AIR EMISSION PERMIT NO. 13700027- 001
IS ISSUED TO THE

City of Hibbing

Hibbing Public Utilities
PO Box 249
Hibbing, St. Louis County, Minnesota 55746

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

Permit Type	Application Date
Total Facility Operating Permit	September 13, 1995

This permit authorizes the Permittee to operate the stationary source at the address listed above unless otherwise noted in Table A. The Permittee must comply with all the conditions of the permit and with all general conditions listed in Minn. R. pt. 7007.0800, subp. 16 and all standard permit requirements listed in 40 CFR 70.6(a) which are incorporated by reference. Any changes or modifications to the stationary source must be performed in compliance with Minn. Rules pts. 7007.1150 to 7007.1500. Terms used in the permit are as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

Permit Type: Federal ; Part 70
Issue Date: September 12, 1997
Expiration: September 12, 2002

All Title I Conditions do not expire.

Carolina Espejel-Schutt for
Michael J. Sandusky
Acting Division Manager
Air Quality Division

for Peder A. Larson
Commissioner
Minnesota Pollution Control Agency

TABLE OF CONTENTS

NOTICE TO THE PERMITTEE:

Your stationary source may be subject to the requirements of the Minnesota Pollution Control Agency's (MPCA) solid waste, hazardous waste, and water quality programs. If you wish to obtain information on these programs, including information on obtaining any required permits, please contact the MPCA general information number at:

Metro Area	(612)296-6300
Outside Metro Area	1-800-657-3864
TTY	(612)282-5332

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

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

PERMIT SHIELD:

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

The permit shield, however does not apply to: Minn. R. ch. 7030 (Noise Pollution Control).

FACILITY DESCRIPTION:

The Hibbing Public Utilities Commission (HPUC) operates a co-generation facility for the City of Hibbing. The facility generates electrical power for the City and steam for space heating of businesses, schools, and residences. The HPUC power plant is located in downtown Hibbing and was originally constructed in 1919. The emission units at the source consist of three coal/natural gas-fired boilers, an ash-handling system, as well as the two natural gas-fired boilers located a few blocks away at Hibbing High School that are connected to the HPUC steam distribution system. The five boilers are labeled Boiler No. 1A, Boiler No. 2A, Boiler No. 3A, High School Boiler No. 1, and High School Boiler No. 2.

Boilers 1A, 2A, and 3A are spreader stoker units that can burn subbituminous coal, bituminous coal, natural gas, wood waste, and peat. Boilers 1A, 2A, and 3A are each equipped with their own electrostatic precipitator (for particulate matter control) and exhaust stack. This permit allows the facility to also burn used oil and oily paper-based sorbents (including oily rags) in Boilers No. 1A, 2A, and 3A.

The high school boilers combust only natural gas. The High School boilers were constructed in 1972 and connected at that time to the HPUC steam heating system. The HPUC became the sole operator of these units in 1982. However, the change of operator was not considered a modification under New Source Review. Currently these natural gas-fired boilers are only operated a few days per year for emergency back-up. The majority of the steam heat for the school is supplied by the main HPUC boilers.

Boilers No. 1A and 2A are rated at 216 mmBtus (million Btu) per hour (125,000 lbs. of steam per hour). Boiler No. 3A is rated at 248 mmBtus per hour (170,000 lbs. of steam per hour). The High School Boilers are both rated at 36 mmBtus per hour (30,000 lbs. of steam per hour). None of the five boilers are subject to New Source Performance Standards.

Boilers 1A, 2A, and 3A, are individually equipped with continuous emission monitors (CEMs), for opacity, sulfur dioxide, and oxygen. The High School Boilers do not have any CEMs.

There are three steam-driven electric generating turbines at the facility with a total production capacity of 38 Megawatts.

Other air emission sources at the facility include a railcar/truck coal unloading station and an ash transfer system. The coal unloading station is considered an insignificant activity but will be included in the facility's fugitive dust control plan.

TABLE A: LIMITS AND OTHER REQUIREMENTS

09/12/97

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 001

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

Subject Item: Total Facility

What to do	Why to do it
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150.	Minn. R. 7011.0150
Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated, unless otherwise noted in Table A.	Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)
Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment.	Minn. R. 7007.0800, subp. 14; Minn. R. 7007.0800, subp. 16(J)
Shutdowns: Notify the Commissioner at least 24 hours in advance of shutdown of any process or control equipment if the shutdown would cause an increase in the emission of air contaminants. At the time of notification, notify the Commissioner of the cause of the shutdown and the estimated duration. Notify the Commissioner again when the shutdown is over.	Minn. R. 7019.1000, subp. 1
Breakdowns: Notify the Commissioner immediately of a breakdown of more than one hour duration of any process or control equipment if the breakdown causes an increase in the emission of air contaminants. At the time of notification or as soon thereafter as possible, the permittee shall also notify the Commissioner of the cause of the breakdown and the estimated duration. Notify the Commissioner again when the breakdown is over.	Minn. R. 7019.1000, subp. 2
Monitoring Equipment: Install or make needed repairs to monitoring equipment within 60 days of issuance of the permit if monitoring equipment is not installed and operational on the date the permit is issued.	Minn. R. 7007.0800, subp. 4(D)
Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(D)
Operation of Monitoring Equipment: Unless otherwise noted in Tables A, B, and/or C, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, or during checks of the monitoring systems, such as calibration checks and zero and span adjustments. If monitoring records are required, they should reflect any such periods of process shutdown or checks of the monitoring system.	Minn. R. 7007.0800, subp. 4(D)
Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.	Minn. R. 7011.0020
Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A, B, and/or C.	Minn. R. ch. 7017
Performance Test: due 15 days after Startup of peat and/or wood waste combustion in EU 001, EU 002, or EU 003 to measure particulate matter emissions. The testing and all test-related activities shall be performed in accordance with Minn. R. ch. 7017.	Minn. R. 7017.2020, subp. 1
Operating and/or production limits will be placed on emission units based on operating conditions during compliance testing. Limits set as a result of a compliance test (conducted before or after permit issuance) apply until new operating/production limits are set following formal review of a performance test as specified by Minn. R. 7017.2025. This does not apply to EU 001and EU 002. See requirements under EU 001and EU 002 regarding operating limits based on performance test conditions.	Minn. R. 7017.2025
Oral Notification of Deviations Endangering Human Health or the Environment: Within 24 hours of discovery, orally notify the Commissioner of any deviation from permit conditions which could endanger human health or the environment.	Minn. R. 7007.0800, subp. 6(A)
Written 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: cause of the deviation; exact dates of the period of the deviation; if the deviation has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.	Minn. R. 7007.0800, subp. 6(A)

