

**AIR EMISSION PERMIT NO. 01500010- 003
IS ISSUED TO**

City of New Ulm

NEW ULM PUBLIC UTILITIES-MUNICIPAL POWER

310 1st North Street
New Ulm, Brown County, MN 56073

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	09/15/1995
Major Amendment	05/30/2000

This permit authorizes the permittee to operate and modify the stationary source at the address listed above unless otherwise noted in Table A. The permittee must comply with all the conditions of the permit. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500. Terms used in the permit as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

Permit Type: Title V Permit Amendment; Synthetic Minor PSD/NSR

Issue Date: October 26, 2000

Expiration: All Title I Conditions do not expire.

Richard J. Sandberg, Manager
Major Facilities Manager
Metro District

for Karen A. Studders, Commissioner
Minnesota Pollution Control Agency

TABLE OF CONTENTS

Notice to the Permittee

Permit Shield

Facility Description

Table A: Limits and Other Requirements

Table B: Submittals

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.

FACILITY DESCRIPTION:

The New Ulm Public Utilities facility is a municipal utility that produces electricity and steam. The facility operates three boilers (Boilers No. 1 and 2 are natural gas-fired and Boiler No. 4 is natural gas- and coal-fired) and one simple cycle distillate oil-fired combustion turbine generator (Gas Turbine No. 5). A fourth boiler (Boiler No. 3) is retired and not permitted to operate. This permit action is for installation and operation of a refurbished simple cycle distillate oil-fired combustion turbine generator (Gas Turbine No. 7).

Total generating capacity after the modification is 76.2 megawatts, with 26.4 megawatts produced by the new gas turbine. According to 40 CFR § 72.6(b)(1) and (2), none of the electric generating equipment is subject to Title IV because all units commenced operation before November 15, 1990, none of the units serve generators with a capacity exceeding 25 megawatts, and the gas turbine is a simple cycle unit.

The facility is located in an area that is designated in attainment with ambient air standards or unclassified for all pollutants. Very little coal is used by this facility, and therefore coal storage,

coal handling, and ash handling are insignificant activities as defined in Minn. R. 7007.1300, subp. 4.

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/26/00

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 003

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
Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment.	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)
Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A, B, and/or C.	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
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, unless otherwise noted in Table A.	Minn. R. 7007.0800, subp. 4(D)
Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(D)
Operation of Monitoring Equipment: Unless otherwise noted in Tables A, B, and/or C, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, 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

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/26/00

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 003

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. R. 7007.0800, subp. 2
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. 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: 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 Inventory Report: due 91 days after end of each calendar year starting 09/16/1999 (April 1). To be submitted on a form approved by the Commissioner.	Minn. R. 7019.3000 through Minn. R. 7019.3010
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/26/00

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 003

Subject Item: GP 001 Boilers and Gas Turbine**Associated Items:** EU 001 Boiler #1

EU 002 Boiler #2

EU 003 Boiler #4

EU 004 Gas Turbine #5 (simple cycle)

What to do	Why to do it
Operating Restriction: when EU 004 is combusting fuel oil, EU 001, EU 002, and EU 003 are restricted to combusting natural gas only.	Minn. R. 7007.0800, subp. 2; Minn. R. 7009.0020
Recordkeeping - Fuel Type Usage: When EU 004 is operating (and combusting distillate fuel oil), record the start and stop times for EU 004 and the type of fuel combusted in EU 003 during each EU 004 operating period.	Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/26/00

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 003

Subject Item: EU 001 Boiler #1**Associated Items:** GP 001 Boilers and Gas Turbine

SV 001

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.6 lbs/million Btu heat input	Minn. R. 7001.0510, 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. 7001.0510, subp. 2
Sulfur Dioxide: less than or equal to 0.05 lbs/million Btu heat input	Minn. R. 7007.0800, subp. 2; Minn. R. 7009.0020
Fuel Permitted: pipeline natural gas only.	Minn. R. 7007.0800, subp. 2
Recordkeeping: keep a record of the type of fuel combusted in EU 001. Records shall be entered no less frequently than semiannually.	Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/26/00

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 003

Subject Item: EU 002 Boiler #2**Associated Items:** CE 001 Multiple Cyclone w/o Fly Ash Reinjection - Most Multiclones

