by this permit as included in an approved performance test plan.	Minn. R. ch. 7017
Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as specified by Minn. R. 7017.2025 following formal review of a subsequent performance test on the same unit.	Minn. R. 7017.2025

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/13/01

Facility Name: Metropolitan Wastewater Treatment Plant

Permit Number: 12300053 - 001

MONITORING REQUIREMENTS	hdr
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 which have manufacturer's calibration procedures and check the accuracy of meters and monitors which cannot be calibrated. If the accuracy of equipment that cannot be calibrated is outside of recommended manufacturers specifications, it must be replaced. Any requirements applying specifically 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 and/or B, monitoring a process, or control equipment connected to that process, is not necessary during periods when the process is shutdown, or during checks of the monitoring systems, such as calibration checks and zero and span adjustments. If monitoring records are required, they should reflect any such periods of process shutdown or checks of the monitoring system.	Minn. R. 7007.0800, subp. 4(D)
RECORDKEEPING	hdr
Recordkeeping: 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)
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 strip-chart recordings for continuous monitoring instrumentation, electronic data and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Minn. R. 7007.0800, subp. 5(C)
State Implementation Plan Recordkeeping: Retain all records at the stationary source for a period of five (5) years from the date of the required monitoring, sample, measurement, or report that corresponds with a "Title I Condition: State Implementation Plan for PM10" requirement.	Title I Condition: State Implementation Plan for PM10; 40 CFR section 52.1230; 40 CFR pt. 52, subp.Y
REPORTING	hdr
Semiannual Deviations Report: due 30 days after end of each calendar half-year following Permit Issuance. The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31.	Minn. R. 7007.0800, subp. 6(A)
Submittal: due 30 days after end of each calendar half-year following Permit Issuance. The Deviations from Requirements Cited as "Title I Condition: State Implementation Plan for PM10" shall be reported with the Semiannual Deviations Report required by this permit. If there were no deviations from any requirements cited as "Title I Condition: State Implementation Plan for PM10", the Permittee shall indicate such in the semiannual deviations report.	Title I Condition: State Implementation Plan for PM10; 40 CFR section 52.1230; 40 CFR pt. 52, subp.Y
Compliance Certification: due 31 days after end of each calendar year following Permit Issuance (for the previous calendar year). To be submitted on a form approved by the Commissioner, both to the Commissioner, and to the U.S. EPA Regional Office in Chicago. The report covers all deviations experienced during the calendar year	Minn. R. 7007.0800, subp. 6 (C)
Emissions 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, Minn. R. 7019.3020 through Minn. R. 7019.3030
Operation changes. In any shutdown, breakdown, or deviation covered by Minn. R. 7019.1000, subpart 1, 2, or 3, the owner or operator shall immediately take all practical steps to modify operations to reduce the emission of any regulated air pollutant. The commissioner may require feasible and practical modifications in the operation to reduce emissions of air pollutants. No emissions units that have an unreasonable shutdown or breakdown frequency of process or control equipment shall be permitted to operate.	Minn. R 7019.1000, Subp. 4
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 emissions 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. 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 when the shutdown is over.	Minn. R. 7019.1000, subp. 3

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Metropolitan Wastewater Treatment Plant

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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. 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.	Minn. R. 7019.1000, subp. 2
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.	Minn. R. 7019.1000, subp. 1
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: 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
MISCELLANEOUS	hdr
Application for Permit Amendment: If a permit amendment is needed, submit an 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
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)
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Metropolitan Wastewater Treatment Plant

Permit Number: 12300053 - 001

Subject Item: **GP 001 Sludge Incinerators**

Associated Items: CE 009 Direct Flame Afterburner
CE 010 Spray Tower
CE 011 Direct Flame Afterburner
CE 012 Spray Tower
CE 013 Direct Flame Afterburner
CE 014 Spray Tower
CE 015 Indirect Flame Afterburner
CE 016 Spray Tower
CE 017 Direct Flame Afterburner
CE 018 Spray Tower
CE 019 Direct Flame Afterburner
CE 020 Spray Tower
EU 008 Multiple Hearth Sludge Incinerator #5
EU 009 Multiple Hearth Sludge Incinerator #6
EU 010 Multiple Hearth Sludge Incinerator #7
EU 011 Multiple Hearth Sludge Incinerator #8
EU 012 Multiple Hearth Sludge Incinerator #9
EU 013 Multiple Hearth Sludge Incinerator #10
SV 008
SV 009
SV 010
SV 011
SV 012
SV 013
SV 014
SV 015
SV 016
SV 017

What to do	Why to do it
At the time of permit issuance the Stack Vents (SV) and Control Equipment (CE) listed above are associated with each Emission Unit (EU) as listed in the following table: Associated Emission Unit / Associated Stack Vents / Associated Control Equipment EU008 Incinerator #5 — SV008 & 014 — CE 009 & 010 EU009 Incinerator #6 — SV010 & 015 — CE 013 & 014 EU010 Incinerator #7 — SV009 & 014 — CE 011 & 012 EU011 Incinerator #8 — SV011 & 015 — CE 015 & 016 EU012 Incinerator #9 — SV012 & 016 — CE 017 & 018 EU013 Incinerator #10 — SV013 & 017 — CE 019 & 020	hdr
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 1.30 lbs/ton dry sludge charged for EU008.	40 CFR 60.152(a)(1); Minn. R. 7011.1310
Total Particulate Matter: less than or equal to 1.30 lbs/ton dry sludge charged for EU009.	40 CFR 60.152(a)(1); Minn. R. 7011.1310
Total Particulate Matter: less than or equal to 1.30 lbs/ton dry sludge charged for EU010.	40 CFR 60.152(a)(2); Minn. R. 7011.1310
Total Particulate Matter: less than or equal to 1.30 lbs/ton dry sludge charged for EU011.	40 CFR 60.152(a)(2); Minn. R. 7011.1310
Total Particulate Matter: less than or equal to 1.30 lbs/ton dry sludge charged for EU012.	40 CFR 60.152(a)(2); Minn. R. 7011.1310

Total Particulate Matter: less than or equal to 1.30 lbs/ton dry sludge charged for EU013.	40 CFR 60.152(a)(2); Minn. R. 7011.1310
Particulate Matter < 10 micron: less than or equal to 1.20 lbs/ton dry sludge charged for EU008.	Title I Condition: State Implementation Plan for PM10; 40 CFR 52.1230; 40 CFR pt. 52, subp.Y; Minn. R. 7007.0800, subp. 2
Particulate Matter < 10 micron: less than or equal to 1.20 lbs/ton dry sludge charged for EU009.	Title I Condition: State Implementation Plan for PM10; 40 CFR 521230; 40 CFR pt. 52, subp. Y; Minn. R. 7007.0800, subp. 2
Particulate Matter < 10 micron: less than or equal to 1.20 lbs/ton dry sludge charged for EU010.	Title I Condition: State Implementation Plan for PM10; 40 CFR 521230; 40 CFR pt. 52, subp. Y; Minn. R. 7007.0800, subp. 2
Particulate Matter < 10 micron: less than or equal to 1.20 lbs/ton dry sludge charged for EU011.	Title I Condition: State Implementation Plan for PM10; 40 CFR 521230; 40 CFR pt. 52, subp. Y; Minn. R. 7007.0800, subp. 2
Particulate Matter < 10 micron: less than or equal to 1.20 lbs/ton dry sludge charged for EU012.	Title I Condition: State Implementation Plan for PM10; 40 CFR 521230; 40 CFR pt. 52, subp. Y; Minn. R. 7007.0800, subp. 2
Particulate Matter < 10 micron: less than or equal to 1.20 lbs/ton dry sludge charged for EU013.	Title I Condition: State Implementation Plan for PM10; 40 CFR 521230; 40 CFR pt. 52, subp. Y; Minn. R. 7007.0800, subp. 2
Opacity: less than 20 percent opacity using 6-minute Average for EU008	40 CFR 60.152(a)(2); Minn. R. 7011.1310
Opacity: less than 20 percent opacity using 6-minute Average for EU009	40 CFR 60.152(a)(2); Minn. R. 7011.1310
Opacity: less than 20 percent opacity using 6-minute Average for EU010	40 CFR 60.152(a)(2); Minn. R. 7011.1310
Opacity: less than 20 percent opacity using 6-minute Average for EU011	40 CFR 60.152(a)(2); Minn. R. 7011.1310
Opacity: less than 20 percent opacity using 6-minute Average for EU012	40 CFR 60.152(a)(2); Minn. R. 7011.1310
Opacity: less than 20 percent opacity using 6-minute Average for EU013	40 CFR 60.152(a)(2); Minn. R. 7011.1310
Hydrochloric acid: less than or equal to 0.04 lbs/ton of dry sludge incinerated; or 3.96 tons as a 12-month rolling sum	Limit to avoid classification as a major source under 40 CFR 63.2
Mercury: less than or equal to 3200 grams per 24-hour period for all incineration units combined.	40 CFR section 61.52; 40 CFR section 61.54; Minn. R. 7011.9950
HAPs - Volatile: less than or equal to 0.024 lbs/ton of dry sludge incinerated; or 2.36 tons as a 12-month rolling sum	Limit to avoid classification as a major source under 40 CFR 63.2
HAP-Metal: less than or equal to 0.0522 lbs/ton of dry sludge incinerated; or 5.14 tons as a 12-month rolling sum	Limit to avoid classification as a major source under 40 CFR 63.2
MERCURY TRIGGER LEVEL	hdr
Mercury: less than or equal to 1.8 ppm average dry centrifuge sludge concentration using a 12 month rolling average. This is a state-only requirement and is not enforceable by the EPA Administrator, nor subject to the citizen suit provisions of section 304 of the Clean Air Act, 42 U.S.C. section 7604.	Minn. R. 7007.0800, Subp. 2
If the mercury trigger level is exceeded the permittee shall submit and begin implementing a mercury reduction plan within 60 days of the exceedance. The plan shall include the reasons for increased mercury loading (sewer cleaning or construction activities, changes in in-plant activities) and the pollution prevention and other relevant mercury reduction activities to minimize the effects of the above. This is a state-only requirement and is not enforceable by the EPA Administrator, nor subject to the citizen suit provisions of section 304 of the Clean Air Act, 42 U.S.C. section 7604.	Minn. R. 7007.0800, Subp. 2
OPERATIONAL REQUIREMENTS	hdr
Temperature: greater than or equal to 1200 degrees F over 30 minute blocks and a 0.3 second residence time (hearth zero exit temperature). Measurements shall be discretely averaged over 30 minutes. At no time shall the hearth zero temperature be less than 1150 degrees F. Limit applies to each incinerator individually.	Limit to avoid classification as a major source under 40 CFR 63.2
Fuel Useage: The Permittee shall burn only natural gas or distillate fuel oil as auxiliary fuel in incinerators 5-10. No other gaseous, liquid, semi-solid, or solid wastes shall be used as auxiliary fuel.	Minn. R. 7007.0800, subp. 2
Incinerator Charging: The Permittee shall incinerate only conditioned sewage sludge including spent activated carbon and scum.	Minn. R. 7007.0800, subp. 2
Except as provided in 40 CFR 60 Subparts B and C, the provisions of 40 CFR 60 Subpart A apply to the owner or operator of any stationary source containing an affected facility.	40 CFR 60 Subpart A