TABLE A: LIMITS AND OTHER REQUIREMENTS

09/12/97

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 001

Application for Permit Amendment: If you need a permit amendment, submit application in accordance with the requirements of Minn. R. 7007.1150 through Minn. R. 7007.1500. Submittal dates vary, depending on the type of amendment needed.	Minn. R. 7007.1150 through Minn. R. 7007.1500
Extension Requests: The Permittee may apply for an Administrative Amendment to extend a deadline in a permit by no more than 120 days, provided the proposed deadline extension meets the requirements of Minn. R. 7007.1400, subp. 1(H).	Minn. R. 7007.1400, subp. 1(H)
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095
Inspections: Upon presentation of credentials and other documents as may be required by law, allow the Agency, or its representative, to enter the Permittee's premises to have access to and copy any records required by this permit, to inspect at reasonable times (which include any time the source is operating) any facilities, equipment, practices or operations, and to sample or monitor any substances or parameters at any location.	Minn. R. 7007.0800, subp. 9(A)
Record keeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007. 1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350 subp. 2), including records of the emissions resulting from those changes.	Minn. R. 7007.0800, subp. 5(B)
Record keeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Minn. R. 7007.0800, subp. 5(C)
Noise: The Permittee shall comply with noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during operation of any emission units. This is a state requirement only and is not federally enforceable.	Minn. R. 7030.0010-7030.0080

TABLE A: LIMITS AND OTHER REQUIREMENTS

09/12/97

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 001

Subject Item: **GP 001 Boilers 1A, 2A, and 3A**

Associated Items: EU 001 Boiler No. 1A

EU 002 Boiler No. 2A

EU 003 Boiler No. 3A

What to do	Why to do it
Sulfur Dioxide: less than or equal to 2.06 lbs/million Btu heat input using 1-Hour Average basis when only two of the three boilers in GP 001 are operating. The limit individually applies to each boiler.	Minn. R. 7009.0020 to not cause or contribute to a violation of the sulfur doxide ambient air standard in Minn. R. 7009.0080
Sulfur Dioxide: less than or equal to 1.58 lbs/million Btu heat input using 1-Hour Average basis when all three boilers in GP 001 are operating. The limit individually applies to each boiler.	Minn. R. 7009.0020 to not cause or contribute to a violation of the sulfur doxide ambient air standard in Minn. R. 7009.0080
Fuel Usage Limit: The Permittee shall not combust more than a total of 500 pounds per year of oily cellulose-based sorbents (oily rags) in the emission units in GP 001.	Minn. R. 7007.0800, subp. 2
Fuel Usage Limit: The Permittee shall limit the total used oil combusted in the emission units in GP 001 to 5,000 gallons per year. The Permittee shall limit combustion of used oil to 5% of total heat input on an hourly basis in each emission unit, and as follows: EU 001: 77 gallons per hour EU 002: 77 gallons per hour EU 003: 86 gallons per hour	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

09/12/97

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 001

Subject Item: **EU 001 Boiler No. 1A**

Associated Items: CE 001 Electrostatic Precipitator - High Efficiency

GP 001 Boilers 1A, 2A, and 3A

MR 001

MR 002

MR 003

SV 001

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.6 lbs/million Btu heat input	Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent opacity except that a maximum of 60 percent opacity shall be permissible for four minutes in any 60 minute period and a maximum of 40 percent opacity shall be permissible for four additional minutes in any 60 minute period based on a one(1)-minute averaging period.	Minn. R. 7011.0510, subp. 2
Sulfur Dioxide: less than or equal to 4.0 lbs/million Btu heat input using 1-Hour Average . See GP 001 for additional SO2 emissions limits.	Minn. R. 7011.0510, subp. 1
Fuels Allowed: bituminous coal, subbituminous coal, wood waste, natural gas, peat, used oil, and oily cellulose-based sorbents (including rags).	Minn. R. 7007.0800, subp. 2
Fuel Usage Limitation: EU 001 shall not burn more than 80,000 tons per year of wood waste and peat combined on a monthly calculated 12-month rolling sum basis.	Minn. R. 7007.0800, subp. 2 to limit HAPs emissions from the facility to less than the major source level in 40 CFR Sections 63.2 and 70.2
Recordkeeping: by the 15th day of each month, the Permittee shall calculate and record EU 001 peat and wood usage for the previous month and the previous 12-month period.	Minn. R. 7007.0800, subp. 5
Initial Performance Test: due 180 days after 03/31/99 to measure particulate matter emissions.	Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test for particulate matter.	Minn. R. 7017.2030, subp. 4
Performance Test: due before end of each 60 months following Initial Performance Test to measure particulate matter emissions. The tests shall be conducted at an interval not to exceed 60 months between test dates.	Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before end of each 60 months following Initial Performance Test (7 days before each Performance Test).	Minn. R. 7017.2030, subp. 4
Boiler Alternative Operating Conditions for Performance Testing: Alternative Operating Conditions during testing are defined as 90% to 100% of the boiler's maximum normal (continuous) operating load or the maximum permitted operating rate, whichever is lower. The basis for this number must be included in the test plan. If testing is conducted at the alternative operating condition established, an operating limit will not be established as a result of performance testing. In no case will the new operating rate limit be higher than allowed by an existing permit condition.	Minn. R. 7017.2025, subp. 2(A) and 3(B)
Boiler Operating Conditions Not Meeting the Alternative Operating Conditions During Performance Testing: If performance testing is not conducted at or above the established alternative operating condition, then the boiler operating rate will be limited to an 8-hour block average based on the following: (1) If the results of the performance test are greater than 80% of any applicable emission limit for which compliance is demonstrated, then boiler operation will be limited to the tested operating rate. (2) If results are less than or equal to 80% of all applicable emission limits for which compliance is demonstrated, boiler operation will be limited to 110% of the tested operating rate. In no case will the new operating rate limit be higher than allowed by an existing permit condition.	Minn. R. 7017.2025, subp. 3(B)
STET (Short Term Emergency and Testing) Operating hours limit: The boiler may operate up to 40 hours per year to demonstrate the Uniform Rating of Generating Equipment (URGE) capacity and to meet emergency energy supply needs. Maintain documentation of all STET operation to demonstrate compliance with this limit. The boiler must meet emission limits during STET operation.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 001