GP 001 Boilers and Gas Turbine

SV 002

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.6 lbs/million Btu heat input	Minn. R. 7001.0510, 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. 7001.0510, subp. 2
Fuel Permitted: pipeline natural gas only.	Minn. R. 7007.0800, subp. 2
Recordkeeping: keep a record of the type of fuel combusted in EU 002. Records shall be entered no less frequently than semiannually.	Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/26/00

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 003

Subject Item: EU 003 Boiler #4**Associated Items:** CE 002 Multiple Cyclone w/o Fly Ash Reinjection - Most Multiclones

GP 001 Boilers and Gas Turbine

SV 003

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. 7001.0510, subp. 1
Sulfur Dioxide: less than or equal to 4.0 lbs/million Btu heat input while burning coal.	Minn. R. 7001.0510, subp. 1
Determination of Applicable SO ₂ Limit When Cofiring Coal and Natural Gas: Use the following formula to determine the prorated SO ₂ emission limit when cofiring coal and natural gas: $w = z(4.0 \text{ lb/mmBtu})$ where: w = allowable prorated SO ₂ emission rate in lb/mmBtu z = percentage of total heat input from coal	Minn. R. 7001.0505, subp. 3
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. 7001.0510, subp. 2
OPERATIONAL REQUIREMENTS	hdr
Fuels Permitted: bituminous coal, pipeline natural gas, on-site generated petroleum-derived used oil, and on-site generated EDTA-type boiler cleaning agents.	Minn. R. 7007.0800, subp. 2
Fuel Usage: less than or equal to 154.5 million Btu's/hour using 8-hour Block Average for coal combustion in EU 003. Coal usage in EU 003 is further restricted to the coal heat input during the most recent particulate matter emissions performance testing according to Minn. R. 7017.2025, subps. 3 and 3a (June 20, 1995, test was conducted while combusting coal at 48 percent of rated heat input; therefore coal heat input is restricted to 53% of rated heat input or 109 mmBtu/hr).	Minn. R. 7007.0800, subp. 2; Minn. R. 7017.2025, subps. 3 and 3a
Combust on-site generated petroleum-derived used oil in accordance with Minn. R. ch. 7045, limit to no more than 5% of total heat input on an hourly basis, and a maximum of 6,000 gallons per calendar year. The oil shall be used oil which is defined as any oil which has been used and as a result of such use has become contaminated by physical or chemical impurities.	Minn. R. 7007.0800, subp. 2
Combust on-site generated EDTA-type boiler cleaning agents only under the following conditions: 1. EU 003 must be operating at or above 75% of rated capacity; 2. cleaning agent feed rate shall not exceed 16 gpm; 3. Flue gas oxygen shall not be less than 3% on an instantaneous basis.	Minn. R. 7007.0800, subp. 2
FUEL MONITORING AND RECORDKEEPING	hdr
Recordkeeping - Coal Heat Input: calculate and record the EU 003 hourly heat input rate in million Btus per hour when combusting coal. Calculate and record the 8-hour block average heat input according to Minn. R. 7017.2025, subp. 3a.(A).	Minn. R. 7007.0800, subp. 2
Coal Sulfur Content and SO ₂ Emissions Monitoring: obtain a fuel certification from the coal supplier for each coal delivery stating the percent sulfur by weight and heat content of the coal. Calculate and record the corresponding SO ₂ emission rate for the coal from each delivery, within 15 days after delivery.	Minn. R. 7007.0800, subp. 4 and 5
TESTING REQUIREMENTS	hdr
Initial Performance Test: due 545 days after 09/16/1999 to measure total particulate matter emissions and visible emissions while combusting coal.	Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test. See Table B for additional performance testing requirements.	Minn. R. 7017.2035, subp. 4
CONTINUOUS MONITORING	hdr
Emissions Monitoring: The owner or operator shall use a COMS to measure opacity emissions from EU 003.	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, the COMS shall be in continuous operation. This requirement applies regardless of the fuel type combusted.	Minn. R. 7007.0800, subp. 2
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. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/26/00