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Metropolitan Wastewater Treatment Plant

Permit Number: 12300053 - 001

OPERATIONAL REQUIREMENTS TO MINIMIZE EMISSIONS FROM EMERGENCY BYPASS STACKS Good operating practices include, but are not limited to, the following operating requirements.	hdr
Dampers and Seals: The Permittee has designed and installed new dampers and seals on the emergency dampers for the emergency stacks on the multiple hearth incinerators in use at the Metro WWTP. The new dampers and seals were designed to prevent leakage of PM10 from the incinerators when the emergency dampers are in the closed position. The Permittee shall not operate any multiple hearth incinerator at the Metro WWTP that does not have the new dampers and seals installed in its emergency stack.	Minn. R. 7007.0800, subp. 2; United States v. Metropolitan Council, Civil Action No. 99-CV-1105 (D. Minn.)
ID Fan Alarms: The Permittee shall develop and implement a procedure for: (1) maintaining alarms in the Metro WWTP multiple hearth incinerator control room so that the incinerator operator is alerted when the amperage for the ID Fans reaches 90 percent of maximum motor current; and (2) immediately taking appropriate corrective action in order to attempt to prevent an emergency damper opening when ID Fan amperage reaches 90 percent of maximum motor current. (3) maintain a record of each occurance of the amperage of the ID fans reaching 90% of the maximum motor current, the corrective measures taken in response to the alarm and the results of the action.	Minn. R. 7007.0800, subp. 2; United States v. Metropolitan Council, Civil Action No. 99-CV-1105 (D. Minn.)
Operator Training: The Permittee shall implement a training schedule to provide training to Metro WWTP multiple hearth incinerator operators. Such training shall be designed to train operators in assessing and responding to conditions that may lead to an emergency damper opening. The operator training schedule shall be submitted to MPCA for approval no later than 30 days after Permit Issuance. Once approved, the training schedule shall become an enforceable part of the permit.	Minn. R. 7007.0800, subp. 2; United States v. Metropolitan Council, Civil Action No. 99-CV-1105 (D. Minn.)
Scrubber System Operations and Maintenance: Within 30 days of Permit Issuance the Permittee shall develop and implement a plan to inspect, maintain and calibrate (where required) all components of the Metro WWTP multiple hearth scrubber system including pumps, valves, flowmeters, piping, adjustable dp damper, scrubber atomizers and/or distributors and scrubber packing and demisters intended to insure free flow of the scrubber recycle liquids to prevent unneccessary emergency alarms. The Scrubber System Operations and Maintenance Plan shall be submitted to EPA as per the requirements of the Consent Decree and to MPCA no later than 30 days after Permit Issuance. A copy of the Plan shall be kept on-site and all appropriate new employees shall be made aware of this Plan.	Minn. R. 7007.0800, subp. 2; United States v. Metropolitan Council, Civil Action No. 99-CV-1105 (D. Minn.)
Emergency Damper Openings: For each emergency damper opening during operation of the multiple hearth incinerators at the Metro WWTP, the Permittee shall notify MPCA and EPA in writing by the end of the following calendar month. This notification shall describe the incident and indicate the reason for the emergency damper opening and shall also describe corrective measures taken by the Permittee to prevent future occurrences. Notwithstanding the preceding sentences of this paragraph, the Permittee shall not be prohibited from activating the emergency dampers during a situation of imminent or actual significant threat to the safety of on-site personnel.	Minn. R. 7007.0800, subp. 2; United States v. Metropolitan Council, Civil Action No. 99-CV-1105(D. Minn.)
Feed Rate Limitation: The Permittee shall not exceed the following sludge feed rates to the Metro WWTP multiple hearth incinerators: (1) Incinerator No.s 5, 6, 8, and 9: 9.9 wet tons per hour calculated as a three-hour average, and 2.93 dry tons per hour calculated as a daily average. (2) Incinerator No.s 7 and 10: 9.0 wet tons per hour calculated as a three-hour average, and 2.68 dry tons per hour calculated as a daily average.	Minn. R. 7007.0800, subp. 2; United States v. Metropolitan Council, Civil Action No. 99-CV-1105 (D. Minn)
Feed Rate Limitation Continued: However, the feed rate restrictions in this Paragraph shall not apply during periods of compliance stack testing required by MPCA or EPA. For each exceedance of the feed rate limitations, including during periods of compliance stack testing, the Permittee shall notify MPCA and EPA in writing by the end of the following calendar month. This notification shall describe the time and date when the exceedance took place and the calculated feed rate.	Minn. R. 7007.0800, subp. 2; United States v. Metropolitan Council, Civil Action No. 99-CV-1105 (D. Minn.)
PERFORMANCE TESTING	hdr
SEWAGE SLUDGE TESTING REQUIREMENTS	hdr
Sludge Sampling Access: Access shall be provided to the sludge following the dewatering devices, so that a well-mixed representative grab sample can be obtained.	40 CFR Section 60.153(a)(2)

