



# Minnesota Pollution Control Agency

April 24, 2006

Mr. Tom Feiro  
EH&S Specialist  
University of Minnesota/Board of Regents  
511 Washington Ave Ste 310 TSB  
Minneapolis, MN 55104

RE: Air Emission Permit No. 11900016-002

Dear Mr. Feiro:

The enclosed permit, Air Emission Permit No. 11900016-002, authorizes modification and operation of your facility located at 2900 University Avenue, Crookston, Polk County, Minnesota.

The amendment is effective from the issuance date of the amendment until the expiration date of the permit. Please read through the permit and review its conditions and requirements. Distribute the permit to staff members responsible for ensuring compliance with the conditions and limitations in the permit. If appropriate, post the permit at the facility.

We appreciate your cooperation and compliance with environmental laws. If you have questions about the permit, please contact me at (651) 282-5848.

Sincerely,

A handwritten signature in cursive script that reads "Jessica L. Forsberg".

Jessica L. Forsberg  
Air Quality Engineer  
Air Quality Permits Section  
Industrial Division

JLF:lao

Enclosure

cc: Pamela Blakley, U.S. Environmental Protection Agency  
Cary Hernandez, MPCA  
AQ File No. 86C

**AIR EMISSION PERMIT NO. 11900016- 002**

**IS ISSUED TO**

University of Minnesota

**UNIVERSITY OF MINNESOTA - CROOKSTON**

2900 University Avenue  
Crookston, Polk County, MN 56716

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	Permit Action	Application Date	Issuance Date
Major Amendment Application		May 5, 2003, amended January 16, 2004	
Moderate Amendment Application		April 1, 2003	
Minor Amendment Application		October 10, 2001	
Total Facility Operating Permit	001	June 27, 1996	January 10, 2005
Administrative Amendment	002	December 1, 2005	

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:** State; Limits to Avoid Pt 70/Limits to Avoid NSR    **Administrative Amendment:**  
**Issue Date:** January 10, 2005    **Issue Date:** April 24, 2006  
**Expiration:** State Permit does not expire.  
All Title I Conditions do not expire.

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

for Sheryl A. Corrigan  
Commissioner  
Minnesota Pollution Control Agency

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**NOTICE TO THE PERMITTEE:**

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

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

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

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

**PERMIT SHIELD:**

Subject to the limitations in Minn. R. 7007.1800, compliance with the conditions of this permit shall be deemed compliance with the specific provision of the applicable requirement identified in the permit as the basis of each condition. 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 facility is the Crookston undergraduate rural campus of the University of Minnesota System. The main campus consists of approximately 30 buildings, including classrooms, laboratories, dormitories, offices, garages, a central heating plant and the University of Minnesota's Northwest Experiment Station. This facility currently operates four boilers, six emergency generators and the experiment station, which consists of several pieces of grain processing equipment and several insignificant activities.

**PERMIT ACTION 002 (ADMINISTRATIVE AMENDMENT)**

This permit action extends a deadline to conduct performance testing on EU004 up to 365 days. The test is now due 730 days after 1/10/2005, which was the date the Total Facility Operating Permit was issued. Accordingly, additional extensions have been incorporated on deadlines dependent upon test results, such as: Testing Frequency Plan, Computer Dispersion Modeling Protocol, & Computer Dispersion Modeling Results. Also, many clarifications have been made as a result of Notifications/Submittals received by the MPCA.

**PERMIT ACTION 001 (TOTAL FACILITY OPERATING PERMIT)**

This permit action incorporates a minor modification for the operation of the fifth emergency generator, a moderate permit amendment to authorize operation of a sixth emergency generator, a major amendment to authorize installation and operation of two new gas boilers to replace the existing coal boilers No. 1 and 2 and the addition of a research laboratory. This permit action also defines conditions under which pre-authorized installation of additional emergency generators may occur.

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: University of Minnesota - Crookston