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 003

COMS Certification Test: due 180 days after Permit Issuance.	Minn. R. 7007.0800, subp. 2
COMS Certification Test Pretest Meeting: due 7 days before COMS Certification Test	Minn. R. 7007.0800, subp. 2
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 60, Appendix B.	Minn. R. 7017.1000
COMS Calibration Error Audit: due before end of each calendar half-year following COMS Certification Test. Conduct audits at least 3 months apart but no greater than 8 months apart.	Minn. R. 7007.0800, subp. 2
Recordkeeping: The owner or operator must retain records of all COMS 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. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/26/00

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 003

Subject Item: EU 004 Gas Turbine #5 (simple cycle)**Associated Items:** GP 001 Boilers and Gas Turbine

SV 004

What to do	Why to do it
EMISSION AND OPERATIONAL LIMITS	hdr
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input	Minn. R. 7011.2300, subp. 2
Opacity: less than or equal to 20 percent opacity once operating temperature has been attained.	Minn. R. 7011.2300, subp. 1
MONITORING	hdr
Fuel Supplier Certification: the permittee shall obtain a certification from the distillate fuel oil supplier specifying the sulfur content in percent by weight, for each fuel oil delivery. Note that an SO ₂ emission rate of 0.5 lb/mmBtu occurs when distillate fuel oil with a sulfur content of 0.496% by weight is combusted in EU 004.	Minn. R. 7007.0800, subp. 4
TESTING REQUIREMENTS	hdr
Initial Performance Test: due 545 days after 09/16/1999 to measure visible emissions.	Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test. See Table B for additional performance testing requirements.	Minn. R. 7017.2035, subp. 4

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/26/00

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 003

Subject Item: EU 005 Gas Turbine #7 (simple cycle)**Associated Items:** SV 005

What to do	Why to do it
NSPS AND OTHER REQUIREMENTS	hdr
Recordkeeping: Maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the facility including; any malfunction of air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.	40 CFR Section 60.7(b), Minn. R. 7019.0100, subp. 1
Nitrogen Oxides: less than or equal to 75 parts per million at 15 percent oxygen and on a dry basis.	40 CFR Section 60.332(b); Minn. R. 7011.2350; Title I Condition: Limit to avoid classification as a major modification under 40 CFR Section 52.21
Sulfur Dioxide: less than or equal to 0.015 percent by volume at 15 percent oxygen and on a dry basis.	40 CFR Section 60.333(a); Minn. R. 7011.2350
Install and operate a continuous monitoring system to monitor and record the fuel consumption and the ratio of water to fuel being fired in the turbine. This system shall be accurate to within +/- 5.0 percent and shall be approved by the Administrator. The continuous monitoring system must be functional and in use by the time that EU 005 is initially operated.	40 CFR Section 60.334(a); Minn. R. 7011.2350
Monitor the sulfur content and the nitrogen content of the fuel being fired in the turbine. The monitoring values shall be determined on each occasion that fuel is transferred to the storage tank from any other source, and these values may be obtained from fuel supplier written certification. Analysis of sulfur content and nitrogen content of the fuel must be performed according to the procedures specified in 40 CFR Section 60.335.	40 CFR Section 60.334(b)(1); Minn. R. 7011.2350
Notification of any physical or operational change which increases emission rate: due 60 days (or as soon as practical) before the change is commenced. Within 180 days of completion of any physical or operational change subject to the control measures specified in 60.14(a), compliance with all applicable standards must be achieved.	40 CFR Section 60.7(a)(4); Minn. R. 7019.0100, subp. 1
No owner or operator shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard.	40 CFR Section 60.12
NOx Excess Emissions Reporting: For the purpose of reports under 40 CFR Section 60.7(c), report any one-hour period during which the water-to-fuel ratio, as measured by the continuous monitoring system, falls below the water-to-fuel ratio determined to demonstrate compliance with 40 CFR Section 60.332 by the performance test required in 40 CFR Section 60.8 or any period during which the fuel-bound nitrogen of the fuel is greater than the fuel-bound nitrogen allowance used during the performance test. Each report shall include the average water-to-fuel ratio, average fuel consumption, ambient conditions, gas turbine load, and nitrogen content of the fuel during the period of excess emissions, and the graphs or figures developed under 40 CFR Section 60.335(a).	40 CFR Section 60.334(c)(1); Minn. R. 7011.2350
TITLE I CONDITIONS	hdr
Sulfur Content of Fuel: less than or equal to 0.34 percent by weight	Title I Condition: Limit to avoid classification as a Major Modification under 40 CFR Section 52.21
Each time the storage tank is filled, obtain supplier certification that the fuel meets the definition of distillate oil and contains less than or equal to than 0.34 percent sulfur by weight. Fuel supplier certification shall include, at a minimum, the name of the supplier, address of the supplier, sulfur content of fuel, and a statement that the fuel meets the definition of distillate oil.	Title I Condition: Monitoring to avoid classification as a Major Modification under 40 CFR Section 52.21
Recordkeeping: Record the quantity of fuel combusted for the previous month by the 15th day of each month.	Title I Condition: Recordkeeping to avoid classification as a Major Modification under 40 CFR Section 52.21
Recordkeeping: Calculate and record a new 12-month Rolling Sum of fuel usage for the previous 12-month period by the 15th day of each month.	Title I Condition: Recordkeeping to avoid classification as a Major Modification under 40 CFR Section 52.21
Fuel Usage: less than or equal to 1625648 gallons/year using 12-month Rolling Sum	Title I Condition: Limit to avoid classification as a Major Modification under 40 CFR Section 52.21
Maintain records of actual fuel usage and the calculated 12-month Rolling Sum on-site. Maintain records of fuel supplier certifications on-site.	Title I Condition: Recordkeeping to avoid classification as a Major Modification under 40 CFR Section 52.21
PERFORMANCE TESTING REQUIREMENTS	hdr
Initial Performance Test: due 60 days after achieving normal operation, but not less than 180 days after initial startup. The performance test shall be used to verify the turbine manufacturer's specified 75 ppm maximum NOx concentration in the turbine exhaust.	Minn. R. 7017.2020, subp. 1; 40 CFR Section 60.8(a)