STET Operation Definition that applies to Boilers that Meet or do Not Meet the Alternative Operating Condition for Performance Testing: If performance test results demonstrate compliance at 80% or less of any applicable emission limits for any tested pollutant, STET operation is defined as operation beyond 110% of the average rate achieved during that performance test. If performance test results demonstrate compliance at greater than 80% any applicable emission limit for any tested pollutant, STET operation is defined as operation beyond 100% of the average operating rate achieved during that performance test. In no case will STET operation be higher than allowed by an existing permit condition.	Minn. R. 7007.0800, subp. 2
The results of a performance test are not final until issuance of a review letter by MPCA, unless specified otherwise by Minn. R. 7017.2001-7017.2060.	Minn. R. 7017.2020, subp. 4
Emissions Monitoring: The Permittee shall use a COMS to measure opacity emissions from EU 001.	Minn. R. 7017.1000, subp. 1; Minn. R. 7007.0800, subp. 2
COMS Monitoring Data: Owners or operators of all COMS shall reduce all data to one-minute averages. Opacity averages shall be calculated from all equally spaced consecutive 10-second (or shorter) data points in the one-minute averaging period.	Minn. R. 7007.0800, subp. 2
COMS Continuous Operation: Except for system breakdowns, repairs, calibration checks and zero and span adjustments, all COMS shall be in continuous operation.	Minn. R. 7007.0800, subp. 2
COMS Daily Calibration Drift (CD) Check: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) opacity at least once daily. The COMS must be adjusted whenever the calibration drift (CD) exceed the twice specification of PS-1 of 40 CFR pt. 60, Appendix B.	Minn. R. 7017.1000
COMS Calibration Error Audit: due before end of each calendar half-year following COMS Certification Test . Conduct audits at least 3 months apart but no greater than 8 months apart.	Minn. R. 7007.0800, subp. 2
Emissions Monitoring: The Permittee shall use a SO2 CEMS to measure SO2 emissions from EU 001.	Minn. R. 7017.1000, subp. 1; Minn. R. 7007.0800, subp. 2
CEMS Continuous Operation: Except for system breakdowns, repairs, calibration checks and zero and span adjustments, all CEMS shall be in continuous operation.	Minn. R. 7007.0800, subp. 2
CEMS Daily Calibration Drift (CD) Test: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) gas concentrations at least once daily. The CEMS shall be adjusted whenever the CD exceeds twice the specification of 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F, shall be used to determine out-of-control periods for CEMS.	Minn. R. 7007.0800, subp. 2; Minn. R. 7017.1000, subp. 5
CEMS Cylinder Gas Audit (CGA): due before end of each calendar half-year following CEM Certification Test . Conduct CGA at least 3 months apart and not greater than 8 months apart. Follow the procedures in 40 CFR pt. 60, Appendix F.	Minn. R. 7007.0800, subp. 2
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar year following CEM Certification Test . If the relative accuracy is 15% or less the next CEMS RATA is not due for 24 months. Follow the procedures in 40 CFR pt. 60, Appendix B and Appendix F.	Minn. R. 7007.0800, subp. 2
Recordkeeping: The owner or operator must retain records of all CEMS/COMS monitoring data and support information for a period of five (5) years from the date of the monitoring sample, measurement or report. Records shall be kept at the source.	Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

09/12/97

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 001

Subject Item: **EU 002 Boiler No. 2A**

Associated Items: CE 002 Electrostatic Precipitator - High Efficiency

GP 001 Boilers 1A, 2A, and 3A

MR 004

MR 005

MR 006

SV 002

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.6 lbs/million Btu heat input	Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent opacity except that a maximum of 60 percent opacity shall be permissible for four minutes in any 60 minute period and a maximum of 40 percent opacity shall be permissible for four additional minutes in any 60 minute period based on a one(1)-minute averaging period.	Minn. R. 7011.0510, subp. 2
Sulfur Dioxide: less than or equal to 4.0 lbs/million Btu heat input using 1-Hour Average . See GP 001 for additional SO2 emissions limits.	Minn. R. 7011.0510, subp. 1
Fuels Allowed: bituminous coal, subbituminous coal, wood waste, natural gas, peat, used oil, and oily cellulose-based sorbents (including rags).	Minn. R. 7007.0800, subp. 2
Fuel Usage Limitation: EU 002 shall not burn more than 80,000 tons per year of wood waste and peat combined on a monthly calculated 12-month rolling sum basis.	Minn. R. 7007.0800, subp. 2 to limit HAPs emissions from the facility to less than the major source level in 40 CFR Sections 63.2 and 70.2
Recordkeeping: by the 15th day of each month, the Permittee shall calculate and record EU 002 peat and wood usage for the previous month and the previous 12-month period.	Minn. R. 7007.0800, subp. 5
Initial Performance Test: due 180 days after 03/31/99 to measure particulate matter emissions.	Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test for particulate matter.	Minn. R. 7017.2030, subp. 4
Performance Test: due before end of each 60 months following Initial Performance Test to measure particulate matter emissions. The tests shall be conducted at an interval not to exceed 60 months between test dates.	Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before end of each 60 months following Initial Performance Test (7 days before each Performance Test).	Minn. R. 7017.2030, subp. 4
Boiler Alternative Operating Conditions for Performance Testing: Alternative Operating Conditions during testing are defined as 90% to 100% of the boiler's maximum normal (continuous) operating load or the maximum permitted operating rate, whichever is lower. The basis for this number must be included in the test plan. If testing is conducted at the alternative operating condition established, an operating limit will not be established as a result of performance testing. In no case will the new operating rate limit be higher than allowed by an existing permit condition.	Minn. R. 7017.2025, subp. 2(A) and 3(B)
Boiler Operating Conditions Not Meeting the Alternative Operating Conditions During Performance Testing: If performance testing is not conducted at or above the established alternative operating condition, then the boiler operating rate will be limited to an 8-hour block average based on the following: (1) If the results of the performance test are greater than 80% of any applicable emission limit for which compliance is demonstrated, then boiler operation will be limited to the tested operating rate. (2) If results are less than or equal to 80% of all applicable emission limits for which compliance is demonstrated, boiler operation will be limited to 110% of the tested operating rate. In no case will the new operating rate limit be higher than allowed by an existing permit condition.	Minn. R. 7017.2025, subp. 3(B)
STET (Short Term Emergency and Testing) Operating hours limit: The boiler may operate up to 40 hours per year to demonstrate the Uniform Rating of Generating Equipment (URGE) capacity and to meet emergency energy supply needs. Maintain documentation of all STET operation to demonstrate compliance with this limit. The boiler must meet emission limits during STET operation.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 001

