

AIR EMISSION PERMIT NO. 13700027- 004

IS ISSUED TO

HIBBING PUBLIC UTILITIES COMMISSION

1832 6th Avenue East
Hibbing, St. Louis County, MN 55746-1660

And

Laurentian Energy Authority LLC

618 2nd Street South
Virginia, MN 55792

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

| Permit Type | Application Date | Issuance Date | Action Number |
|---|------------------|---------------|---------------|
| Total Facility Oper. Permit - Reissuance | 09/31/2004 | 06/30/2005 | 003 |
| Administrative Amendment | 1/30/2006 | See below | 004 |

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

Permit Type: Federal; Pt 70/Major for NSR

Issue Date: March 2, 2006

Expiration: June 30, 2010
Title I Conditions do not expire.

Richard J. Sandberg, Manager
Air Quality Permits Section
Industrial Division

for Sheryl A. Corrigan
Commissioner
Minnesota Pollution Control Agency

TABLE OF CONTENTS

Notice to the Permittee

Permit Shield

Facility Description

Table A: Limits and Other Requirements

Table B: Submittals

Table C: Compliance Schedule (Not used in this permit)

**Appendices: Insignificant Activities Required to be Listed
Stack Parameters Used in Dispersion Modeling**

NOTICE TO THE PERMITTEE:

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

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

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

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

PERMIT SHIELD:

Subject to the limitations in Minn. R. 7007.1800, compliance with the conditions of this permit shall be deemed compliance with the specific provision of the applicable requirement identified in the permit as the basis of each condition. Subject to the limitations of Minn. R. 7007.1800 and 7017.0100, subp. 2, notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.

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, and bituminous coal. Boilers 1A and 2A can also burn natural gas. 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 stacks for Boilers 1A and 2A will be combined into a taller stack prior to the startup of a new wood fired boiler.

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 207 mmBtus (million Btu) per hour (145,000 lbs. of steam per hour). Boiler No. 3A is rated at 243 mmBtus per hour (170,000 lbs. of steam per hour). These are the 2-hour peak input capacities. Maximum continuous ratings are for Boilers 1A and 2A, 178.7 mmBtus per hour (125,000 lbs. of steam per hour), and for Boiler 3A, 214.4 mmBtus per hour (150,000 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.

The permit reissuance in 2005 of the Title V total facility operating permit authorized construction of an additional boiler and material handling equipment. Specifically, the permit authorized the installation of a wood fired boiler to be used for district heating and electric generation. Also authorized with this permit action was the installation of wood handling and storage equipment.

The wood fired boiler was part of a larger project that includes a wood fired boiler at Virginia Public Utilities. Hibbing Public Utilities and Virginia Public Utilities entered into a joint venture via formation of a third party, Laurentian Energy Authority (LEA), to generate electricity from biomass as required by an Xcel Energy purchase power agreement. LEA will lease the existing turbines to produce 15 MW at Virginia and 20 MW at Hibbing.

Action 004:

This permit corrects language regarding the opacity filter values to be used in the required COMS Calibration Error Audit. The permit inadvertently specified filter values of 11, 20 and 37% opacity. This is not consistent with the rule. The language has been changed from “Filter values used shall correspond to approximately 11 percent, 20 percent, and 37 percent opacity”, to “Conduct audits in accordance with Minn. R. 7017.1210, subp. 3.

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-1

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

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) |
| 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. In addition, the notification for the Wood Fired Boiler is due by letter within 7 days of the shutdown if the shutdown was not consistent with the startup, shutdown and malfunction plan, and any applicable emission limitation was exceeded. | Minn. R. 7019.1000, subp. 3 and Table 9 to Subp. DDDDD of Part 63 |
| 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. In addition, the notification for the Wood Fired Boiler is due by letter within 7 days of the breakdown if the breakdown was not consistent with the startup, shutdown and malfunction plan, and any applicable emission limitation was exceeded. | Minn. R. 7019.1000, subp. 2 and Table 9 to Subp. DDDDD of Part 63 |
| Refer to the EU007 requirements table for additional reporting requirements when actions taken are not consistent with the procedures specified in the EU007 startup, shutdown, and malfunction plan, and EU007 exceeds an applicable emission limitation. | continued from above |
| 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 |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-2**

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

| | |
|---|---|
| Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A or B. | Minn. R. ch. 7017 |
| Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as specified by Minn. R. 7017.2025 following formal review of a subsequent performance test on the same unit. | Minn. R. 7017.2025 |
| Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify the Commissioner or the state duty officer, either orally or by facsimile, of any deviation from permit conditions which could endanger human health or the environment. | Minn. R. 7007.0800, subp. 6(A) |
| Notification of Deviations Endangering Human Health or the Environment Report: Within 2 working days of discovery, notify the Commissioner in writing of any deviation from permit conditions which could endanger human health or the environment. Include the following information in this written description: 1. the cause of the deviation; 2. the exact dates of the period of the deviation, if the deviation has been corrected; 3. whether or not the deviation has been corrected; 4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and 5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation. | Minn. R. 7007.0800, subp. 6(A) |
| Operation Changes: In any shutdown, breakdown, or deviation the Permittee shall immediately take all practical steps to modify operations to reduce the emission of any regulated air pollutant. The Commissioner may require feasible and practical modifications in the operation to reduce emissions of air pollutants. No emissions units that have an unreasonable shutdown or breakdown frequency of process or control equipment shall be permitted to operate. | Minn. R. 7019.1000, subp. 4 |
| 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) |
| Emissions Inventory Report: due 91 days after the end of each calendar year (April 1). To be submitted on a form approved by the Commissioner. | Minn. R. 7019.3000 through Minn. R. 7019.3010 |
| Emission Fees: due 60 days after receipt of an MPCA bill. | Minn. R. 7002.0005 through Minn. R. 7002.0095 |
| Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A). | Minn. R. 7007.0800, subp. 9(A) |
| 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 enforceable by the EPA Administrator or citizens under the Clean Air Act. | Minn. R. 7030.0010-7030.0080 |
| Performance Test (or Fuel Analyses for those pollutants not tested for) Notifications and Submittals; Performance Test Notification (written): due 30 days before each Performance Test for the existing boilers, due 60 days prior to testing for the wood fired boiler. Performance Test Plan: due 30 days before each Performance Test for the existing boilers, due 60 days prior to testing for the wood fired boiler. Performance Test Pre-Test Meeting: due 7 day before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - Microfiche Copy or CD: due 105 day after each Performance Test. The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018. For the Wood Fired Boiler, the Performance Test Report or Fuel Analysis Report must include the information in 40 CFR Section 63.7545(e). | Minn. R. 7017.2030, subp. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subp. 1-2, 40 CFR Section 63.7(b)(1) and (2), 40 CFR Section 63.7545(e) |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-3**

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

| | |
|--|--|
| Comply with Subp. DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters, as applicable, by September 13, 2007 for the existing boilers, Boilers 1A, 2A, 3A and the high school boilers, as applicable. | 40 CFR Subp. DDDDD |
| Also comply with the applicable requirements of 40 CFR Part 63, Subp. A. | |
| AMBIENT STANDARDS | hdr |
| The Permittee shall comply and demonstrate compliance 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 7009.0800. | 40 CFR pt. 50; Minn. Stat. Sec. 116.07, subds. 4a and 9; Minn. R. 7007.0100, subps. 7A, 7L and 7M; Minn. R. 7007.0800, subps. 1, 2, and 4; Minn. R. 7009.0010-7009.0080. |
| Parameters Used in Modeling: The stack heights, emission rates, and other parameters used in the dispersion modeling are listed in the Appendix of this permit. The Permittee must submit to the Commissioner for approval any revisions of these parameters and must wait for a written approval before making such changes. The information submitted must include, at a minimum, the locations, heights and diameters of the stacks, locations and dimensions of nearby buildings, the velocity and temperatures of the gases emitted, and the emission rates. The plume dispersion characteristics due to the revisions of the information must be equivalent to or better than the dispersion characteristics modeled. The Permittee shall demonstrate this equivalency in the proposal. If the information does not demonstrate equivalent or better dispersion characteristics, or if a conclusion cannot readily be made about the dispersion, the Permittee must remodel. | Title I Condition: 40 CFR Section 52.21(k); Minn. R. 7007.3000, 40 CFR Part 50, and Minn. R. 7009 |
| For changes that do not involve an increase in an emission rate and that do not require a permit amendment, this proposal must be submitted as soon as practicable, but no less than 60 days before beginning actual construction of the stack or associated emission unit. | Title I Condition: 40 CFR Section 52.21(k); Minn. R. 7007.3000, 40 CFR Part 50, and Minn. R. 7009 |
| For changes involving increases in emission rates and that require a minor permit amendment, the proposal must be submitted as soon as practicable, but no less than 60 days before beginning actual construction of the stack or associated emission unit. | |
| For changes involving increases in emission rates and that require a permit amendment other than a minor amendment, the proposal must be submitted with the permit applicaiton. | |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-4**