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/13/01

Facility Name: Metropolitan Wastewater Treatment Plant

Permit Number: 12300053 - 001

PART 63, HAP TESTING REQUIREMENTS	hdr
Sludge Analysis for HAP: The Permittee shall analyze the sample obtained as specified above for metal HAP content and maintain a record of the results of the analysis. At least one such chemical analysis shall be completed during each calendar quarter.	Monitoring for limit to avoid classification as a major source under 40 CFR section 63.2
PART 60, SUBPART O TESTING REQUIREMENTS	hdr
Sludge Sampling: Collect and analyze a grab sample of the sludge fed to each incinerator once per day. The dry sludge content and the volatile solids content of the sample shall be determined in accordance with the method in 60.154(c)(2)	40 CFR, 60.153(b)(5); Minn. R. 7007.0800, subp. 4
NESHAP TESTING REQUIREMENTS FOR MERCURY	hdr
Sludge Sampling: Sludge cake shall be sampled, handled, prepared and analyzed for mercury content on a monthly basis in accordance with the procedures described in 40 CFR 61.54(c)(1), Method 105 in appendix B - Determination of Mercury in Wastewater Treatment Plant Sewage Sludges.	40 CFR Section 61.54(c)(3); Minn. R. 7007.0800, subp. 4
The maximum 24-hour period sludge incineration rate shall be determined by use of a flow rate measurement device that can measure the mass rate of sludge charged to the incinerator with an accuracy of plus or minus 5 percent over its operating range.	40 CFR 61.54(c)(2); Minn. R. 7007.0800, subp. 4
Mercury emissions shall be determined by using the equation in 40 CFR 61.54(d)	40 CFR 61.54(d)
Report: due 30 days after end of each calendar half-year following Permit Issuance (The report shall contain the results of monthly mercury sampling of the mixed sludge charged to the incinerators).	Minn. R. 7007.0800, subp. 4
STATE STATUTE MERCURY TESTING REQUIREMENTS	hdr
This permit provides approval of a method other than stack testing for determining mercury in air emissions. Monthly sludge sampling and analysis combined with quarterly influent sampling will be used to determine mercury emissions as an alternative to quarterly stack testing. This is a state-only requirement and is not enforceable by the EPA Administrator, nor subject to the citizen suit provisions of section 304 of the Clean Air Act, 42 U.S.C. section 7604.	Minn. Stat. 116.85 subd. 1a. paragraph (b), alternative sampling method
The permittee shall sample, handle, prepare and analyze the sludge cake for mercury content once per month in accordance with the procedures described in 40 CFR 61.54(c)(1), Method 105 in appendix B - Determination of Mercury in Wastewater Treatment Plant Sewage Sludges. This is a state-only requirement and is not enforceable by the EPA Administrator, nor subject to the citizen suit provisions of section 304 of the Clean Air Act, 42 U.S.C. section 7604.	Minn. Stat. 116.85 subd. 1a. paragraph (b), alternative sampling method
The permittee shall collect and analyze samples of the plant influent for a 14 day period within the first month of each calendar quarter to determine the mercury concentration and mass load. This is a state-only requirement and is not enforceable by the EPA Administrator, nor subject to the citizen suit provisions of section 304 of the Clean Air Act, 42 U.S.C. section 7604.	Minn. Stat. 116.85 subd. 1a. paragraph (b), alternative sampling method
Report: due 30 days after end of each calendar half-year following Permit Issuance (The report shall contain the monthly mercury sample analysis of the mixed sludge charged to the incinerators and the quarterly plant influent sample analysis). This is a state-only requirement and is not enforceable by the EPA Administrator, nor subject to the citizen suit provisions of section 304 of the Clean Air Act, 42 U.S.C. section 7604.	DUPLICATE (1) Minn. Stat. 116.85 subd. 1a. paragraph (b), alternative sampling method
STACK TESTING REQUIREMENTS	hdr
Performance Tests: Performance testing for EU008 shall be conducted at SV008	Minn. R. 7017.2060
Performance Tests: Performance testing for EU009 shall be conducted at SV010	Minn. R. 7017.2060
Performance Tests: Performance testing for EU010 shall be conducted at SV009	Minn. R. 7017.2060
Performance Tests: Performance testing for EU011 shall be conducted at SV011	Minn. R. 7017.2060
Performance Tests: Performance testing for EU012 shall be conducted at SV012	Minn. R. 7017.2060
Performance Tests: Performance testing for EU013 shall be conducted at SV013	Minn. R. 7017.2060

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Metropolitan Wastewater Treatment Plant

Permit Number: 12300053 - 001

Performance Tests: Performance testing for EU008-013 and their associated control equipment and stacks shall be conducted at a sludge feed rate of greater than or equal to 90 percent of the incinerator's maximum daily average sludge feed rate for a period of four (4) weeks prior to the performance test. In the event that the 90 percent maximum daily average sludge feed rate is not achieved, the permittee shall be given the opportunity to retest within 90 days of the subject test before process limits can be applied as specified in Minn. R. 7017.2025, subpart 3. Once a process limit has been applied the Permittee may at any time conduct a voluntary performance test at or above the incinerator's maximum daily average sludge feed rate as determined during the four (4) week period prior to the initial test in order to remove the process limit.	Minn. R. 7007.0800, subp. 4 and Minn. R. 7017.2025
Performance Test: If the incinerator's achieved sludge feed rate, in dry tons per hour, during the performance test is less than 90 percent of the incinerator's maximum daily average sludge feed rate during the four (4) week period for either the PM or PM10 performance test, then the incinerator's maximum daily average sludge feed rate will be limited to: a. 110 percent of the sludge feed rate achieved for either the PM or PM10 performance test, whichever is greater, if the test results are less than 80 percent of the emission limits; or b. 100 percent of the achieved sludge feed rate for either the PM or PM10 performance test, whichever is greater, if the test result for either PM or PM10 is greater than 80 percent of the emission limits.	Minn. R. 7007.0800, subp. 4 and Minn. R. 7017.2025, subp. 2
Performance Test: due by the end of each calendar year following Permit Issuance to measure PM, PM10, and Opacity emissions on any two incinerators, EU008-013, as selected by the Permittee and specified in the test plan and approved by the MPCA.	Title 1 Condition: State Implementation Plan for PM10; 40 CFR section 52.1230; 40 CFR pt. 52, subp. Y; Minn. R. 7017.2020, subp. 1
Performance Test: due before end of each calendar year following Permit Issuance to measure hydrochloric acid (HCl) emissions on one incinerator, EU008-013, as selected by the Permittee and specified in the test plan and approved by the MPCA. After demonstrating that HCl emissions have been below 0.02 lb/DT for three consecutive years, the permittee may choose to conduct HCl stack testing on one incinerator every five years.	Minn. R. 7007.0800, subp. 4 and Minn. R. 7017.2020, subp. 1
Performance Test: due before end of each calendar year following Permit Issuance to measure emissions of HAP-metals (antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, nickel and selenium) for one incinerator, EU008-013, as selected by the Permittee and specified in the test plan and approved by the MPCA. The incinerator tested shall be fired with distillate fuel oil. After demonstrating that HAP metal emissions have been below 0.0261 lb/DT for three consecutive years, the Permittee may choose to conduct HAP metal stack testing on one incinerator every five years.	Minn. R. 7007.0800, subp. 4 and Minn. R. 7017.2020, subp. 1
Performance Test Notification (written): due 30 days before Performance Test (30 days before the first Performance Test scheduled for each calendar year of testing).	Minn. R. 7017.2030, subp. 1
Performance Test Plan: due 30 days before Performance Test (30 days before the first Performance Test scheduled for each calendar year of testing). A single test plan can be submitted for all testing required in each calendar year. This includes all PM, PM10 and Opacity testing requirements listed at the EU level for each incinerator unit.	Minn. R. 7017.2030, subp. 2 and 3
Performance Test Pre-test Meeting: due 7 days before Performance Test (7 days before the first Performance Test scheduled for each calendar year of testing). See Table B for additional performance testing requirements.	Minn. R. 7017.2030, subp. 4
Performance Test Report: due 45 days after the PM, PM10, and Opacity Performance Test is completed	Minn. R. 7017.2035, subp. 1 and 2
Performance Test Report: due 60 days after the HAP-Metals Performance Test is completed	Minn. R. 7017.2035, subp. 1 and 2
Performance Test Report: due 60 days after the HCl Performance Test is completed	Minn. R. 7017.2035, subp. 1 and 2
Performance Test Report - Microfiche Copy: due 105 days after the PM, PM10, and Opacity Performance Test is completed	Minn. R. 7017.2035, subp. 2
Performance Test Report - Microfiche Copy: due 105 days after the HAP-Metals Performance Test is completed	Minn. R. 7017.2035, subp. 2
Performance Test Report - Microfiche Copy: due 105 days after the HCL Performance Test is completed	Minn. R. 7017.2035, subp. 2
MONITORING REQUIREMENTS	hdr

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Metropolitan Wastewater Treatment Plant

