

TECHNICAL SUPPORT DOCUMENT
For
DRAFT/PROPOSED AIR EMISSION PERMIT NO. 01500010-008

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

1. General Information

1.1 Applicant and Stationary Source Location:

Table 1. Applicant and Source Address

Applicant/Address	Stationary Source/Address (SIC Code: 4911)
City of New Ulm 310 1 st North Street New Ulm, MN 56073	New Ulm Public Utilities – Municipal Power 310 1 st North Street New Ulm, Brown County
Contact: Patrick Wrase, 507-359-8202	

1.2 Facility Description

New Ulm Public Utilities is a municipal utility that provides electricity and steam. The Facility operates three boilers: EU001 and EU002 are natural gas-fired and EU003 is natural gas- and coal-fired; and two simple cycle distillate oil-fired combustion turbine generators: EU004 and EU005.

Total generating capacity is 76.2 megawatts. Under 40 CFR § 72.6(b)(1) and (2), none of the electric generating equipment is subject to Title IV (Acid Rain requirements) because all units commenced operation before November 15, 1990.

Currently, coal is not used by the Facility, and therefore the existing coal storage, coal handling, and ash handling are insignificant activities as defined in Minn. R. 7007.1300. See Appendix B of this permit for all listed insignificant activities.

1.3 Description of the Activities Allowed by this Permit Action

This permit action is a major amendment authorizing a modification of EU002. EU002 is a natural gas-fired boiler. The modification consists of replacement of the three existing burners with a single new burner, not to exceed 99 MMBtu/hour. This increases the capacity of the boiler, because while the current rated capacity of the three existing burners is 106 MMBtu/hour, the natural gas supply lines have been removed from two of the burners.

In addition, the following administrative changes were made to the permit through this action:

- Citations and permit language were brought up to date with current practice;
- The “space heaters” were removed from the list of insignificant activities in Appendix B, because the only heaters on site are steam heated from the boilers (they do not combust fuel);
- The fugitive control plan with which the facility is required to comply while handling coal was attached to the permit as Appendix C (coal is not currently handled by the facility, so compliance with the fugitive control plan is not required at the time of permit issuance, but only upon resumption of coal combustion);

- The Title I citation associated with coal usage at EU003 was corrected to say that the limit is to avoid classification as a major source under 40 CFR § 63.2. (The citation previously incorrectly stated that the limit was to avoid classification as a major source under 40 CFR § 70.2 (Part 70); the permit is a Part 70 permit, so applicability of Part 70 is not being avoided. Review of the calculations associated with the previous permit shows that the limit was actually to avoid major source status under Part 63.)

1.4. Facility Emissions:

Table 2. Title I Emissions Increase Summary

Pollutant	Potential Emissions⁽¹⁾ (tpy)	Proposed Limited Emissions⁽²⁾ (tpy)	Baseline Actual Emissions⁽³⁾ (tpy)	Emissions Increase (tpy)	NSR Significant Emission Rate for Major Sources⁽⁴⁾ (tpy)	NSR Review Required? (Yes/No)
PM	3.21	0.59	0.063	0.53	25	No
PM ₁₀	3.21	0.59	0.063	0.53	15	No
PM _{2.5}	3.21	0.59	0.063	0.53	10	No
NO _x	42.18	39.0	4.12	34.88	40	No
SO ₂	0.25	0.23	0.025	0.21	40	No
CO	35.43	32.8	3.46	29.3	100	No
Ozone (VOC)	2.32	2.2	0.227	1.92	40	No
Lead	2.11 x 10 ⁻⁴	1.95 x 10 ⁻⁴	2.06 x 10 ⁻⁴	1.74 x 10 ⁻⁴	0.6	No
CO ₂ e ⁽⁵⁾	51,000	47,000	5000	42,000	75,000	No

⁽¹⁾ Potential Emissions as defined in 40 CFR § 52.21(b)(4)

⁽²⁾ Proposed Limited Emissions means the limited/controlled emission rates proposed by the applicant.

⁽³⁾ Baseline Actual Emissions as defined in 40 CFR § 52.21(b)(48).

⁽⁴⁾ The Significant Emission Rate for major sources is as defined at 40 CFR § 52.21(b)(23)

⁽⁵⁾ Carbon dioxide equivalents as defined in Minn. R. 7007.0100.

Table 3. Total Facility Potential to Emit Summary

	PM tpy	PM₁₀ tpy	PM_{2.5} tpy	SO₂ tpy	NO_x tpy	CO tpy	CO₂e Tpy	VOC tpy	Single HAP tpy	All HAPs tpy
Total Facility Limited Potential Emissions (post-modification)	40.6	39.4	38.3	1139	1772	178.6	503000	10.6	9.0	15.2
Total Facility Actual Emissions (2011)	0.02	0.08	NR*	0.12	33.7	13.7	NR	0.90	NR	

* NR = Not reported in MN emission inventory.

Table 4. Facility Classification

Classification	Major/Affected Source	Synthetic Minor/Area	Minor/Area
PSD	X		
Part 70 Permit Program	X		
Part 63 NESHAP		X	

2. Regulatory and/or Statutory Basis

2.1. New Source Review (NSR)

The facility is an existing major source under NSR. The change authorized by this amendment is not subject to NSR, as shown in Table 2, because the emissions increase is less than the significant emission rate for all pollutants.

2.2. Part 70 Permit Program

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

2.3. New Source Performance Standards (NSPS)

The modification to EU002 results in an increase in potential hourly emissions. The boiler was not previously subject to an NSPS, but as a result of the modification, NSPS Subpart Dc—Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units applies.

2.4. National Emission Standards for Hazardous Air Pollutants (NESHAP)

The facility has accepted limits on HAP emissions such that it is an area source under 40 CFR Part. 63. Thus, no major source NESHAPs apply. In addition, NESHAP Subpart JJJJJ—National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources does not apply, because the boiler is a gas-fired boiler as defined by the rule (40 CFR § 63.11195(e)).

2.5. Compliance Assurance Monitoring (CAM)

CAM does not apply to the modification allowed in this permit amendment, since the emission unit modified is not a large pollutant specific emission unit (PSEU). CAM for EU003 was incorporated into the Title V permit at the most recent reissuance, and a copy of that CAM plan is included as an attachment to this permit.

2.6. Environmental Review & AERA

The emissions increases associated with the modification are below the thresholds for requiring environmental review, and the project does not fall into any of the categories requiring mandatory environmental review. The facility is also not required to perform an Air Emissions Risk Analysis (AERA) for the proposed project.

2.7. Minnesota State Rules

The modified boiler was previously subject to Minn. R. 7011.0510 Standards of Performance for Existing Indirect Heating Equipment. With the proposed modification, the boiler becomes subject to NSPS Subpart Dc. Because “Parts 7011.0500 to 7011.0550 shall apply to indirect heating equipment for which a standard of performance has not been promulgated in a specific rule” (Minn. R. 7011.0505 Subpart 1), Minn. R. 7011.0510 no longer applies to the boiler.

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

Level	Applicable Regulations	Comments:
EU002	40 CFR pt. 60, subp. Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. Determination of applicable limits from rule: <ul style="list-style-type: none">• The unit is to be modified in 2012;• The modified heat input capacity is 99 MMBtu/yr; and• The fuel burned is natural gas

3. Technical Information

3.1 Calculations of Potential to Emit and Emissions Increase Analysis

Attachment 1 to this TSD contains a summary of the PTE of the Facility, and detailed spreadsheets and supporting information prepared by the MPCA and the Permittee.

The emissions increases associated with the modification were done by calculating (1) the post-modification potential to emit (future potential emissions) of the boiler, including the annual limit proposed by the permittee, and (2) the pre-modification actual emissions of the boiler (baseline actual emissions). Future potential emissions were calculated using the modified boiler capacity and emission factors published in AP-42 for natural gas combustion. Baseline actual emissions were calculated using the natural gas usage as reported in the annual emission inventory and emission factors published in AP-42. The selected baseline period was calendar years 2010 and 2011. The emissions increase for purposes of determining NSR applicability is the (future potential emissions) minus the (baseline actual emissions).

The AP-42 emission factors used are for uncontrolled emissions; the factor for NO_x emissions (the only one used for compliance demonstration in the permit) is rated "B" meaning it is "above average." It is developed from A- or B-rated test data from a "reasonable number" of facilities, meaning that the source category population is sufficiently specific to minimize variability. However, the permit still requires a test to demonstrate the NO_x emission rate to be used in the compliance calculations; the AP-42 factor is to be used prior to test data being obtained.

3.3 Periodic Monitoring

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

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

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

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

Table 6. Periodic Monitoring

Level	Requirement (rule basis)	Additional Monitoring	Discussion
EU002	NO _x : < 39.0 tpy on 12-month rolling sum (Title I)	Daily recordkeeping, monthly calculations Initial performance test determine emission factor	The boiler combusts only natural gas. Permittee shall use natural gas usage records and AP-42 emission factors to calculate monthly and 12-month rolling sum emissions.
	Recordkeeping of fuels used (NSPS Subpart Dc)	None	For natural gas boilers subject to Subpart Dc, no emission limits apply. The Permittee is required to simply keep track of the fuels used.

3.4 Insignificant Activities

The facility has several operations which are classified as insignificant activities under the MPCA's permitting rules. These are listed in Appendix B to the permit.

The permit is required to include periodic monitoring for all emissions units, including insignificant activities, per EPA guidance. The insignificant activities at this Facility are only subject to general applicable requirements. Using the criteria outlined earlier in this TSD, the following table documents the justification why no additional periodic monitoring is necessary for the current insignificant activities.

Table 7. Insignificant Activities

Insignificant Activity	General Applicable Emission limit	Discussion
Emissions from a laboratory, as defined in Minn. R. 7007.1300, subp. 3(G)	PM, variable depending on airflow Opacity ≤ 20% (Minn. R. 7011.0710/715)	The Permittee operates a water testing laboratory, which would typically not even have any emissions. It is highly unlikely that they could violate the applicable requirement.
Brazing, soldering or welding equipment	PM, variable depending on airflow Opacity ≤ 20% (Minn. R. 7011.0710/715)	For these units, based on EPA published emissions factors, it is highly unlikely that they could violate the applicable requirement. In addition, these units are typically operated and vented inside a building, so testing for PM or opacity is not feasible.
Individual units with potential emissions less than 1000 lb/year of certain pollutants	PM, variable depending on airflow Opacity ≤ 20% (with exceptions) (Minn. R. 7011.0715)	There is a single fuel oil storage tank and a parts washer, both of which are unlikely to have PM or visible emissions, and therefore unlikely to violate the emission limit. There is an ash silo. However, unless/until the Permittee actually starts combusting coal, there is no ash to deal with. The potential exists for operation of the coal

Insignificant Activity	General Applicable Emission limit	Discussion
		yard, including storage and handling of coal, and delivery of coal to facility and boiler. However, unless/until the Permittee starts to combust coal, these activities are considered insignificant. They were classified as insignificant in the previously issued Title V permit.
Individual units with actual emissions less than 2000 lb/year of certain pollutants, and HAP emissions below thresholds in Minn. R. 7007.1300, subp. 4	PM, variable depending on airflow Opacity \leq 20% (with exceptions) (Minn. R. 7011.0715)	There is a cooling tower, with reported actual emissions of 0.01 tpy. Visible emissions will be mostly steam. It's impractical to measure PM emissions. HCl is used to treat boiler water. It is unlikely that there would be PM or visible emissions from this operation.