Permit Number: 11900016 - 002

**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
SOURCE-SPECIFIC REQUIREMENTS	hdr
Nitrogen Oxides: less than or equal to 90 tons/year using 12-month Rolling Sum based upon the fuel use restrictions, processing rate and hours of operation limitations, calculation procedures and other applicable requirements in the permit. To be calculated by the 15th day of each month for the previous 12-month period as described later in this permit. All emission units or stacks added to GP 002 as allowed in this permit shall be included in this calculation, including the contributions from insignificant activities within this group. The permittee may implement the pre-authorized changes in GP002 provided that the total facility emissions do not exceed any other limitations and provided that the total facility potential to emit ( including the contributions of all insignificant activities ) after assessment of the modification does not exceed 100 tons per year.	Title I Condition: To avoid major source classification and classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.300. To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200.
OPERATIONAL REQUIREMENTS	hdr
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
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. At a minimum, the O & M plan shall identify all air pollution control equipment and shall include a preventative maintenance program for that equipment, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment to proper operation to meet applicable permit conditions, a description of the employee training program for proper operation and maintenance of the control equipment, and the records kept to demonstrate plan implementation.	Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)
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
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
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
Noise: The Permittee shall comply with the noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during the operation of any emission units. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Minn. R. 7030.0010 - 7030.0080
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)
The facility currently uses ozone-depleting substances as defined in 40 CFR pt. 82. Sections 601-618 of the 1990 Clean Air Act Amendments and 40 CFR pt. 82 may apply to your facility. Read Sections 601-618 and 40 CFR pt.82 to determine and comply with all the requirements that apply to your facility.	40 CFR Section 82
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
PERFORMANCE TESTING	hdr
Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A, B, and/or C.	Minn. R. ch. 7017

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: University of Minnesota - Crookston

Permit Number: 11900016 - 002

<p>Performance Test Notifications and Submittals:</p> <p>Performance Tests are due as outlined in Tables A and B of the permit. See Table B for additional testing requirements.</p> <p>Performance Test Notification (written): due 30 days before each Performance Test                  Performance Test Plan: due 30 days before each Performance Test                  Performance Test Pre-test Meeting: due 7 days before each Performance Test                  Performance Test Report: due 45 days after each Performance Test                  Performance Test Report - Microfiche Copy: due 105 days after each Performance Test</p> <p>The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.</p>	<p>Minn. Rs. 7017.2030, subp. 1-4, 7017.2018 and Minn. R. 7017.2035, subp. 1-2</p>
<p>Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as specified by Minn. R. 7017.2025 following formal review of a subsequent performance test on the same unit.</p>	<p>Minn. R. 7017.2025</p>
<p><b>MONITORING REQUIREMENTS</b></p>	<p>hdr</p>
<p>Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).</p>	<p>Minn. R. 7007.0800, subp. 4(D)</p>
<p>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.</p>	<p>Minn. R. 7007.0800, subp. 4(D)</p>
<p><b>RECORDKEEPING</b></p>	<p>hdr</p>
<p>Record keeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).</p>	<p>Minn. R. 7007.0800, subp. 5(C)</p>
<p>Recordkeeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007. 1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350 subp. 2), including records of the emissions resulting from those changes.</p>	<p>Minn. R. 7007. 0800, subp. 5(B)</p>
<p>The protocol for PM-10 must include the facility specific emission factor as measured by stack testing if this value is higher than the emission factor provided in the permit application for this permit.</p>	<p>Minn. Stat. Section 116.07, subds. 4a and 9; Minn. R. 7009.0020; Minn. R. 7011.0150; Minn. R. 7007.0100; Minn. R. 7007.0800, subp. 2.</p>
<p><b>REPORTING/SUBMITTALS</b></p>	<p>hdr</p>
<p>Submittal: due before the end of each 60 months following 01/10/2005. If the permittee has completed or commenced any of the pre-authorized construction under GP002, the permittee shall submit the appropriate permit modification application to incorporate any new or modified equipment changes into this permit.</p>	<p>Minn. R. 7007.1150 through Minn. R. 7007.1500</p>
<p>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.</p> <p>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.</p>	<p>Minn. R. 7019.1000, subp. 3</p>
<p>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.</p> <p>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.</p>	<p>Minn. R. 7019.1000, subp. 2</p>

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

A-3

04/24/06

Facility Name: University of Minnesota - Crookston

Permit Number: 11900016 - 002

Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify the Commissioner or the state duty officer, either orally or by facsimile, of any deviation from permit conditions which could endanger human health or the environment.	Minn. R. 7019.1000, subp. 1
Notification of Deviations Endangering Human Health or the Environment Report: Within 2 working days of discovery, notify the Commissioner in writing of any deviation from permit conditions which could endanger human health or the environment. Include the following information in this written description: 1. the cause of the deviation; 2. the exact dates of the period of the deviation, if the deviation has been corrected; 3. whether or not the deviation has been corrected; 4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and 5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.	Minn. R. 7019.1000, subp. 1
Application for Permit Amendment: If a permit amendment is needed, submit an application in accordance with the requirements of Minn. R. 7007.1150 through Minn. R. 7007.1500. Submittal dates vary, depending on the type of amendment needed.	Minn. R. 7007.1150 through Minn. R. 7007.1500
Extension Requests: The Permittee may apply for an Administrative Amendment to extend a deadline in a permit by no more than 120 days, provided the proposed deadline extension meets the requirements of Minn. R. 7007.1400, subp. 1(H).	Minn. R. 7007.1400, subp. 1(H)
Emission Inventory Report: due 91 days after end of each calendar year following 01/10/2005 (April 1). To be submitted on a form approved by the Commissioner.	Minn. R. 7019.3000 through Minn. R. 7019.3010
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095