Permit Number: 12300053 - 001

Install, calibrate, maintain and operate temperature measuring devices at every hearth on each incinerator. A minimum of one thermocouple shall be installed in each hearth in the cooling and drying zones, and a minimum of two thermocouples shall be installed in each hearth in the combustion zone. Each temperature measuring device shall be certified by the manufacturer to have an accuracy of +/-5% over its operating range. The temperature monitoring device shall be operated continuously and data recorded during all periods of operation of the incinerator.	40 CFR 60.153(b)(3)
Install, calibrate, maintain and operate a monitoring device on each incinerator that continuously measures and records the oxygen content of the incinerator exhaust gas. The oxygen monitor shall be located upstream of any rabble shaft cooling air inlet into the incinerator exhaust gas stream, fan, ambient air recirculation damper, or any other source of dilution air. The oxygen monitoring device shall be certified by the maufacturer to have a relative accuracy of +/-5% over its operating range and shall be calibrated according to method(s) prescribed by the manufacturer at least once each 24-hour operating period.	40 CFR 60.153(b)(2)
Install, calibrate, maintain and operate a monitoring device on each wet scrubber that continuously measures and records the pressure drop of the gas flow through the wet scrubbing device. Where a combination of wet scrubbers is used in series, the pressure drop of the gas flow through the combined system shall be continuously monitored. The device used to monitor scrubber pressure drop shall be certified by the manufacturer to be accurate within +/-250 pascals (+/-1 inch water gauge) and shall be calibrated on an annual basis in accordance with the manufacturer's instructions.	40 CFR 60.153(b)(1)
Sludge Feedrate Monitoring: Install, calibrate, maintain and operate a flow measuring device for recording & determining the mass or volume of sludge charged to each incinerator. The weighing device shall be certified by the manufacturer to have an accuracy of +/- 5% over its operating range. Sludge flow to each incinerator shall be measured continuously.	40 CFR 60.153(a)(1); Minn. R. 7011.1315
Monitor: The Permittee shall install, calibrate, maintain and operate a device for measuring the fuel flow to each incinerator. The flow measuring device shall be certified by the manufacturer to have an accuracy of +/-5% over its operating range. The fuel flow measuring device shall be operated continuously and data recorded during all periods of operation of each incinerator.	40 CFR Section 60.153(b)(4)
Install, operate and maintain a Continuous Opacity Monitoring System (COMS) to measure opacity from each incinerator.	Minn. R. 7017.1000, subp. 1; Minn. R. 7007.0800, subp. 2
COMS Continuous Operation: Except for system breakdowns, repairs, calibration checks and zero and span adjustments, all COMS shall be in continuous operation.	Minn. R. 7017.1000, subp. 6
COMS Daily Calibration Drift (CD) Check: The calibration drift shall be quantified and recorded at zero (low-level) and upscale (high-level) opacity at least once daily. The COMS must be adjusted whenever the calibration drift (CD) exceeds twice the specification of Performance Specification No.1 of 40 CFR pt. 60, Appendix B.	Minn. R. 7017.1000, subp. 5
COMS Calibration Error Audit: due before end of each calendar half-year following Permit Issuance. Conduct audits at least 3 months apart but no more than 8 months apart. Conduct the audit according to the procedures listed at 40 CFR pt. 60, Appendix B, PS-1, section 7.1.4. The audit must meet the criteria listed at 40 CFR pt. 60, Appendix B.	Minn. R. 7017.1210, subp. 3
COMS Calibration Error Audit Results Summary: due 30 days after end of each calendar half-year following Permit Issuance.	Minn. R. 7007.0800, subp. 2
COMS Monitoring Data: Reduce COMS data to 6-minute averages. Opacity averages shall be calculated from all equally spaced consecutive 10-second or shorter data points in the averaging period.	Minn. R. 7007.0800, subp. 2
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 strip-chart recordings for continuous monitoring instrumentation, electronic data and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Minn. R. 7007.0800, subp. 5(C)
Recordkeeping: The Permittee shall record in the operating log the time of emergency relief stack damper opening and closing when sludge is being incinerated.	Title I Condition: State Implementation Plan for PM10; 40 CFR section 52.1230; 40 CFR pt. 52, subp.Y; Minn. R. 7007.0800 subp. 4(B) and 5(C)
Recordkeeping: The Permittee shall record the average sludge feed rate during all periods of incinerator operation for each incinerator, in wet tons per hour.	Title I Condition: State Implementation Plan for PM10; 40 CFR section 52.1230; 40 CFR pt. 52, subp.Y; Minn. R. 7007.0800 subp. 4(B) and 5(C)
Recordkeeping: Maintain records of the measured pressure drop of the gas flow through each wet scrubbing device.	40 CFR Section 60.153(c)(2)

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Metropolitan Wastewater Treatment Plant

Permit Number: 12300053 - 001

Recordkeeping: Maintain records of the measured oxygen content of the exhaust gas for each incinerator.	40 CFR Section 60.153(c)(2)
Recordkeeping: Maintain records of the rate at which sludge is charged to each incinerator, the measured temperatures of the incinerators, the fuel flow to the incinerators and total solids and volatile solids content of sludge charged to the incinerators.	40 CFR Section 60.153(c)(3)
REPORTING	hdr
Excess Emissions/Downtime Report's (EER's): due 30 days after end of each calendar quarter following Permit Issuance. The EER shall indicate all periods of emission limit exceedences, including any exceedences due to startup, shutdown, or malfunctions. An EER shall be submitted for each COMS. The EER shall also indicate all periods of monitor bypasses, emergency relief stack useage.	Minn. R. 7019.1110 through 7019.1120; Minn. R. 7007.0800, subp. 4; Minn. R. 7007.0800, subp. 2
Submittal: due 30 days after end of each calendar half-year starting 01/01/2001 the Permittee shall submit a Semiannual Deviations Report to the MPCA containing a record of the average scrubber pressure drop measurements of each period of 15 minute duration or more during which the pressure drop of the scrubber was less than a value that is 30% below the average scrubber pressure drop measured during the most recent performance test.	40 CFR Section 60.155(a)(1)(i); 40 CFR Section 60.155(a)(1)(ii); Minn. R. 7007.0800, subp. 6.
Submittal: due 30 days after end of each calendar half-year starting 01/01/2001 the Permittee shall submit a Semiannual Deviation Report which contains a record of the average oxygen content in the incinerator exhaust gas for each period of 1-hour duration or more that the oxygen content of the incinerator exhaust gas exceeds the average oxygen content measured during the most recent performance test by more than 3 percent.	DUPLICATE (2) 40 CFR Section 60.155(a)(2); Minn. R. 7007.0800, subp. 6.
Submittal: due 30 days after end of each calendar half-year starting 01/01/2001 the Permittee shall submit a Semiannual Deviations Report to the MPCA of the record of the items listed in 40 CFR Section 60.155(b)(1)-(6) for each calendar day that a decrease in scrubber pressure drop or increase in oxygen content of exhaust gas is reported if the average particulate matter emission rate measured during the performance test required under Section 60.154(d) exceeds 0.38 g/kg of dry sludge input (0.75 lb/ton of dry sludge input).	40 CFR Section 60.155(b); Minn. R. 7007.0800, subp. 6.

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/13/01

Facility Name: Metropolitan Wastewater Treatment Plant

Permit Number: 12300053 - 001

Subject Item: **GP 002 Auxiliary Boilers**

Associated Items: EU 014 Auxiliary Boiler #1

EU 015 Auxiliary Boiler #2

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input ; Limit applies to each unit individually.	Minn. R. 7011.0515, subp. 1; Minn. R. 7011.0550
Particulate Matter < 10 micron: less than or equal to 0.10 lbs/million Btu heat input ; Limit applies to each unit individually.	Title I Condition: State Implementation Plan for PM10; 40 CFR section 52.1230; 40 CFR pt. 52, subp.Y
Sulfur Dioxide: less than or equal to 2 lbs/million Btu heat input ; Limit applies to each unit individually.	Minn. R. 7011.0515, subp. 1
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0515, subp. 2
Fuel Use: Only natural gas and distillate fuel oil shall be burned as fuel	Minn. R. 7007.0800, subp. 2
Sulfur Content of Fuel: less than or equal to 0.5 percent as certified by the vendor.	Minn. R. 7011.0515, subp. 1; Minn. R. 7011.0550

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/13/01

Facility Name: Metropolitan Wastewater Treatment Plant

Permit Number: 12300053 - 001

Subject Item: **GP 003 Generators**

Associated Items: EU 020 Emergency Generator 1

EU 021 Emergency Generator 2

EU 022 Emergency Generator 3

EU 023 Emergency Generator 4

EU 024 Emergency Generator 5

EU 025 Emergency Generator 6

What to do	Why to do it
EMISSION LIMITS	hdr
Opacity: less than or equal to 20 percent opacity using 6-minute Average once operating temperatures have been attained; Limit applies to each unit individually.	Minn. R. 7011.2300, subp. 1
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input as measured by the sulfur content of the fuel not to exceed 0.5 % by weight.	Minn. R. 7011.2300, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/13/01