3.5 Permit Organization

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

3.6 Comments Received

Public Notice Period: <start date> - <end date>

EPA 45-day Review Period: <start date> - <end date>

This Section will be completed after the referenced review periods.

4. **Permit Fee Assessment**

Attachment 3 to this TSD contains the MPCA's assessment of Application and Additional Points used to determine the permit fees for this permit action, as required by Minn. R. 7002.0019. The permit action includes one major amendment application, which was received after the effective date of the rule (July 1, 2009). The permit includes a synthetic minor limit for NO_x, and a newly applicable New Source Performance Standard.

5. **Conclusion**

Based on the information provided by New Ulm Public Utilities, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 01500010-008 and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team:

- Toni Volkmeier (permit writer/engineer)
- Jennifer Carlson (enforcement)
- Marshall Cole (peer reviewer)
- Laurie O'Brien (administrative support)

AQ File No. 709; DQ 3935

- Attachments:
1. PTE Summary and Emissions Increase Calculation Spreadsheets
 2. Facility Description and CD-01 Forms
 3. Points Calculator
 4. CAM Plan (EU003 only)

Attachment 1

Calculations and PTE Summary

FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 01500010

Facility Name: New Ulm Public Utilities-Municipal Power

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
Acetaldehyde							
	EU 003	PER 006		5.590E-03	2.450E-02	4.280E-03	
Totals					0.000E+00	0.000E+00	0.000E+00
Acetophenone							
	EU 003	PER 006		1.470E-04	6.440E-04	1.130E-04	
Totals					0.000E+00	0.000E+00	0.000E+00
Acrolein							
	EU 003	PER 006		2.840E-03	1.250E-02	2.180E-03	
Totals					1.250E-02	2.180E-03	0.000E+00
Benzene							
	EU 001	PER 006		1.950E-04	8.530E-04	8.530E-04	
	EU 002	PER 006		2.150E-04	9.420E-04	9.420E-04	
	EU 003	PER 006		1.280E-02	5.590E-02	1.130E-02	
	EU 004	PER 006		1.940E-02	8.480E-02	8.480E-02	
	EU 005	PER 006		1.930E-02	8.430E-02	6.214E-03	
Totals					2.268E-01	1.041E-01	0.000E+00
Arsenic compounds							
	EU 001	PER 006		1.830E-05	8.010E-05	8.010E-05	
	EU 002	PER 006		2.020E-05	8.840E-05	8.840E-05	
	EU 003	PER 006		4.020E-03	1.760E-02	3.220E-03	
	EU 004	PER 006		3.870E-03	1.700E-02	1.700E-02	
	EU 005	PER 006		3.850E-03	1.690E-02	1.243E-03	
Totals					5.167E-02	2.163E-02	0.000E+00
Benzyl chloride							
	EU 003	PER 006		6.870E-03	3.010E-02	5.250E-03	
Totals					0.000E+00	0.000E+00	0.000E+00
Biphenyl							
	EU 003	PER 006		1.670E-05	7.300E-05	1.280E-05	
Totals					0.000E+00	0.000E+00	0.000E+00
Bis(2-ethylhexyl) phthalate							
	EU 003	PER 006		7.160E-04	3.140E-03	5.480E-04	
Totals					0.000E+00	0.000E+00	0.000E+00
Bromoform							
	EU 003	PER 006		3.840E-04	1.680E-03	2.930E-04	
Totals					0.000E+00	0.000E+00	0.000E+00

FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 01500010

Facility Name: New Ulm Public Utilities-Municipal Power

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
Bromomethane							
	EU 003	PER 006		1.570E-03	6.870E-03	1.200E-03	
Totals					6.870E-03	1.200E-03	0.000E+00
1,3-Butadiene							
	EU 004	PER 006		5.630E-03	2.470E-02	2.470E-02	
	EU 005	PER 006		5.600E-03	2.450E-02	1.808E-03	
Totals					4.920E-02	2.651E-02	0.000E+00
Beryllium							
	EU 001	PER 006		1.100E-06	4.810E-06	4.810E-06	
	EU 002	PER 006		1.210E-06	5.310E-06	5.310E-06	
	EU 003	PER 006		6.180E-04	2.710E-03	4.810E-04	
	EU 004	PER 006		1.090E-04	4.780E-04	4.780E-04	
	EU 005	PER 006		1.090E-04	4.750E-04	3.500E-05	
Totals					3.673E-03	1.004E-03	0.000E+00
Carbon disulfide							
	EU 003	PER 006		1.280E-03	5.590E-03	9.750E-04	
Totals					5.590E-03	9.750E-04	0.000E+00
Carbon Dioxide Equivalent							
	EU 001	PER 008		1.121E+04	4.910E+04	4.910E+04	
	EU 002	PER 008		1.156E+04	5.063E+04	4.681E+04	
	EU 003	PER 008		4.846E+04	2.122E+05	1.370E+05	
	EU 004	PER 008		5.747E+04	2.517E+05	2.517E+05	
	EU 005	PER 008		5.714E+04	2.503E+05	1.831E+04	
Totals					8.139E+05	5.030E+05	0.000E+00
Chlorine							
	FS 001	PER 001		1.644E-01	7.200E-01	7.200E-01	7.200E-01
	FS 001	PER 008		0.000E+00	0.000E+00	0.000E+00	0.000E+00
Totals					0.000E+00	0.000E+00	0.000E+00
2-Chloroacetophenone							
	EU 003	PER 006		6.870E-05	3.010E-04	5.250E-05	
Totals					0.000E+00	0.000E+00	0.000E+00
Chlorobenzene							
	EU 003	PER 006		2.160E-04	9.450E-04	1.650E-04	
Totals					0.000E+00	0.000E+00	0.000E+00
Chloroethane							
	EU 003	PER 006		4.120E-04	1.800E-03	3.150E-04	
Totals					1.800E-03	3.150E-04	0.000E+00

FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 01500010

Facility Name: New Ulm Public Utilities-Municipal Power

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
Cadmium compounds							
	EU 001	PER 006		1.010E-04	4.410E-04	4.410E-04	
	EU 002	PER 006		1.110E-04	4.860E-04	4.860E-04	
	EU 002	PER 008		1.060E-04	4.640E-04	4.290E-04	
	EU 003	PER 006		5.000E-04	2.190E-03	1.160E-03	
	EU 004	PER 006		1.690E-02	7.400E-02	7.400E-02	
	EU 005	PER 006		1.680E-02	7.360E-02	5.423E-03	
Totals					1.507E-01	8.145E-02	0.000E+00
Methane							
	EU 002	PER 008		2.200E-01	9.500E-01	8.800E-01	
Totals					9.500E-01	8.800E-01	0.000E+00
Cyanide compounds							
	EU 003	PER 006		2.450E-02	1.070E-01	1.880E-02	
Totals					1.070E-01	1.880E-02	0.000E+00
Carbon Monoxide							
	EU 001	PER 006		7.680E+00	3.364E+01	3.364E+01	
	EU 001	PER 008		7.840E+00	3.436E+01	3.436E+01	
	EU 002	PER 006		8.480E+00	3.714E+01	3.714E+01	
	EU 002	PER 008		8.090E+00	3.543E+01	3.276E+01	
	EU 003	PER 006		4.905E+01	2.148E+02	9.708E+01	
	EU 003	PER 008		4.693E+01	2.056E+02	1.060E+02	
	EU 004	PER 006		1.160E+00	5.090E+00	5.090E+00	
	EU 005	PER 006		2.660E+01	1.165E+02	8.590E+00	
	EU 005	PER 008		1.160E+00	5.060E+00	3.700E-01	
Totals					2.855E+02	1.786E+02	0.000E+00
Carbon Dioxide							
	EU 002	PER 008		1.155E+04	5.056E+04	4.677E+04	
Totals					5.056E+04	4.677E+04	0.000E+00
Cobalt compounds							
	EU 003	PER 006		9.810E-04	4.300E-03	7.500E-04	
Totals					4.300E-03	7.500E-04	0.000E+00
Chromium compounds							
	EU 001	PER 006		1.280E-04	5.610E-04	5.610E-04	
	EU 002	PER 006		1.410E-04	6.190E-04	6.190E-04	
	EU 002	PER 008		1.350E-04	5.910E-04	5.460E-04	
	EU 003	PER 006		2.550E-03	1.120E-02	2.940E-03	
	EU 004	PER 006		3.870E-03	1.700E-02	1.700E-02	

FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 01500010

Facility Name: New Ulm Public Utilities-Municipal Power

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
Chromium compounds							
	EU 005	PER 006		3.850E-03	1.690E-02	1.243E-03	
Totals					4.625E-02	2.229E-02	0.000E+00
Cumene							
	EU 003	PER 006		5.200E-05	2.280E-04	3.980E-05	
Totals					2.280E-04	3.980E-05	0.000E+00
1,4-Dichlorobenzene							
	EU 001	PER 006		1.100E-04	4.810E-04	4.810E-04	
	EU 002	PER 006		1.210E-04	5.310E-04	5.310E-04	
	EU 002	PER 008		1.160E-04	5.060E-04	4.680E-04	
	EU 003	PER 006		2.350E-04	1.030E-03	1.030E-03	
Totals					9.870E-04	9.490E-04	0.000E+00
1,2-Dichloroethane							
	EU 003	PER 006		3.920E-04	1.720E-03	3.000E-04	
Totals					0.000E+00	0.000E+00	0.000E+00
Dimethyl sulfate							
	EU 003	PER 006		4.710E-04	2.060E-03	3.600E-04	
Totals					0.000E+00	0.000E+00	0.000E+00
2,4-Dinitrotoluene							
	EU 003	PER 006		2.750E-06	1.200E-05	2.100E-06	
Totals					0.000E+00	0.000E+00	0.000E+00
Ethylbenzene							
	EU 003	PER 006		9.220E-04	4.040E-03	7.050E-04	
Totals					4.040E-03	7.050E-04	0.000E+00
Formaldehyde							
	EU 001	PER 006		6.860E-03	3.000E-02	3.000E-02	
	EU 002	PER 006		7.570E-03	3.320E-02	3.320E-02	
	EU 002	PER 008		7.220E-03	3.160E-02	2.930E-02	
	EU 003	PER 006		1.470E-02	6.440E-02	6.440E-02	
	EU 004	PER 006		9.860E-02	4.320E-01	4.320E-01	
	EU 005	PER 006		9.800E-02	4.290E-01	3.164E-02	
Totals					9.870E-01	5.873E-01	0.000E+00
Hexane							
	EU 001	PER 006		1.650E-01	7.210E-01	7.210E-01	
	EU 002	PER 006		1.820E-01	7.960E-01	7.960E-01	
	EU 002	PER 008		1.730E-01	7.590E-01	7.020E-01	

FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 01500010

Facility Name: New Ulm Public Utilities-Municipal Power

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
Hexane							
	EU 003	PER 006		3.530E-01	1.550E+00	1.550E+00	
Totals					1.480E+00	1.423E+00	0.000E+00
Hydrogen fluoride							
	EU 003	PER 006		1.470E+00	6.440E+00	1.130E+00	
Totals					0.000E+00	0.000E+00	0.000E+00
Methyl methacrylate							
	EU 003	PER 006		1.960E-04	8.590E-04	1.500E-04	
Totals					0.000E+00	0.000E+00	0.000E+00
Methylhydrazine							
	EU 003	PER 006		1.670E-03	7.300E-03	1.280E-03	
Totals					7.300E-03	1.280E-03	0.000E+00
Naphthalene							
	EU 001	PER 006		5.580E-05	2.440E-04	2.440E-04	
	EU 002	PER 006		6.160E-05	2.700E-04	2.700E-04	
	EU 002	PER 008		5.870E-05	2.570E-04	2.380E-04	
	EU 003	PER 006		1.280E-04	5.590E-04	5.300E-04	
	EU 004	PER 006		1.230E-02	5.400E-02	5.400E-02	
	EU 005	PER 006		1.230E-02	5.370E-02	3.954E-03	
Totals					1.088E-01	5.897E-02	0.000E+00
HAPs - Total							
	EU 001	PER 006		1.730E-01	7.580E-01	7.580E-01	
	EU 001	PER 008		1.760E-01	7.710E-01	7.710E-01	
	EU 002	PER 006		1.910E-01	8.370E-01	8.370E-01	
	EU 002	PER 008		1.820E-01	7.970E-01	7.360E-01	
	EU 003	PER 006		1.370E+01	6.010E+01	1.160E+01	
	EU 004	PER 006		0.000E+00	0.000E+00	2.050E+00	
	EU 004	PER 008		4.530E-01	1.990E+00	1.990E+00	
	EU 005	PER 006			2.040E+00	1.500E-01	
	EU 005	PER 008		4.510E-01	1.970E+00	1.440E-01	
	FS 001	PER 001		1.644E-01	7.200E-01	7.200E-01	7.200E-01
	FS 001	PER 008		0.000E+00	0.000E+00	0.000E+00	0.000E+00
	FS 002	PER 001		2.510E-01	1.100E+00	1.100E+00	1.100E+00
	FS 002	PER 008		0.000E+00	0.000E+00	0.000E+00	0.000E+00
Totals					6.563E+01	1.524E+01	0.000E+00
Mercury							
	EU 001	PER 006		2.380E-05	1.040E-04	1.040E-04	

FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 01500010

Facility Name: New Ulm Public Utilities-Municipal Power

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
Mercury							
	EU 002	PER 006		2.620E-05	1.150E-04	1.150E-04	
	EU 002	PER 008		2.500E-05	1.100E-04	1.010E-04	
	EU 003	PER 006		1.240E-03	5.410E-03	1.130E-03	
	EU 004	PER 006		4.220E-04	1.840E-03	1.840E-03	
	EU 005	PER 006		4.200E-04	1.840E-03	1.360E-04	
Totals					9.304E-03	3.311E-03	0.000E+00
Phenol							
	EU 003	PER 006		1.570E-04	6.870E-04	1.200E-04	
Totals					0.000E+00	0.000E+00	0.000E+00
Styrene							
	EU 003	PER 006		2.450E-04	1.070E-03	1.880E-04	
Totals					0.000E+00	0.000E+00	0.000E+00
Tetrachloroethylene							
	EU 003	PER 006		4.220E-04	1.830E-03	3.230E-04	
Totals					1.830E-03	3.230E-04	0.000E+00
Toluene							
	EU 001	PER 006		3.110E-04	1.360E-03	1.360E-03	
	EU 002	PER 006		3.430E-04	1.500E-03	1.500E-03	
	EU 002	PER 008		3.270E-04	1.430E-03	1.330E-03	
	EU 003	PER 006		6.670E-04	2.920E-03	2.920E-03	
Totals					2.790E-03	2.690E-03	0.000E+00
1,1,1-Trichloroethane							
	EU 003	PER 006		1.960E-04	8.590E-04	1.500E-04	
Totals					0.000E+00	0.000E+00	0.000E+00
Vinyl acetate							
	EU 003	PER 006		7.460E-05	3.270E-04	5.700E-05	
Totals					0.000E+00	0.000E+00	0.000E+00
Vinyl chloride							
	EU 003	PER 006		1.380E-03	6.050E-03	1.060E-03	
Totals					0.000E+00	0.000E+00	0.000E+00
Xylenes (mixed isomers)							
	EU 003	PER 006		3.630E-04	1.590E-03	2.780E-04	
Totals					0.000E+00	0.000E+00	0.000E+00
Hydrochloric acid							
	EU 003	PER 006		1.177E+01	5.156E+01	9.000E+00	
	FS 002	PER 001		2.510E-01	1.100E+00	1.100E+00	1.100E+00

FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 01500010

Facility Name: New Ulm Public Utilities-Municipal Power

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
Hydrochloric acid							
	FS 002	PER 008		0.000E+00	0.000E+00	0.000E+00	0.000E+00
Totals					5.156E+01	9.000E+00	0.000E+00
Manganese compounds							
	EU 001	PER 006		3.470E-05	1.520E-04	1.520E-04	
	EU 002	PER 006		3.840E-05	1.680E-04	1.680E-04	
	EU 002	PER 008		3.660E-05	1.600E-04	1.480E-04	
	EU 003	PER 006		4.810E-03	2.110E-02	3.940E-03	
	EU 004	PER 006		2.780E-01	1.220E+00	1.220E+00	
	EU 005	PER 006		2.770E-01	1.210E+00	8.926E-02	
Totals					2.451E+00	1.313E+00	0.000E+00
Ethylene dibromide (dibromoeth							
	EU 003	PER 006		1.180E-05	5.160E-05	9.000E-06	
Totals					5.160E-05	9.000E-06	0.000E+00
Nitrous Oxide							
	EU 002	PER 008		2.000E-02	1.000E-01	9.000E-02	
Totals					1.000E-01	9.000E-02	0.000E+00
Isophorone							
	EU 003	PER 006		5.690E-03	2.490E-02	4.350E-03	
Totals					0.000E+00	0.000E+00	0.000E+00
Methyl chloride (chloromethane							
	EU 003	PER 006		5.200E-03	2.280E-02	3.980E-03	
Totals					0.000E+00	0.000E+00	0.000E+00
Methyl tert butyl ether							
	EU 003	PER 006		3.430E-04	1.500E-03	2.630E-04	
Totals					0.000E+00	0.000E+00	0.000E+00
Methylene chloride (dichlorome							
	EU 003	PER 006		2.840E-03	1.250E-02	2.180E-03	
Totals					0.000E+00	0.000E+00	0.000E+00
Propionaldehyde							
	EU 003	PER 006		3.730E-03	1.630E-02	2.850E-03	
Totals					1.630E-02	2.850E-03	0.000E+00
Nickel compounds							
	EU 001	PER 006		1.920E-04	8.410E-04	8.410E-04	
	EU 002	PER 006		2.120E-04	9.290E-04	9.290E-04	
	EU 002	PER 008		2.020E-04	8.860E-04	8.190E-04	
	EU 003	PER 006		2.750E-03	1.200E-02	3.590E-03	

FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 01500010

Facility Name: New Ulm Public Utilities-Municipal Power

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
Nickel compounds							
	EU 004	PER 006		1.620E-03	7.090E-03	7.090E-03	
	EU 005	PER 006		1.610E-03	7.050E-03	5.200E-04	
Totals					2.787E-02	1.286E-02	0.000E+00
NOx							
	EU 001	MDL 001		1.280E+01		5.610E+01	5.610E+01
	EU 002	MDL 001		5.550E+01		2.430E+02	2.430E+02
	EU 002	PER 008		0.000E+00		0.000E+00	0.000E+00
	EU 003	MDL 001		1.197E+02		5.242E+02	5.242E+02
	EU 004	MDL 001		2.457E+02		1.076E+03	1.076E+03
	EU 005	MDL 001		1.204E+02		3.910E+01	5.271E+02
Totals					0.000E+00	1.696E+03	2.184E+03
Nitrogen Oxides							
	EU 001	PER 006		9.140E+00	4.005E+01	4.005E+01	
	EU 001	PER 008		9.340E+00	4.090E+01	4.090E+01	
	EU 002	PER 006		2.827E+01	1.238E+02	1.238E+02	
	EU 002	PER 008		9.630E+00	4.218E+01	3.900E+01	
	EU 003	PER 006		1.079E+02	4.726E+02	2.811E+02	
	EU 003	PER 008		1.033E+02	4.522E+02	3.107E+02	
	EU 004	PER 006		3.098E+02	1.357E+03	1.357E+03	
	EU 005	PER 006		1.204E+02	5.271E+02	3.910E+01	0.000E+00
	EU 005	PER 008		7.700E+01	3.373E+02	2.468E+01	0.000E+00
Totals					2.229E+03	1.772E+03	0.000E+00
PM < 2.5 micron							
	EU 001	PER 008		7.100E-01	3.110E+00	3.110E+00	
	EU 002	PER 008		1.500E-01	3.210E+00	5.900E-01	
	EU 003	PER 008			1.474E+01	1.474E+01	
	EU 004	PER 008			1.850E+01	1.850E+01	
	EU 005	PER 008		4.200E+00	1.840E+01	1.350E+00	
Totals					5.796E+01	3.829E+01	0.000E+00
Lead							
	EU 001	PER 006		4.570E-05	2.000E-04	2.000E-04	0.000E+00
	EU 002	PER 006		5.020E-05	2.200E-04	2.200E-04	0.000E+00
	EU 002	PER 008		4.820E-05	2.110E-04	1.950E-04	0.000E+00
	EU 003	PER 006		7.842E-02	4.581E-01	3.437E-01	0.000E+00
	EU 004	PER 006		4.930E-03	2.160E-02	2.160E-02	

FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 01500010

Facility Name: New Ulm Public Utilities-Municipal Power

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
Lead							
	EU 005	PER 006		4.900E-03	2.150E-02	1.582E-03	
Totals					5.016E-01	3.672E-01	0.000E+00
PM < 10 micron							
	EU 001	PER 006		6.900E-01	3.040E+00	3.040E+00	
	EU 001	PER 008		7.100E-01	3.110E+00	3.110E+00	
	EU 002	PER 006		7.700E-01	3.360E+00	3.360E+00	
	EU 002	PER 008		1.500E-01	3.210E+00	5.900E-01	
	EU 003	PER 006		3.830E+00	6.032E+02	4.000E+00	
	EU 003	PER 008		1.201E+01	5.772E+02	1.579E+01	
	EU 004	PER 006		4.220E+00	1.850E+01	1.850E+01	
	EU 005	PER 006		4.200E+00	1.840E+01	1.360E+00	
Totals					6.204E+02	3.935E+01	0.000E+00
Polycyclic organic matter							
	EU 001	PER 006		7.900E-06	3.460E-05	3.460E-05	
	EU 002	PER 006		8.720E-06	3.820E-05	3.820E-05	
	EU 002	PER 008		8.490E-06	3.720E-05	3.440E-05	
	EU 003	PER 006		3.270E-05	1.430E-04	8.630E-05	
	EU 004	PER 006		1.410E-02	6.170E-02	6.170E-02	
	EU 005	PER 006		1.400E-02	6.130E-02	4.519E-03	
Totals					1.232E-01	6.637E-02	0.000E+00
Total Particulate Matter							
	EU 001	PER 006		6.900E-01	3.040E+00	3.040E+00	
	EU 001	PER 008		7.100E-01	3.110E+00	3.110E+00	
	EU 002	PER 006		7.700E-01	3.360E+00	3.360E+00	
	EU 002	PER 008		1.500E-01	3.210E+00	5.900E-01	
	EU 003	PER 006		5.890E+00	2.836E+03	5.580E+00	
	EU 003	PER 008		1.404E+02	2.748E+03	1.699E+01	
	EU 004	PER 006		4.220E+00	1.850E+01	1.850E+01	0.000E+00
	EU 005	PER 006		4.200E+00	1.840E+01	1.360E+00	
Totals					2.791E+03	4.055E+01	0.000E+00
Antimony compounds							
	EU 003	PER 006		1.770E-04	7.730E-04	1.350E-04	
Totals					7.730E-04	1.350E-04	0.000E+00
Selenium compounds							
	EU 001	PER 006		2.190E-05	9.610E-05	9.610E-05	
	EU 002	PER 006		2.420E-05	1.060E-04	1.060E-04	