**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: University of Minnesota - Crookston

Permit Number: 11900016 - 002

**Subject Item: GP 001 Solid Fuel Boilers**

**Associated Items:** CE 001 Electrostatic Precipitator - Medium Efficiency

EU 001 Boiler 1

EU 004 Boiler 4

SV 001 Heating Plant

<b>What to do</b>	<b>Why to do it</b>
A. OPERATIONAL REQUIREMENTS	hdr
Fuel type for EU 001 and EU004: sub-bituminous coal and lignite, by design.	Minn. R. 7005.0100, subp. 35a; Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 11
Sulfur Content of Fuel: less than or equal to 0.5 percent by weight for sub-bituminous coal, less than or equal to 1.2 percent by weight for lignite. The permittee shall maintain a file of fuel supplier certifications for each shipment of every type of fuel received, including the name of the vendor.	Title I Condition: To avoid major source classification and classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200.
Installation, Operation and Maintenance of Fuel Usage Meters. The permittee shall install, operate and maintain instrumentation and methods to measure the amount of fuel burned in each solid fuel boiler in accordance with the fuel usage record keeping and reporting requirements in this permit. For EU001 and EU002, this requirement expires on the date these boilers are dismantled and removed.	Minn. R. 7007.0800, subp. 4 and 5
B. RECORDKEEPING	hdr
Recordkeeping: The permittee shall maintain monthly fuel use records, calculate the 12-month rolling sum and compare with the annual limits for each fuel by the 15th day of each month for the previous 12-month period . For EU001, this requirement expires on the date this boiler is dismantled and removed.	Title I Condition: To avoid major source classification and classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200.
Recordkeeping: The permittee shall maintain a record of monthly calculations of nitrogen dioxide emissions from this group based on actual monthly fuel usages. The permittee shall use emission factors consistent with the information provided in the permit application. This information shall be submitted to the MPCA with the annual compliance certification that is required by Table B of this permit.	Title I Condition: To avoid major source classification and classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200.
Fuel usage records shall include the information listed in Appendix B of this permit.	Minn. R. 7007.0800, subp. 4 and 5.

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: University of Minnesota - Crookston

Permit Number: 11900016 - 002

**Subject Item: GP 002 Emergency generators**

**Associated Items:** EU 005 Lysaker Gym Generator

EU 006 Conference Center Generator

EU 007 Heating Plant Generator

EU 009 Kiehle Hall Generator

EU 010 Student Center Generator

EU 013 Heating Plant Portable Generator

What to do	Why to do it
A. EMISSION LIMITS	hdr
Opacity: less than or equal to 20 percent opacity using 6-minute Average 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 for diesel generators (0.29 lbs/million BTU heat input per equipment design).	Minn. R. 7011.2300, subp. 2
B. OPERATIONAL REQUIREMENTS	hdr
Fuel type for EU 005, EU009, EU010 and EU013: diesel only, by design. The permittee may burn biodiesel in these units without having to apply for a permit amendment if no engine modification is needed to burn biodiesel.	Minn. R. 7005.0100, subp. 35a; Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 11
Fuel type for EU006 and EU007:Natural gas only by design.	Minn. R. 7005, subp. 35a; Minn. R. 7007.0800, subp. 2; Minn.R. 7007.0800, subp. 11
Operating Hours: less than or equal to 500 hours/year using 12-month Rolling Sum for each individual emergency generator in GP002. The Permittee shall maintain documentation on site that each unit listed in this group are emergency generators by design that qualify under the U.S. EPA memorandum entitled "Calculating Potential to Emit (PTE) for Emergency Generators" dated September 6, 1995, limiting operation to 500 hours per year.	Minn. R. 7005.0100, subp. 35a; Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 11.
C. MONITORING REQUIREMENTS	hdr
Metering of Hours of Operation: The permittee shall install, operate and maintain metering equipment and methods to measure the hours of operation for each individual emergency generator in GP002	Minn. R. 7007.0800, subp. 4 and 5
D. RECORDKEEPING	hdr
Hours of Operation: The Permittee shall maintain monthly records of the 12-month rolling sum of hours of operation for each emergency generator. The 12-month rolling sum shall be calculated by the 15th day of each month for the previous 12-month period. This information shall be used in the monthly calculations showing that nitrogen oxide limits for the facility have not been exceeded.	Title I Condition: To avoid major source classification and classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200. Minn. R. 7007.0800, subp. 4 & 5
Recordkeeping, Fuel Type: The permittee shall keep records of the fuel burned in the emergency generators when in operation.	Minn. R. 7007.0800, subp. 4 and 5
Sulfur Content of Fuel: less than or equal to 0.5 percent by weight .Obtain and maintain a fuel supplier certification for each shipment of diesel fuel, certifying that the sulfur content of the fuel meets this limit. This requirement can be met by securing a fuel supplier contract which specifies the maximum amount of sulfur in the fuel to be delivered and by obtaining a receipt for each shipment which documents that the fuel was supplied by the same contractor.	Minn. R. 7007.0800, subp. 4 and 5
Fuel usage records shall include the information listed in Appendix B of this permit.	Minn. R. 7007.0800, subp. 4 and 5.
Recordkeeping: The permittee shall maintain a contemporaneous record of all pre-authorized changes within GP002, including the date of the change, the location of the new, modified or replaced emergency generator, and monthly calculations showing that the nitrogen oxides limits for the facility have not been exceeded. The calculations shall include the contributions of insignificant activities at the facility. The permittee shall use emission factors consistent with the information provided in the permit application. This information shall be submitted to the MPCA with the annual compliance certification that is required by Table B of this permit.	Title I Condition: To avoid major source classification and classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200.