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

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 and applies until the startup of the wood fired boiler. See the requirements table under EU001, EU002, and EU003 for sulfur dioxide limits that apply after the startup of the wood fired boiler. | Minn. R. 7009.0020 to not cause or contribute to a violation of the sulfur dioxide 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 and applies until the startup of the wood fired boiler. See the requirements table under EU001, EU002, and EU003 for sulfur dioxide limits that apply after the startup of the wood fired boiler. | Minn. R. 7009.0020 to not cause or contribute to a violation of the sulfur dioxide 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. Each day that oily cellulose-based sorbents (oily rags) are burned in one of the boilers, record the amount burned. By the 15th of each month, calculate the amount of cellulose-based sorbents (oily rags) that were burned in the preceding 12 months. | 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 Each day that used oil is burned in one of the boilers, record the amount burned. By the 15th of each month, calculate the amount of used oil that was burned in the preceding 12 months. | Minn. R. 7007.0800, subp. 2 |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-5**

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

Subject Item: GP 002 Material Handling Baghouses**Associated Items:** CE 004 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

CE 008 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

CE 009 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

CE 010 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

CE 011 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

CE 012 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

CE 013 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

CE 014 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

| What to do | Why to do it |
|--|--|
| No visible emissions allowed. | Title I Condition: to ensure compliance with PM10 BACT limit |
| Visible Emissions: The Permittee shall check the fabric filter stacks for any visible emissions once each day of operation during daylight hours. For days in which inclement weather prohibits a visible emissions check, the Permittee shall read and record the pressure drop across the fabric filter, once each day of operation. | Title I Condition: to ensure compliance with PM10 BACT limit |
| Recordkeeping of Visible Emissions and Pressure Drop. The Permittee shall record the time and date of each visible emission inspection and pressure drop reading, and whether or not any visible emissions were observed, and whether or not the observed pressure drop was within the range specified in this permit. CE004 Pressure Drop Range: CE008 Pressure Drop Range: CE009 Pressure Drop Range: CE010 Pressure Drop Range: CE011 Pressure Drop Range: CE012 Pressure Drop Range: CE013 Pressure Drop Range: CE014 Pressure Drop Range: The pressure drop range for each baghouse shall be submitted, along with an application for a major amendment, once a vendor is chosen. The manufacturer's information must be submitted with the application. | Title I Condition: to ensure compliance with PM10 BACT limit |
| The Permittee shall operate and maintain the fabric filter at all times that any emission unit controlled by the fabric filter is in operation. The Permittee shall document periods of non-operation of the control equipment when the emission unit is in operation. | Minn. R. 7007.0800, subp. 2 and 14 |
| Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur: - visible emissions are observed; - the recorded pressure drop is outside the required operating range; or - the fabric filter 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 the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter. | Minn. R. 7007.0800, subp. 4, 5, and 14 |
| 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 fabric filter is in operation. | Minn. R. 7007.0800, subp. 4 |
| Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections. | Minn. R. 7007.0800, subp. 4, 5 and 14 |
| The Permittee shall operate and maintain the fabric filter in accordance with the Operation and Maintenance (O & M) Plan. The Permittee shall keep copies of the O & M Plan available onsite for use by staff and MPCA staff. | Minn. R. 7007.0800, subp. 14 |
| PERFORMANCE TESTING | hdr |

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Hibbing Public Utilities
Permit Number: 13700027 - 004

| | |
|---|---|
| Initial Performance Test: due 180 days after Initial Startup of the wood fired boiler. Testing shall be performed for PM10 from one of the material handling baghouses with the highest calculated input grain loading. | Title I Condition: to determine compliance with PM10 BACT limit |
|---|---|

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-7**

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

Subject Item: GP 003 Wood Boiler Continuous Monitors**Associated Items:** MR 011

MR 012

MR 013

| What to do | Why to do it |
|--|---|
| Installation Notification: due 60 days before installing the continuous emissions monitoring system. The notification shall include plans and drawings of the system. | Minn. R. 7017.1040, subp. 1 |
| All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests. Verification of operational status shall, as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device. | 40 CFR 60.13(b) |
| CEM Certification Test: due 60 days after achieving maximum capacity but no later than 180 days after initial startup. | 40 CFR Section 60.13(b); Minn. R. 7017.1050, subp. 1 |
| CEMS Certification Test Pretest Meeting: due 7 days before CEMS Certification Test. | Minn. R. 7017.1060, subp. 3 |
| CEMS Certification Test Plan: due 60 days before CEMS Certification Test. | 40 CFR Section 60.7(a)(5); Minn. R. 7017.1060, subp. 1 & 2, and 40 CFR Section 63.8(e)(3) |
| CEMS Certification Test Report: due 45 days after CEMS Certification Test | Minn. R. 7017.1080, subp. 1, 2, & 4; 40CFR 60.13(c)(2) and 40 CFR Section 63.8(e)(4) |
| Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment. | 40 CFR Section 60.13(e), Minn. R. 7017.1090, subp. 1 |
| CEMS Certification Test Report - Microfiche Copy: due 105 days after CEMS Certification Test. | Minn. R. 7017.1080, subp. 3 |
| CEMS QA/QC: The owner or operator of an affected facility is subject to the performance specifications listed in 40 CFR 60, Appendix B and shall operate, calibrate, and maintain each CEMS according to the QA/QC procedures in 40 CFR pt. 60, Appendix F as amended and maintain a written QA/QC program available in a form suitable for inspection. | 40 CFR pt. 60, Appendix F; 40 CFR Section 60.13(a) |
| QA Plan: Develop and implement a written quality assurance plan that covers each CEMS. The plan shall be on site and available for inspection within 30 days after monitor certification. The plan shall contain all of the information required by 40CFR 60, App. F, section 3. | Minn. R. 7017.1170, subp. 2; 40 CFR pt. 60, App. F; section 3 |
| CEMS Daily Calibration Drift (CD) Test: The CD shall be quantified and recorded at zero (low level value between 0 and 20 percent of span value) and span (50 to 100 percent of span value) 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. | 40 CFR pt. 60, Appendix F, section 4.1; 40 CFR Section 60.13(d)(1); Minn. R. 7017.1170, subp. 3 |
| CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar year following CEMS Certification Test | 40 CFR pt. 60, Appendix F, section 5.1.1; Minn. R. 7017.1170, subp. 5 |
| Cylinder Gas Audit (CGA): due before end of each calendar quarter following CEMS certification test. A CGA is not required during any calendar quarter in which a RATA was performed. | 40 CFR pt. 60, Appendix F, section 5.1.2; Minn. R. 7017.1170, subp. 4 |
| Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar quarter following Cylinder Gas Audit (CGA). | Minn. R. 7017.1180, subp.1 |
| CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar year following CEMS Certification Test | 40 CFR pt. 60, Appendix F, section 5.1.1; Minn. R. 7017.1170, subp. 5 |
| Relative Accuracy Test Audit (RATA) Notification: due 30 days before CEMS Relative Accuracy Test Audit (RATA)) . | Minn. R. 7017.1180, subp. 2 |
| Relative Accuracy Test Audit (RATA) Results Summary: due 30 days after end of each calendar quarter in which the CEMS RATA was conducted. | Minn. R. 7017.1180, subp. 3 |
| Recordkeeping: The owner or operator must retain records of all CEMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source. | Minn. R. 7017.1130; 40 CFR Section 60.7(f) |
| Monitoring Data: Reduce all data to 1-hour averages, in accordance with 40 CFR Section 60.13(h). 1-hour averages shall be computed from four or more data points equally spaced over each 1-hour period. | 40 CFR Section 60.13(h) regarding continuous monitoring systems other than COMS. |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-8**

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

Subject Item: GP 004 Continuous Emission Monitors, Boilers 1A, 2A, 3A**Associated Items:** MR 002