FACILITY DESCRIPTION: Potential-to-emit (by pollutant)

Show: Active and Pending Records

AQD Facility ID: 01500010

Facility Name: New Ulm Public Utilities-Municipal Power

Pollutant	Item	Added By (Action)	Retired By (Action)	Hourly Potential (lbs per hr)	Unrestricted Potential (tons per yr)	Limited Potential (tons per yr)	Actual Emissions (tons per yr)
Selenium compounds							
	EU 002	PER 008		2.310E-06	1.010E-05	9.360E-06	
	EU 003	PER 006		1.280E-02	5.590E-02	9.920E-03	
	EU 004	PER 006		8.800E-03	3.850E-02	3.850E-02	
	EU 005	PER 006		8.750E-03	3.830E-02	2.825E-03	
Totals					1.328E-01	5.135E-02	0.000E+00
Sulfur Dioxide							
	EU 001	PER 006		5.500E-02	2.410E-01	2.410E-01	0.000E+00
	EU 001	PER 008		6.000E-02	2.500E-01	2.500E-01	0.000E+00
	EU 002	PER 006		6.100E-02	2.670E-01	2.670E-01	0.000E+00
	EU 002	PER 008		6.100E-02	2.500E-01	2.300E-01	0.000E+00
	EU 003	PER 006		7.455E+02	3.265E+03	5.704E+02	
	EU 003	PER 008		7.134E+02	3.125E+03	5.705E+02	
	EU 004	PER 006		1.209E+02	5.294E+02	5.294E+02	
	EU 005	PER 006		1.190E+02	5.212E+02	3.841E+01	
	EU 005	PER 008		1.202E+02	5.264E+02	3.852E+01	
Totals					4.181E+03	1.139E+03	0.000E+00
Volatile Organic Compounds							
	EU 001	PER 006		5.000E-01	2.200E+00	2.200E+00	
	EU 001	PER 008		5.100E-01	2.250E+00	2.250E+00	
	EU 002	PER 006		5.600E-01	2.430E+00	2.430E+00	
	EU 002	PER 008		5.300E-01	2.320E+00	2.150E+00	
	EU 003	PER 006		4.900E-01	4.280E+00	4.280E+00	
	EU 003	PER 008		1.250E+00	5.480E+00	5.480E+00	
	EU 004	PER 006		1.400E-01	6.300E-01	6.300E-01	
	EU 005	PER 006		1.400E-01	6.300E-01	5.000E-02	
Totals					1.131E+01	1.056E+01	0.000E+00

EU002, Boiler #2

99 mmBtu/hr

Fuels: Natural Gas
Control: Cyclone 80%

1028 MMBtu/MMcf (40 CFR Part 98, Table C1)

Fuel Consumption: Natural Gas 0.096304 mmcf/hour ((MMBtu/hr)/(MMBtu/MMcf))
843.6187 mmcf/yr unlimited

Emission Factors

	PM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	VOC	Lead	CO ₂	N ₂ O	CH ₄	kg/MMBtu	CO ₂ e	
Gas - AP42 1.4	7.6	7.6	7.6	0.6	100	84	5.5	0.0005	119,910	2.26E-01	2.26E+00	120,028		lb/MMcf

40 CFR Part 98 for GHG

Potential Emissions - Natural Gas

Sample calculations for both criteria and HAP pollutants Sample: 7.6 lb PM/MMcf x 0.096304 mmcf/hour = 0.73 lb PM/hour

Sample: 0.73 lb PM/hour * 8760 hours/year / 2000 lb/ton = 3.21 tons/year

	PM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	VOC	Lead	CO ₂	N ₂ O	CH ₄	CO ₂ e	
	0.73	0.73	0.73	0.06	9.63	8.09	0.53	4.82E-05	11,548	0	0	11,559	lb/hour - uncontrolled
	0.15	0.15	0.15	0.06	9.63	8.09	0.53	4.82E-05	11,548	0.02	0.22	11,559	lb/hr - controlled
	0.05	0.05	0.05	0.02	3.21	2.70	0.18	0.00	3849.25	0.01	0.07	3,853	lb/hr - pre-mod (only one burner v
NSPS Increase	0.10			0.04									lb/hr (PM and SO ₂ regulated by S
	3.21	3.21	3.21	0.25	42.18	35.43	2.32	2.11E-04	50,579	0.10	0.95	50,629	tpy - uncontrolled
	0.64	0.64	0.64	0.25	42.18	35.43	2.32	2.11E-04	50,579	0.10	0.95	50,629	tpy - controlled
	0.59	0.59	0.59	0.23	39.00	32.76	2.15	1.95E-04	46764.91	0.09	0.88	46,811	tpy - with synthetic minor limits
	0.21	0.21	0.21	0.08	14.06	11.81	0.77	0.00	16859.72	0.03	0.32	16876.26	tpy - pre-mod PTE
	0.06	0.06	0.06	0.02	4.12	3.46	0.23	2.06E-05	4943.35	0.01	0.09	4,948	tpy - baseline
	0.53	0.53	0.53	0.21	34.88	29.30	1.92	1.74E-04	41821.56	0.08	0.79	41862.58	tpy increase (Title I increase)
	0.38	0.38	0.38	0.15	24.94	20.95	1.37	0.00	29905.19	0.06	0.56	29934.52	tpy increase (PTE)

Emission Factors

	Gas (lb/MMcf)	Emissions (lb/hr)	Gas tpy	synthetic minor limits
Arsenic	2.00E-04	1.93E-05	8.44E-05	7.80E-05
Benzene	2.13E-03	2.05E-04	8.98E-04	8.31E-04
Cadmium	1.10E-03	1.06E-04	4.64E-04	4.29E-04
Chromium	1.40E-03	1.35E-04	5.91E-04	5.46E-04
Dichlorobenzene	1.20E-03	1.16E-04	5.06E-04	4.68E-04
Formaldehyde	7.50E-02	7.22E-03	3.16E-02	2.93E-02
Hexane	1.80E+00	1.73E-01	7.59E-01	7.02E-01
Manganese	3.80E-04	3.66E-05	1.60E-04	1.48E-04
Mercury	2.60E-04	2.50E-05	1.10E-04	1.01E-04
Naphthalene	6.10E-04	5.87E-05	2.57E-04	2.38E-04
Nickel	2.10E-03	2.02E-04	8.86E-04	8.19E-04
POM	8.82E-05	8.49E-06	3.72E-05	3.44E-05
Selenium	2.40E-05	2.31E-06	1.01E-05	9.36E-06
Toluene	3.40E-03	3.27E-04	1.43E-03	1.33E-03
Total =		1.82E-01	7.97E-01	7.36E-01

2.03E-01 lb/year

Past Actual Emission Calculations:

Past actual gas use (2010 and 82451
82451

CO₂ N₂O CH₄

	PM	PM₁₀	PM_{2.5}	SO₂	NO_x	CO	VOC	Lead	53.02 CO₂	1.00E-04 N₂O	1.00E-03 CH₄	kg/mmBtu CO₂e	
	7.6	7.6	7.6	0.6	100	84	5.5	0.0005	119,910	2.26E-01	2.26E+00	120,028	lb/mmcf
Sample calculations for both criteria and HAP pollutants	Sample: 7.6 lb PM/mmcf x 0.103113 mmcf/hour = 0.78 lb PM/hour Sample: 0.78 lb PM/hour * 8760 hours/year /2000 lb/ton = 3.43 tons/year												lb/hour
	PM	PM₁₀	PM_{2.5}	SO₂	NO_x	CO	VOC	Lead	CO₂	N₂O	CH₄	CO₂e	
	0.31	0.31	0.31	0.02	4.12	3.46	0.23	0.00	4943.35	0.01	0.09	4948.20	tpy - uncontrolled
	0.06	0.06	0.06	0.02	4.12	3.46	0.23	0.00	4943.35	0.01	0.09	4948.20	tpy - controlled
Future potential - past actual	0.53	0.53	0.53	0.21	34.88	29.30	1.92	1.74E-04	41821.56	0.08	0.79	41862.58	

Calculation of Flue Gas Flow Rate

F Factor	10,610 wcfm/mmBtu
Heat Input	99 mmBtu/hr
Excess Air	20%
Exhaust Temperature	320 F
Exhaust Flow	31,512 acfm

vorking)
ubpart Dc)

Attachment 2

Facility Description & CD-01 Forms



FACILITY DESCRIPTION: EMISSION UNIT (EU)

Show: Active and Pending Records
Action: PER 008
AQD Facility ID: 01500010
Facility Name: New Ulm Public Utilities-Municipal Power

	ID No.	Emission Unit Status	Added By (Action)	Retired By (Action)	Insignificant Activity	Operator ID for Item	Stack/Vent ID No(s).	Control Equip. ID No(s).	Operator Description	Manufacturer	Model Number	SIC	Max. Design Capacity	Maximum Design Capacity			Max Fuel Input (mil Btu)
														Materials	Units n	Units d	
1	EU 001	Active	PER 001		<input type="checkbox"/>		SV 001 (M)		Boiler #1	Union Iron Works	18672	4931	80000	Steam	Lb	Hr	96
2	EU 002	Active	PER 001		<input type="checkbox"/>		SV 002 (M)	CE 001	Boiler #2	Springfield	34580	4931	80000	Steam	Lb	Hr	106
3	EU 002	Active	PER 008		<input type="checkbox"/>		SV 002 (M)	CE 001	Boiler #2	Springfield	34580	4931	80000	Steam	Lb	Hr	99
4	EU 003	Active	PER 006		<input type="checkbox"/>		SV 003 (M)	CE 002 CE 003	Boiler #4	Babcock & Wilcox	S10129	4931	150000	Steam	Lb	Hr	206
5	EU 004	Active	PER 001		<input type="checkbox"/>		SV 004 (M)		Gas Turbine #5 (simple cycle)	Turbo Power & Marine	FT4C-IDLF	4931	25	Elect Energy	Mw		352
6	EU 005	Active	PER 006		<input type="checkbox"/>		SV 005 (M)		Gas Turbine #7 (simple cycle)	Pratt & Whitney	FT4C-3F	4931	26	Elect Energy	Mw		350

FACILITY DESCRIPTION: EMISSION UNIT (EU)

	ID No.	Emission Unit Status	Added By (Action)	Commence Const. Date	Initial Startup Date	Removal Date	Firing Method	Pct. Fuel/ Space Heat	Bottleneck	Elevator Type
1	EU 001	Active	PER 001	12/31/1941	12/31/1941					
2	EU 002	Active	PER 001	12/31/1948	12/31/1948					
3	EU 002	Active	PER 008	12/31/1948	12/31/1948					
4	EU 003	Active	PER 006	12/31/1965	12/31/1965		Traveling Grate (Overfeed) Stoker			
5	EU 004	Active	PER 001	03/01/1973	08/01/1974					
6	EU 005	Active	PER 006	10/19/2000	05/21/2001					