Facility Name: Metropolitan Wastewater Treatment Plant

Permit Number: 12300053 - 001

Subject Item: **GP 004 Ash Handling Systems**

Associated Items: EU 016 Ash Handling System #1

EU 017 Ash Handling System #2

EU 018 Ash Handling System #3

EU 019 Local Exhaust Control Ash Loadout

What to do	Why to do it
HAP-Metal: less than or equal to 0.54 tons/year using 12-month Rolling Sum	Limit to avoid classification as a major source under 40 CFR 63.2
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. 7011.0715, subp. 1A
Particulate Matter < 10 micron: less than or equal to 0.05 grains/dry standard cubic foot	Title I Condition: State Implementation Plan for PM10; 40 CFR section 52.1230; 40 CFR pt. 52, subp.Y
Opacity: less than or equal to 20 percent opacity using 6-minute Average	Minn. R. 7011.0715, subp. 1A
Recordkeeping: The Permittees shall maintain a 12-month rolling sum of hours of operation for each ash handling system in this Group.	Monitoring for limit to avoid classification as a major source under 40 CFR 63.2
Recordkeeping: The Permittee shall maintain a record of shutdown or breakdown including hours of and reason for the shutdown or breakdown	Minn. R. 7007.0800, subp. 5(C)
Read and record the pressure drop on the baghouse daily	Recordkeeping for limit to avoid classification as a major source under 40 CFR 63.2

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/13/01

Facility Name: Metropolitan Wastewater Treatment Plant

Permit Number: 12300053 - 001

Subject Item: **EU 026 Paint Booth**

Associated Items: CE 025 Mat or Panel Filter

SV 031

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. 7011.0715, subp. 1A
Opacity: less than or equal to 20 percent opacity using 6-minute Average	Minn. R. 7011.0715, subp. 1 B
HAPs - Total: less than or equal to 1.0 tons/year	Title I Condition: Limit to avoid classification as a major source under 40 CFR 63.2
Recordkeeping: Check and record filter operation and maintenance items daily when paint booth is in operation	Minn. R 7007.0800, subp. 4(B)
Recordkeeping: Maintain a record of type and quantity of paint and thinner/cleanup solvent used, HAP content and density of subject materials, control/destruction efficiency (if applicable), and a monthly calculation of actual HAP emissions expressed as a 12-month rolling sum	Minn. R 7007.0800, subp. 4(B) and 5(C)

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/13/01

Facility Name: Metropolitan Wastewater Treatment Plant

Permit Number: 12300053 - 001

Subject Item: **EU 033 Incineration Housekeeping Vacuum**

Associated Items: CE 026 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

SV 032

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. 7011.0715, subp. 1A
Particulate Matter < 10 micron: less than or equal to 0.05 grains/dry standard cubic foot	Title I Condition: State Implementation Plan for PM10; 40 CFR section 52.1230; 40 CFR pt. 52, subp.Y
Opacity: less than or equal to 20 percent opacity using 6-minute Average	Minn. R. 7011.0715, subp. 1B
Recordkeeping: the Permittee shall maintain a record of shutdown or breakdown including hours of and reason for the the shutdown or breakdown	Minn. R. 7007.0800, subp. 5(C)
Read and record the pressure drop on the baghouse daily	Recordkeeping for limit to avoid classification as a major source under 40 CFR 63.2

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Metropolitan Wastewater Treatment Plant

Permit Number: 12300053 - 001

Subject Item: **EU 034 Ash Loadout Housekeeping Vacuum**

Associated Items: CE 027 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

SV 033

SV 034

SV 035

SV 036

SV 037

SV 038

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. 7011.0715, subp. 1A
Particulate Matter < 10 micron: less than or equal to 0.05 grains/dry standard cubic foot	Title I Condition: State Implementation Plan for PM10; 40 CFR section 52.1230; 40 CFR pt. 52, subp.Y
Opacity: less than or equal to 20 percent opacity using 6-minute Average	Minn. R. 7011.0715, subp. 1B
Recordkeeping: the Permittee shall maintain a record of shutdown or breakdown including hours of and reason for the the shutdown or breakdown	Minn. R. 7007.0800, subp. 5(C)
Read and record the pressure drop on the baghouse daily	Recordkeeping for limit to avoid classification as a major source under 40 CFR 63.2

TABLE B: SUBMITTALS

03/13/01

Facility Name: Metropolitan Wastewater Treatment Plant

Permit Number: 12300053 - 001

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: ONE TIME SUBMITTALS OR NOTIFICATIONS

03/13/01

Facility Name: Metropolitan Wastewater Treatment Plant

Permit Number: 12300053 - 001

What to send	When to send	Portion of Facility Affected
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility
Fugitive Control Plan	due 60 days after Permit Issuance. The plan shall identify all fugitive emission sources, primary and contingent control measures, and record keeping. The Permitee shall follow the actions and record keeping specified in the control plan. The plan may be amended by the Permittee with the Commissioner's approval. The permittee may be required to amend the control plan and/or install and operate particulate matter ambient air monitors if the Commissioner determines that the operation of the stationary source, together with other sources of particulate matter, creates conditions under which the Minnesota ambient air standard for particulate matter might be exceeded.	Total Facility
Notification	due 1 days after Discovery of Deviation (Oral Notification of Deviations Endangering Human Health or the Environment): Within 24 hours of discovery, orally notify the Commissioner of any deviation from permit conditions which could endanger human health or the environment.	Total Facility
Notification	due 2 days after Discovery of Deviation (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: 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.	Total Facility

TABLE B: RECURRENT SUBMITTALS

03/13/01

Facility Name: Metropolitan Wastewater Treatment Plant

Permit Number: 12300053 - 001

What to send	When to send	Portion of Facility Affected
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter following Permit Issuance The EER shall indicate all periods of emission limit exceedences, including any exceedences due to startup, shutdown, or malfunctions. An EER shall be submitted for each COMS. The EER shall also indicate all periods of monitor bypasses and emergency relief stack useage.	GP001
COMS Calibration Error Audit Results Summary	due 30 days after end of each calendar half-year following Permit Issuance	GP001
Report	due 30 days after end of each calendar half-year following Permit Issuance (The report shall contain the monthly mercury sample analysis of the mixed sludge charged to the incinerators and the quarterly plant influent sample analysis). This is a state-only requirement and is not enforceable by the EPA Administrator, nor subject to the citizen suit provisions of section 304 of the Clean Air Act, 42 U.S.C. section 7604.	GP001
Report	due 30 days after end of each calendar half-year following Permit Issuance (The report shall contain the results of monthly mercury sampling of the mixed sludge charged to the incinerators)	GP001
Semiannual Deviations Report	due 30 days after end of each calendar half-year following Permit Issuance . The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31.	Total Facility
Submittal	due 30 days after end of each calendar half-year following Permit Issuance. The Deviations from Requirements Cited as "Title I Condition: State Implementation Plan for PM10" shall be reported with the Semiannual Deviations Report required by this permit. If there were no deviations from any requirements cited as "Title I Condition: State Implementation Plan for PM10", the Permittee shall indicate such in the Semiannual Deviations Report.	Total Facility
Submittal	due 30 days after end of each calendar half-year starting 01/01/2001 the Permittee shall submit a Semiannual Deviation Report which contains a record of the average oxygen content in the incinerator exhaust gas for each period of 1-hour duration or more that the oxygen content of the incinerator exhaust gas exceeds the average oxygen content measured during the most recent performance test by more than 3 percent.	GP001
Submittal	due 30 days after end of each calendar half-year starting 01/01/2001 the Permittee shall submit a Semiannual Deviations Report to the MPCA containing a record of the average scrubber pressure drop measurements of each period of 15 minute duration or more during which the pressure drop of the scrubber was less than a value that is 30% below the average scrubber pressure drop measured during the most recent performance test.	GP001

TABLE B: RECURRENT SUBMITTALS

03/13/01

Facility Name: Metropolitan Wastewater Treatment Plant

Permit Number: 12300053 - 001

Submittal	due 30 days after end of each calendar half-year starting 01/01/2001 the Permittee shall submit a Semiannual Deviations Report to the MPCA of the record of the items listed in 40 CFR Section 60.155(b)(1)-(6) for each calendar day that a decrease in scrubber pressure drop or increase in oxygen content of exhaust gas is reported if the average particulate matter emission rate measured during the performance test required under Section 60.154(d) exceeds 0.38 g/kg of dry sludge input (0.75 lb/ton of dry sludge input).	GP001
Compliance Certification	due 31 days after end of each calendar year following Permit Issuance (for the previous calendar year). To be submitted on a form approved by the Commissioner, both to the Commissioner, and to the U.S. EPA Regional Office in Chicago. The report covers all deviations experienced during the calendar year.	Total Facility

APPENDIX MATERIAL

Facility Name: Metropolitan Wastewater Treatment Plant

Permit Number: 12300053-001

APPENDIX A

THREE-TIERED PROCEDURE FOR DEMONSTRATING COMPLIANCE WITH HAZARDOUS POLLUTANT EMISSION LIMITS

TIER 1. Calculate Annual HAP Metal Emissions from Stack Test Results

Within 30 days of receiving stack test results indicating total HAP metal emissions in excess of 0.0522 lb/DT, the Permittee will calculate the annual HAP metal emission rate based on the stack test results and the ***actual annual sludge throughput***. A calculation result showing total HAP metal emissions to be less than or equal to 5.14 tons per year will demonstrate that the facility has maintained its status as a minor HAP source.