MR 003

MR 005

MR 006

MR 008

MR 009

MR 014 Extracted sample SO2 monitor

MR 015 Extracted sample SO2 monitor

MR 016 Extracted sample SO2 monitor

| What to do | Why to do it |
|--|---|
| Sulfur Dioxide Continuous Monitoring Systems | hdr |
| 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. Follow the procedures in 40 CFR pt. 60, Appendix F. | Minn. R. 7017.1170, subp. 3 |
| Cylinder Gas Audit (CGA): due before end of each calendar half-year following CEMS 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. 7017.1170, subp. 4 |
| Cylinder Gas Audit (CGA) Results Summary: due 30 days after end of each calendar half-year following Cylinder Gas Audit (CGA) | Minn. R. 7017.1180, subp. 1 |
| CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar year following CEMS 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. 7017.1170, subp. 5 |
| Relative Accuracy Test Audit (RATA) Notification: due 30 days before CEMS Relative Accuracy Test Audit (RATA). | Minn. R. 7017.1180, subp. 2 |
| Relative Accuracy Test Audit (RATA) Results Summary: due 30 days after end of each calendar quarter in which the CEMS RATA was conducted. | Minn. R. 7017.1180, subp. 3 |
| OPACITY CONTINUOUS MONITORS | hdr |
| All COMS shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data for each successive 6-minute period. | Minn. R. 7017.1200, subp. 1, 2 & 3; 40 CFR Section 60.13(e)(1); 40 CFR Section 60.13(h) |
| 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. | Minn. R. 7017.1090, subp. 1; 40 CFR Section 60.13(e) |
| 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. | 40 CFR Section 60.13(a); Minn. R. 7017.1210 |
| COMS Daily Calibration Drift Check: The Permittee must automatically, intrinsic to the opacity monitor, check the zero and upscale (span) calibration drifts at least once daily. The acceptable range is as defined in 40 CFR pt. 60, Appendix B, PS-1. The span value shall be between 60% and 80%. For COMS without automatic zero adjustments. The optical surfaces exposed to the effluent gases shall be cleaned prior to performing the zero and span drift adjustments. For COMS with automatic zero adjustments the optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds 4 percent opacity. Minimum procedures must include an automated method for producing a simulated zero opacity condition and an upscale opacity condition as specified in 40 CFR 60.13(d)(2). | Minn. R. 7017.1210, subp. 2; 40 CFR Section 60.13(d)(l) regarding COMS and 60.13(d)(2) |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-9**

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

| | |
|--|-----------------------------|
| 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. | Minn. R. 7017.1210, subp. 3 |
| Attenuator Calibration: The Permittee shall perform an attenuator calibration in accordance with Minn. R. 7017.1210, subp. y. | Minn. R. 7017.1210, subp. 4 |
| COMS Calibration Error Audit Results Summary: due 30 days after end of each calendar quarter in which the COMS calibration error audit was completed. | Minn. R. 7017.1220 |
| Recordkeeping: The owner or operator must retain records of all COMS and CEMs monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source. | Minn. R. 7017.1130 |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-10**

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

Subject Item: EU 001 Boiler No. 1A**Associated Items:** CE 001 Electrostatic Precipitator - High Efficiency

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

MR 002

MR 003

MR 014 Extracted sample SO2 monitor

SV 001 Boiler 1A

SV 019 Boilers 1A and 2A

| What to do | Why to do it |
|--|--|
| EMISSION AND FUEL LIMITS | hdr |
| Total Particulate Matter: less than or equal to 0.6 lbs/million Btu heat input | Minn. R. 7011.0510, subp. 1 |
| Particulate Matter < 10 micron: less than or equal to 0.074 lbs/million Btu heat input , inclusive of soot blowing, on a 24 hour average basis. | Title I Condition: 40 CFR 52.21(k) Ambient Impacts Analysis |
| Opacity: less than or equal to 20 percent except for one six-minute period per hour of not more than 60 percent opacity. An exceedance of this opacity standard occurs whenever any one-hour period contains two or more six-minute periods during which the average opacity exceeds 20 percent or whenever any one-hour period contains one or more six-minute periods during which the average opacity exceeds 60 percent. | 40 CFR Part 64, also meets the requirements of 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. This limit applies until the startup of the wood fired boiler. | Minn. R. 7011.0510, subp. 1 |
| Sulfur Dioxide: less than or equal to 1.58 lbs/million Btu heat input based on a 1-hour average. This limit applies after the startup of the wood fired boiler. | Minn. R. 7009, Ambient Standards |
| OPERATING CONDITIONS | hdr |
| Soot may be blown only two hours per day. | Title I Condition: 40 CFR 52.21(k) Ambient Impacts Analysis |
| Fuels Allowed: bituminous coal, subbituminous coal, used oil, natural gas and oily cellulose-based sorbents (including rags). | Minn. R. 7007.0800, subp. 2 |
| Vent emissions through SV019 prior to startup of the wood boiler. | 40 CFR 50, Minn. R. 7009 |
| PERFORMANCE TESTING | hdr |
| Performance Test: due before end of each 60 months starting 10/06/1999 to measure particulate matter emissions from EU 001. The performance tests shall be conducted at an interval not to exceed 60 months between tests. The first test required under this condition shall be conducted by 10/06/2004. | Minn. R. 7017.2020, subp. 1 |
| Performance Test: due 180 days after 06/30/2005 for PM10 emissions. Testing shall be conducted during soot-blowing conditions as well as non-soot-blowing conditions. Emissions from three runs of non-soot-blowing emissions and from one run during which a normal duration soot-blowing occurs shall be collected. Compliance shall be determined by taking the average of the three non-soot-blowing tests x 22 hours per day, plus the result of the soot-blowing-test x 2 hours per day, then summed and averaged over a 24-hour period. | Title I Condition: to determine compliance with PM10 limit |
| 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) |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-11**

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

| | |
|--|--------------------------------|
| <p>Boiler Operating Conditions Not Meeting the Alternative Operating Conditions During Performance Testing:</p> <p>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:</p> <p>(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.</p> <p>(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.</p> <p>In no case will the new operating rate limit be higher than allowed by an existing permit condition.</p> | Minn. R. 7017.2025, subp. 3(B) |
| <p>STET (Short Term Emergency and Testing) Operating hours limit:</p> <p>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.</p> | Minn. R. 7007.0800, subp. 2 |
| <p>STET Operation Definition that applies to Boilers that Meet or do Not Meet the Alternative Operating Condition for Performance Testing:</p> <p>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.</p> <p>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.</p> <p>In no case will STET operation be higher than allowed by an existing permit condition.</p> | Minn. R. 7007.0800, subp. 2 |
| <p>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.</p> | Minn. R. 7017.2020, subp. 4 |
| CONTINUOUS MONITORING REQUIREMENTS | hdr |
| Emissions Monitoring: The Permittee shall use a COMS to measure opacity emissions from EU 001. | Minn. R. 7007.0800, subp. 2 |
| Emissions Monitoring: The Permittee shall use a SO2 CEMS to measure SO2 emissions from EU 001. | Minn. R. 7007.0800, subp. 2 |
| CONTROL EQUIPMENT OPERATING PARAMETERS | hdr |
| Collect the secondary current and voltage or total power input monitoring system data for the electrostatic precipitator according to 40 CFR Section 63.7525. | 40 CFR Part 64 |
| <p>Reduce the data to 3-hour block averages; and</p> <p>Maintain the 3-hour average secondary current and voltage or total power input at or above the level established during the most recent performance test that demonstrated compliance with the particulate matter and PM10 emission limits.</p> | continued from above |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-12**

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

Subject Item: EU 002 Boiler No. 2A**Associated Items:** CE 002 Electrostatic Precipitator - High Efficiency

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

MR 005

MR 006

MR 015 Extracted sample SO2 monitor

SV 002 Boiler 2A

SV 019 Boilers 1A and 2A

| What to do | Why to do it |
|--|--|
| EMISSION AND FUEL LIMITS | hdr |
| Total Particulate Matter: less than or equal to 0.6 lbs/million Btu heat input | Minn. R. 7011.0510, subp. 1 |
| Particulate Matter < 10 micron: less than or equal to 0.074 lbs/million Btu heat input , inclusive of soot blowing, on a 24 hour average basis. | Title I Condition: 40 CFR 52.21(k) Ambient Impacts Analysis |
| Opacity: less than or equal to 20 percent except for one six-minute period per hour of not more than 60 percent opacity. An exceedance of this opacity standard occurs whenever any one-hour period contains two or more six-minute periods during which the average opacity exceeds 20 percent or whenever any one-hour period contains one or more six-minute periods during which the average opacity exceeds 60 percent. | 40 CFR Part 64, also meets the requirements of 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. This limit applies until the startup of the wood fired boiler. | Minn. R. 7011.0510, subp. 1 |
| Sulfur Dioxide: less than or equal to 1.58 lbs/million Btu heat input based on a 1-hour average. This limit applies after the startup of the wood fired boiler. | Minn. R. 7009, Ambient Standards |
| OPERATING CONDITIONS | hdr |
| Soot may be blown only two hours per day. | Title I Condition: 40 CFR 52.21(k) Ambient Impacts Analysis |
| Fuels Allowed: bituminous coal, subbituminous coal, natural gas, used oil, and oily cellulose-based sorbents (including rags). | Minn. R. 7007.0800, subp. 2 |
| Vent emissions through SV019 prior to startup of the wood boiler. | 40 CFR 50, Minn. R. 7009 |
| PERFORMANCE TESTING REQUIREMENTS | hdr |
| Performance Test: due before end of each 60 months starting 10/06/1999 to measure particulate matter emissions from EU 002. The performance tests shall be conducted at an interval not to exceed 60 months between tests. The first test required under this condition shall be conducted by 10/06/2004. | Minn. R. 7017.2020, subp. 1 |
| Performance Test: due 180 days after 06/30/2005 for PM10 emissions. Testing shall be conducted during soot-blowing conditions as well as non-soot-blowing conditions. Emissions from three runs of non-soot-blowing emissions and from one run during which a normal duration soot-blowing occurs shall be collected. Compliance shall be determined by taking the average of the three non-soot-blowing tests x 22 hours per day, plus the result of the soot-blowing-test x 2 hours per day, then summed and averaged over a 24-hour period. | Title I Condition: to determine compliance with PM10 limit |
| 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) |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-13**

