

AIR EMISSION PERMIT NO. 06700005- 001

IS ISSUED TO

Willmar Municipal Utilities
710 Benson Avenue Southwest
Willmar, Kandiyohi County, Minnesota 56201

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

Permit Type	Application Date
Total Facility Operating Permit	September 6, 1995
Major Amendment	March 11, 1999

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; PSD/NSR

Issue Date: November 5, 2001

Expiration: November 5, 2006

All Title I Conditions do not expire.

Rodney E. Massey
District Director

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

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

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

PERMIT SHIELD:

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

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

FACILITY DESCRIPTION:

Willmar Municipal Utilities is an electricity and steam generation facility. The facility supplies electricity and steam for heating to residents and businesses of the City of Willmar. Emission sources at the facility include four boilers. Boiler #1 is coal fired; Boiler #2 is natural gas fired; Boiler #3 is coal and natural gas fired; and Boiler #4 is fired by natural gas and fuel oil. Boiler #1 is used only as a back up unit, on an emergency basis. Fugitive sources at the facility include coal and ash handling activities.

The facility is an existing major source under New Source Review/Prevention of Significant Deterioration.

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/05/01

Facility Name: Willmar Municipal Utilities

Permit Number: 06700005 - 001

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

Subject Item:	Total Facility
What to do	Why to do it
<p>Parameters Used in Modeling: The stack heights, emission rates, and other parameters used in the modeling are listed in Appendix C of this permit. The Permittee must submit to the Commissioner for approval any revisions of these parameters and must wait for a written approval before making such changes. The information submitted must include, at a minimum, the locations, heights and diameters of the stacks, locations and dimensions of nearby buildings, the velocity and temperatures of the gases emitted, and the emission rates. The plume dispersion characteristics due to the revisions of the information must be equivalent to or better than the dispersion characteristics modeled. The Permittee shall demonstrate this equivalency in the proposal.</p> <p>This is a state only requirement and is not enforceable by the EPA or citizens under the CAA.</p>	Minn. R. 7009.0020- 7009.0080
<p>If the information does not demonstrate equivalent or better dispersion characteristics, or if a conclusion cannot readily be made about the dispersion, the Permittee must remodel.</p> <p>For changes that do not involve an increase in an SO₂ emission rate and that do not require a permit amendment, this proposal must be submitted as soon as practicable, but no less than 60 days before beginning actual construction of the stack or associated emission unit.</p> <p>For changes involving increases in SO₂ emission rates and that require a minor permit amendment, the proposal must be submitted as soon as practicable, but no less than 60 days before beginning actual construction of the stack or associated emission unit.</p> <p>For changes involving increases in SO₂ emission rates and that require a permit amendment other than a minor amendment, the proposal must be submitted with the permit application.</p> <p>This is a state only requirement and is not enforceable by the EPA or citizens under the CAA.</p>	Minn. R. 7009.0020- 7009.0080 (continued from above)
<p>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.</p>	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)
<p>Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A, B, and/or C.</p>	Minn. R. ch. 7017
<p>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.</p>	Minn. R. 7017.2025
<p>General Performance Test (PT) Requirements:</p> <p>Performance Tests are due as outlined in Tables A and B of the Permit. See Table B for additional testing requirements.</p> <p>PT Notifications (written): due 30 days before each Performance Test PT Plan: due 30 days before each Performance Test PT Pre-test Meeting: due 7 days before each Performance Test PT Report: due 45 days after each Performance Test PT Report - Microfiche: due 105 days after each Performance Test</p>	Minn. R. 7017.2030, subp. 1-4 and Minn. R. 7017.2035, subp. 1-2
<p>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.</p>	Minn. R. 7007.0800, subp. 4(D)

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/05/01

Facility Name: Willmar Municipal Utilities

Permit Number: 06700005 - 001

Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(D)
Operation of Monitoring Equipment: Unless otherwise noted in Tables A, B, and/or C, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, 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)
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
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
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
Operation Changes: In any shutdown, breakdown, or deviation the Permittee 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
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)
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
Fugitive Emissions Control Plan: The Permittee shall submit a fugitive emissions control plan within 60 days of the date of permit issuance for review and approval by the Commissioner. The plan shall identify all fugitive emission sources, primary and contingent control measures, and record keeping. The Permittee 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. If the Commissioner determines the permittee is out of compliance with Minn. R. 7011.0150 or the fugitive emission control plan, then the permittee may be required to amend the control plan and/or to install and operate particulate matter ambient monitors.	Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/05/01