The Permittee will perform the calculation as follows:

1. Calculate the total amount of sludge fed to the incinerators (M_s) during the 12 month period ending with the month that the stack test was performed.

2. Calculate the annual HAP metal emissions as the product of the 12 month total sludge throughput (M_s) and the measured emission rate in lb/DT.

   Annual Emissions = M_s (DT/yr) x measured emissions(lb/DT) x (ton/2000 lb)

3. Demonstrate compliance by showing that

   Annual Emissions $\leq$ 5.14 tons per year

Based on historical test performance, this method yields a conservative estimate of actual emissions. This method over-estimates annual emissions because all six incinerators are assumed to have the same metal emission rate as the tested incinerator which yielded the exceedance of the HAP metal emission limit.

By the last day of each subsequent month, the Permittee will perform these calculations for the preceding 12 month period.

TIER 2. Calculate HAP Metal Emissions from Sludge Concentration and Removal Efficiencies

If the Tier 1 calculation fails to demonstrate compliance, the Permittee will calculate annual HAP metal emissions based on the stack test results, ***annual average sludge HAP metal concentrations, demonstrated metal removal efficiencies***, and actual annual sludge throughput. This approach is similar to Tier 1, except that it accounts for the possibility that abnormally high metal concentrations in the sludge during the annual test may have contributed to the exceedance of the HAP metal emission limit.

A calculation result showing total HAP metal emissions to be less than 5.14 tons per year will demonstrate that the facility has maintained its status as a minor HAP source. The Permittee will perform the calculations as follows:

1. Calculate the metal-specific removal efficiency (η_i) for each HAP metal based on the stack test results and an analysis of metal concentrations in the sludge at the time of the stack test.

2. Calculate the total amount of sludge fed to the incinerators (M_s) during the 12 month period ending with the month that the stack test was performed.

3. Compile sludge metal concentration data, if available, from sludge sampling and analysis. From this data, calculate the average concentration (c_i) for each HAP metal. The average will represent the 12 month period ending with the month that the stack test was performed.

4. Determine annual emissions for each of the 11 HAP metals as a function of the metal-specific removal efficiency (η_i), the average metal-specific sludge concentration (c_i), and the actual annual sludge throughput expressed as a 12-month rolling sum (M_s).

5. Calculate the potential annual emission of total HAP metals by summing up the 11 individual HAP metal emissions:

$$\text{Annual Emission}_{\text{total}} = \sum_{n=1}^{11} \text{Annual Emission}_i$$

6. Demonstrate compliance by showing that

$$\text{Annual Emission}_{\text{total}} \leq 5.14 \text{ tons per year}$$

Based on historical test performance, this method yields a conservative estimate of actual emissions. This method over estimates annual emissions because all six incinerators are assumed to have the same metal removal efficiency as the tested incinerator which yielded the exceedance of the HAP metal emission limit. By the last day of each subsequent month, the Permittee will perform these calculations for the preceding 12 month period.

TIER 3: Calculate Facility-Wide Actual Emissions

If both the Tier 1 and Tier 2 calculations fail to demonstrate compliance, the Permittee will calculate annual ***total HAP emissions from on-permit sources at the plant***, not just incinerator metal HAP emissions. The initial calculation will be performed within thirty days of receiving the stack test results and will represent the 12-month period ending with the month during which the stack test occurred. Subsequent monthly calculations shall be performed by the last day of the month for the previous 12-month period. The Permittee will use methods for calculating actual emissions prescribed in Section 3 of the application with the following exceptions or clarifications:

- Annual HAP metal emissions from sludge incinerators will be calculated as described for the Tier 1 or Tier 2 calculations.
- The PEEP spreadsheet model used to calculate volatile HAP emissions from wastewater processes will use the following inputs: influent concentration for each HAP equal to the historical average influent concentration, and wastewater flow rate equal to the average flow rate for the 12-month period.

The Permittee will continue to follow the Tier 1, Tier 2, or Tier 3 compliance demonstration procedure until the MPCA approves a request from the Permittee to resume using the primary procedures prescribed in the section for demonstrating compliance with the synthetic minor source limits. The type of information used to support a request could include, but is not limited to, the following:

- Data from retesting the incinerator showing compliance with the 0.0522 lb/DT HAP metal limit
- An evaluation of sludge metal concentration data showing that the concentration of one or more metals in the sludge processed during the stack test was significantly higher than the range of concentrations that is representative of normal source operation.

APPENDIX B

Insignificant Activities and Applicable Requirements

Minn. R. 7007.1300, subpart	Rule Description of the Activity	Applicable Requirement
3(A)	Fuel use: space heaters fueled by, kerosene, natural gas, or propane.	Minn. R. 7011.0510/0515
3(B)	Furnaces, boilers, and incinerators:	
	1. infrared electric ovens; and	Minn. R. 7011.0105/0110
	fuel burning equipment with a capacity less than 500,000 Btu/hour but only if the total combined capacity of all fuel burning equipment at the stationary source with a capacity less than 500,000 Btu per hour is less than or equal to 2,000,000 Btu/hour.	Minn. R. 7011.0510/0515 *OR* Minn. R. 7011.0610 + Minn. R. 7011.1215, subp. 3
3(C)	Fabrication operations: equipment used exclusively for forging, pressing, drawing, spinning, or extruding hot metals.	Minn. R. 7011.0710/0715
3(D)	Processing operations:	
	1. open tumblers with a batch capacity of 1,000 pounds or less; and	Minn. R. 7011.0710/0715
	2. Equipment venting particulate matter (PM) or particulate matter less than 10 microns (PM-10) inside a building, provided that emissions from the equipment are: a). filtered through an air cleaning system; and b). vented inside of the building 100% of the time.	Minn. R. 7011.0710/0715
3(E)	Storage tanks:	
	1. gasoline storage tanks with a combined total tankage capacity of not more than 10,000 gallons; and	Minn. R. 7011.0710/0715 *OR* Minn. R. 7011.1505, subp. 2(B)/1505, subp. 3(B) *OR* Minn. R. 7011.0105/0110
	2. non-hazardous air pollutant VOC storage tanks with a combined total tankage capacity of not more than 10,000 gallons of non-hazardous air pollutant VOCs and with a vapor pressure of not more than 1.0 psia at 60 degrees	Minn. R. 7011.0710/0715 *OR* Minn. R. 7011.1505, subp. 2(B)/1505, subp. 3 (B)

Minn. R. 7007.1300, subpart	Rule Description of the Activity	Applicable Requirement
	Fahrenheit.	OR Minn. R. 7011.0105/0110
3(F)	Cleaning operations: commercial laundries, not including dry cleaners and industrial launderers.	Minn. R. 7011.0105/0110
3(G)	Emissions from a laboratory, as defined in the subpart.	Minn. R. 7011.0510/0515 + Minn. R. 7011.0610 + Minn. R. 7011.0710/0715
3(H)	Miscellaneous:	
	1. total usage of less than 200 gallons of VOC (including hazardous air pollutant-containing VOC) combined in any consecutive 12 months period at a stationary source;	Minn. R. 7011.0710/0715 *OR* Minn. R. 7011.0105/0110
	2. equipment used exclusively for packaging lubricants or grease;	Minn. R. 7011.0710/0715 OR Minn. R. 7011.0105/0110
	3. equipment used for hydraulic or hydrostatic testing;	Minn. R. 7011.0710/0715
	4. brazing, soldering or welding equipment;	Minn. R. 7011.0510/.0515 + Minn. R. 7011.0610 + Minn. R. 7011.0710/0715
	5. blueprint copiers and photographic processes;	Minn. R. 7011.0105/0110
	6. equipment used exclusively for melting or application of wax;	Minn. R. 7011.0510/.0515 + Minn. R. 7011.0610 + Minn. R. 7011.0710/0715
	7. nonasbestos equipment used exclusively for bonding lining to brake shoes; and	Minn. R. 7011.0710/0715
	8. cleaning operations: alkaline/phosphate cleaners and associated cleaners and associated burners.	Minn. R. 7011.0510/.0515 + Minn. R. 7011.0610 + Minn. R. 7011.0710/0715
3(I)	Individual emissions units at a stationary source, each of which have a potential to emit the following pollutants in amounts less than: 1. 4,000 lbs/year of carbon monoxide; and 2. 2,000 lbs/year each of nitrogen oxide, sulfur dioxide, particulate matter, particulate matter less than ten microns, volatile organic compounds (including hazardous air pollutant-containing VOC), and ozone.	Varies for different equipment