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

| | |
|--|--------------------------------|
| <p>Boiler Operating Conditions Not Meeting the Alternative Operating Conditions During Performance Testing:</p> <p>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:</p> <p>(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.</p> <p>(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.</p> <p>In no case will the new operating rate limit be higher than allowed by an existing permit condition.</p> | Minn. R. 7017.2025, subp. 3(B) |
| <p>STET (Short Term Emergency and Testing) Operating hours limit:</p> <p>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.</p> | Minn. R. 7007.0800, subp. 2 |
| <p>STET Operation Definition that applies to Boilers that Meet or do Not Meet the Alternative Operating Condition for Performance Testing:</p> <p>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.</p> <p>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.</p> <p>In no case will STET operation be higher than allowed by an existing permit condition.</p> | Minn. R. 7007.0800, subp. 2 |
| <p>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.</p> | Minn. R. 7017.2020, subp. 4 |
| CONTINUOUS MONITORING REQUIREMENTS | hdr |
| Emissions Monitoring: The Permittee shall use a COMS to measure opacity emissions from EU 002. | Minn. R. 7007.0800, subp. 2 |
| Emissions Monitoring: The Permittee shall use a SO2 CEMS to measure SO2 emissions from EU 002. | Minn. R. 7007.0800, subp. 2 |
| CONTROL EQUIPMENT OPERATING PARAMETERS | hdr |
| Collect the secondary current and voltage or total power input monitoring system data for the electrostatic precipitator according to 40 CFR Section 63.7525. | 40 CFR Part 64 |
| <p>Reduce the data to 3-hour block averages; and</p> <p>Maintain the 3-hour average secondary current and voltage or total power input at or above the level established during the most recent performance test that demonstrated compliance with the particulate matter and PM10 emission limits.</p> | continued from above |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-14**

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

Subject Item: EU 003 Boiler No. 3A**Associated Items:** CE 003 Electrostatic Precipitator - High Efficiency

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

MR 008

MR 009

MR 016 Extracted sample SO2 monitor

SV 003 Boiler 3A

| What to do | Why to do it |
|--|--|
| EMISSION AND FUEL LIMITS | hdr |
| Total Particulate Matter: less than or equal to 0.6 lbs/million Btu heat input | Minn. R. 7011.0510, subp. 1 |
| Particulate Matter < 10 micron: less than or equal to 0.128 lbs/million Btu heat input , inclusive of soot blowing, on a 24 hour average basis. | Title I Condition: 40 CFR 52.21(k) Ambient Impacts Analysis |
| Opacity: less than or equal to 20 percent except for one six-minute period per hour of not more than 60 percent opacity. An exceedance of this opacity standard occurs whenever any one-hour period contains two or more six-minute periods during which the average opacity exceeds 20 percent or whenever any one-hour period contains one or more six-minute periods during which the average opacity exceeds 60 percent. | 40 CFR Part 64, also meets the requirements of 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. This limit applies until the startup of the wood fired boiler. | Minn. R. 7011.0510, subp. 1 |
| Sulfur Dioxide: less than or equal to 1.58 lbs/million Btu heat input based on a 1-hour average. This limit applies after the startup of the wood fired boiler. | Minn. R. 7009, Ambient Standards |
| OPERATING CONDITIONS | hdr |
| Soot may be blown only two hours per day. | Title I Condition: 40 CFR 52.21(k) Ambient Impacts Analysis |
| Fuels Allowed: bituminous coal, subbituminous coal, natural gas, used oil, and oily cellulose-based sorbents (including rags). | Minn. R. 7007.0800, subp. 2 |
| PERFORMANCE TESTING REQUIREMENTS | hdr |
| Performance Test: due before end of each 60 months starting 10/06/1999 to measure particulate matter emissions from EU 003. The performance tests shall be conducted at an interval not to exceed 60 months between tests. The first test required under this condition shall be conducted by 10/06/2004. | Minn. R. 7017.2020, subp. 1 |
| Performance Test: due 180 days after 06/30/2005 for PM10 emissions. Testing shall be conducted during soot-blowing conditions as well as non-soot-blowing conditions. Emissions from three runs of non-soot-blowing emissions and from one run during which a normal duration soot-blowing occurs shall be collected. Compliance shall be determined by taking the average of the three non-soot-blowing tests x 22 hours per day, plus the result of the soot-blowing-test x 2 hours per day, then summed and averaged over a 24-hour period. | Title I Condition: to determine compliance with PM10 limit |
| 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) |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-15**

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

| | |
|--|--------------------------------|
| <p>Boiler Operating Conditions Not Meeting the Alternative Operating Conditions During Performance Testing:</p> <p>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:</p> <p>(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.</p> <p>(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.</p> <p>In no case will the new operating rate limit be higher than allowed by an existing permit condition.</p> | Minn. R. 7017.2025, subp. 3(B) |
| <p>STET (Short Term Emergency and Testing) Operating hours limit:</p> <p>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.</p> | Minn. R. 7007.0800, subp. 2 |
| <p>STET Operation Definition that applies to Boilers that Meet or do Not Meet the Alternative Operating Condition for Performance Testing:</p> <p>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.</p> <p>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.</p> <p>In no case will STET operation be higher than allowed by an existing permit condition.</p> | Minn. R. 7007.0800, subp. 2 |
| <p>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.</p> | Minn. R. 7017.2020, subp. 4 |
| CONTINUOUS MONITORING REQUIREMENTS | hdr |
| Emissions Monitoring: The Permittee shall use a COMS to measure opacity emissions from EU 003. | Minn. R. 7007.0800, subp. 2 |
| Emissions Monitoring: The Permittee shall use a SO2 CEMS to measure SO2 emissions from EU 003. | Minn. R. 7007.0800, subp. 2 |
| CONTROL EQUIPMENT OPERATING PARAMETERS | hdr |
| Collect the secondary current and voltage or total power input monitoring system data for the electrostatic precipitator according to 40 CFR Section 63.7525. | 40 CFR Part 64 |
| <p>Reduce the data to 3-hour block averages; and</p> <p>Maintain the 3-hour average secondary current and voltage or total power input at or above the level established during the most recent performance test that demonstrated compliance with the particulate matter and PM10 emission limits.</p> | continued from above |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-16**

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

Subject Item: EU 004 Coal Ash Silo**Associated Items:** CE 004 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

SV 004 Coal Ash Silo

| 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) |
| Particulate Matter < 10 micron: less than or equal to 0.002 grains/dry standard cubic foot | 40 CFR Section 52.21(k), Ambient Impacts Analysis |
| Opacity: less than or equal to 20 percent | Minn. R. 7011.0715 |
| For compliance demonstration, see GP002 requirements table. | hdr |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-17**

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

Subject Item: EU 005 High School Boiler 1**Associated Items:** SV 005 High School Boiler 1

| 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 for one 6-minute period per hour of not more than 60 percent opacity. | Minn. R. 7011.0510, subp. 2 |
| Fuel use limited to natural gas. | Minn. R. 7007.0800, subp. 2 |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-18**

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

Subject Item: EU 006 High School Boiler 2**Associated Items:** SV 006 High School Boiler 2

| 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 for one 6-minute period per hour of not more than 60 percent opacity. | Minn. R. 7011.0510, subp. 2 |
| Fuel use limited to natural gas. | Minn. R. 7007.0800, subp. 2 |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-19**

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

Subject Item: EU 007 Wood Fired Boiler**Associated Items:** CE 005 Multiple Cyclone w/o Fly Ash Reinjection - Most Multiclones