Facility Name: Willmar Municipal Utilities

Permit Number: 06700005 - 001

Comply with Fugitive Emission Control Plan: The Permittee 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. If the Commissioner determines the Permittee is out of compliance with Minn. R. 7011.0150 or the fugitive control plan, then the Permittee may be required to amend the control plan and/or to install and operate particulate matter ambient monitors as requested by the Commissioner.	Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2
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)
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)
Record keeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Minn. R. 7007.0800, subp. 5(C)
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 or citizens under the Clean Air Act.	Minn. R. 7030.0010 - 7030.0080
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A).	Minn. R. 7007.0800, subp. 9(A)
Emissions Inventory Report: Due 91 days after end of each calendar year following Permit Issuance. To be submitted on a form approved by the Commissioner.	Minn. R. 7019.3000 through Minn. R. 7019.3010
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/05/01

Facility Name: Willmar Municipal Utilities

Permit Number: 06700005 - 001

Subject Item: EU 001 Boiler No. 1**Associated Items:** CE 001 Multiple Cyclone w/Fly Ash Reinjection-Common w/Coal Boilers

SV 001 Boiler 1

What to do	Why to do it
This unit is currently inoperable. Prior to any repairs and/or modifications to restore the unit to operable status (including, but not limited to the additional natural gas firing capabilities), an appropriate permit amendment shall be applied for and/or obtained according to rules in effect at the time of the change.	Minn. R. 7007.1150(B)

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/05/01

Facility Name: Willmar Municipal Utilities

Permit Number: 06700005 - 001

Subject Item: EU 002 Boiler No. 2**Associated Items:** SV 002 Boiler 2

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.6 lbs/million Btu heat input	Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent opacity using 6-minute Average except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0510, subp. 2
Nitrogen Oxides: less than or equal to 0.1 lbs/million Btu heat input using 3-hour block average	Title I Condition: To avoid classification of a previous modification as major under 40 CFR Section 52.21
OPERATIONAL REQUIREMENTS	hdr
Fuel Types: Limited to natural gas only.	Title I Condition: To avoid classification of a previous modification as major under 40 CFR Section 52.21
Fuel Usage: less than or equal to 750 million cubic feet/year using 12-month Rolling Sum of natural gas (in this unit)	Title I Condition: To avoid classification of a previous modification as major under 40 CFR Section 52.21
PERFORMANCE TESTING REQUIREMENTS	hdr
Performance Test: due before end of each 36 months starting 07/31/2003 to measure NOX. The next test is due on 7/31/03 and every 36 months thereafter.	Minn. R. 7017.2020, subp. 1
Performance Test: due before end of each 60 months starting 07/31/2005 to measure PM and Opacity. The next test is due on or before 7/31/05 and every 60 months thereafter.	Minn. R. 7007.2020, subp. 1
RECORDKEEPING	hdr
Daily Recordkeeping: Each day, record the quantity of natural gas burned in Boiler #2 during the previous day.	Minn. R. 7007.0800, subp. 4 and 5
Monthly Recordkeeping: By the 15th of each month, record the quantity of natural gas burned in Boiler #2 during the previous month, and calculate and record the latest 12-month rolling sum. The 12-month rolling sum is calculated by adding the most recent month's natural gas usage in Boiler #2 to the previous 11 months' natural gas usage.	Title I Condition: To avoid classification of a previous modification as major under 40 CFR Section 52.21

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/05/01

Facility Name: Willmar Municipal Utilities

Permit Number: 06700005 - 001

Subject Item: EU 003 Boiler No. 3**Associated Items:** CE 003 Multiple Cyclone w/o Fly Ash Reinjection - Most Multiclones