FACILITY DESCRIPTION: CONTROL EQUIPMENT (CE)

Show: Active and Pending Records

Action: PER 008

AQD Facility ID: 01500010

Facility Name: New Ulm Public Utilities-Municipal Power

	ID No.	Control Equip. Status	Added By (Action)	Retired By (Action)	Operator ID for Item	Control Equip. Type	Control Equipment Description	Manufacturer	Model	Pollutants Controlled	Capture Efficiency (%)	Destruction/Collection Efficiency (%)	Afterburner Combustion Parameters
1	CE 001	Active	PER 001			076	Multiple Cyclone w/o Fly Ash Reinjection - Most Multiclones	Western Precip. Grp./Joy Mfg.	9VG12	PM10 PM	100 100	80 80	
2	CE 002	Active	PER 001			076	Multiple Cyclone w/o Fly Ash Reinjection - Most Multiclones	Western Precip. Grp./Joy Mfg.	9VGRAE14 9VFRIOT	PM10 PM	100 100	80 80	
3	CE 003	Active	PER 006			099	ESP or Fabric Filter			PM10 PM	100 100	95 95	



FACILITY DESCRIPTION: STACK/VENTS (SV)

Show: Active and Pending Records

Action: PER 008

AQD Facility ID: 01500010

Facility Name: New Ulm Public Utilities-Municipal Power

	ID No.	Stack/ Vent Status	Added By (Action)	Retired By (Action)	Operator ID for Item	Operators Description	Height of Opening From Ground (feet)	Inside Dimensions		Design Flow Rate at Top (ACFM)	Exit Gas Temperature at Top (°F)	Flow Rate/ Temperature Information Source	Discharge Direction
								Diameter or Length (feet)	Width (feet)				
1	SV 001	Active	PER 006			Boiler 1 Stack	95.0	5.50		30000	380	Manufacturer	Up, No Cap
2	SV 002	Active	PER 006			Boiler 2 Stack	145.0	5.00		45000	320	Manufacturer	Up, No Cap
3	SV 003	Active	PER 006			Boiler 3 Stack	150.0	5.33		78000	325	Test	Up, No Cap
4	SV 004	Active	PER 006			Gas Turbine 5 Stack	40.0	10.80	22.00	580000	900	Manufacturer	Up, No Cap
5	SV 005	Active	PER 006			Gas Turbine 7 Stack	35.0	14.10	12.10	220935	738	Manufacturer	Up, No Cap



MINNESOTA POLLUTION CONTROL AGENCY
AIR QUALITY
520 LAFAYETTE ROAD
ST. PAUL, MN 55155-4194

11 September, 2012 09:38

FACILITY DESCRIPTION: GROUPS (GP)

Show: Active and Pending Records

Action: PER 008

AQD Facility ID: 01500010

Facility Name: New Ulm Public Utilities-Municipal Power

	ID No.	Group Status	Added By (Action)	Retired By (Action)	Include in EI	Operator ID for Item	Group Description	Group Items
1	GP 001	Active	PER 006		<input type="checkbox"/>		Boilers and Gas Turbine	EU 001, EU 002, EU 003, EU 004, EU 005



COMPLIANCE PLAN **CD-01**

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 008

Subject Item: Total Facility

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	SOURCE-SPECIFIC REQUIREMENTS
2.0		CD	Title I Condition: To avoid classification of changes as major modifications under 40 CFR Section 52.21 & Minn. R. 7007.3000	The Permittee is authorized to modify EU002 by replacing the 3 existing natural gas burners with a single natural gas burner not to exceed 99 million Btu/hour in capacity.
3.0		CD	Minn. R. 7007.0800, subp. 2	Permit Appendices: This permit contains appendices as listed in the permit Table of Contents. The Permittee shall comply with all requirements contained in the appendices.
4.0		CD	Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0100; Minn. R. 7007.0800, subp. 2; Minn. R. 7011.0150; Minn. R. 7009.0020	Comply with Fugitive Emission Control Plan: Upon resuming coal combustion in Boiler #4, the Permittee shall follow the actions and recordkeeping 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.
5.0		CD	hdr	DETERMINING IF A PROJECT/MODIFICATION IS SUBJECT TO NEW SOURCE REVIEW
6.0		CD	Title I Condition: 40 CFR Section 52.21(r)(6); Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 2	<p>These requirements apply if a reasonable possibility (RP) as defined in 40 CFR Section 52.21(r)(6)(vi) exists that a proposed project, analyzed using the actual-to-projected-actual (ATPA) test (either by itself or as part of the hybrid test at Section 52.21(a)(2)(iv)(f)) and found to not be part of a major modification, may result in a significant emissions increase (SEI). If the ATPA test is not used for the project, or if there is no RP that the proposed project could result in a SEI, these requirements do not apply to that project. The Permittee is only subject to the Preconstruction Documentation requirement for a project where a RP occurs only within the meaning of Section 52.21(r)(6)(vi)(b).</p> <p>Even though a particular modification is not subject to New Source Review (NSR), or where there isn't a RP that a proposed project could result in a SEI, a permit amendment, recordkeeping, or notification may still be required by Minn. R. 7007.1150 - 7007.1500.</p>
7.0		CD	Title I Condition: 40 CFR Section 52.21(r)(6); Minn. R. 7007.3000; Minn. R. 7007.1200, subp. 4; Minn. R. 7007.0800, subps. 4 & 5	<p>Preconstruction Documentation -- Before beginning actual construction on a project, the Permittee shall document the following:</p> <ol style="list-style-type: none"> 1. Project description 2. Identification of any emission unit (EU) whose emissions of an NSR pollutant could be affected 3. Pre-change potential emissions of any affected existing EU, and the projected post-change potential emissions of any affected existing or new EU. 4. A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions, the projected actual emissions, the amount of emissions excluded due to increases not associated with the modification and that the EU could have accommodated during the baseline period, an explanation of why the amounts were excluded, and any creditable contemporaneous increases and decreases that were considered in the determination. <p>The Permittee shall maintain records of this documentation.</p>
8.0		CD	Title I Condition: 40 CFR Section 52.21(r)(6); Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 & 5	The Permittee shall monitor the actual emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using the ATPA test, and the potential emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using potential emissions in the hybrid test. The Permittee shall calculate and maintain a record of the sum of the actual and potential (if the hybrid test was used in the analysis) emissions of the regulated pollutant, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change, or for a period of 10 years following resumption of regular operations after the change if the project increases the design capacity of or potential to emit of any unit associated with the project.



COMPLIANCE PLAN **CD-01**

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 008

9.0		CD	Title I Condition: 40 CFR Section 52.21(r)(6)(ii); Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 & 5	Before beginning actual construction of any project which includes any electric utility steam generating unit (EUSGU), the Permittee shall submit a copy of the preconstruction documentation (items 1-4 under Preconstruction Documentation, above) to the Agency.
10.0		CD	Title I Condition: 40 CFR Section 52.21(r)(6); Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 & 5	For any project which includes any EUSGU, the Permittee must submit an annual report to the Agency, within 60 days after the end of the calendar year. The report shall contain: a. The name and ID number of the facility, and the name and telephone number of the facility contact person b. The quantified annual emissions analyzed using the ATPA test, plus the potential emissions associated with the same project analyzed as part of a hybrid test. c. Any other information, such as an explanation as to why the summed emissions differ from the preconstruction projection, if that is the case.
11.0		CD	Title I Condition: 40 CFR Section 52.21(r)(6); Minn. R. 7007.3000; Minn. R. 7007.0800, subps. 4 & 5	For any project which does not include any EUSGU, the Permittee must submit a report to the Agency if the annual summed (actual, plus potential used in hybrid test) emissions differ from the preconstruction projection and exceed the baseline actual emissions by a significant amount as listed at 40 CFR Section 52.21(b)(23). Such report shall be submitted to the Agency within 60 days after the end of the year in which the exceedances occur. The report shall contain: a. The name and ID number of the facility, and the name and telephone number of the facility contact person b. The annual emissions (actual, plus potential if any part of the project was analyzed using the hybrid test) for each pollutant for which the preconstruction projection and significant emissions rate is exceeded. c. Any other information, such as an explanation as to why the summed emissions differ from the preconstruction projection.
12.0		CD	hdr	MODELING REQUIREMENTS
13.0		CD	Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7009.0020; Minn. R. 7007.0100; Minn. R. 7007.0800, subp. 2	Notification of actual annual emissions in excess of 100 tons of PM10, or 500 tons of SO2, or 1000 tons of NOX, during previous calendar year: Due 32 days after the first calendar year in which any of these thresholds is exceeded. This requirement then triggers the need to do modeling, as described in Table B of this permit.
14.0		S/A	40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7A, 7L & 7M; Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080.	Computer Dispersion Modeling Protocol: due 1,096 days after Notification that total facility actual emissions exceeded 100 tons of PM10, or 250 tons of SO2, or 1000 tons of NOX, during the previous calendar year. This protocol will describe the proposed modeling methodology and input data, in accordance with MPCA modeling guidance for Title V air dispersion modeling analyses. This is a state-only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.
15.0		S/A	40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7A, 7L & 7M; Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080.	Computer Dispersion Modeling Results: due 1,462 days after Notification that total facility actual emissions exceeded 100 tons of PM10, or 250 tons of SO2, or 1000 tons of NOX, during the previous calendar year. The results are to be submitted after the MPCA has reviewed and approved the modeling protocol. The submittal should adhere to MPCA modeling guidance for Title V air dispersion modeling analyses. This is a state-only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.
16.0		CD	hdr	OPERATIONAL REQUIREMENTS
17.0		CD	40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subp. 7(A), 7(L), & 7(M); Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080	The Permittee shall comply with National Primary and Secondary Ambient Air Quality Standards, 40 CFR pt. 50, and the Minnesota Ambient Air Quality Standards, Minn. R. 7009.0010 to 7009.0080. Compliance shall be demonstrated upon written request by the MPCA.
18.0		CD	Minn. R. 7011.0020	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.
19.0		CD	Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)	Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated.