CE 006 Electrostatic Precipitator - High Efficiency

CE 007 Selective Noncatalytic Reduction for NOX

MR 010

MR 011

MR 012

MR 013

SV 007 LEA Wood Fired Boiler

| What to do | Why to do it |
|--|---|
| EMISSION LIMITS | hdr |
| Total Particulate Matter: less than or equal to 0.025 lbs/million Btu heat input . This limit applies at all times, except during periods of startup, shutdown or malfunction. | Title I Condition: BACT limit; 40 CFR 52.21(j), also meets the requirements of 40 CFR Section 63.7500 and 40 CFR Section 60.43b(c)(1) |
| Particulate Matter < 10 micron: less than or equal to 0.025 lbs/million Btu heat input . This limit applies at all times, except during periods of startup, shutdown or malfunction. | Title I Condition: BACT limit; 40 CFR 52.21(j) |
| Carbon Monoxide: less than or equal to 0.3 lbs/million Btu heat input based on a 4-hour block average. ""Four-hour block average" means the average of all hourly emission rates when the emissions unit is operating over six discrete four-hour periods beginning at midnight. This limit applies at all times, except during periods of startup, shutdown or malfunction. | Title I Condition: BACT limit; 40 CFR 52.21(j), also meets the requirements of 40 CFR Section 63.7500 |
| Hydrochloric acid: less than or equal to 0.02 lbs/million Btu heat input . This limit applies at all times, except during periods of startup, shutdown or malfunction. | 40 CFR Section 63.7500 |
| Nitrogen Oxides: less than or equal to 0.15 lbs/million Btu heat input based on a 30-day rolling average. | Title I Condition: BACT limit; 40 CFR 52.21(j) |
| Mercury: less than or equal to 0.000003 lbs/million Btu heat input . This limit applies at all times, except during periods of startup, shutdown or malfunction. | 40 CFR Section 63.7500 |
| Opacity: less than or equal to 10 percent based on a 1-hour block average. | 40 CFR Section 63.7500 |
| Opacity: less than or equal to 20 percent based on a 6-minute average, except for one 6-minute period per hour of not more than 27 percent opacity. This limit applies at all times, except during periods of startup, shutdown or malfunction. | 40 CFR Section 60.43b(f) |
| Ammonia Slip: limited to less than or equal to 25 ppm. If the ammonia slip exceeds this level, the SNCR system shall be adjusted to reduce the ammonia slip to less than 25 ppm, or shut down until repairs are made and normal operating conditions are achieved. | Minn. R. 7007.0800, subp. 2 |
| OPERATING LIMITS | hdr |
| Fuel use limited to untreated wood, such as, but not limited to, logging waste, trees, brush, etc. Untreated wood is defined as any wood that has not been subject to any chemical treatment or coating. Examples are: 1) untreated residuals from manufacturing processes such as furniture, cabinet, and pallet making and other wood product manufacture; 2) construction waste; 3) urban and park tree trimming and forest residuals; 4) wood from trees downed by storms; 5) trees removed for urban development; 6) trees grown specifically to be used as fuel; and 6) trees removed as part of a timber management plan. | Minn. R. 7007.0800, subp. 2, |
| The SNCR system will be adjusted or may be shut down when the ammonia slip exceeds the limit set above, until such time as the system is returned to normal operation. | Minn. R. 7007.0800, subp. 2 |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-20**

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

| | |
|---|--|
| At all times, including periods of startup, shutdown, and malfunction, you shall operate and maintain any affected source, including the associated air pollution control equipment in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by all relevant standards. | 40 CFR Section 63.6(e)(1)(i) and 40 CFR Section 60.11(d) |
| Malfunctions shall be corrected as soon as practicable after their occurrence in accordance with the startup, shutdown, and malfunction plan required below and by 40 CFR Section 63.6(e)(3). | |
| Fuel use is limited in chlorine content to the maximum that was burned during the compliance test that demonstrated compliance with the HCl emission limit. Procedures for determining the maximum chlorine content are specified at 40 CFR Section 63.7530(c)(1)(i)-(iii). | 40 CFR Section 63.7530(c)(1) |
| Fuel use is limited in mercury content to the maximum that was burned during the compliance test that demonstrated compliance with the mercury emission limit. Procedures for determining the maximum mercury content are specified at 40 CFR Section 63.7530(c)(3)(i)-(iii). | 40 CFR Section 63.7530(c)(3) |
| INITIAL COMPLIANCE DEMONSTRATION | hdr |
| Performance Test: due 60 days after achieving maximum capacity but no later than 180 days after initial startup for particulate matter, PM10, and opacity. You must establish the minimum voltage and secondary current (or total power input) as defined in 40 CFR Section 63.7575. | 40 CFR Section 63.7510(a), 40 CFR Section 60.11(e), Title I Condition; compliance with PM10 BACT limit |
| Determine compliance with the emission limits for hydrogen chloride and mercury through fuel analysis within 180 days of initial startup. Follow the procedures specified in 40 CFR Section 63.7521 and Table 6 to Subp. DDDDD. | 40 CFR Section 63.7530(d) |
| CONTINUOUS MONITORING REQUIREMENTS | hdr |
| Install, maintain and operate a monitor to measure stack carbon monoxide emissions. The monitor shall meet the requirements of 40 CFR 63.7525(a). | 40 CFR Section 63.7525(a) |
| For more specific requirements, see the GP003 table in this permit. | |
| Install, maintain, and operate a continuous monitor to measure the opacity of stack emissions. The monitor shall meet the requirements of 40 CFR 63.7525(b). | 40 CFR Section 63.7525(b) 40 CFR Section 60.48b(a) |
| For more specific requirements see the MR010 table in this permit. | |
| Install, operate and maintain a continuous monitor to measure stack nitrogen oxides emissions. Installation, operation and maintenance shall be in accordance with 40 CFR Section 60.13 and 40 CFR 60, Appendix B. | Title I Condition: Monitoring of BACT limit 40 CFR Section 64.3(d)(2) |
| For more specific requirements, see the GP003 table in this permit. | |
| OPERATING CONDITIONS FOR CONTROL EQUIPMENT | hdr |
| At all times, including periods of startup, shutdown, and malfunction, you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions. During a period of startup, shutdown, or malfunction, this general duty to minimize emissions requires that you reduce emissions from the affected source to the greatest extent which is consistent with safety and good air pollution control practices. | 40 CFR Section 63.7505(b), 40 CFR Section 63.6(e)(1)(i) |
| The general duty to minimize emissions during a period of startup, shutdown, or malfunction does not require you to achieve emission levels that would be required by the applicable standard at other times if this is not consistent with safety and good air pollution control practices, nor does it require you to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures (including the startup, shutdown, and malfunction plan required by 40 CFR Section 63.6(e), review of operation and maintenance records, and inspection of the source. | continued from above |
| Collect the secondary current and Voltage or total power input monitoring system data for the electrostatic precipitator according to 40 CFR Section 63.7525 and 63.7535; and reduce the data to 3-hour block averages; and maintain the 3-hour average secondary current and voltage or total power input at or above the operating limits established during the performance test according to 40 CFR Section 63.7530(c). | 40 CFR Section 63.7530 40 CFR Section 63.7540(a) |
| SUBMITTALS AND REPORTING | hdr |
| Performance Test Notification (written): due 60 days before Performance Test | 40 CFR Section 63.7545 Minn. R. 7017.2030, subp. 1, 40 CFR Section 63.7 |
| RECORDKEEPING | hdr |

TABLE A: LIMITS AND OTHER REQUIREMENTS
A-21

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

| | |
|--|---|
| Keep all records readily available and on site for a period of 5 years. | 40 CFR Section 60.7(b), 40 CFR Section 63.10(b)(1) |
| Maintain relevant records of each startup, shutdown, or malfunction of operation equipment and the occurrence and duration of each malfunction of the required air pollution control and monitoring equipment. | |
| Maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. | 40 CFR Section 60.7(f) |
| Keep records of the type and amount of all fuels burned to demonstrate that all fuel types and mixtures of fuels burned would result in lower emissions of HCl and mercury than the applicable emission limit. | 40 CFR Section 63.7540(a)(2) |
| If you plan to burn a new type of fuel, you must recalculate the HCl emission rate using Equation 9 of 40 CFR Section 63.7530 and 40 CFR Section 63.7540(a)(3). You must also recalculate the mercury emission rate according to 40 CFR Section 7540(a)(7) and equation 11 of 40 CFR Section 63.7530. | |
| Keep records of carbon monoxide levels according to 40 CFR Section 63.7555(b). | 40 CFR Section 63.7540(a)(10) |
| Full recordkeeping requirements are specified in 40 CFR Section 63.7555 and include copies of all notifications, reports, tests, fuel analyses, compliance demonstrations, performance demonstrations, CEM and COMs data, deviations, fuel use, and all calculations that demonstrate compliance with emission limits.. | 40 CFR Section 63.7555 |
| STARTUP, SHUTDOWN AND MALFUNCTION PLAN | hdr |
| Startup, shutdown, and malfunction plan. (i) The owner or operator of an affected source must develop and implement a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction, and a program of corrective action for malfunctioning process and air pollution control and monitoring equipment used to comply with the relevant standard. This plan must be developed by the owner or operator by the source's compliance date for that relevant standard. The purpose of the startup, shutdown, and malfunction plan is to | 40 CFR Section 63.6(e)(3)(i) |
| (A) Ensure that, at all times, that you operate and maintain each affected source, including associated air pollution control and monitoring equipment, in a manner which satisfies the general duty to minimize emissions established by paragraph (e)(1)(i) of this section; (B) Ensure that you are prepared to correct malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of hazardous air pollutants; and (C) Reduce the reporting burden associated with periods of startup, shutdown, and malfunction (including corrective action taken to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation). | continued from above |
| During periods of startup, shutdown, and malfunction, you must operate and maintain such source (including associated air pollution control and monitoring equipment) in accordance with the procedures specified in the startup, shutdown, and malfunction plan developed under paragraph (e)(3)(i) of this section. | 40 CFR Section 63.6(e)(3)(ii) |
| When actions taken by the owner or operator during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, the owner or operator must keep records for that event which demonstrate that the procedures specified in the plan were followed. These records may take the form of a checklist, or other effective form of recordkeeping that confirms conformance with the startup, shutdown, and malfunction plan for that event. | 40 CFR Section 63.6(e)(3)(iii) |
| In addition, you must keep records of these events as specified in Section 63.10(b), including records of the occurrence and duration of each startup, shutdown, or malfunction of operation and each malfunction of the air pollution control and monitoring equipment. Furthermore, you shall confirm that actions taken during the relevant reporting period during periods of startup, shutdown, and malfunction were consistent with the affected source's startup, shutdown and malfunction plan in the semiannual (or more frequent) startup, shutdown, and malfunction report required in Section 63.10(d)(5). | continued from above |