MR 001 Boiler 3

MR 002 Boiler 3

SV 003 Boiler 3

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.6 lbs/million Btu heat input	Minn. R. 7011.0510, subp. 1
Sulfur Dioxide: less than or equal to 4.0 lbs/million Btu heat input when combusting coal.	Minn. R. 7011.0510, subp. 1
Sulfur Dioxide: less than or equal to 442 lbs/hour using 1-Hour Average . This is a State-only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Minn. R. 7009.0020- 7009.0080
Sulfur Dioxide: less than or equal to 2.0 lbs/million Btu heat input using 1-Hour Average . This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Minn. R. 7009.0020 - 7009.0080
Opacity: less than or equal to 20 percent opacity using 6-minute Average except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0510, subp. 2
OPERATIONAL REQUIREMENTS	hdr
Fuel Usage: limited to natural gas or subbituminous coal only.	Minn. R. 7007.0800, subp. 4 and 5
PERFORMANCE TESTING REQUIREMENTS	hdr
Performance Test: due before end of each 36 months starting 07/31/2003 to measure PM. The next test is due on or before 07/31/2003 and every 36 months thereafter.	Minn. R. 7017.2020, subp. 1
CONTROL EQUIPMENT REQUIREMENTS (CE003)	hdr
The Permittee shall operate and maintain the associated control device at all times that the boiler is combusting coal.	Minn. R. 7011.0510, subp. 1 (use of control equipment is required to meet the PM limit)
The Permittee shall operate and maintain the control device in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subp. 4, 5 and 14
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 80 percent control efficiency	Minn. R. 7011.0065, subp. 1(A)
The Permittee shall operate and maintain the control equipment such that it achieves an overall control efficiency for Particulate Matter < 10 micron: greater than or equal to 80 percent control efficiency	Minn. R. 7011.0065, subp. 1(A)
Lead: greater than or equal to 40 percent control efficiency (The operation of this piece of control equipment is not necessary in order for the process to meet any applicable emissions limits for Lead. However, the Permittee wishes to take credit for its operation for the purposes of reporting actual emissions for emission inventory. Therefore, in order for the Lead to be considered controlled for the purposes of emissions inventory, the control device must comply with the requirements of this permit during the time credit for control is taken.)	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (F) and Minn. R. 7019.3050
Pressure Drop: greater than or equal to 2.0 inches of water column and less than or equal to 3.0 inches of water column	Minn. R. 7011.0080
Recordkeeping of Pressure Drop. The Permittee shall record the time and date of each pressure drop reading and whether or not the recorded pressure drop was within the range specified in this permit.	Minn. R. 7011.0080
CEMS and COMS REQUIREMENTS (MR001 and MR002)	hdr
Emissions Monitoring: The owner or operator shall use a CEMS to measure SO ₂ emissions and a COMS to measure opacity emissions from EU003.	(CEMS & COMS) Minn. R. 7017.1006 (COMS) Minn. R. 7011.1260, subp. 3