Minn. R. 7007.1300, subpart	Rule Description of the Activity	Applicable Requirement
3(J)	Fugitive Emissions from roads and parking lots.	Minn. R. 7011.0150
3(K)	Infrequent use of spray paint equipment for routine housekeeping or plant upkeep activities not associated with primary production processes at the stationary source, such as spray painting of buildings, machinery, vehicles, and other supporting equipment.	Minn. R. 7011.0710/0715

TECHNICAL SUPPORT DOCUMENT
For
DRAFT AIR EMISSION PERMIT NO. 12300053-001

This Technical Support Document (TSD) 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)
Metropolitan Council 230 East Fifth Street St. Paul, Minnesota 55101-1633	Metropolitan Wastewater Treatment Plant 2400 Childs Road St. Paul, Minnesota 55106

1.2. Description of the facility.

The Metropolitan Wastewater Treatment Plant is an advanced secondary wastewater treatment facility with a nominal design capacity of 250 million gallons per day. The plant is located on the east bank of the Mississippi River at river mile 836. It is the principal sewage treatment facility for the Minneapolis and St. Paul metropolitan area serving more than 80 percent of the area's sewered population as well as commercial, institutional, and industrial wastewater generators. Solids removed in the wastewater treatment process are managed through incineration in six multiple hearth incinerators which are the primary source of air emissions from this facility. In addition, small amounts of scum from the treatment process and activated carbon from odor control systems are also incinerated. This facility also accepts sewage sludge from other wastewater treatment plants for incineration. Other minor sources of emissions include auxiliary boilers that use only natural gas or distillate fuel oil, and emergency electrical generators.

Incinerator Operation

Each incinerator has nine levels known as hearths, numbered 0 to 8, with Hearth 0 at the top. Sludge is fed into the incinerator on hearth 1 where it is slowly raked to the center. From the center it drops to the second hearth where the rakes move it to the periphery. Here it drops to the third hearth and is again raked to the center and so on. Preheated air is admitted to the lowest hearth and is further heated by the sludge as it rises through the middle hearths where combustion is occurring. The air then cools as it gives up its heat to dry the incoming sludge on the top hearths. As the sludge

moves from hearth 1 to the lower hearths, it progresses through zones of drying, combustion, fixed carbon burnout, and ash cooling. Hearth 0 at the top of the incinerator is used as an afterburner. Gaseous pollutants, which have been driven out of the sludge, are more completely burned as they pass through Hearth 0.

Auxiliary fuel burners are used to heat the incinerators up to operating temperatures during startup and to stabilize operations. The Metropolitan Council is limited to burning natural gas and distillate fuel oil in the auxiliary burners. Most of the regulated air emissions at the facility result from the combustion of sewage sludge in the six incinerators. Emissions include particulate matter, nitrogen oxides, carbon monoxide, sulfur dioxide, and volatile organic compounds. Trace amounts of other pollutants may also be emitted depending on the contaminants in the incoming wastewater. Exhaust gas from each sludge incinerator passes through an air pollution control system; consisting of a precooler, venturi scrubber, and subcooler with demister; then is released through the exhaust stack. For Incinerators 7, 8, 9, and 10 the exhaust gas passes first through a quad cyclone and a waste heat recovery boiler before entering the rest of the air pollution control system.

Operation of Emergency Relief Stacks at Incinerators

In addition to the air pollution control train and exhaust stack, each incinerator can exhaust through emergency relief stacks. Emissions through these emergency relief stacks bypass the air pollution control system. Conditions may occur inside the incinerator that could result in gasses in the incinerator leaking into the building that houses the incinerators if the emergency relief stacks were not available. The occasional opening of the emergency relief dampers is a necessary part of multiple hearth incinerator operation to avoid severe health hazards to plant workers and to protect the incinerator itself from damage.

At the end each of the pollution control systems there is an Induced Draft (ID) fan that pulls the hot gasses out of the incinerators and through the respective pollution control train. If these ID fans cannot respond rapidly enough to the changing conditions in the incinerators, the gasses may be released through the emergency relief stacks. Excessive use of the relief stacks or excessive leakage past the emergency relief dampers could be signs that the ID fans are not operating as intended or the bypass damper seals are not effectively sealing the damper.

Operational Requirements to Minimize Emissions from Emergency Bypass Stacks

In 1997 EPA Issued a Notice of Violation/Finding of Violation (NOV/FOV) to the Metropolitan Council, alleging violation of emission limits from the controlled and emergency relief stacks. Subsequently, EPA filed a complaint against the Metropolitan Council in 1999. EPA and the Metropolitan Council have settled the complaint in the form of a Consent Decree that imposes compliance measures and calls for the replacement of the multiple hearth incinerators with new fluidized bed incinerators.

EPA and MPCA agree that the current multiple hearth incinerators should be decommissioned and replaced with some other technology. MPCA recognizes that in the interim period prior to installation of the new solids handling system, there will be occasions where the emergency bypass dampers will be opened. Implementation of the conditions from the Civil Action No. 99-CV-1105 (Consent Decree) and good operating practices are intended to minimize emissions from the emergency relief stacks by reducing the number and duration of emergency bypass damper openings and eliminating leakage around the bypass damper seals.

Although Minnesota was not a party to the lawsuit and the compliance measures are not specifically required under Minnesota law; the operational requirements from the Consent Decree were incorporated into the permit in Table A under "Operational Requirements to Minimize Emissions from Emergency Bypass Stacks". These operational requirements are designed to reduce pollution control equipment bypasses and leakage, but do not constitute a complete list of procedures constituting good operating practices. The Minnesota Pollution Control Agency (MPCA) will refer all questions of compliance with the operating conditions covered by the Consent Decree to EPA for enforcement under the Consent Decree.

Compliance Determination for PM and PM10

Compliance with the PM and PM10 standards will be determined by stack testing at the controlled stack for each incinerator, and adherence with good operating practices and due diligence in minimizing emissions for the bypass stacks. No stack testing is required of the emergency bypass stacks as it has been determined that Method 5 testing cannot be conducted on the bypass stacks due to the configuration of the stacks and the convective nature of the gas flow in the stacks.

Administrative Order for PM_{10}

This facility is located in an area that has previously been found to exceed the federal ambient air standard for PM_{10}. When air quality does not meet such a standard the area is designated a PM_{10} nonattainment area and the State air pollution control agency is responsible for preparing a State Implementation Plan (SIP) to attain and maintain the standard. The SIP is submitted to EPA for review and approval. MPCA's approach for this PM_{10} nonattainment area has been to require each source contributing to the PM_{10} to enter into an Administrative Order. An Administrative Order imposes limits, monitoring, recordkeeping, and reporting requirements similar to a permit, but is limited to the nonattainment pollutant. Administrative Orders are nonexpiring but can be amended. The Title V operating permit proposed in this permit action will replace the Administrative Order for PM_{10} when it becomes effective and has been approved by EPA. Similar limits, monitoring, recordkeeping, and reporting requirements found in the Administrative Order are found in the new Title V operating permit.

1.3. Description of any changes allowed with this permit issuance.

No changes are authorized by this permit action which would by themselves require a separate permit action.

1.4 Description of all amendments issued since the issuance of the last total facility permit and to be included in the total facility permit.

Permit Number and Issuance Date	Action Authorized
879-90-OT-3 July 12, 1990	Total facility operating permit
Amendment No. 1 February 4, 1992	Installation of experimental steam injection particulate control equipment on Incinerator No. 8
State Implementation Plan for the Ramsey County PM_{10} Nonattainment Area Original November 26, 1991 Amend. 1 August 25, 1992 Amend. 2 November 30, 1992	Administrative Order for PM_{10}.