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-22

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

| | |
|---|---------------------------------|
| If an action taken by you during a startup, shutdown, or malfunction (including an action taken to correct a malfunction) is not consistent with the procedures specified in the affected source's startup, shutdown, and malfunction plan, and the source exceeds any applicable emission limitation in the relevant emission standard, then you must record the actions taken for that event and must report such actions within 2 working days after commencing actions inconsistent with the plan, followed by a letter within 7 working days after the end of the event, in accordance with Section 63.10(d)(5) (unless you make alternative reporting arrangements, in advance, with the Administrator). | 40 CFR Section 63.6(e)(3)(iv) |
| You must maintain at the affected source a current startup, shutdown, and malfunction plan and must make the plan available upon request for inspection and copying by the Administrator. In addition, if the startup, shutdown, and malfunction plan is subsequently revised as provided in paragraph (e)(3)(viii) of this section, you must maintain at the affected source each previous (i.e., superseded) version of the startup, shutdown, and malfunction plan, and must make each such previous version available for inspection and copying by the Administrator for a period of 5 years after revision of the plan. | 40 CFR Section 63.6(e)(3)(v) |
| If at any time after adoption of a startup, shutdown, and malfunction plan the affected source ceases operation or is otherwise no longer subject to the provisions of this part, you must retain a copy of the most recent plan for 5 years from the date the source ceases operation or is no longer subject to this part and must make the plan available upon request for inspection and copying by the Administrator. The Administrator may at any time request in writing that you submit a copy of any startup, shutdown, and malfunction plan (or a portion thereof) which is maintained at the affected source or in your possession. | continued from above. |
| Upon receipt of such a request, you must promptly submit a copy of the requested plan (or a portion thereof) to the Administrator. The Administrator must request that you submit a particular startup, shutdown, or malfunction plan (or a portion thereof) whenever a member of the public submits a specific and reasonable request to examine or to receive a copy of that plan or portion of a plan. You may elect to submit the required copy of any startup, shutdown, and malfunction plan to the Administrator in an electronic format. If you claim that any portion of such a startup, shutdown, and malfunction plan is confidential business information entitled to protection from disclosure under section 114(c) of the Act or 40 CFR 2.301, the material which is claimed as confidential must be clearly designated in the submission. | continued from above |
| To satisfy the requirements of this section to develop a startup, shutdown, and malfunction plan, you may use the affected source's standard operating procedures (SOP) manual, or an Occupational Safety and Health Administration (OSHA) or other plan, provided the alternative plans meet all the requirements of this section and are made available for inspection or submitted when requested by the Administrator. | 40 CFR Section 63.6(e)(3)(vi) |
| Based on the results of a determination made under paragraph (e)(1)(i) of this section, the Administrator may require that you make changes to the startup, shutdown, and malfunction plan for that source. The Administrator must require appropriate revisions to a startup, shutdown, and malfunction plan, if the Administrator finds that the plan: (A) Does not address a startup, shutdown, or malfunction event that has occurred; (B) Fails to provide for the operation of the source (including associated air pollution control and monitoring equipment) during a startup, shutdown, or malfunction event in a manner consistent with the general duty to minimize emissions established by paragraph (e)(1)(i) of this section; | 40 CFR Section 63.6(e)(3)(vii) |
| (C) Does not provide adequate procedures for correcting malfunctioning process and/or air pollution control and monitoring equipment as quickly as practicable; or (D) Includes an event that does not meet the definition of startup, shutdown, or malfunction listed in Section 63.2. | continued from above |
| You may periodically revise the startup, shutdown, and malfunction plan for the affected source as necessary to satisfy the requirements of this part or to reflect changes in equipment or procedures at the affected source. Unless the permitting authority provides otherwise, you may make such revisions to the startup, shutdown, and malfunction plan without prior approval by the Administrator or the permitting authority. However, each such revision to a startup, shutdown, and malfunction plan must be reported in the semiannual report required by Section 63.10(d)(5). | 40 CFR Section 63.6(e)(3)(viii) |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-23**

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

| | |
|---|---|
| If the startup, shutdown, and malfunction plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction but was not included in the startup, shutdown, and malfunction plan at the time you developed the plan, you must revise the startup, shutdown, and malfunction plan within 45 days after the event to include detailed procedures for operating and maintaining the source during similar malfunction events and a program of corrective action for similar malfunctions of process or air pollution control and monitoring equipment. | continued from above |
| In the event that you make any revision to the startup, shutdown, and malfunction plan which alters the scope of the activities at the source which are deemed to be a startup, shutdown, or malfunction, or otherwise modifies the applicability of any emission limit, work practice requirement, or other requirement in a standard established under this part, the revised plan shall not take effect until after the you have provided a written notice describing the revision to the permitting authority. | continued from above |
| The title V permit for an affected source must require that you adopt a startup, shutdown, and malfunction plan which conforms to the provisions of this part, and that the owner or operator operate and maintain the source in accordance with the procedures specified in the current startup, shutdown, and malfunction plan. However, any revisions made to the startup, shutdown, and malfunction plan in accordance with the procedures established by this part shall not be deemed to constitute permit revisions under part 70 or part 71 of this chapter. Moreover, none of the procedures specified by the startup, shutdown, and malfunction plan for an affected source shall be deemed to fall within the permit shield provision in section 504(f) of the Act. | 40 CFR Section 63.6(e)(3)(ix) |
| PERFORMANCE STACK EMISSION TESTING | hdr |
| All performance tests and fuel analyses used for demonstrating compliance with emission limits must be conducted on an annual basis except as provided for in 40 CFR Section 63.7515. If three consecutive tests show compliance with the emission limits, you may choose to conduct the performance tests for these pollutants every third year. If a test shows noncompliance with an emission limit you must conduct annual performance tests until all performance tests over a consecutive 3 year period show compliance. | 40 CFR Section 63.7515 |
| Performance tests and procedures under 40 CFR 63.7520 and 40 CFR Section 60.46b(d) must be followed. 40 CFR Section 63.7520 calls for: - a 60 day notice of intent to test, -development and submittal of a site specific test plan, -request and use of performance audit samples (request due 30 days prior to the test), -provision of adequate testing facilities, -testing during representative operation, -specifies that methods used be consistent with those specified in Parts 51, 60, 61, and 63--The methods are specified in Table 5 to Subp. DDDDD, and -submittal of results within 60 days of the performance test (Minn. R. requires submittal within 45 days, and will take precedence.) 40 CFR Section 60.46b(d) specifies test methods for particulate and opacity. Particulate matter test methods are the same as those specified in Table 5 to subp. DDDDD. | 40 CFR Section 63.7520 40 CFR Section 60b(d) and (e) |
| 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) |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-24**

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

| | |
|--|---|
| <p>Boiler Operating Conditions Not Meeting the Alternative Operating Conditions During Performance Testing:</p> <p>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:</p> <p>(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.</p> <p>(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.</p> <p>In no case will the new operating rate limit be higher than allowed by an existing permit condition.</p> | Minn. R. 7017.2025, subp. 3(B) |
| <p>STET (Short Term Emergency and Testing) Operating hours limit:</p> <p>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.</p> | Minn. R. 7007.0800, subp. 2 |
| <p>STET Operation Definition that applies to Boilers that Meet or do Not Meet the Alternative Operating Condition for Performance Testing:</p> <p>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.</p> <p>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.</p> <p>In no case will STET operation be higher than allowed by an existing permit condition.</p> | Minn. R. 7007.0800, subp. 2 |
| CONTROL EQUIPMENT OPERATING PARAMETERS | hdr |
| Collect the secondary current and voltage or total power input monitoring system data for the electrostatic precipitator according to 40 CFR Section 63.7525. | 40 CFR Section 63.7540 and Table 8 to Subp. DDDDD |
| <p>Reduce the data to 3-hour block averages; and</p> <p>Maintain the 3-hour average secondary current and voltage or total power input at or above the level established during the most recent performance test that demonstrated compliance with the particulate matter and PM10 emission limits.</p> | continued from above |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-25**