COMPLIANCE PLAN **CD-01**

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 008

20.0		CD	Minn. R. 7007.0800, subps. 14 and 16(J)	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 control practices and shall include a preventative maintenance program for the equipment and practices, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment and practices 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 practices, and the records kept to demonstrate plan implementation.
21.0		CD	Minn. R. 7019.1000, subp. 4	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.
22.0		CD	Minn. R. 7011.0150	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.
23.0		CD	Minn. R. 7030.0010 - 7030.0080	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.
24.0		CD	Minn. R. 7007.0800, subp. 9(A)	Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A).
25.0		CD	Minn. R. 7007.0800, subp. 16	The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.
26.0		CD	hdr	PERFORMANCE TESTING
27.0		CD	Minn. R. ch. 7017	Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A, B, and/or C.
28.0		CD	Minn. R. 7017.2018; Minn. R. 7017.2030, subps. 1-4, Minn. R. 7017.2035, subps. 1-2	<p>Performance Test Notifications and Submittals:</p> <p>Performance Tests are due as outlined in Table A of the permit. See Table B for additional testing requirements.</p> <p>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</p> <p>The Notification, Test Plan, and Test Report may be submitted in an alternative format as allowed by Minn. R. 7017.2018.</p>
29.0		CD	Minn. R. 7017.2025, subp. 3	Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as stated in the MPCA's Notice of Compliance letter granting preliminary approval. Preliminary approval is based on formal review of a subsequent performance test on the same unit as specified by Minn. R. 7017.2025, subp. 3. The limit is final upon issuance of a permit amendment incorporating the change.
30.0		CD	hdr	MONITORING REQUIREMENTS
31.0		CD	Minn. R. 7007.0800, subp. 4(D)	Monitoring Equipment Calibration: The Permittee shall calibrate all required monitoring equipment at least once every 12 months (any requirements applying to continuous emission monitors are listed separately in this permit).
32.0		CD	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.
33.0		CD	hdr	RECORDKEEPING



COMPLIANCE PLAN **CD-01**

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 008

34.0		CD	Minn. R. 7007.0800, subp. 5(C)	Recordkeeping: Retain all records at the stationary source, unless otherwise specified within this permit, 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).
35.0		CD	Minn. R. 7007.0800, subp. 5(B)	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.
36.0		CD	Minn. R. 7007.1200, subp. 4	If the Permittee determines that no permit amendment or notification is required prior to making a change, the Permittee must retain records of all calculations required under Minn. R. 7007.1200. These records shall be kept for a period of five years from the date the change was made or until permit reissuance, whichever is longer. The records shall be kept at the stationary source for the current calendar year of operation and may be kept at the stationary source or office of the stationary source for all other years. The records may be maintained in either electronic or paper format.
37.0		CD	hdr	REPORTING/SUBMITTALS
38.0		CD	Minn. R. 7019.1000, subp. 3	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.
39.0		CD	Minn. R. 7019.1000, subp. 2	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.
40.0		CD	Minn. R. 7019.1000, subp. 1	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.
41.0		CD	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.
42.0		S/A	Minn. R. 7007.0800, subp. 6(A)(2)	Semiannual Deviations Report: due 30 days after end of each calendar half-year starting 09/04/2007. 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.



COMPLIANCE PLAN **CD-01**

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 008

43.0		CD	Minn. R. 7007.1150 - 7007.1500	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.
44.0		S/A	Minn. R. 7007.0400, subp. 2	Application for Permit Reissuance: due 180 days before expiration of Existing Permit
45.0		CD	Minn. R. 7007.1400, subp. 1(H)	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). Performance testing deadlines from the General Provisions of 40 CFR pt. 60 and pt. 63 are examples of deadlines for which the MPCA does not have authority to grant extensions and therefore do not meet the requirements of Minn. R. 7007.1400, subp. 1(H).
46.0		S/A	Minn. R. 7007.0800, subp. 6(C)	Compliance Certification: due 31 days after end of each calendar year following Permit Issuance (for the previous calendar year). The Permittee shall submit this on a form approved by the Commissioner, both to the Commissioner and to the US EPA regional office in Chicago. This report covers all deviations experienced during the calendar year.
47.0		CD	Minn. R. 7019.3000 - 7019.3100	Emission Inventory Report: due on or before April 1 of each calendar year following permit issuance, to be submitted on a form approved by the Commissioner.
48.0		CD	Minn. R. 7002.0005 - 7002.0095	Emission Fees: due 60 days after receipt of an MPCA bill.



COMPLIANCE PLAN **CD-01**

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 008

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)

EU 005 Gas Turbine #7 (simple cycle)

	NC/ CA	Type	Citation	Requirement
1.0		CD	Minn. R. 7007.0800, subp. 2; Minn. R. 7009.0020	Operating Restriction: when EU004 and/or EU005 is combusting fuel oil, EU001, EU002, and EU003 are restricted to combusting natural gas only.
2.0		CD	Minn. R. 7007.0800, subp. 5	Recordkeeping - Fuel Type Usage: When EU004 is operating (and combusting distillate fuel oil), record the start and stop times for EU004 and the type of fuel combusted in EU003 during each EU004 operating period.



COMPLIANCE PLAN **CD-01**

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 008

Subject Item: EU 001 Boiler #1

Associated Items: GP 001 Boilers and Gas Turbine

SV 001 Boiler 1 Stack

	NC/ CA	Type	Citation	Requirement
1.0		LIMIT	Minn. R. 7011.0510, subp. 1	Total Particulate Matter: less than or equal to 0.6 lbs/million Btu heat input . Maximum PTE based on equipment capacity is approximately 0.0072 lbs/million Btu heat input.
2.0		LIMIT	Minn. R. 7011.0510, subp. 2	Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.
3.0		LIMIT	Minn. R. 7007.0800, subp. 2; Minn. R. 7009.0020	Sulfur Dioxide: less than or equal to 0.05 lbs/million Btu heat input
4.0		CD	Minn. R. 7007.0800, subp. 2	Fuel Permitted: pipeline natural gas only.
5.0		CD	Minn. R. 7007.0800, subp. 5	Recordkeeping: keep a record of the type of fuel combusted in EU 001. Records shall be entered no less frequently than semiannually.



COMPLIANCE PLAN **CD-01**

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 008

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 Boiler 2 Stack

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	EMISSION AND OPERATING LIMITS
2.0		LIMIT	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000	Nitrogen Oxides: less than or equal to 39.0 tons/year using 12-month Rolling Sum calculated monthly as described below.
3.0		CD	Minn. R. 7005.0100, subp. 35a	Fuel Permitted: pipeline natural gas only.
4.0		CD	hdr	RECORDKEEPING REQUIREMENTS
5.0		CD	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000	Each operating day, record the quantity of natural gas combusted in EU002.
6.0		CD	40 CFR Section 60.48c(g)(2); Minn. R. 7011.0570	Recordkeeping: By the last day of each calendar month, the Permittee shall record the amount of natural gas combusted in the boiler during the previous calendar month. These records shall consist of purchase records, receipts, or fuel meter readings.
7.0		CD	Minn. R. 7007.0800, subps. 4 and 5	By the 15th day of each month, calculate and record the NOX emissions for the previous month using the following formula: $NOX = (Q \times EF) / 2000$ Where: NOX = NOX emissions for the previous month, in tons Q = the quantity of natural gas combusted in EU002 during the previous month, in million cubic feet (mmcf) EF = the most current NOX emission factor for the boiler. This should be site-specific, based on a performance test. Prior to the first performance test, the Permittee may use the most current emission factor published in AP-42, in lb/mmcf. At the time of permit issuance, the current AP-42 emission factor is 100 lb/mmcf.
8.0		CD	Minn. R. 7007.0800, subps. 4 and 5	By the 15th day of each month, calculate and record the 12-month rolling sum NOX emissions for the previous 12-month period by summing the monthly NOX emissions data for the previous 12 months.
9.0		CD	hdr	CONTROL REQUIREMENTS
10.0		CD	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G)	The operation of CE001 is not necessary in order for the process to meet any emissions limits. However, if the Permittee wishes to take credit for its operation for the purposes of reporting actual emissions for emission inventory, the cyclone must comply with the requirements listed under Subject Item CE001 during the time credit for control is taken.
11.0		CD	hdr	PERFORMANCE TEST REQUIREMENTS
12.0		S/A	Minn. R. 7017.2020, subp. 1	Performance Test: due 180 days after Initial Startup of the new burner, to measure NOX emissions for the purpose of establishing an emission factor for use in emission calculations and emission inventory.
13.0		S/A	40 CFR Section 60.7(a)(3); Minn. R. 7019.0100, subp. 1	Notification of the Actual Date of Initial Startup: due 15 days after Initial Startup of the new burner.
14.0		S/A	40 CFR Section 60.7(a)(1); Minn. R. 7019.0100, subp. 1	Notification of the Date Construction Began: due 30 days after Start Of Construction on the burner replacement. Submit the name and number of each unit (EU002) and the date construction began.



COMPLIANCE PLAN **CD-01**

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 008

Subject Item: EU 003 Boiler #4

Associated Items: CE 002 Multiple Cyclone w/o Fly Ash Reinjection - Most Multiclones

CE 003 ESP or Fabric Filter

GP 001 Boilers and Gas Turbine

MR 003 Opacity Monitor

SV 003 Boiler 3 Stack

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	EMISSION & OPERATING LIMITS
2.0		LIMIT	Minn. R. 7011.0510, subp. 1	Total Particulate Matter: less than or equal to 0.6 lbs/million Btu heat input
3.0		LIMIT	Minn. R. 7011.0510, subp. 1	Sulfur Dioxide: less than or equal to 4.0 lbs/million Btu heat input while burning coal.
4.0		CD	Minn. R. 7011.0505, subp. 3	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: $w = z(4.0 \text{ lb/mmBtu})$ <p>where:</p> <p>w = allowable prorated SO₂ emission rate in lb/mmBtu z = percentage of total heat input from coal</p>
5.0		LIMIT	Minn. R. 7011.0510, subp. 2	Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.
6.0		CD	Minn. R. 7007.0800, subp. 2	Fuels Permitted: pipeline natural gas; bituminous coal; on-site generated petroleum-derived used oil (as defined at Minn. R. 7045.0100, subp. 100a as oil which has been used and as a result has become contaminated by physical or chemical impurities); and on-site generated EDTA-type boiler cleaning agents. Use of these fuels is restricted as follows: 1) Coal may be combusted only after a fabric filter or electrostatic precipitator (indicated above in Associated Items as CE003) is installed and operational. 2) On-site generated petroleum-derived used oil is limited to no more than 5% of total heat input on an hourly basis, and a maximum of 6,000 gallons per calendar year. 3) On-site generated EDTA-type boiler cleaning agents are subject to the following conditions: a) EU 003 must be operating at or above 75% of rated capacity; b) cleaning agent feed rate shall not exceed 16 gpm; c) Flue gas oxygen shall not be less than 3% on an instantaneous basis.
7.0		LIMIT	Title I Condition: To avoid classification as a major source under 40 CFR Section 63.2 and Minn. R. 7007.0200	Fuel Usage: less than or equal to 15000 tons/year using 12-month Rolling Sum of Coal.
8.0		CD	hdr	MONITORING AND RECORDKEEPING
9.0		CD	Minn. R. 7007.0800, subp. 4 and 5	Coal Monitoring and Recordkeeping: obtain a fuel certification from the coal supplier for each coal delivery stating the percent sulfur by weight and heat content of the coal. If the Permittee's coal supplier provides multiple coal deliveries from the same barge load, the Permittee may obtain a single certification for each barge load. However, the coal supplier must indicate on the certification that upon delivery, the supplier will notify the Permittee that coal from a different barge load is being delivered, and a new certification for that coal specifying the sulfur and heat contents of the coal will be furnished at the time of delivery.
10.0		CD	Title I Condition: To avoid classification as a major source under 40 CFR Section 70.2 and Minn. R. 7007.0200	Recordkeeping: By the 15th day of each month, calculate and record the quantity of coal combusted during the previous month, and for the previous 12 months (12-month rolling sum).