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/05/01

Facility Name: Willmar Municipal Utilities

Permit Number: 06700005 - 001

CEMS Daily Calibration Drift (CD) Test: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) gas concentrations at least once daily. The CEMS shall be adjusted whenever the CD exceeds twice the specification of 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F, shall be used to determine out-of-control periods for CEMS.	Minn. R. 7017.1170, subp. 3
Cylinder Gas Audit: due before end of each calendar half-year following Permit Issuance. Conduct CGA at least 3 months apart and not greater than 8 months apart. If a RATA is performed during the calendar half-year the CGA is not required. Follow the procedures in 40 CFR pt. 60, Appendix F.	Minn. R. 7017.1170, subp. 4
Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar half-year following Cylinder Gas Audit (CGA).	Minn. R. 7017.1180, subp. 1
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar year following Permit Issuance. If the relative accuracy is 15% or less the next CEMS RATA is not due for 24 months. Follow the procedures in 40 CFR pt. 60, Appendix B and Appendix F.	Minn. R. 7017.1170, subp. 5
Relative Accuracy Test Audit (RATA) Notification: due 30 days before CEMS Relative Accuracy Test Audit (RATA).	Minn. R. 7017.1180, subp. 2
Relative Accuracy Test Audit (RATA) Results Summary: due 30 days after end of each calendar quarter in which the CEMS RATA was conducted.	Minn. R. 7017.1180, subp. 3
CEMS Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment. Acceptable monitor downtime as listed in items A, B, C, and D of Minn. R. 7017.1090, subp. 2.	Minn. R. 7017.1090, subp. 1
COMS Daily Calibration Drift (CD) Check: The CD 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 PS-1 of 40 CFR pt. 60, Appendix B.	Minn. R. 7017.1210, subp. 2 40 CFR Section 60.13(d)
COMS Calibration Error Audit: due before end of each calendar half-year following Permit Issuance. Conduct three point calibration error audits at least 3 months apart but no greater than 8 months apart. Filter values used shall correspond to approximately 11%, 20%, and 37% opacity.	Minn. R. 7017.1210, subp. 3
COMS Calibration Error Audit Results Summary: due 30 days after end of each calendar half-year following COMS Calibration Error Audit.	Minn. R. 7017.1220
COMS Monitoring Data: Owners or operators of all COMS shall reduce all data to 6 minute averages. Opacity averages shall be calculated from all equally spaced consecutive 10-second (or shorter) data points in the 6 minute averaging period.	Minn. R. 7017.1200, subp. 1, 2, & 3 40 CFR Section 60.13(e)(1) 40 CFR Section 60.13(h)
Recordkeeping: The owner or operator must retain records of all CEMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source.	Minn. R. 7017.1130
QA Plan: Develop and implement a written quality assurance plan that covers each CEMS. The plan shall be on site and available for inspection within 30 days after monitor certification. The plan shall contain all of the information required by 40 CFR pt. 60, Appendix F, section 3.	Minn. R. 7017.1170, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/05/01

Facility Name: Willmar Municipal Utilities

Permit Number: 06700005 - 001

Subject Item: EU 004 Boiler No. 4**Associated Items:** SV 004 Boiler 4

What to do	Why to do it
EMISSION LIMITS	hdr
Nitrogen Oxides: less than or equal to 0.2 lbs/million Btu heat input whenever fuel oil is combusted.	Title I Condition: To avoid classification of a previous modification as major under 40 CFR Section 52.21
Nitrogen Oxides: less than or equal to 0.15 lbs/million Btu heat input whenever natural gas is combusted.	Title I Condition: To avoid classification of a previous modification as major under 40 CFR Section 52.21
Opacity: less than or equal to 20 percent opacity using 6-minute Average except for one six-minute period per hour of not more than 27 percent opacity. This limit does not apply during periods of startup, shutdown, or malfunction.	40 CFR Section 60.43c(c); Minn. R. 7011.0570
OPERATIONAL LIMITS	hdr
Sulfur Content of Fuel: less than or equal to 0.5 percent by weight sulfur in fuel oil.	40 CFR Section 60.42c(d)
Fuel Usage: less than or equal to 261143 gallons/year using 12-month Rolling Sum Fuel Oil	Title I Condition: To avoid classification of a previous modification as major under 40 CFR Section 52.21
Natural Gas Fuel Usage: less than or equal to 463 million cubic feet/year using 12-month Rolling Sum	Title I Condition: To avoid classification of a previous modification as major under 40 CFR Section 52.21
PERFORMANCE TESTING REQUIREMENTS	hdr
Performance Test: due before end of each 36 months starting 07/31/2003 to measure NOx emissions while combusting natural gas. The next test is due on or before 7/31/03 and every 36 months thereafter.	Title I Condition: Monitoring of limit taken to avoid classification of a previous modification as major under 40 CFR Section 52.21; Minn. R. 7017.2020, subp. 1
Performance Test: due 180 days after Startup combusting fuel oil, to measure NOX emissions while combusting fuel oil.	Title I Condition: Monitoring of limit taken to avoid classification of a previous modification as major under 40 CFR Section 52.21; Minn. R. 7017.2020, subp. 1
Performance Test: due 180 days after Startup combusting fuel oil, not to exceed 60 days after reaching maximum capacity while burning fuel oil, to measure opacity emissions while combusting fuel oil.	40 CFR Section 60.8(a); Minn. R. 7017.2020, subp. 1
MONITORING	hdr
Maintain records of the amount of each type of fuel combusted each month.	40 CFR Section 60.13(i) and 02/20/92 EPA memo, to meet requirements of 40 CFR Section 60.48c(g) & (i); Minn. R. 7007.0800, subp. 5
Fuel Oil Usage: By the 15th day of each month, calculate and record the new 12-month rolling sum of fuel oil used.	Title I Condition: Monitoring for limit taken to avoid classification as major modification under 40 CFR Section 52.21
Natural Gas Usage: By the 15th day of each month, calculate and record the new 12-month rolling sum of natural gas used.	Title I Condition: Monitoring for limit taken to avoid classification as major modification under 40 CFR Section 52.21
Fuel Supplier Certification: for each delivery of distillate fuel oil, the owner/operator shall obtain from the fuel supplier a written certification including: (i) The name of the fuel supplier, and (ii) a statement from the oil supplier that the fuel oil complies with the specifications for distillate fuel oil in 40 CFR Section 60.41c.	40 CFR Section 60.48c(f)(1)