STET Operation Definition that applies to Boilers that Meet or do Not Meet the Alternative Operating Condition for Performance Testing: If performance test results demonstrate compliance at 80% or less of any applicable emission limits for any tested pollutant, STET operation is defined as operation beyond 110% of the average rate achieved during that performance test. If performance test results demonstrate compliance at greater than 80% any applicable emission limit for any tested pollutant, STET operation is defined as operation beyond 100% of the average operating rate achieved during that performance test. In no case will STET operation be higher than allowed by an existing permit condition.	Minn. R. 7007.0800, subp. 2
The results of a performance test are not final until issuance of a review letter by MPCA, unless specified otherwise by Minn. R. 7017.2001-7017.2060.	Minn. R. 7017.2020, subp. 4
Emissions Monitoring: The Permittee shall use a COMS to measure opacity emissions from EU 002.	Minn. R. 7017.1000, subp. 1; Minn. R. 7007.0800, subp. 2
COMS Monitoring Data: Owners or operators of all COMS shall reduce all data to one-minute averages. Opacity averages shall be calculated from all equally spaced consecutive 10-second (or shorter) data points in the one-minute averaging period.	Minn. R. 7007.0800, subp. 2
COMS Continuous Operation: Except for system breakdowns, repairs, calibration checks and zero and span adjustments, all COMS shall be in continuous operation.	Minn. R. 7007.0800, subp. 2
COMS Daily Calibration Drift (CD) Check: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) opacity at least once daily. The COMS must be adjusted whenever the calibration drift (CD) exceed the twice specification of PS-1 of 40 CFR pt. 60, Appendix B.	Minn. R. 7017.1000
COMS Calibration Error Audit: due before end of each calendar half-year following COMS Certification Test . Conduct audits at least 3 months apart but no greater than 8 months apart.	Minn. R. 7007.0800, subp. 2
Emissions Monitoring: The Permittee shall use a SO2 CEMS to measure SO2 emissions from EU 002.	Minn. R. 7017.1000, subp. 1; Minn. R. 7007.0800, subp. 2
CEMS Continuous Operation: Except for system breakdowns, repairs, calibration checks and zero and span adjustments, all CEMS shall be in continuous operation.	Minn. R. 7007.0800, subp. 2
CEMS Daily Calibration Drift (CD) Test: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) gas concentrations at least once daily. The CEMS shall be adjusted whenever the CD exceeds twice the specification of 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F, shall be used to determine out-of-control periods for CEMS.	Minn. R. 7007.0800, subp. 2; Minn. R. 7017.1000, subp. 5
CEMS Cylinder Gas Audit (CGA): due before end of each calendar half-year following CEM Certification Test . Conduct CGA at least 3 months apart and not greater than 8 months apart. Follow the procedures in 40 CFR pt. 60, Appendix F.	Minn. R. 7007.0800, subp. 2
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar year following CEM Certification Test . If the relative accuracy is 15% or less the next CEMS RATA is not due for 24 months. Follow the procedures in 40 CFR pt. 60, Appendix B and Appendix F.	Minn. R. 7007.0800, subp. 2
Recordkeeping: The owner or operator must retain records of all CEMS/COMS monitoring data and support information for a period of five (5) years from the date of the monitoring sample, measurement or report. Records shall be kept at the source.	Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

09/12/97

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 001

Subject Item: **EU 003 Boiler No. 3A**

Associated Items: CE 003 Electrostatic Precipitator - High Efficiency

GP 001 Boilers 1A, 2A, and 3A

MR 007

MR 008

MR 009

SV 003

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.6 lbs/million Btu heat input	Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent opacity except that a maximum of 60 percent opacity shall be permissible for four minutes in any 60 minute period and a maximum of 40 percent opacity shall be permissible for four additional minutes in any 60 minute period based on a one(1)-minute averaging period.	Minn. R. 7011.0510, subp. 2
Sulfur Dioxide: less than or equal to 4.0 lbs/million Btu heat input using 1-Hour Average . See GP 001 for additional SO2 emissions limits.	Minn. R. 7011.0510, subp. 1
Fuels Allowed: bituminous coal, subbituminous coal, wood waste, natural gas, peat, used oil, and oily cellulose-based sorbents (including rags).	Minn. R. 7007.0800, subp. 2
Fuel Usage Limitation: EU 003 shall not burn more than 80,000 tons per year of wood waste and peat combined on a monthly calculated 12-month rolling sum basis.	Minn. R. 7007.0800, subp. 2 to limit HAPs emissions from the facility to less than the major source level in 40 CFR Sections 63.2 and 70.2
Recordkeeping: by the 15th day of each month, the Permittee shall calculate and record EU 003 peat and wood usage for the previous month and the previous 12-month period.	Minn. R. 7007.0800, subp. 5
Initial Performance Test: due 180 days after 03/31/99 to measure particulate matter emissions.	Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test for particulate matter.	Minn. R. 7017.2030, subp. 4
Performance Test: due before end of each 60 months following Initial Performance Test to measure particulate matter emissions. The tests shall be conducted at an interval not to exceed 60 months between test dates.	Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before end of each 60 months following Initial Performance Test (7 days before each Performance Test).	Minn. R. 7017.2030, subp. 4
The results of a performance test are not final until issuance of a review letter by MPCA, unless specified otherwise by Minn. R. 7017.2001-7017.2060.	Minn. R. 7017.2020, subp. 4
Emissions Monitoring: The Permittee shall use a COMS to measure opacity emissions from EU 003.	Minn. R. 7017.1000, subp. 1; Minn. R. 7007.0800, subp. 2
COMS Monitoring Data: Owners or operators of all COMS shall reduce all data to one-minute averages. Opacity averages shall be calculated from all equally spaced consecutive 10-second (or shorter) data points in the one-minute averaging period.	Minn. R. 7007.0800, subp. 2
COMS Continuous Operation: Except for system breakdowns, repairs, calibration checks and zero and span adjustments, all COMS shall be in continuous operation.	Minn. R. 7007.0800, subp. 2
COMS Daily Calibration Drift (CD) Check: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) opacity at least once daily. The COMS must be adjusted whenever the calibration drift (CD) exceed the twice specification of PS-1 of 40 CFR pt. 60, Appendix B.	Minn. R. 7017.1000
COMS Calibration Error Audit: due before end of each calendar half-year following COMS Certification Test . Conduct audits at least 3 months apart but no greater than 8 months apart.	Minn. R. 7007.0800, subp. 2
Emissions Monitoring: The Permittee shall use a SO2 CEMS to measure SO2 emissions from EU 003.	Minn. R. 7017.1000, subp. 1; Minn. R. 7007.0800, subp. 2
CEMS Continuous Operation: Except for system breakdowns, repairs, calibration checks and zero and span adjustments, all CEMS shall be in continuous operation.	Minn. R. 7007.0800, subp. 2
CEMS Daily Calibration Drift (CD) Test: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) gas concentrations at least once daily. The CEMS shall be adjusted whenever the CD exceeds twice the specification of 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F, shall be used to determine out-of-control periods for CEMS.	Minn. R. 7007.0800, subp. 2; Minn. R. 7017.1000, subp. 5
CEMS Cylinder Gas Audit (CGA): due before end of each calendar half-year following CEM Certification Test . Conduct CGA at least 3 months apart and not greater than 8 months apart. Follow the procedures in 40 CFR pt. 60, Appendix F.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 001

CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar year following CEM Certification Test . If the relative accuracy is 15% or less the next CEMS RATA is not due for 24 months. Follow the procedures in 40 CFR pt. 60, Appendix B and Appendix F.	Minn. R. 7007.0800, subp. 2
Recordkeeping: The owner or operator must retain records of all CEMS/COMS monitoring data and support information for a period of five (5) years from the date of the monitoring sample, measurement or report. Records shall be kept at the source.	Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

09/12/97

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 001

Subject Item: **EU 004 Ash Conveying System**

Associated Items: CE 004 Fabric Filter - High Temperature, i.e., T>250 Degrees F

SV 004

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot unless required to further reduce emissions to the less stringent limit of either Minn. R. 7011.0730 or Minn. R. 7011.0735.	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
Visible Emissions Monitoring: The Permittee shall perform a visible emissions check on EU 004 once each day while in operation (during daylight hours). A visible emissions check shall consist of viewing the exhaust gas exiting the stack and recording whether visible emissions are present or not.	Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subp. 4, and Minn. R. 7007.0800, subp. 5
Visible Emissions Corrective Actions: If visible emissions (VEs)are observed, determine the cause and take corrective actions as soon as possible to eliminate the VEs.	Minn. R. 7007.0800, subp. 2
Visible Emissions Recordkeeping: Record the time and date of each VE inspection, and whether or not any VEs were observed. If VEs were observed, also record a brief description of the type of corrective actions taken, and the date the actions were taken.	Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

09/12/97

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 001

Subject Item: **EU 005 High School Boiler 1**

Associated Items: SV 005

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.6 lbs/million Btu heat input	Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent opacity except that a maximum of 60 percent opacity shall be permissible for four minutes in any 60 minute period and a maximum of 40 percent opacity shall be permissible for four additional minutes in any 60 minute period based on a one(1)-minute averaging period.	Minn. R. 7011.0510, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

09/12/97

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 001

Subject Item: **EU 006 High School Boiler 2**

Associated Items: SV 006

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.6 lbs/million Btu heat input	Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent opacity except that a maximum of 60 percent opacity shall be permissible for four minutes in any 60 minute period and a maximum of 40 percent opacity shall be permissible for four additional minutes in any 60 minute period based on a one(1)-minute averaging period.	Minn. R. 7011.0510, subp. 2

TABLE B: SUBMITTALS

09/12/97

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 001

Table B lists the submittals you must send to the Commissioner. Table B is divided into two sections, for source-specific submittal requirements and for submittals required of all permittees. Source-specific submittals are further organized as either one-time only or recurrent requirements. You may also be subject to additional reporting requirements contained in the compliance schedule located in Table C of this permit. All submittals must be postmarked or received by the date specified in the table, and certified by a responsible official, defined in Minn. R. 7007.0100, subp. 21. Submittals which must be provided on standardized forms approved by the Commissioner are noted in Tables B and C.

Send any application for a permit or permit amendment to: Permit Information Coordinator, Permit Section, Air Quality Division, Minnesota Pollution Control Agency, 520 Lafayette Road North, St. Paul, Minnesota 55155-4914. Also send the Permit Information Coordinator notices of: accumulated insignificant activities, installation of control equipment, replacement of an emissions unit, and changes that contravene a permit term.

Send all other submittals to: Compliance Tracking Coordinator, Compliance Determination Unit, Air Quality Division, Minnesota Pollution Control Agency, 520 Lafayette Road North, St. Paul, Minnesota 55155-4194.

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

09/12/97

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 001

What to send	When to send	Portion of Facility Affected
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility
Computer Dispersion Modeling Protocol	due 1,096 days after Permit Issuance for PM-10, SO2, and NOx. The protocol shall describe the proposed modeling methodology and input data in accordance with all requirements of 40 CFR pt. 51, App. W. The protocol may be based on proposed operating conditions under the next permit term if necessary.	Total Facility
Computer Dispersion Modeling Results	due 1,462 days after Permit Issuance for emissions of PM-10, SO2, and NOx.	Total Facility
Fugitive Control Plan	due 60 days after Permit Issuance . The plan shall identify all fugitive emission sources, primary and contingent control measures, and records kept,if any.	Total Facility
Notification	due 30 days before Startup of peat and or wood waste combustion in EU 001, EU 002, or EU 003. The notification shall indicate the fuel(s) to be burned, and the boiler(s) that the fuel(s) will be burned in.	Total Facility
Performance Test Notification (written)	due 30 days before Initial Performance Test for particulate matter.	EU001, EU002, EU003
Performance Test Plan	due 30 days before Initial Performance Test for particulate matter.	EU001, EU002, EU003
Performance Test Report - Microfiche Copy	due 105 days after Initial Performance Test for particulate matter.	EU001, EU002, EU003
Performance Test Report	due 45 days after Initial Performance Test for particulate matter.	EU001, EU002, EU003
Relative Accuracy Test Audit (RATA) Notification	due 30 days before CEMS Relative Accuracy Test Audit (RATA)	EU001, EU002, EU003