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/26/00

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 003

Performance Test Notifications and Submittals: Performance Tests are due as outlined in Tables A and B of the permit. See Table B for additional testing requirements. Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-test Meeting: due 7 days before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy: due 105 days after each Performance Test	Minn. R. 7017.2030, subp. 1-4 and Minn. R. 7017.2035, subp. 1-2
Performance Test Pre-test Meeting: due 7 days before Performance Test	Minn. R. 7017.2030, subp. 4
GENERAL REQUIREMENTS	hdr
Fuel: Distillate fuel oil only	Minn. R. 7007.0800, subp. 2

TABLE B: SUBMITTALS

10/26/00

Facility Name: New Ulm Public Utilities-Municipal Power
Permit Number: 01500010 - 003

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

10/26/00

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 003

What to send	When to send	Portion of Facility Affected
COMS Certification Test Notification	due 30 days before COMS Certification Test	EU003
COMS Certification Test Plan	due 30 days before COMS Certification Test	EU003
COMS Certification Test Report - Microfiche Copy	due 105 days after COMS Certification Test	EU003
COMS Certification Test Report	due 45 days after COMS Certification Test	EU003
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup	EU005
Notification of the Anticipated Date of Initial Startup	due 30 days before Anticipated Date of Initial Startup, but no more than 60 days prior to Anticipated Date of Initial Startup.	EU005
Notification of the Date Construction Began	due 30 days after Start Of Construction. Submit the name and number of each unit and the date construction of each unit began.	EU005
Performance Test Notification (written)	due 30 days before Initial Performance Test	EU003, EU004
Performance Test Notification (written)	due 30 days before Performance Test	EU005
Performance Test Plan	due 30 days before Initial Performance Test	EU003, EU004
Performance Test Plan	due 30 days before Performance Test	EU005
Performance Test Report - Microfiche Copy	due 105 days after Performance Test	EU003, EU004, EU005
Performance Test Report	due 45 days after Initial Performance Test	EU003, EU004
Performance Test Report	due 45 days after Performance Test	EU005
Testing Frequency Plan	due 60 days after Initial Performance Test for total particulate matter and visible emissions. The plan shall specify a testing frequency using the intital performance test data and MPCA test frequency guidance. Future performance tests at year (12-month), 36-month, and 60-month intervals, or as applicable, shall be required on written approval of MPCA per Minn. R. 7017.2020, subp. 1.	EU003
Testing Frequency Plan	due 60 days after Initial Performance Test for visible emissions. The plan shall specify a testing frequency using the intital performance test data and MPCA test frequency guidance. Future performance tests at year (12-month), 36-month, and 60-month intervals, or as applicable, shall be required on written approval of MPCA per Minn. R. 7017.2020, subp. 1.	EU004