COMPLIANCE PLAN **CD-01**

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 008

11.0		CD	Minn. R. 7007.0800, subp. 4 and 5	SO ₂ Recordkeeping: Within 15 days after receipt of each coal certification, calculate and record the corresponding SO ₂ emission rate associated with combusting the coal included in that certification, in pounds of SO ₂ per million BTU of heat input to the boiler.
12.0		CD	Minn. R. 7017.1006; 40 CFR Section 64.7(c); Minn. R. 7017.0200	Emissions Monitoring: The owner or operator shall use a COMS to measure opacity emissions from EU003. See Subject Item MR003 for specific COMS operating requirements.
13.0		CD	hdr	CONTROL REQUIREMENTS (See also Subject Items CE002 and CE003)
14.0		LIMIT	Minn. R. 7007.0800, subp. 2 and 14	When combusting coal, the Permittee shall operate and maintain CE002 such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 80 percent control efficiency
15.0		LIMIT	Minn. R. 7007.0800, subp. 2 and 14	When combusting coal, the Permittee shall have installed and shall operate and maintain CE003 such that it achieves an overall control efficiency for Total Particulate Matter: greater than or equal to 95 percent control efficiency
16.0		CD	hdr	TESTING REQUIREMENTS
17.0		S/A	Minn. R. 7017.2020, subp. 1	Initial Performance Test: due 180 days after Initial Startup of CE 003 (fabric filter or electrostatic precipitator) to measure PM emissions and opacity. (Initial Startup of CE003 is listed in Table B as a requirement for Subject Item CE003.)
18.0		S/A	Minn. R. 7017.2020, subp. 1	Testing Frequency Plan: due 60 days after Initial Performance Test for total particulate matter emissions and opacity. The plan shall specify a testing frequency using the initial 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.
19.0		CD	Minn. R. 7007.0800, subp. 2 and 14	The Permittee shall operate and maintain CE002 at all times that any emission unit controlled by CE002 is in operation. The Permittee shall document periods of non-operation of the control equipment.



COMPLIANCE PLAN **CD-01**

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 008

Subject Item: EU 004 Gas Turbine #5 (simple cycle)

Associated Items: GP 001 Boilers and Gas Turbine

SV 004 Gas Turbine 5 Stack

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	EMISSION AND OPERATIONAL LIMITS
2.0		LIMIT	Minn. R. 7011.2300, subp. 2	Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input
3.0		LIMIT	Minn. R. 7011.2300, subp. 1	Opacity: less than or equal to 20 percent opacity once operating temperature has been attained.
4.0		CD	hdr	MONITORING
5.0		CD	Minn. R. 7007.0800, subp. 4	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.
6.0		CD	hdr	TESTING REQUIREMENTS
7.0		S/A	Minn. R. 7017.2020, subp. 1	Performance Test: due before end of each 60 months starting 07/31/2006 to measure opacity emissions. The next test is due before 07/31/2011.



COMPLIANCE PLAN **CD-01**

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 008

Subject Item: EU 005 Gas Turbine #7 (simple cycle)

Associated Items: GP 001 Boilers and Gas Turbine

SV 005 Gas Turbine 7 Stack

	NC/ CA	Type	Citation	Requirement
1.0		CD	hdr	EMISSION AND OPERATING LIMITS
2.0		LIMIT	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000; 40 CFR Section 60.332(b) and (f); Minn. R. 7011.2350	Nitrogen Oxides: less than or equal to 75 parts per million at 15 percent oxygen and on a dry basis. This does not apply when ice fog is deemed a traffic hazard by the owner or operator of the gas turbine.
3.0		LIMIT	40 CFR Section 60.333; Minn. R. 7011.2350	Sulfur Dioxide: less than or equal to 0.015 percent by volume at 15 percent oxygen and on a dry basis. OR Sulfur Content of Fuel: less than or equal to 0.8 percent by weight (8000 ppmw).
4.0		CD	Minn. R. 7007.0800, subp. 2	Allowed Fuels: Distillate fuel oil only
5.0		LIMIT	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000	Fuel Usage: less than or equal to 1625648 gallons/year using 12-month Rolling Sum
6.0		LIMIT	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000	Sulfur Content of Fuel: less than or equal to 0.34 percent by weight
7.0		LIMIT	Minn. R. 7017.2025, subp. 3	Power Production: less than 28200 kilowatts using 8-hour Block Average
8.0		CD	40 CFR Section 60.12	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.
9.0		CD	hdr	MONITORING AND RECORDKEEPING REQUIREMENTS
10.0		CD	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000	Recordkeeping: By the 15th day of each month, record the quantity of fuel combusted for the previous month, and the total quantity of fuel combusted for the previous 12 months (12-month rolling sum).
11.0		CD	Title I Condition: To avoid classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000	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 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.
12.0		CD	Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subp. 5	Power Production: Each day of operation, calculate and record the total kilowatts of power production for each 8-hour Block Average. Divide the total quantity of power produced in each 8-hour block by the total operating time in the 8-hour block. Down time of 15 or more minutes is not to be included as operating time.
13.0		CD	40 CFR Section 60.334(a); Minn. R. 7011.2350	Install, calibrate, maintain, 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.
14.0		CD	40 CFR Section 60.334(g); Minn. R. 7011.2350	The Permittee shall develop and keep on site a parameter monitoring plan which explains the procedures used to document proper operation of the NOX emission controls. The plan shall include the parameter(s) monitored and the acceptable range(s) of the parameter(s) as well as the basis for designating the parameter(s) and acceptable range(s). Any supplemental data such as engineering analyses, design specifications, manufacturer's recommendations and other relevant information shall be included in the monitoring plan.



COMPLIANCE PLAN **CD-01**

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 008

15.0		CD	40 CFR Section 60.334(h)(1); 40 CFR Section 60.335(b)(11); Minn. R. 7011.2350	<p>Monitor the sulfur content of the fuel being fired in the turbine. The sulfur content of the fuel must be determined using total sulfur methods described in 40 CFR Section 60.335(b)(10): a minimum of three fuel samples shall be collected during the test. Analyze the samples for the total sulfur content of the fuel using ASTM D129-00, D2622-98, D4294-02, D1266-98, D5453-00, or D1552-01.</p> <p>The fuel analysis may be performed by the Permittee, a service contractor retained by the Permittee, the fuel vendor, or any other qualified agency.</p>
16.0		CD	40 CFR Section 60.334(i)(1); Minn. R. 7011.2350	Sulfur Monitoring Method: Use one of the total sulfur sampling options and the associated sampling frequency described in sections 2.2.3, 2.2.4.1, 2.2.4.2, and 2.2.4.3 of appendix D to 40 CFR Part 75 (i.e., flow proportional sampling, daily sampling, sampling from the unit's storage tank after each addition of fuel to the tank, or sampling each delivery prior to combining it with fuel oil already in the intended storage tank).
17.0		CD	40 CFR Section 60.7(b), Minn. R. 7019.0100, subp. 1	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.
18.0		CD	hdr	REPORTING REQUIREMENTS
19.0		CD	40 CFR Section 60.7(a)(4); Minn. R. 7019.0100, subp. 1	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.
20.0		S/A	40 CFR Section 60.334(j); 40 CFR Section 60.7(c); Minn. R. 7011.2350; Minn. R. 7017.1110, subp. 1	Excess Emissions/Downtime Reports (EER's): due 30 days after end of each calendar quarter starting 06/17/2002. See Table A, Subject Item EU 005, for details on what to report.
21.0		CD	40 CFR Section 60.334(j)(1)(i); Minn. R. 7011.2350	<p>EER Reporting Requirements for turbines using water or steam to fuel ratio monitoring:</p> <p>(A) An excess emission shall be any unit operating hour for which the average steam or water to fuel ratio, as measured by the monitoring system, falls below the acceptable steam or water to fuel ratio needed to demonstrate compliance with 40 CFR Section 60.332, as established during the performance test. Any unit operating hour in which no water or steam is injected into the turbine shall be considered an excess emission.</p> <p>(B) A period of monitor downtime shall be any unit operating hour in which water or steam is injected into the turbine, but the essential parametric data needed to determine the steam or water to fuel ratio are unavailable or invalid.</p>
22.0		CD	40 CFR Section 60.334(j)(1)(i); Minn. R. 7011.2350	<p>continued from above...</p> <p>(C) Each report shall include the average steam or water to fuel ratio, average fuel consumption, ambient conditions (temperature, pressure, and humidity), gas turbine load, and (if applicable) the nitrogen content of the fuel during the excess emission. You do not have to report ambient conditions if you opt to use the worst case ISO correction factor as specified in 40 CFR Section 60.334(b)(3)(ii), or if you are not using the ISO correction equation under the provisions of 40 CFR Section 60.335(b)(1).</p>
23.0		CD	40 CFR Section 60.334(j)(2)(ii); Minn. R. 7011.2350	For SO ₂ , if the option to sample each delivery of fuel oil has been selected, the Permittee shall immediately switch to one of the other oil sampling options if the sulfur content of a delivery exceeds 0.8 weight percent. The owner or operator shall continue to use one of the other sampling options until all of the oil from the delivery has been combusted, and shall evaluate excess emissions according to 40 CFR Section 60.334(j)(2)(i). When all of the fuel from the delivery has been burned, the owner or operator may resume using the as-delivered sampling option.
24.0		CD	40 CFR Section 60.334(j)(3); Minn. R. 7011.2350	Ice Fog: Each period during which an exemption provided in 40 CFR Section 60.332(f) is in effect shall be reported in writing to the Administrator quarterly. For each period the ambient conditions existing during the period, the date and time the air pollution control system was deactivated, and the date and time the air pollution control system was reactivated shall be reported. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter.
25.0		CD	hdr	PERFORMANCE TESTING REQUIREMENTS



COMPLIANCE PLAN **CD-01**

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 008

26.0		S/A	Minn. R. 7017.2020, subp. 1; 40 CFR Section 60.8(a)	Performance Test: due before end of each 36 months starting 08/31/2001 to measure NOx concentration in the turbine exhaust. The next test is due before December 29, 2007. (This reflects an extension of 120 days from the deadline of August 31, 2007.)
------	--	-----	---	---



COMPLIANCE PLAN **CD-01**

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 008

Subject Item: CE 001 Multiple Cyclone w/o Fly Ash Reinjection - Most Multiclones

Associated Items: EU 002 Boiler #2

	NC/ CA	Type	Citation	Requirement
1.0		CD	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G)	The operation of this piece of control equipment is not necessary in order for the process to meet applicable emissions limits. However, if the Permittee wishes to take credit for its operation for the purposes of reporting actual emissions for emission inventory, the cyclone must comply with the following requirements during the time credit for control is taken.
2.0		CD	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G)	The Permittee shall operate and maintain the cyclone 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.
3.0		CD	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G)	The Permittee shall operate and maintain the control device at all times that any emission unit controlled by the device is in operation. The Permittee shall document periods of non-operation of the control equipment.
4.0		LIMIT	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G)	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
5.0		LIMIT	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G)	Pressure Drop: greater than or equal to 1 inches of water column and less than or equal to 5 inches of water column unless a new range is set pursuant to Minn. R. 7017.2025, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change. The Permittee shall record the pressure drop at least once every 24 hours when in operation.
6.0		CD	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G)	Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored cyclone is in operation.
7.0		CD	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G)	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.
8.0		CD	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G)	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.
9.0		CD	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G)	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the recorded pressure drop is outside the required operating range; or - the cyclone or any of its components are found during the inspections to need repair. Corrective actions shall return the pressure drop to within the permitted range, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for the device. The Permittee shall keep a record of the type and date of any corrective action taken for the control device.