TABLE A: LIMITS AND OTHER REQUIREMENTS

11/05/01

Facility Name: Willmar Municipal Utilities

Permit Number: 06700005 - 001

Subject Item: FS 002 Western Coal Pile

What to do	Why to do it
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. 7011.1110

TABLE B: SUBMITTALS

11/05/01

Facility Name: Willmar Municipal Utilities
Permit Number: 06700005 - 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

11/05/01

Facility Name: Willmar Municipal Utilities

Permit Number: 06700005 - 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
Notification	due 10 days after Startup combusting fuel oil.	EU004
Request for Information Response	<p>due 1,096 days after Permit Issuance (for PM10, SO2, and NOX). Submit modeling data as specified in MPCA guidance for Modeling Information Requests. This modeling information is for data collection purposes, no modeling analysis is required at this time.</p> <p>This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.</p>	Total Facility
Testing Frequency Plan	due 60 days after Performance Test for NOX and opacity emissions while combusting fuel oil. The plan shall specify a testing frequency based on the test data and MPCA guidance. Future performance tests based on one-year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required upon written approval of the MPCA.	EU004

TABLE B: RECURRENT SUBMITTALS

11/05/01

Facility Name: Willmar Municipal Utilities

Permit Number: 06700005 - 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 (Submit Deviations Reporting Form DRF-1 as amended). The EER shall indicate all periods of monitor bypass and all periods of exceedances of the limit including exceedances allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions.	EU003
Quarterly Report	due 30 days after end of each calendar quarter following Permit Issuance. The reports shall include the following information: (1) Calendar dates covered in the reporting period, and (2) Each 30-day average sulfur content (weight percent) calculated during the reporting period, ending with the last 30-day period in the quarter; reasons for any noncompliance with the standards; and a description of corrective actions taken.	EU004
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
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. This report covers all deviations experienced during the calendar year. The EPA copy shall be sent to: Mr. George Czerniak, Chief, Air Enforcement and Compliance Assurance Branch, Air and Radiation Division, EPA Region V, 77 West Jackson Boulevard, Chicago, Illinois 60604.	Total Facility

Appendix B**Facility Name:** Willmar Municipal Utilities**Permit Number:** 06700005-001

The following stack parameters were used in the model included in the permit application received December 24, 1990, for construction of Boiler #4. Revision of any of these parameters must result in plume dispersion characteristics equivalent to or better than the plume dispersion characteristics modeled for the December 1990 application. Revision of any of these parameters may require a permit amendment.

Table B.1 – Modeled Parameters

SV ID No.	Modeled Height (feet)	Modeled Diameter (feet)	Modeled Temperature (°F)	Modeled Air Flow (acfm)	Modeled SO₂ (lb/hr)
001	108.0	5.3	320	25000	148.0 (24-hour average)
003	129.0	5.42	340	66000	442.0 (1-hour average)

Appendix C**Facility Name:** Willmar Municipal Utilities**Permit Number:** 06700005-001**Insignificant Activities and Applicable Requirements**