TABLE B: RECURRENT SUBMITTALS

09/12/97

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 001

What to send	When to send	Portion of Facility Affected
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter following Permit Issuance (Submit Deviations Reporting Form DRF-1 as amended). The EERs shall indicate all periods of exceedances of the limit including exceedances allowed by an applicable standard, i.e. during startup, shutdowns, and malfunctions.	EU001, EU003
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter following Permit Issuance (Submit Deviations Reporting Form DRF-1 as amended). The EER's shall indicate all periods of exceedances of the limit including exceedances allowed by an applicable standard, i.e. during startup, shutdowns, and malfunctions.	EU002
Relative Accuracy Test Audit (RATA) Results Summary	due 30 days after end of each calendar quarter following CEMS Relative Accuracy Test Audit (RATA)	EU001, EU002, EU003
CEMS Cylinder Gas Audit (CGA) Report	due 30 days after end of each calendar half-year following CEMS Cylinder Gas Audit (CGA)	EU001, EU002, EU003
COMS Calibration Error Audit Report	due 30 days after end of each calendar half-year following COMS Calibration Error Audit	EU001, EU002, EU003
Semiannual Deviations Report	due 30 days after end of each calendar half-year following Permit Issuance . The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31.	Total Facility
Compliance Certification	due 30 days after end of each calendar year following Permit Issuance (for the previous calendar year). To be submitted on a form approved by the Commissioner. The report covers all deviations experienced during the calendar year.	Total Facility
Emissions Inventory Report	due 91 days after end of each calendar year following Permit Issuance (April 1). To be submitted on a form approved by the Commissioner.	Total Facility
Performance Test Notification (written)	due 30 days before end of each 60 months following Initial Performance Test (30 days before each Performance Test).	EU001, EU002, EU003
Performance Test Plan	due 30 days before end of each 60 months following Initial Performance Test (30 days before each Performance Test).	EU001, EU002, EU003
Performance Test Report - Microfiche Copy	due 105 days after end of each 60 months following Initial Performance Test (105 days before each Performance Test).	EU001, EU002, EU003
Performance Test Report	due 45 days after end of each 60 months following Initial Performance Test (45 days before each Performance Test).	EU001
Performance Test Report	due 45 days after end of each 60 months following Initial Performance Test (45 days before each Performance Test).	EU002
Performance Test Report	due 45 days after end of each 60 months following Initial Performance Test (45 days before each Performance Test).	EU003

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 13700027-001

This Technical Support Document (TSD) is for all the interested parties of the permit and to meet the requirements that have been set forth by the federal regulations and Minnesota Rules (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 permit.

CONTENT

1. General Information

1.1. Applicant and Stationary Source Location:

Applicant/Address	Stationary Source/Address (SIC Code: 4931)
City of Hibbing PO Box 249 Hibbing, Minnesota 55746	Hibbing Public Utilities Commission 1832 6th Avenue East Hibbing, Minnesota 55746

Contact: Mr. James M. Kochevar, P.E. - AGM/Director of Power Production

1.2. Description Of The Permit Action

This is a reissuance of an existing permit, and the issuance of the air emissions operating permit required by Title V of the Clean Air Act Amendments of 1990, codified in 40 CFR pt. 70. Previously the facility operated under a state only Total Facility Air Emission Permit issued by the Minnesota Pollution Control Agency (MPCA). The last Total Facility permit was issued on November 29, 1993, and expires on November 29, 1998.

The Hibbing Public Utilities Commission (HPUC) operates a co-generation facility for the city of Hibbing. The facility generates electrical power for the city and steam for space heating of businesses, schools, and residences. The HPUC power plant is located in downtown Hibbing and was originally constructed in 1919. The emission units at the source consist of three coal/natural gas-fired boilers, an ash-handling system, as well as the two natural gas-fired boilers located a few blocks away at Hibbing High School that are connected to the HPUC steam distribution system. The five boilers are labeled Boiler No. 1A, Boiler No. 2A, Boiler No. 3A, High School Boiler No. 1, and High School Boiler No. 2.

Boilers 1A, 2A, and 3A are spreader stoker units that can burn subbituminous coal, bituminous coal, natural gas, wood waste, and peat. Boilers 1A, 2A, and 3A are each equipped with their own electrostatic precipitator (for particulate matter control) and exhaust stack. This permit allows the facility to also burn used oil and oily paper-based sorbents (including oily rags) in Boilers No. 1A, 2A, and 3A. This requirement is similar to requirements in other Title V utility plant permits.

The high school boilers combust only natural gas. The High School boilers were constructed in 1972, and connected at that time to the HPUC steam heating system. The HPUC became the sole operator of these units in 1982. However, the change of operator was not considered a modification under New Source Review. Currently these natural gas-fired boilers are only operated a few days per year for emergency back-up. The majority of the steam heat for the school is supplied by the main HPUC boilers.

Boilers No. 1A and 2A are rated at 216 mmBtus (million Btu) per hour (125,000 lbs. of steam per hour). Boiler No. 3A is rated at 248 mmBtus per hour (170,000 lbs. of steam per hour). The High School Boilers are both rated at 36 mmBtus per hour (30,000 lbs. of steam per hour). None of the five boilers are subject to New Source Performance Standards. This permit originally went on public notice considering the fact that Boiler No. 3A was rated at 254 mmBtus per hour and thus fell under the federal New Source Performance Standard Subpart D. Hibbing Public Utility was planning on derating the boiler but then they discovered the actual rated heat input capacity was only 248 mmBtus per hour and thus was below the federal applicability standard. Documentation to support this fact is attached to this TSD.

Boilers 1A, 2A, and 3A, are individually equipped with continuous emission monitors (CEMs), for opacity, sulfur dioxide, and oxygen. The High School Boilers do not have any CEMs.

There are three steam-driven electric generating turbines at the facility with a total production capacity of 38 Megawatts.

Other air emission sources at the facility include a railcar/truck coal unloading station and an ash transfer system. The coal unloading station is considered an insignificant activity but will be included in the facility's fugitive dust control plan.

Most of the operating conditions of the permit will remain the same as in the existing operating permit, and amendments. Changes that have been made include more detailed specifications for stack testing, and more detailed specifications for operation and maintenance of CEMs. The permit also meets the requirements of Minn. R. 7007.0800, that specifies requirements for the content of Part 70 permits.

The application for issuance of the Part 70 Total Facility operating permit was received September 15, 1995.

1.3. Emissions of the Facility

1.3.1 Criteria Pollutants

Following is a summary of the potential emission rates, in tons per year (tpy), attributable to the facility. Emission calculations are in the appendices.