COMPLIANCE PLAN **CD-01**

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 008

Subject Item: CE 002 Multiple Cyclone w/o Fly Ash Reinjection - Most Multiclones

Associated Items: EU 003 Boiler #4

	NC/ CA	Type	Citation	Requirement
1.0		CD	Minn. Stat. 116.07, subd. 4a; Equipment used under Minn. R. 7019.3020 (G)	The operation of this piece of control equipment is not necessary in order for the process to meet applicable emissions limits when only natural gas is combusted. However, if the Permittee wishes to take credit for its operation for the purposes of reporting actual emissions for emission inventory, the cyclone must comply with the following requirements during the time credit for control is taken.
2.0		CD	Minn. R. 7007.0800, subp. 2 and 16	The Permittee shall operate and maintain this control device at all times that the boiler is combusting coal.
3.0		CD	40 CFR Section 64.3; Minn. R. 7017.0200	The Permittee shall operate and maintain CE002 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.
4.0		LIMIT	40 CFR Section 64.7; Minn. R. 7017.0200	Pressure Drop: greater than or equal to 1 inches of water column and less than or equal to 5 inches of water column , unless a new range is set pursuant to Minn. R. 7017.0225, subp. 3 based on the values recorded during the most recent MPCA-approved performance test where compliance was demonstrated. The new range shall be implemented upon receipt of the Notice of Compliance letter granting preliminary approval. The range is final upon issuance of a permit amendment incorporating the change. The Permittee shall record the pressure drop at least once every 24 hours when in operation.
5.0		CD	40 CFR Section 64.3; Minn. R. 7017.0200	Recordkeeping of Pressure Drop - The pressure drop shall be measured at least once every 24 hours. The Permittee shall record the time and date of each pressure drop reading and whether or not the recorded value was within the range specified in this permit. Recorded values outside the pressure drop range specified in this permit are considered Deviations as defined by Minn. R. 7007.010, subp. 8a. The deviation must be reported in the Semiannual Deviations Report listed in Table B of this permit.
6.0		CD	40 CFR Section 64.3; Minn. R. 7017.0200	Periodic Inspections: At least once each 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.
7.0		CD	40 CFR Section 64.7(b); Minn. R. 7017.0200	Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained, including maintaining the necessary parts for routine repairs of the monitoring equipment, when the monitored cyclone is in operation.
8.0		CD	40 CFR Section 64.3; Minn. R. 7017.0200	The Permittee shall calibrate each pressure gauge at least once every calendar year and shall maintain a written record of any action resulting from the calibration.
9.0		CD	40 CFR Section 64.7(d); Minn. R. 7017.0200	Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - the recorded opacity (at MR003) is above 20 percent; - the recorded pressure drop is outside the required operating range; or - the multiclone or any of its components are found during the inspections to need repair. Corrective actions shall return the pressure drop to within the permitted range, eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O & M Plan for CE002. The Permittee shall keep a record of the type and date of any corrective action taken for the device.
10.0		CD	40 CFR Section 64.7(e); Minn. R. 7017.0200	Documentation of Need for Improved Monitoring: If the Permittee fails to achieve compliance with an emission limitation or standard for which the monitoring did not provide an indication of an exceedance (as defined in 40 CFR Section 64.1) while providing valid data, or the results of compliance or performance testing document a need to modify the existing pressure drop range, the Permittee shall promptly notify the MPCA and, if necessary, submit a permit amendment application to address the necessary monitoring changes.



COMPLIANCE PLAN **CD-01**

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 008

11.0		CD	40 CFR Section 64.9(a)(2); Minn. R. 7017.0200	<p>As required by 40 CFR Section 64.9(a)(2), for the Semi-Annual Deviations Report listed in Table B of this permit and/or the Notification of Deviations Endangering Human Health and the Environment listed earlier in Table A of this permit, as applicable, the Permittee shall include the following related to the monitoring identified as required by 40 CFR pt. 64:</p> <p>1) Summary information on the number, duration, and cause of exceedances (as defined in 40 CFR Section 64.1), as applicable, and the corrective actions taken; and</p> <p>2) Summary information on the number, duration, and cause for monitor downtime incidents.</p>
12.0		CD	40 CFR Section 64.9(b); Minn. R. 7017.0200	<p>The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, and other supporting information required to be maintained. The Permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.</p>



COMPLIANCE PLAN **CD-01**

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 008

Subject Item: CE 003 ESP or Fabric Filter

Associated Items: EU 003 Boiler #4

	NC/ CA	Type	Citation	Requirement
1.0		S/A	Minn. R. 7007.0800, subp. 2	Notification of the Actual Date of Initial Startup: due 15 days after Initial Startup. This triggers testing listed at Subject Item EU003.



COMPLIANCE PLAN **CD-01**

Facility Name: New Ulm Public Utilities-Municipal Power

Permit Number: 01500010 - 008

Subject Item: MR 003 Opacity Monitor

Associated Items: CM 002 Boiler 4: 20% Opacity, EU003, 6-min ave.

EU 003 Boiler #4

	NC/ CA	Type	Citation	Requirement
1.0		CD	Minn. R. 7017.1200, subp. 1, 2 & 3; 40 CFR Section 64.7(c); Minn. R. 7017.0200	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.
2.0		CD	Minn. R. 7017.1090, subp. 1	Continuous Operation: COMS 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 COMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment. Acceptable monitor downtime includes reasonable periods as listed in Items A, B, C and D of Minn. R. 7017.1090, subp. 2.
3.0		CD	Minn. R. 7017.1210, subp. 1	QA Plan Required: Develop and implement a written quality assurance plan which covers each COMS. The plan shall be on site and available for inspection within 30 days after monitor certification. The plan shall contain the written procedures listed in Minn. R. 7017.1210, subp. 1.
4.0		CD	Minn. R. 7017.1210	COMS QA/QC: The owner or operator of an affected facility is subject to the performance specifications listed in 40 CFR pt. 60, Appendix B and shall operate, calibrate, and maintain each COMS according to the QA/QC procedures in Minn. R. 7017.1210.
5.0		CD	Minn. R. 7017.1210, 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.
6.0		CD	Minn. R. 7017.1210, subp. 3	COMS Calibration Error Audit: due before end of each calendar half-year following COMS Certification Test. Conduct three point calibration error audits at least 3 months apart but no greater than 8 months apart. Conduct audits in accordance with Minn. R. 7017.1210, subp. 3.
7.0		CD	Minn. R. 7017.1210, subp. 4	Attenuator Calibration: The Permittee shall have an independent testing company conduct calibrations of each of the neutral density filters used in the calibration error audit according to the procedure in Code of Federal Regulations, Title 40, Part 60, Appendix B, Section 7.1.3.1 within the time frame of opacity stability guaranteed by the attenuator manufacturer. The manufacturer's guarantee of stability shall be on site available for inspection.
8.0		S/A	Minn. R. 7017.1220	COMS Audit Results Summary: due 30 days after end of each calendar quarter starting 09/04/2007 in which the COMS calibration error audit was completed.
9.0		CD	Minn. R. 7017.1130	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.

Attachment 3

Points Calculator

Points-Based Fee Calculator

1) AQ Facility ID No.:	01500010
2) Facility Name:	New Ulm Public Utilities
3) Small business? y/n?	No
4) DQ Numbers (including all rolled) :	3935
5) Date of each Application Received:	5/18/12
6) Final Permit No.	01500010-008
7) Permit Staff	Volkmeier
8) "Work completed" in which .xls file (i.e. unit 2b, unit 1a, biofuels)?	NA

Total Points	20
--------------	----

<u>Application Type</u>	<u>DQ No.</u>	<u>Qty.</u>	<u>Points</u>	<u>Total Points</u>	<u>Details</u>
Administrative Amendment			1	0	
Minor Amendment			4	0	
Applicability Request			10	0	
Moderate Amendment			15	0	
Major Amendment	3935		25	0	Paid at submittal
Individual State Permit - First Time			50	0	
Individual Part 70 Permit - First Time			75	0	

Additional Points

Modeling Review			15	0	
BACT Review			15	0	
LAER Review			15	0	
CAIR/Part 75 CEM analysis			10	0	
NSPS Review	3935	1	10	10	Subpart Dc
NESHAP Review			10	0	
Case-by-case MACT Review			20	0	
Netting			10	0	
Limits to remain below threshold	3935	1	10	10	Nox annual limit
Plantwide Applicability Limit (PAL)			20	0	
AERA review			15	0	
Variance request under 7000.7000			35	0	
Confidentiality request under 7000.1300			2	0	
<u>EAW review</u>					
Part 4410.4300, subparts 18, item A; and 29			15	0	
Part 4410.4300, subparts 8, items A & B; 10, items A to C; 16, items A & D; 17, items A to C & E to G; and 18, items B & C			35	0	
Part 4410.4300, subparts 4; 5 items A & B; 13; 15; 16, items B & C; and 17 item D			70	0	

NOTES:

Attachment 4

EU003 CAM Plan

New Ulm Public Utilities – Municipal Power
Compliance Assurance Monitoring (CAM) Plan

1. APPLICABILITY

- 1.1. Control Technology: Cyclone
- 1.2. Pollutants
 - 1.2.1. Primary: Particulate matter (PM)
 - 1.2.2. Other: Heavy metals
- 1.3. Process/Emissions Unit: EU 003, Boiler #4 when burning coal
- 1.4. Performance Criteria: 80% control of PM

2. MONITORING APPROACH DESCRIPTION

- 2.1. Indicators Monitored: Pressure differential.
- 2.2. Rationale for Monitoring Approach: Control efficiency increases with increasing pressure differential; however, if pressure differential exceeds the specified maximum value, turbulence becomes excessive and control efficiency decreases.
- 2.3. Monitoring Location: Gas inlet and outlet ducts.
- 2.4. Analytical Devices Required: Differential pressure gauge, specific device to be determined prior to start of coal combustion in the unit
- 2.5. Data Acquisition and Measurement System Operation
 - 2.5.1. Frequency of measurement: Once per day
 - 2.5.2. Reporting units: Inches of water column (in. w.c.)
 - 2.5.3. Recording process: Operators log data manually.
- 2.6. Data Requirements
 - 2.6.1. Cyclone manufacturer's design specifications and efficiency curve/equation for pressure differential.
 - 2.6.2. Baseline pressure differential measurements concurrent with emission test, to be conducted 180 days after initial start of combustion of coal.
 - 2.6.3. Historical plant records of pressure differential measurements.
- 2.7. Specific QA/QC Procedures
 - 2.7.1. Calibrate, maintain, and operate instrumentation using procedures that take into account manufacturer's specifications.

3. SECONDARY MONITORING APPROACH DESCRIPTION

- 3.1. Indicators Monitored: Opacity, using Continuous Opacity Monitor (COMS), United Science Incorporated, Model 550.
- 3.2. Rationale for Monitoring Approach: Opacity is an indicator of control device performance. An increase in opacity or visible emissions generally corresponds to a decrease in cyclone performance.
- 3.3. Monitoring Location: Gas outlet duct.
- 3.4. Analytical Devices Required: Optical transmissometer
- 3.5. Data Acquisition and Measurement System Operation
 - 3.5.1. Frequency of measurement: Continuous to data acquisition system, reduced to six-minute averages.
 - 3.5.2. Reporting units: Opacity (percent).
 - 3.5.3. Recording process: Recorded automatically to data acquisition system.
- 3.6. Data Requirements
 - 3.6.1. Cyclone manufacturer's design specifications and efficiency curve/equation for opacity.
 - 3.6.2. Baseline opacity measurements concurrent with emission test, to be conducted 180 days after initial start of combustion of coal.

3.6.3. Historical plant records of opacity measurements.

3.7. Specific QA/QC Procedures

3.7.1. Calibrate, maintain, and operate instrumentation using procedures that take into account manufacturer's specifications.

3.7.2. Includes daily calibration drift check and semi-annual calibration error audit