Minn. R. 7007.1300, subpart	Rule Description of the Activity	Applicable Requirement
3(G)	Emissions from a laboratory, as defined in the subpart. <ul style="list-style-type: none">Water testing agents used in the laboratory	Minn. R. 7011.0710/0715
3(H)	Miscellaneous: 4. brazing, soldering or welding equipment; <ul style="list-style-type: none">Facility operates soldering and welding equipment	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. <ul style="list-style-type: none">Transfer of coal from coal piles to coal hopper – calculated PTE = 0.001362 tpy PMTrain unloading (coal) – calculated PTE = 0.02 tpy PMFuel oil storage tank – calculated PTE = 0.65 tpy VOC (also insignificant under Minn. R. 7007.1300, subp. 2(E)(3)).Emergency generator – calculated PTE 0.005 ton PM/year, 0.005 ton SO₂/year, 0.08 ton NO_x/year, 0.006 ton VOC/year, 0.02 ton CO/year	Minn. R. 7011.1110 Minn. R. 7011.1110 40 CFR 60, subp. Kb; Minn. R. 7011.1520C. Minn. R. 7011.2300
4	If a facility is applying for a part 70 permit, emissions units with emissions less than all the following limits but not included in subpart 2 must be listed in a part 70 permit application: B. potential emissions of 2.28 pounds per hour or actual emissions of one ton per year for particulate matter, particulate matter less than ten microns, nitrogen oxide, sulfur dioxide, and VOCs; <ul style="list-style-type: none">Ash loading (into trucks) – calculated PTE = 1.4 tpy, actual emissions = 0.33 tpy	Minn. R. 7011.1110

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 06700005-001

This technical support document is intended for all parties interested in the permit. The purpose of this document is to set forth the legal and factual basis for the 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	Facility Address (SIC Code: 4931)
Willmar Municipal Utilities 704 Litchfield Avenue Southwest PO Box 937 Willmar, Minnesota 56201 Contact: Donald Gartner (320)235-4422	Willmar Municipal Utilities 710 Benson Avenue Southwest Willmar, Minnesota 56201 Kandiyohi County

1.2. Description of the facility

Willmar Municipal Utilities is an electricity and steam generating facility. The facility supplies electricity and steam for heating to residents and businesses of the City of Willmar. Emission sources at the facility include Boiler No.1 (coal-fired), Boiler No. 2 (natural gas-fired), Boiler No. 3 (coal and gas-fired), boiler No. 4 (gas and oil-fired), and fugitive sources including coal and ash handling systems. Boilers 2 and 3 serve generators producing electricity; Boiler 4 supplies steam only. Boiler 1 is out of service and will require major modification in the event the facility chooses to operate it in the future. This permit does not authorize any modifications to Boiler 1, and operation of Boiler 1 is not authorized under this permit. The facility is located in an area that is designated in attainment with ambient air standards or unclassified for all pollutants.

The facility is a major source under 40 CFR Section 52.21 (Prevention of Significant Deterioration), major for HAPs, and considered a major source under the federal operation permits program (40 CFR pt. 70).

1.3 Description of any changes allowed with this permit issuance

No changes are authorized by this permit issuance.

1.4 Description of all amendments issued since the issuance of the last total facility permit and to be included in the Part 70 Permit.

Permit Number and Issuance Date	Action Authorized
Amendment No. 3 (067000005-007), May 13, 1999	Major modification and normal (not emergency) operation of Boiler No.2, switching from coal-fired to gas-fired operation.
Amendment No. 2, May 26, 1993	Allowed for an increase in emission rate of NO _x from Boiler No. 4, when burning natural gas, based on the results of compliance testing.
Amendment No. 1, March 27, 1992	Allowed for natural gas to be added to the list of permitted fuels for Boiler No. 3, and set emission limits for NO _x for Boiler No. 4 that are fuel specific.
Compliance Agreement 1995	Requires notification to MPCA upon operation of Boiler No. 1 (also required notification for Boiler No. 2, but Boiler No. 2 has since been modified and is no longer designated as an emergency use boiler).

1.5 Changes to Permit

No comments were received during the 30 day public notice period. EPA did not provide comments either during the 30 day public notice or their 45 day comment period. No changes have been made to the permit since it was placed on public notice.

1.6. Facility Emissions:

Table 1. Total Facility Potential to Emit Summary:.