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

Subject Item: EU 008 Enclosed wood unloading**Associated Items:** CE 008 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

SV 008 Enclosed Wood Unloading Area

| What to do | Why to do it |
|--|--|
| Total Particulate Matter: less than or equal to 0.002 grains/dry standard cubic foot | Title I Condition: BACT limit; 40 CFR 52.21(j) |
| Particulate Matter < 10 micron: less than or equal to 0.002 grains/dry standard cubic foot | Title I Condition: BACT limit; 40 CFR 52.21(j) |
| Opacity: less than or equal to 20 percent | Minn. R. 7011.0715 |
| For compliance demonstration, see GP002 requirements table. | hdr |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-26**

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

Subject Item: EU 009 Wood Storage Silo**Associated Items:** CE 009 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

CE 010 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

SV 009 Wood Storage Silo Vent #1

SV 010 Wood Storage Silo Vent #2

| What to do | Why to do it |
|--|--|
| Total Particulate Matter: less than or equal to 0.002 grains/dry standard cubic foot | Title I Condition: BACT limit; 40 CFR 52.21(j) |
| Particulate Matter < 10 micron: less than or equal to 0.002 grains/dry standard cubic foot | Title I Condition: BACT limit; 40 CFR 52.21(j) |
| Opacity: less than or equal to 20 percent | Minn. R. 7011.0715 |
| For compliance demonstration, see GP002 requirements table. | hdr |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-27**

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

Subject Item: EU 010 Wood Conveyor System**Associated Items:** CE 011 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

SV 011 Wood Conveyor

| What to do | Why to do it |
|--|--|
| Total Particulate Matter: less than or equal to 0.002 grains/dry standard cubic foot | Title I Condition: BACT limit; 40 CFR 52.21(j) |
| Particulate Matter < 10 micron: less than or equal to 0.002 grains/dry standard cubic foot | Title I Condition: BACT limit; 40 CFR 52.21(j) |
| Opacity: less than or equal to 20 percent | Minn. R. 7011.0715 |
| For compliance demonstration, see GP002 requirements table. | hdr |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-28**

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

Subject Item: EU 011 Wood Transfer/Metering Bin**Associated Items:** CE 012 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

SV 012 Wood Transfer/Metering Bin

| What to do | Why to do it |
|--|--|
| Total Particulate Matter: less than or equal to 0.002 grains/dry standard cubic foot | Title I Condition: BACT limit; 40 CFR 52.21(j) |
| Particulate Matter < 10 micron: less than or equal to 0.002 grains/dry standard cubic foot | Title I Condition: BACT limit; 40 CFR 52.21(j) |
| Opacity: less than or equal to 20 percent | Minn. R. 7011.0715 |
| For compliance demonstration, see GP002 requirements table. | hdr |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-29**

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

Subject Item: EU 012 Emergency Generator**Associated Items:** SV 013 Emergency Generator

| What to do | Why to do it |
|---|---|
| EMISSION LIMITS | hdr |
| Particulate Matter < 10 micron: less than or equal to 0.14 lbs/million Btu heat input | Title I Condition: BACT limit; 40 CFR 52.21(j) |
| Nitrogen Oxides: less than or equal to 2.88 lbs/million Btu heat input | Title I Condition: BACT limit; 40 CFR 52.21(j) |
| Carbon Monoxide: less than or equal to 0.85 lbs/million Btu heat input | Title I Condition: BACT limit; 40 CFR 52.21(j) |
| Opacity: less than or equal to 20 percent once operating temperatures have been attained. | Minn. R. 7011.2300, subp. 1 |
| Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input | Minn. R. 7011.2300, subp. 2 |
| OPERATING CONDITIONS | hdr |
| Fuel use limited to distillate oil with a maximum of 0.5% sulfur by weight. | Minn. R. 7007.0800, subp. 2 |
| Operating Hours: less than or equal to 500 hours/year based on a 12 month rolling sum. | Title I Condition: 40 CFR 52.21(k), Ambient Impacts Analysis |
| MONITORING CONDITIONS | hdr |
| Record the previous month's hours of operation by the 15th of each month. Add to the preceeding 11 month's hours of operation and compare to the limit. Record the results. | Title I Condition: To demonstrate compliance with limit on hours of operation |
| Fuel Supplier Certification: The Permittee shall obtain and maintain a fuel supplier certification for each shipment of distillate oil, certifying that the sulfur content does not exceed 0.5% by weight. | Minn. R. 7007.0800, subps. 4 & 5 |
| PERFORMANCE TESTING | hdr |
| Performance Test: due 180 days after Initial Startup for PM10, NOx and CO. For performance test required notifications and submittals see the total facility requirements table. | Title I Condition: determine compliance with BACT limits |
| NESHAP REQUIREMENTS | hdr |
| Within 120 calendar days after the source becomes subject to the relevant standard (initial startup), provide the following information: (i) The name and address of the owner or operator; (ii) The address (i.e., physical location) of the affected source; (iii) An identification of the relevant standard, or other requirement, that is the basis of the notification and the source's compliance date; | 40 CFR Section 63.6590 40 CFR Section 63.6645(d) 40 CFR Section 63.9(b)(2)(i)-(v) |
| (iv) A brief description of the nature, size, design, and method of operation of the source and an identification of the types of emission points within the affected source subject to the relevant standard and types of hazardous air pollutants emitted; and (v) A statement of whether the affected source is a major source or an area source. | continued from above |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-30**

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

Subject Item: EU 013 Ash Storage Silo**Associated Items:** CE 013 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

CE 014 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

SV 014 Ash Silo Vent #1

| What to do | Why to do it |
|--|--|
| Total Particulate Matter: less than or equal to 0.002 grains/dry standard cubic foot | Title I Condition: BACT limit; 40 CFR 52.21(j) |
| Particulate Matter < 10 micron: less than or equal to 0.002 grains/dry standard cubic foot | Title I Condition: BACT limit; 40 CFR 52.21(j) |
| Opacity: less than or equal to 20 percent | Minn. R. 7011.0715 |
| For compliance demonstration, see GP002 requirements table. | hdr |

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Hibbing Public Utilities
Permit Number: 13700027 - 004

Subject Item: FS 002 Truck Traffic

| What to do | Why to do it |
|---|----------------------|
| Under dry pavement conditions, if the temperature is less than 32 degrees F, sweeping of all traffic areas is required twice monthly. Sweeping is not required if the pavement is snow or ice covered. | Minn. R. 7011.0150 |
| Under dry pavement conditions, if the temperature is greater than 32 degrees F, sweeping and flushing are required twice monthly. | continued from above |

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Hibbing Public Utilities
Permit Number: 13700027 - 004

Subject Item: FS 003 Coal Ash Loadout

| What to do | Why to do it |
|---------------------------------------|--|
| Ash shall be wetted prior to loadout. | Title I Condition: 40 CFR 52.21(k), Ambient Impacts Analysis |

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Hibbing Public Utilities
Permit Number: 13700027 - 004

Subject Item: FS 004 Wood Ash Loadout

| What to do | Why to do it |
|---------------------------------------|--|
| Ash shall be wetted prior to loadout. | Title I Condition: 40 CFR 52.21(k), Ambient Impacts Analysis |