Table 1. Total Facility Potential to Emit Summary and Attainment Status:

Pollutant	Potential to Emit* (Tons/year)	Actual Emissions (Tons/year)	Attainment or Unclassified? (Yes or No)
Particulate Matter less than 10 micron (PM_{10})	1,190	21	Yes
Sulfur Dioxide (SO_2)	11.919	1,118	Yes
Nitrogen Oxides (NO_x)	2,378	453	Yes
Carbon Monoxide (CO)	10,598	161	Yes
Lead	1.5	0.1	Yes
Volatile Organic Compounds	174	2	NA
Combined HAPs	23.0	1.3	NA

*Potential emissions based on permit limits

Table 2. Facility Classification

Classification (put x in appropriate box)	Major	Synthetic Minor	Minor	N/A
Prevention of Significant Deterioration	x			
Non Attainment Area (SO_2 and CO)				x
Operating Permit Program	x			

1.3.2 Hazardous Air Pollutants

No limits have been set in the permit for Hazardous Air Pollutants (HAP), and currently no ambient standards exist for HAP. Section 112(n)(1)(A) of the Clean Air Act mandates that the U.S. Environmental Protection Agency (EPA) perform a study, to be presented in a report to congress, of the hazards to public health reasonably anticipated to occur as a result of emissions of the HAPs by fossil fuel-fired electric utility steam generating units. The report will include; an assessment of HAP emission factors and rates from fossil fuel fired utility boilers, consideration of control strategies, and a determination as to whether hazardous air pollutants emission control from these sources is warranted. The study is referred to as the "utility HAP study." EPA has received many extensions to the deadline for submittal of this report. The report was originally due to Congress in November of 1993. The latest deadline was May 31, 1996, and was not met. In October of 1996, the interim draft report was finally submitted. This draft report did not contain information on HAP control techniques but another report due later this year will contain this information. The MPCA will amend any existing permit to be consistent with EPA'S rulemaking.

The utility HAP study will develop more accurate emission factors for various boiler types for HAPs than exist now. Currently, emission factors that are available are not considered to be highly accurate. Nonetheless, Hibbing Public Utility was required to estimate HAP emissions using available factors and submit those estimates with their Part 70 permit application. Those estimates are attached.

HPUC has proposed a limit on the usage of peat and wood as fuel in Boilers 1A, 2A, and 3A, in order to restrict HAPs to less than major source levels as defined in 40 CFR § 63.2 and 70.2.

2. Applicable Rules

2.1 Federal New Source Review

The Hibbing Public Utility Plant is located in an attainment area for all criteria pollutants, and so the applicable new source review regulations are found under 40 CFR § 52.21 (PSD). The facility is classified as a major source as defined in that rule. No modifications have been made since the PSD effective date, and therefore PSD is not the basis for any permit conditions.

2.2 Federal New Source Performance Standards

None of the emission units at the Plant are subject to federal New Source Performance Standards found in 40 CFR pt. 60.

2.3 Acid Rain Program

Title IV of the Clean Air Act Amendments of 1990, requires electric utilities to substantially reduce emissions of SO_2 and NO_x, the primary pollutants that contribute to acid rain. Through the requirement that utilities hold SO_2 allowances for each ton of SO_2 they emit, the EPA plans to cut annual national SO_2 emissions by about a factor of two. NO_x emissions reductions will be controlled by emission limits set for each type of utility boiler, on a lb/mmBtu basis. EPA is in the process of developing rules that set the new emission limits.

The regulation takes effect in two phases. Phase I took effect in 1995, and Phase II will take effect in the year 2000. The HPUC plant is not subject to the Acid Rain Program.

2.4 National and State Ambient Air Quality Standards (40 CFR pt. 50)

The National Ambient Air Quality Standards (NAAQS), as found in 40 CFR pt. 50, and the Minnesota Ambient Air Quality Standards (MAAQS), set the maximum concentration of pollutants allowed in the ambient air. As such, they apply to all air emissions sources. Hibbing Public Utility has completed dispersion modeling for SO_2 emissions. The modeling yielded the SO2 emission limits in GP 001.

Computer dispersion modeling will be used to determine whether a facility is in compliance with these standards by predicting the maximum ambient concentrations of pollutants that will result from maximum facility operation. The permit contains requirements for computer dispersion modeling to be submitted four years from permit issuance. The Air Quality Division is requiring this modeling for all sources with potential emissions greater than 100 tons per year of PM_{10}, SO_2, or NO_x. If that modeling shows that lower emission limits are needed to ensure compliance with ambient standards, the lower emission limits will be incorporated into the reissuance of the Title V permit.

2.5 National Emission Standards for Hazardous Air Pollutants

At this time, there are no promulgated or proposed standards for utility boilers.

2.6 State Performance Standards

Boilers 1A, 2A, 3A, and the two high school boilers are subject to Minn. R. for Existing Indirect Heating Equipment. Ash handling equipment is subject to Minnesota Standards for Industrial Process Equipment. The coal and ash handling at the facility qualify as insignificant activities and will be included as part of the plants fugitive dust control plan.

2.7 Environmental Assessment

No new construction or increases in emissions are allowed by this permit. Consequently, no environmental assessment is required.

2.8 Mercury Emissions

Coal-fired power plants emit mercury because it exists in trace quantities in coal. Mercury is an environmental problem because it is a neurotoxin and can concentrate in fish to the point that consumption of fish is hazardous. Virtually all mercury reaches lakes through air pollution, which is the result of many sources, some near and some far away. According to the 1994 MPCA report "Strategies for Reducing Mercury in Minnesota", coal-fired power plants constitute approximately 25 percent of the states man-made mercury emissions, excluding emissions from paint and fungicides (mercury is no longer used in these products). Municipal waste combustors are the second-largest category of mercury emitters, accounting for roughly 20 percent of the state's mercury emissions.

No regulations currently exist which require emissions control or set emission limits for coal-fired power plants. Mercury emission limits were recently promulgated for municipal waste combustors (MWC). However, emissions from coal-fired power plants typically contain one-tenth the concentration of mercury found in exhaust gas from waste combustors (although the concentration of mercury in waste combustor emissions is decreasing as mercury use in products decreases). Therefore, mercury control technology which is effective for a MWC is not necessarily transferable to a coal-fired power plant. Various groups, including the Electric Power Research Institute, are in the process of developing technology for reducing mercury emissions from coal combustion.

EPA is currently working on two studies which relate to mercury emissions: the Electric Utility HAPs study, and the Mercury Study. Federal regulatory programs aimed at reducing mercury emissions from power plants may result from one or more of these EPA projects.

The MPCA Mercury Task Force is considering working on a state initiative to reduce mercury emissions. The proposed initiative would apply to all significant mercury sources, including coal-fired power plants. As of August 1996, the Task Force is awaiting funding and soliciting input from interested parties to determine who would support development of a state or regional mercury strategy.