1.5. Facility Emissions: Table 1. Total Facility Potential to Emit Summary:

EU #	SV#	Emission Unit Description	PM tpy	PM_{10} tpy	SO_2 tpy	NO_x tpy	CO tpy	VOC Tpy	Pb tpy	Single HAP tpy*	All HAPs tpy**
001	001	bar screens - west						0.20			0.20
002	002	bar screens - east						0.44			0.45
003	001	grit chambers - west						0.07			0.09
004	002	grit chambers - east						0.16			0.19
005	004	RBS contactors									
006	005	RBS sedimentation tks									
007	006	sludge storage tanks									
008	008	multiple hearth incin.	21.4	19.7	459.9	181.3	1183	27.92	0.34	0.66	1.91
009	010	multiple hearth incin.	21.4	19.7	459.9	181.3	1183	27.92	0.34	0.66	1.91
010	009	multiple hearth incin.	21.4	19.7	459.9	158.3	1183	27.92	0.34	0.66	1.91
011	011	multiple hearth incin.	21.4	19.7	459.9	181.3	1183	27.92	0.34	0.66	1.91
012	012	multiple hearth incin.	21.4	19.7	459.9	143.7	1183	27.92	0.34	0.66	1.91
013	013	multiple hearth incin.	21.4	19.7	459.9	181.3	1183	27.92	0.34	0.66	1.91
014	018	auxiliary boiler	5.7	5.7	204.4	56.9	14.0	1.1	0.01		0.21
015	019	auxiliary boiler	5.7	5.7	204.4	56.9	14.0	1.1	0.01		0.21
016	020	ash handling 1	30.4	5.1			1.75				0.09

EU #	SV#	Emission Unit Description	PM tpy	PM_{10} tpy	SO_2 tpy	NO_x tpy	CO tpy	VOC Tpy	Pb tpy	Single HAP tpy*	All HAPs tpy**
017	021	ash handling 2	30.4	5.1			3.3				0.09
018	022	ash handling 3	31.5	5.3			5.9				0.09
019	023	ash loadout	89.0	14.8			5.0				0.27
020	024	emergency generator	0.6	0.6	0.6	8.7	1.9	0.6			0.05
021	025	emergency generator	0.6	0.6	0.6	8.7	1.9	0.6			0.05
022	026	emergency generator	0.7	0.6	0.6	9.4	2.0	0.6			0.05
023	027	emergency generator	0.2	0.2	0.2	3.3	0.7	0.2			0.02
024	028	emergency generator	0.5	0.5	0.5	7.0	1.5	0.5			0.04
025	029	emergency generator	0.3	0.3	0.3	4.7	1.0	0.3			0.03
033	032	incin. housekeeping	3.2	0.4							
034		ash loadout cleanup	9.5	4.7							
		fugitive pm emissions	48.6	17.1							
FS		Fugitive VOC/HAPs									
001		Primary Settling - W						0.08			0.09
002		Primary Settling - E						0.18			0.19
003		Aeration - West						2.46			3.30
004		Aeration - East						2.46			3.30

	PM tpy	PM_{10} tpy	SO_2 tpy	NO_x tpy	CO tpy	VOC Tpy	Pb tpy	Single HAP tpy*	All HAPs tpy**
Total Facility Limited Potential Emissions	385.3	184.9	3171	1183	7151	178.6	2.0	4.0	20.5
Total Facility Actual Emissions	76	40	14	425	1220	31	0.52	0.8	9.63

*HCl is the HAP with the highest PTE based on the permit limit of 0.04 lb/ton.

**Total HAPs include lead in the total.

Table 2. Facility (TF) and Permit Classification

Classification	Major/Affected Source	*Synthetic Minor	*Minor
Prevention of Significant Deterioration	sulfur dioxide, nitrogen oxides, carbon monoxide		
Nonattainment Area New Source Review	PM_{10}		
Part 70 Permit Program	PM, PM_{10}, sulfur dioxide, nitrogen oxides, carbon monoxide, VOC	Hazardous Air Pollutants	

* 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.

Summary of Emission Estimates for Minor HAP Status

Wastewater treatment, EU001-007, FS001-004	7.81 tons/year
Incinerators, EU008-013, VHAPs	6.30 = 6 x (0.66 + 0.39) HCl organics
Incinerators, metal HAPs, including lead	5.14 = 0.0522 lb/ton x 197,100 tons/year
Boilers	0.42
Ash handling	0.54
Generators at 500 hours/year	0.24
Total	20.47 tons/year

2. Regulatory and/or Statutory Basis

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

Regulatory Overview of Facility

Applicable Requirements Subject to Periodic Monitoring

*EU, GRP, or SV #	Applicable Regulations	Comments:
FC	40 CFR Pt. 68	The Permittee has submitted a Risk Management Plan (RMP # 1000 0006 4574) under the federal rule, 40 CFR Part 68
EU008 – 013	40 CFR pt. 60, subp. O	Standards of Performance for New Stationary Sources for Sewage Sludge Incinerators - limits emission of particulate matter and opacity
	Periodic Monitoring	A different pair of incinerators is tested each calendar year for PM emission

EU008 – 013	40 CFR pt. 60, subp. O	Standards of Performance for New Stationary Sources for Sewage Sludge Incinerators - requires monitoring of sludge feed, hearth temperature, flue gas oxygen, wet scrubber pressure drop, and auxiliary fuel flow
	Periodic Monitoring	Continuous measurement devices for these parameters are installed and must be maintained

EU008 - 013	Administrative Order for PM_{10}	Establishes limits for emission of PM_{10} from specified emission units
	Periodic Monitoring	A different pair of incinerators is tested each calendar year for PM_{10} emission

GP001	40 CFR pt. 61, subp. E	National Emission Standard for Hazardous Air Pollutants for Mercury - limits mercury to 3200 grams/24 hours
	Periodic Monitoring	Sludge monitoring requirements from 40 CFR 61.54
	Minn. Stat. 116.85	Alternative Sampling Method
	Periodic Monitoring	MPCA has approved an alternate sampling method according to Minn. Stat. 116.85, paragraph (b) which combines influent sampling and sludge sampling

GP001	40 CFR § 63.2	National Emission Standard for Hazardous Air Pollutants for Source Categories – definition of major source; the Permittee has proposed limits for the emission of HCl, volatile organic HAP, and metal HAP to demonstrate and ensure that this stationary source is not a major source of HAP
	Periodic Monitoring	A different incinerator is tested each year for metal HAP and HCl emissions. The Tier 1, 2 or 3 compliance demonstration procedure is implemented depending on the metal HAP emission result. Volatile organic HAP is limited by the amount of sludge actually burned and the requirements for operation of the venturi scrubbers, including recordkeeping.

*EU, GRP, or SV #	Applicable Regulations	Comments:
EU014-015	Minn. R. 7011.0515	Auxiliary boilers – State Indirect Heating Equipment Rule
	Periodic Monitoring	Because these boilers are capable of burning only natural gas and distillate fuel oil, they are not capable of exceeding the permit emission limits, so no further periodic monitoring is specified

EU016-019	Minn. R. 7011.0715	Ash handling - State Industrial Process Equipment Rule
	Periodic Monitoring	Daily reading and recording of baghouse operating pressure drop

EU020-025	Minn. R. 7011.2300	Emergency generators - State Stationary Internal Combustion Engine Rule
		Because these engines are capable of burning only distillate fuel oil, they are not capable of exceeding the permit emission limits, so no further periodic monitoring is specified

EU008 - 013	Minn. R. 7007.0800 subp. 2 and 4(B)	Emergency Relief Stack Use
	Periodic Monitoring	The Permittee must follow good operating practices, use due diligence to reduce emissions from the bypass stacks and maintain records and submit monthly reports of the time of opening and closing of each emergency relief damper.

Permit Requirements Not Subject to Periodic Monitoring

EU008 - 013	Minn. R. 7007.0800 subp. 2 and 4(B)	Mercury trigger level

3. Technical Information

Mercury - Since sewage sludge incineration is a known source of mercury emissions to the atmosphere, it is appropriate that the permit should address mercury emissions. There is a current standard for emission of mercury to the atmosphere from sewage sludge incineration which by today's standards is not considered acceptable (a Federal regulation established in 1973 limits mercury emissions from the facility to approximately 7 pounds per day). The Permittee, which emits approximately 1 pound of mercury per day to the air, is in compliance with that standard. In addition, this facility has a mercury limit for the treated water discharged from the facility, under a federal Clean Water Act permit program. This requirement has resulted in increasingly stringent discharge limits for the industrial users of the metropolitan area sewer system.

In addition, the MPCA has identified the need to further reduce mercury emissions from all sources. To determine what policies could further reduce mercury emissions using the lowest-cost approaches that most effectively would lead to reduced mercury contamination in the environment, the MPCA has conducted a "Mercury Contamination Reduction Initiative." The Permittee participated actively in the initiative as a member of the Advisory Council. The initiative process called for creating a detailed list of all the ways that sources could reduce their use and release of mercury. A system of strategies which would create incentives or requirements for mercury reduction options to be implemented, e.g., education, regulatory approaches, etc., were identified, along with a timeline for implementation.

MPCA has also included a mercury trigger level in the permit to prevent mercury emissions from increasing at the facility. If the mercury trigger level is exceeded the permittee shall submit and begin implementing a mercury reduction plan within 60 days of the exceedance. The plan shall include the reasons for increased mercury loading (sewer cleaning or construction activities, changes in in-plant activities) and the strategies to minimize the effects of the above.

4. Conclusion

Based on the information provided by the Permittee, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in Air Emission Permit No. 12300053-001, and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota rules.

Staff Members on Permit Team: Greg Kvaal, Steve Sommer, David Beil