TABLE B: RECURRENT SUBMITTALS

10/26/00

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 003

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 Initial Startup of the Monitor	EU005
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
COMS Calibration Error Audit Results Summary	due 30 days after end of each calendar half-year following COMS Calibration Error Audit	EU003
Semiannual Deviations Report	due 30 days after end of each calendar half-year starting 09/16/1999. 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. If no deviations have occurred, the Permittee shall submit the report stating no deviations.	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

TECHNICAL SUPPORT DOCUMENT
for
DRAFT AIR EMISSION PERMIT 01500010-003

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

1. General Information

1.1. Applicant and Stationary Source Location:

Owner/Operator Address and Telephone Number	Facility Address (SIC Code: 4931)
New Ulm Public Utilities – Municipal Power 100 North Broadway New Ulm, Minnesota 56073 (507) 359-8238	New Ulm Public Utilities – Municipal Power 310 First North Street New Ulm, Minnesota 56073

1.2. Description of the Facility

This facility is a municipal utility that provides electricity and steam. The facility operates three boilers (Boilers No. 1 and 2 are natural gas-fired and Boiler No. 4 is natural gas- and coal-fired) and one simple cycle distillate oil-fired combustion turbine generator (Gas Turbine No. 5). A fourth boiler (Boiler No. 3) is retired and not permitted to operate.

Total generating capacity is 76.2 megawatts, with 26.4 megawatts produced by the gas turbine. According to 40 CFR § 72.6(b)(1) and (2), none of the electric generating equipment is subject to Title IV because all units commenced operation before November 15, 1990, none of the units serve generators with a capacity exceeding 25 megawatts, and the gas turbine is a simple cycle unit.

The facility is located in an area that is designated in attainment with ambient air standards or unclassified for all pollutants. Very little coal is used by this facility, and therefore coal storage, coal handling, and ash handling are insignificant activities as defined in Minn. R. 7007.1300, subp. 4.

1.3. Description of Activities Allowed by this Permit Action

The city of New Ulm is proposing to install and operate a refurbished 1979 Pratt & Whitney FT4-3C simple cycle combustion turbine equipped with water injection. Addition of this turbine will complement the existing array of emission units previously described. Per manufacturer's specifications, the water injection facility is capable of reducing NOx emissions to 75 ppm, corrected to 15% oxygen in the exhaust in conformance with 40 CFR pt. 60, subp. GG. The distillate oil-fired turbine is rated at 26,350 Kilowatts and will be placed in peaking service. No other emission units at the facility will be affected by addition of the refurbished turbine.

1.4. Facility Emissions:

Table 1. Emissions Associated with the Modification

Pollutant	Potential to emit from the modification (lb/hr)	Potential to emit from the modification (TPY)	*Emission increases authorized with this permit action (TPY)	*Emission decreases authorized with this permit action (TPY)	*Other contemporaneous emission increases/decreases (TPY)	Net emission change (TPY)	NSR/ 112(g) threshold level (TPY)	NSR/ MACT review required (Yes or No)
PM	4.20	1.40	NA	NA	NA	NA	25	No
PM10	4.20	1.40	NA	NA	NA	NA	15	No
SO2	120.10	39.00	NA	NA	NA	NA	40	No
NOx	120.40	39.10	NA	NA	NA	NA	40	No
VOC	0.10	0.05	NA	NA	NA	NA	40	No
CO	2.70	0.90	NA	NA	NA	NA	100	No
Lead	0.0054	0.002	NA	NA	NA	NA	0.6	No

*Emission increases allowed with the permit action include additions and subtractions associated with netting. If netting is done, this will be different from the potential to emit from the modification.