3. Requirements

3.1 Total Facility Requirements:

All general requirements and some site specific conditions are listed at the total facility level. (See attached CD-01 forms for specific limits). Overall, the Permittee will be required to submit an annual report evaluating the compliance status of the facility for the past calendar year, and to report deviations from permit conditions each six months.

The total facility requirements also include requirements for recordkeeping, inspection and entry, the requirements to submit an operation and maintenance plan, deviations notifications, application for amendment, the acid and alkaline fallout limits, requirements for procedures for notifications in the event of equipment shutdown/breakdown, and submittal of a fugitive emissions control plan. Also required is the performance and submittal of computer dispersion modeling to show that the facility's operation will not result in concentrations of PM_{-10}, NO_x, and SO_2 emissions in the area surrounding the facility in excess of the ambient standards for thosoe pollutants.

3.2 GP 001: EU 001, EU 002, and EU 003

Applicable Regulations: Computer dispersion modeling was conducted to ensure that Plant emissions did not cause or contribute to a violation of the NAAQS, found in 40 CFR pt. 50, and the MAAQS, found in Minn. R. ch. 7009. The results of the modeling yielded the two one-hour SO_2 emission limits in GP 001. These limits apply individually to each boiler.

Fuel usage restrictions apply collectively to the emission units in GP 001. The limits are designed to meet the HPUC need to dispose of oily rags and used oil in an appropriate manner. Because used oil is burned by applying it to the coal prior to feeding coal to the boilers, used oil combustion rate limits are included to ensure good combustion.

3.3 EU 001/Boiler 1A

Boiler 1A has a rated heat input of 216 mmBtus per hour. Primary fuels are coal and natural gas. Particulate matter emissions are controlled with an electrostatic precipitator.

Applicable Regulations: The boiler's emission limits are derived from Minnesota Performance Standards for Existing Indirect Heating Equipment.

Permitted Fuels: Primary fuels are coal and natural gas. Additional fuels are peat, wood waste, used oil, and oily cellulose-based sorbents. A limit on the amount of peat and wood waste combusted in the boiler is included to limit the Plant HAP emissions to less than the major source levels defined in 40 CFR § 63.2 and 70.2.

Compliance Demonstration: The boiler stack has a sulfur dioxide CEM and a continuous opacity monitor. Stack testing has shown that opacity is the limiting pollutant compared to particulate matter, and therefore the COM is used as an indicator of PM compliance.

Performance testing is required for emissions of particulate matter. The testing frequency is based on MPCA boiler testing frequency policy.

3.4 EU 002/Boiler 2A

Boiler 2A has a rated heat input of 216 mmBtus per hour. Primary fuels are coal and natural gas. Particulate matter emissions are controlled with an electrostatic precipitator.

Applicable Regulations: The boiler's emission limits are derived from Minnesota Performance Standards for Existing Indirect Heating Equipment.

Permitted Fuels: Primary fuels are coal and natural gas. Additional fuels are peat, wood waste, used oil, and oily cellulose-based sorbents. A limit on the amount of peat and wood waste combusted in the boiler is included to limit the Plant HAP emissions to less than the major source levels defined in 40 CFR § 63.2 and 70.2.

Compliance Demonstration: The boiler stack has a sulfur dioxide CEM and a continuous opacity monitor. Stack testing has shown that opacity is the limiting pollutant compared to particulate matter, and therefore the COM is used as an indicator of PM compliance.

Performance testing is required for emissions of particulate matter. The testing frequency is based on MPCA boiler testing frequency policy.

3.5 EU 003/Boiler 3A

Boiler 3A has a rated input of 248 mmBtus per hour (170,000 lbs steam per hour). As stated before this boiler was originally assumed to be a 254 mmBtus per hour (175,000 lbs steam per hour) unit and thus applicable to NSPS subpart D but it was later proven to be less than 250 mmBtus per hour and thus not applicable to NSPS. Primary fuels are coal and natural gas. Particulate matter emissions are controlled with an electrostatic precipitator.

Applicable Regulations: The boiler's emission limits are derived from Minnesota Performance Standards for Existing Indirect Heating Equipment.

Permitted Fuels: Primary fuels are coal and natural gas. Additional fuels are peat, wood waste, used oil, and oily cellulose-based sorbents. A limit on the amount of peat and wood waste combusted in the boiler is included to limit the Plant HAP emissions to less than the major source levels defined in 40 CFR § 63.2 and 70.2.

Compliance Demonstration: The boiler stack has a sulfur dioxide CEM and a continuous opacity monitor. Stack testing has shown that opacity is the limiting pollutant compared to particulate matter, and therefore the COM is used as an indicator of PM compliance.

Performance testing is required for emissions of particulate matter. The testing frequency is based on MPCA boiler testing frequency policy.

3.6 EU 004

EU 004 is an ash conveying system with particulate matter emission controlled by a fabric filter.

Applicable Regulations: The ash conveying system is subject to the opacity and particulate matter emission limits in the Minnesota Standards of Performance for New Industrial Process Equipment, Minn. R. 7011.0715.

Daily visible emissions evaluations are required as a means of determining compliance with the standards. This requirement is consistent with what other utility plants in the state have.

3.7 EU 005/High School Boiler 1

High School Boiler 1 is fired with natural gas and has a rated input of 36 mmBtus per hour.

Applicable Regulations: The boiler's emission limits are derived from Minnesota Performance Standards for Existing Indirect Heating Equipment.

Permitted Fuels: Restricted to natural gas only.

3.8 EU 006/High School Boiler 2

High School Boiler 2 is fired with natural gas and has a rated input of 36 mmBtus per hour.

Applicable Regulations: The boiler's emission limits are derived from Minnesota Performance Standards for Existing Indirect Heating Equipment.

Permitted Fuels: Restricted to natural gas only.

4. Conclusion

Based on the information provided by Hibbing Public Utilities Commission, the MPCA has reasonable assurance that the continued operation of the emission facility, as described in the Air Emission Permit No. 13700015-001 and this TSD will not cause or contribute to a violation of Minnesota or Federal Air Pollution Rules.

Attachments:

1. Stack Test Frequency Justification

2. Criteria Pollutant and HAP Emission Calculations

3. Correspondence from HPUC on Boiler 3A rating/derating

Need further information?

Permit Engineer: Brett A. Ballavance, P.E.
Compliance Staff: Marshall Cole
Telephone No.: (218)723-4837

ATTACHMENT 1

ATTACHMENT 2

ATTACHMENT 3