TABLE A: LIMITS AND OTHER REQUIREMENTS**A-34**

03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

Subject Item: MR 010**Associated Items:** EU 007 Wood Fired Boiler

| What to do | Why to do it |
|---|---|
| Installation Notification: due 60 days before installing the continuous opacity monitoring system. | Minn. R. 7017.1040, subp. 1 |
| COMS Certification Test: due 60 days after achieving maximum capacity but no later than 180 days after initial startup. | Minn. R. 7017.1050, subp. 1; 40 CFR Section 60.8(a) |
| COMS Certification Test Plan: due 30 days before COMS Certification Test. | Minn. R. 7017.1060, subp. 1 & 2 |
| COMS Certification Test Pretest Meeting: due 7 days before COMS Certification Test. | Minn. R. 7017.1060, subp. 3 |
| COMS Certification Test Report: due 45 days after COMS Certification Test. | Minn. R. 7017.1080, subp. 1, 2 & 4 |
| COMS Certification Test Report - Microfiche Copy: due 105 days after COMS Certification Test | Minn. R. 7017.1080, subp. 3 |
| Continuous Operation: CEMS must be operated and data recorded during all periods of emission unit operation including periods of emission unit start-up, shutdown, or malfunction except for periods of acceptable monitor downtime. This requirement applies whether or not a numerical emission limit applies during these periods. A CEMS must not be bypassed except in emergencies where failure to bypass would endanger human health, safety, or plant equipment. Acceptable monitor downtime includes reasonable periods as listed in Items A, B, C and D of Minn. R. 7017.1090, subp. 2. | Minn. R. 7017.1090, subp. 1; 40 CFR Section 60.13(e) |
| COMS Daily Calibration Drift Check: The Permittee must automatically, intrinsic to the opacity monitor, check the zero and upscale (span) calibration drifts at least once daily. The acceptable range is as defined in 40 CFR pt. 60, Appendix B, PS-1. The span value shall be between 60% and 80%. For COMS without automatic zero adjustments the optical surfaces exposed to the effluent gases shall be cleaned prior to performing the zero and span drift adjustments. For COMS with automatic zero adjustments, the optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds 4 percent opacity. Minimum procedures must include an automated method for producing a simulated zero opacity condition and an upscale opacity condition as specified in 40 CFR 60.13(d)(2). | Minn. R. 7017.1210, subp. 2; 40 CFR Section 60.13(d) |
| COMS Calibration Error Audit: due before end of each calendar half-year following 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. | Minn. R. 7017.1210, subp. 3 |
| COMS Calibration Error Audit Results Summary: due 30 days after end of each calendar half-year following COMS Calibration Error Audit. | Minn. R. 7017.1220 |
| The COMS shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data for each successive 6-minute period. Six minute opacity averages shall be calculated from 36 or more data points equally spaced over each 6-minute period. The COMS shall complete a minimum of one cycle of operation for each successive 15-minute period. | Minn. R. 7017.1200, subp. 1, 2 & 3; 40 CFR Section 60.13(e)(1); 40 CFR Section 60.13(h) |
| Recordkeeping: The owner or operator must retain records of all COMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source. | Minn. R. 7017.1130 |
| 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. | 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. | 40 CFR Section 60.13(a); Minn. R. 7017.1210 |
| Attenuator Calibration: The Permittee shall perform an attenuator calibration in accordance with Minn. R. 7017.1210, subp. y. | Minn. R. 7017.1210, subp. y |

TABLE B: SUBMITTALS

B-1 03/02/06

Facility Name: Hibbing Public Utilities
Permit Number: 13700027 - 004

Table B lists most of the submittals required by this permit. Please note that some submittal requirements may appear in Table A or, if applicable, within a compliance schedule located in Table C. Table B is divided into two sections in order to separately list one-time only and recurrent submittal requirements.

Each submittal must be postmarked or received by the date specified in the applicable Table. Those submittals required by parts 7007.0100 to 7007.1850 must be certified by a responsible official, defined in Minn. R. 7007.0100, subp. 21. Other submittals shall be certified as appropriate if certification is required by an applicable rule or permit condition.

Send any application for a permit or permit amendment to:

AQ Permit Technical Advisor
Industrial Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Also, where required by an applicable rule or permit condition, send to the Permit Technical Advisor notices of:

- accumulated insignificant activities,
- installation of control equipment,
- replacement of an emissions unit, and
- changes that contravene a permit term.

Unless another person is identified in the applicable Table, send all other submittals to:

AQ Compliance Tracking Coordinator
Industrial Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

Send submittals that are required to be submitted to the U.S. EPA regional office to:

Mr. George Czerniak
Air and Radiation Branch
EPA Region V
77 West Jackson Boulevard
Chicago, Illinois 60604

Send submittals that are required by the Acid Rain Program to:

U.S. Environmental Protection Agency
Clean Air Markets Division
1200 Pennsylvania Avenue NW (6204N)
Washington, D.C. 20460

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS**B-2** 03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

| 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 Results | due before Initial Startup of the wood boiler for PM10, NOx, and CO that represent the conditions that will be present when Boilers 1A and 2A are vented through SV019. | Total Facility |
| Notification of the Actual Date of Initial Startup | due 15 days after Initial Startup. The notification shall include the design heat input capacity of the affected facility and identification of the fuels to be combusted in the affected facility. | EU007 |
| Notification of the Date Construction Began | due 30 days after Start Of Construction. Submit the name and number of each unit and the date construction of each unit began. | EU007 |
| Notification | due 120 days after 11/12/2004, (effective date of 40 CFR Subp. DDDDD) for the existing boilers, as applicable. | Total Facility |
| Performance Test Plan | due 30 days before Performance Test that is a site-specific plan to the EPA Administrator and the Commissioner for review and approval according to the procedures and requirements in 40 CFR Section 63.7520. | EU007 |
| Report | due 60 days before Anticipated Date of Initial Startup that is a site-specific fuel analysis plan to the EPA Administrator for review and approval according to the procedures and requirements in 40 CFR Section 63.7521. | EU007 |
| Testing Frequency Plan | due 60 days after Initial Performance Test for PM10 emissions. The plan shall specify a testing frequency based on the test data and MPCA guidance. Future performance tests based on one-year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required upon written approval of the MPCA. | EU001, EU002, EU003, GP002 |

TABLE B: RECURRENT SUBMITTALS**B-3** 03/02/06

Facility Name: Hibbing Public Utilities

Permit Number: 13700027 - 004

| What to send | When to send | Portion of Facility Affected |
|---|---|------------------------------|
| Excess Emissions/Downtime Reports (EER's) | due 30 days after end of each calendar quarter following Initial Startup of the Monitor | GP004 |
| Excess Emissions/Downtime Reports (EER's) | due 30 days after end of each calendar quarter following Initial Startup of the Monitor (Submit Deviations Reporting Form DRF-1 as amended). The EER shall indicate all periods of monitor bypass and all periods of exceedances of the limit including exceedances allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions. | MR010 |
| Excess Emissions/Downtime Reports (EER's) | due 30 days after end of each calendar quarter following Initial Startup of the Monitor The EER shall indicate all periods of monitor bypass and all periods of exceedances of the limit including exceedances allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions. | GP003 |
| Semiannual Deviations Report | due 30 days after end of each calendar half-year starting 06/30/2005 . 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. The report must comply with and contain the information specified in 40 CFR Section 63.7550. | EU007 |
| Semiannual Deviations Report | due 30 days after end of each calendar half-year starting 09/12/1997 . 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. For the Wood Fired Boiler, the report must contain the information specified in Table 9 to Subpart DDDDD of Part 63, Number 1 and 40 CFR Section 63.7550. | Total Facility |
| Compliance Certification | due 30 days after end of each calendar year starting 09/12/1997 (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. A copy of this report shall also be submitted to the US EPA Regional Office. | Total Facility |

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 13700027-004

This Technical Support Document (TSD) is intended for all parties interested in the 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 determination to issue the permit.

1. General Information

1.1. Applicant and Stationary Source Location:

| Owner/Operator Address and Phone Number | Facility Address (SIC Code: 4911) |
|---|---|
| Hibbing Public Utilities and Laurentian Energy Authority 1902 Sixth Avenue East P.O. Box 249 Hibbing, MN 55753 Phone: (218) 262-7723 | Hibbing Public Utilities 1832 Sixth Avenue East Hibbing, MN 55746 |

Contact: Mr. Charles Berg, Director of Engineering

1.2. Description Of The Facility

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, and bituminous coal. Boilers 1A and 2A can also burn natural gas. 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 stacks for Boilers 1A and 2A will be combined into a taller stack prior to the startup of a new wood fired boiler.

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 207 mmBtus (million Btu) per hour (145,000 lbs. of steam per hour). Boiler No. 3A is rated at 243 mmBtus per hour (170,000 lbs. of steam per hour). These are the 2-hour peak input capacities. Maximum continuous ratings are for Boilers 1A and 2A, 178.7 mmBtus per hour (125,000 lbs. of steam per hour), and for Boiler 3A, 214.4 mmBtus per hour (150,000 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.

This permit reissuance in 2005 of the Title V total facility operating permit authorized construction of an additional boiler and material handling equipment. Specifically, the permit authorized the installation of a wood fired boiler to be used for district heating and electric generation. Also authorized with this permit action was the installation of wood handling and storage equipment.

The wood fired boiler was part of a larger project that includes a wood fired boiler at Virginia Public Utilities. Hibbing Public Utilities and Virginia Public Utilities entered into a joint venture via formation of a third party, Laurentian Energy Authority (LEA), to generate electricity from biomass as required by an Xcel Energy purchase power agreement. LEA will lease the existing turbines to produce 15 MW at Virginia and 20 MW at Hibbing.

1.3 Description of the Activities Allowed By This Permit Action

This permit corrects language regarding the opacity filter values to be used in the required COMS Calibration Error Audit. The permit inadvertently specified filter values of 11, 20 and 37% opacity. This is not consistent with the rule. The language has been changed from "Filter

values used shall correspond to approximately 11%, 20%, and 37% opacity”, to “Conduct audits in accordance with Minn. R. 7017.1210, subp. 3.

4. Conclusion

Based on the information provided by [the Permittee](#), the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 13700027-004 and this technical support document, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Jenny Reinertsen (permit writer/engineer)
 [Bob Beresford](#) (enforcement)
 [Andy Place](#) (stack testing)