Table 2. Uncontrolled/Unlimited Potential to Emit Summary

Emission Unit	Stack/Vent	Emission Unit Description	PM tpy	PM-10 tpy	SO2 tpy	NOx tpy	CO tpy	VOC tpy	Pb tpy
EU 005	SV 005	Gas Turbine #7	18.4	18.4	526.2	527.1	11.7	0.6	0.021
		Total Facility Actual Emissions*	2.05	2.05	1.19	82.31	24.95	1.96	NA

*Total Facility Actual Emissions as indicated are from 1998 MPCA emissions inventory database.

Table 3. Permit Action Classification

Classification	Major/Affected Source	*Synthetic Minor	*Minor
PSD		X	
NAAR			
Part 70 Permit Program	X		

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

2. Regulatory and/or Statutory Basis of Emission Limits

Table 4. Regulatory Overview*

Subject Item(s)	Applicable Regulations	Comments
Total Facility	Part 70 of the Clean Air Act	The existing facility (including the proposed modification) is subject to the general requirements for Part 70 facilities.
EU 005	40 CFR Section 60.7; 40 CFR Subpart GG; Minn. R. 7019.0100	The proposed turbine is subject to New Source Performance Standards for Stationary Gas Turbines. These permit terms include notifications, performance testing requirements, and nitrogen oxides and sulfur dioxide emission limits.
EU 005	40 CFR Section 52.21	To avoid classification as a major modification under New Source Review, the proposed modification is subject to Title I conditions. These conditions include monitoring, record keeping, and reporting requirements, restrictions on fuel usage, and a limit for distillate fuel oil sulfur content.
EU 005	Minn. R. ch. 7017; 40 CFR Section 60.8(a)	The proposed emission unit is subject to performance testing requirements to verify the manufacturer's specified maximum 75 ppm nitrogen oxides concentration in the turbine exhaust.

* Please refer to the permit for a complete citation of regulatory requirements. This overview pertains only to proposed modification; the existing facility's regulatory requirements are described elsewhere.

3. Technical Information

Potential emissions were calculated using AP-42 emission factors [Chapter 3.1, Table 3.1-2a (Emission Factors for Criteria Pollutants and Greenhouse Gases from Stationary Gas Turbines)]. The only exception to this is that nitrogen oxides potential emissions were calculated using a manufacturer's specified maximum concentration of 75 ppm in the exhaust stream. Because this

emission factor is critical in the modification being classified as synthetic minor relative to New Source Review, performance testing will be required. Example calculations for potential emissions are as follows:

VOC potential emissions

$$\begin{aligned}\text{VOC, tons/year} &= (4.1 \times 10^{-4} \text{ lb/MMBtu})(350 \text{ MMBtu/hr})(8,760 \text{ hr/year})(1 \text{ ton}/2,000 \text{ lb}) \\ &= 0.6 \text{ tons/year}\end{aligned}$$

NOx potential emissions

$$\begin{aligned}\text{NOx, tons/year} &= (75 \text{ ppm}/10^6)(220,935 \text{ cfm})(526 \times 10^3 \text{ min/yr})(46 \text{ lb/lb-mol}) \\ &\quad (380 \text{ cf/lb-mol})^{-1}(1 \text{ ton}/2,000 \text{ lb}) \\ &= 527 \text{ tons/year}\end{aligned}$$

To assure that the National Ambient Air Quality Standards would not be exceeded in the vicinity of the proposed emission unit during operation at maximum capacity, a screening modeling procedure was undertaken. SCREEN3 was run using input parameters specific to this emission unit and the surrounding buildings and other structures. The following table summarizes the results of the modeling effort:

Pollutant	Averaging Time (hours)	Potential to Emit (lb/hr)	Ambient Air Impact (microgram/m ³)	Target Level (microgram/m ³)	Pass Screening?
PM10	24	4.2	0.97	150	Yes
SO2	3	120.1	62.09	1,300	Yes
SO2	24	120.1	27.60	365	Yes
NOx	1	120.4	69.13	3,750	Yes
NOx	24	120.4	27.65	938	Yes
CO	1	2.7	1.55	40,000	Yes
CO	8	2.7	1.09	10,000	Yes

4. Conclusion

Based on information provided by New Ulm Public Utilities, the Minnesota Pollution Control Agency has reasonable assurance that the proposed operation of the emission facility, as described in Air Emission Permit No. 01500010-003 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: Rhonda Land
Jim Robin
Steve Sommer