(see Attachment 1 for PTE of individual units)

	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	598.0	598.0	1936	775.8	310.9	8.5	0.3	2.8	6.6
Total Facility Actual Emissions (1998)	222	24	467	161	122	1.1	0.1	NR*	NR*

* Not reported – HAPs are not reported on the annual emission inventory

Table 2. Facility and Permit Classification

Classification	Major/Affected Source	Synthetic Minor	Minor
PSD	SO ₂ , PM, PM ₁₀ , NO _x , CO		VOC's, Pb
NAAR	NA	NA	NA
Part 70	SO ₂ , PM ₁₀ , NO _x , CO		VOC's, Pb, HAP

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2. Regulatory Overview of Facility

New Source Review

The facility is an existing major source under federal New Source Review/Prevention of Significant Deterioration (PSD) program (40 CFR § 52.21). The facility is located in an area that is designated as attainment or unclassified for all pollutants. As of the time of this permit, no modifications requiring Best Available Control Technology (BACT) have been made at the facility. Boiler No. 2 and Boiler No. 4 are each subject to Title I conditions imposed at the time of modification (in the case of Boiler No. 2) and construction (in the case of Boiler No. 4) such that the modification/construction were not considered major modifications under PSD.

Part 70 Permit Program

The facility is a major source under the federal operating permit program (40 CFR § 70.2).

New Source Performance Standards (NSPS)

Boiler No. 4 is subject to the Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units (40 CFR 60, Subpart Dc).

National Emission Standards for Hazardous Air Pollutants (NESHAPs)

There are no promulgated NESHAPs applicable to this facility. In addition, no changes affecting any listed HAPs are being made at the facility.

Acid Rain Requirements (40 CFR 72)

The facility is not subject to Acid Rain requirements. None of the units is listed in tables 1, 2, or 3 of 40 CFR § 73.10 (40 CFR § 72.6(a)(1) and (2)); none of the units serves a generator with a nameplate capacity of 25 MW or greater (EU001 serves a generator of 4 MW, EU002 serves a generator of 7.5 MW, EU003 serves a generator of 17.8 MW, and EU004 does not serve a generator) (40 CFR § 72.6(a)(2) and (3)).

Minnesota State Rules

Several State Standards of Performance apply to portions of this facility. These include:

- Minn. R. 7011.0500 to 7011.0553 – New and Existing Indirect Heating Fossil Fuel Burning Equipment.
- Minn. R. 7011.0700 to 7011.0735 – Pre- and Post-1969 Industrial Process Equipment
- Minn. R. 7011.2300 – Stationary Internal Combustion Engines
- Minn. R. 7011.1110 – Existing Outstate Coal Handling Facilities

Table 3. Regulatory Overview

EU, GP, or SV	Applicable Regulations	Comments:
EU003	Minn. R. 7009.0020	SO ₂ limit set as a result of computer dispersion modeling completed at the time of construction of EU004 (which is not a major source of SO ₂ itself).
EU002, EU003	Minn. R. 7007.0510	Standards of Performance for Existing Indirect Heating Equipment (even though EU002 was modified in 1999, it remains existing indirect heating equipment because no increase in emission rates occurred).
EU002	Title I Condition	Limits potential emissions to below PSD significance thresholds, so that the modification (conversion to natural gas from coal and startup after extended idle period) was not considered a major modification under PSD.
EU004	40 CFR 60.42c(d)	Standards of Performance for Small Industrial-Commercial—Institutional Steam Generating Units
EU004	Title I Condition	Limits potential emissions to below PSD significance thresholds, so that construction of the unit was not considered a major modification under PSD.

3. Technical Information

3.1 Modeling Limits

The sulfur dioxide limits in the permit (EU003) were based on modeling done in 1991. The previous permit also included a modeled SO₂ limit for EU002, and a coal sulfur content limit of 0.86% for EU003. The EU002 SO₂ limit was eliminated because the boiler has been converted to combusting only natural gas, for which SO₂ emissions are not an issue. The coal sulfur content limit for EU003 was eliminated because EU003 has a continuous SO₂ monitor, measuring SO₂ emissions in pounds of SO₂ per million BTU heat input. The modeled SO₂ emission rate in pounds per hour was converted to pounds per million Btu, and that is now monitored continuously, rather than the sampling method used to monitor the coal sulfur content.

Modeling information is requested in the permit, since potential PM₁₀, NO_x, and SO₂ emissions exceed 100 tons per year, and actual emissions are below 100 tpy, 1000 tpy, and 500 tpy, respectively. Even though SO₂ modeling was completed in 1991, the parameters are being requested to make sure our information is up to date, per MPCA modeling policy dated June 9, 2001.

3.2 Calculations

All calculations were done using the emission factors from the most recent revision of AP-42 and FIRE. Where a Title I emission limit or NSPS emission limit exists, they supersede the AP-42 emission factors. Potential emissions are based on operating limits imposed in the permit, and the most stringent short term applicable limits.

3.3 Periodic Monitoring

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In accordance with the Clean Air Act, it is the responsibility of the owner or operator of a facility to have sufficient knowledge of the facility to certify that the facility is in compliance with all applicable requirements. To achieve this objective, US EPA issued guidance on periodic monitoring requirements for permitted sources.

In evaluating the monitoring included in the permit, the MPCA considered the following as per the EPA guidance:

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

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

Table 4. Emission Units Subject to Periodic Monitoring

EU/GP/CE	Emission Limit (basis)	Additional Monitoring	Discussion
EU002	PM: 0.6 lb/MMBtu Opacity: 20%, with one 6-minute excursion per 60 minute period (Minn. R. 7011.0510)	Performance Test, every 60 months	Previous performance tests have demonstrated PM emissions less than 60% of the applicable requirement, so per MPCA testing frequency guidance, testing is required every 60 months until a future test requires otherwise.

EU/GP/CE	Emission Limit (basis)	Additional Monitoring	Discussion
EU002 continued	NO _x : 0.1 lb/MMBtu (Title I condition)	Performance Test every 36 months	Previous performance test showed NO _x emissions to be more than 90% of the applicable limit, therefore per MPCA testing frequency guidance, testing is required every year until future test results justify less frequent testing. However, since this unit is used for backup purposes only, it is unreasonable to expect stack testing on an annual basis. Therefore, the testing frequency is reduced to the next-most-frequent category, which is testing every 36 months.
	Natural gas: 780 million cubic feet per year (Title I condition)	Recordkeeping	
EU003	PM: 0.6 lb/MMBtu Opacity: 20%, with one 6-minute excursion per 60 minute period (Minn. R. 7011.0510)	Performance Test, every 36 months, proper operation of control equipment	Previous performance tests have demonstrated PM emissions between 60% and 90% of the applicable requirement, so per MPCA testing frequency guidance, testing is required every 36 months until results of future tests require otherwise.
	SO ₂ : 4.0 lb/MMBtu (Minn. R. 7011.0510) SO ₂ : 442 lb/hour, 2.0 lb/MMBtu (modeling limits)	Continuous monitoring (CEMS)	

EU/GP/CE	Emission Limit (basis)	Additional Monitoring	Discussion
EU004	Opacity: 20%, plus allowed excursions (40 CFR 60.43c, Minn. R. 7011.0570)	None beyond NSPS requirements	NSPS requirements are adequate – test while combusting fuel oil, within 180 days of startup on fuel oil.
	NO _x : 0.2 lb/MMBtu for fuel oil, 0.15 lb/MMBtu for natural gas (Title I conditions)	Performance Tests: annually for natural gas combustion, upon startup on fuel oil	Previous performance test showed NO _x emissions to be more than 90% of the applicable limit, therefore per MPCA testing frequency guidance, testing is required every year until future test results justify less frequent testing. However, since this unit is used for backup purposes only, it is unreasonable to expect stack testing on an annual basis. Therefore, the testing frequency is reduced to the next-most-frequent category, which is testing every 36 months.
	Fuel sulfur content: 0.5% (40 CFR 60.42c(d))	Recordkeeping	NSPS requirements are adequate
	Natural gas: 463 million cubic feet per year Fuel Oil: 261143 gallons/year (Title I conditions)	Recordkeeping	
FS002	Control fugitive emissions (Minn. R. 7011.1110)	Submittal of Fugitive Emission Control Plan	

4. Conclusion

Based on the information provided by Willmar Municipal Utilities, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 06700005-001 and this technical support document, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Toni Volkmeier, Joellen Rumley, Dan Brady, Steve Sommer

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

Attachment 1

Calculations and PTE Summary

Attachment 2

Facility Description and CD-01 Forms