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: University of Minnesota - Crookston

Permit Number: 11900016 - 002

**Subject Item: GP 003 Northwest Experiment Station**

**Associated Items:** CE 002 Centrifugal Collector - High Efficiency

EU 008 Grain Grinding

FS 004 Grain Unloading

FS 005 Grain Handling

FS 006 Grain Loading

What to do	Why to do it
A. OPERATIONAL REQUIREMENTS	hdr
The Permittee shall clean up commodities spilled on the driveway and other facility property as required to minimize fugitive emissions to a level consistent with RACT (reasonably available control technology).	Minn. R. 7011.1005, subp. 1(A)
The permittee shall maintain air pollution control equipment in proper operating condition and utilize the air pollution control systems as designed.	Minn. R. 7011.1005, subp.1(B)
Opacity: less than or equal to 5 percent from truck unloading stations, railcar unloading stations, railcar loading stations, and handling operation.	Minn. R. 7011.1005, subp. 3(A)
Opacity: less than or equal to 10 percent from truck loading stations.	Minn. R. 7011.1005, subp. 3(B)
Opacity: less than or equal to 10 percent from control equipment	Minn. R. 7011.1005, subp. (D)
Total Particulate Matter: greater than or equal to 80 percent control efficiency for control equipment. CE002 is rated at 99% for the size distribution of particulate matter it controls. This requirement also applies to the control device for the cracker mill which is an insignificant activity.	Minn. R. 7011.1005, subp. 3(E)
The permittee may not operate or maintain a dry bulk agricultural facility that creates public nuisance.	Minn. R. 7011.1010
Quarterly Inspections. At least once per calendar quarter, the permittee shall inspect the control equipment external system components, including but not limited to the electrical systems. The permittee shall maintain a written record of the inspection and any corrective actions taken during the inspection.	Minn. R. 7007.0800, subp. 4, 5 and 14
<p>Corrective Actions: The permittee shall take corrective actions as soon as possible if any of the following occur:</p> <ul style="list-style-type: none"> <li>- excessive visible emissions from any of the grain handling or grain processing operations</li> <li>- any of the components in the the pollution control equipment are found during the inspections to need repair.</li> </ul> <p>Corrective actions shall return the operation control equipment to within the recommended or required ranges in the Operations and Maintenance Plan, eliminate excessive visible emissions, and/or include completions of necessary repairs identified during the inspections as applicable. Corrective actions include, but are not limited to, those outlined in the O&amp;M Plan for the control equipment. The permittee shall keep records of the type and date of any corrective action taken.</p>	Minn. R. 7007.0800 subp. 4, 5 and 14

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

A-7

04/24/06

Facility Name: University of Minnesota - Crookston

Permit Number: 11900016 - 002

**Subject Item:** GP 004 Coal Handling**Associated Items:** FS 001 Coal Unloading

FS 002 Coal Conveying

FS 003 Coal Stockpiles

<b>What to do</b>	<b>Why to do it</b>
OPERATIONAL REQUIREMENTS	hdr
Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150.	Minn. R. 7011.1110 and 7011.0150
Dust suppressants: during freezing temperatures, owners or operators shall not be required to apply water or dust suppressants. The permittee is not authorized to use surface hardening agents, wetting or chemical agents, foam agents, and oils that may cause ground water or surface water contamination in violation of any applicable water pollution law.	Minn. R. 7011.1120 and 7011.1140
The permittee shall not conduct any nonessential coal handling operations that are not shielded from the wind or enclosed in a building when steady wind speed exceed 30 miles per hour.	7011.1125 Cessation of Operations

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: University of Minnesota - Crookston

Permit Number: 11900016 - 002

**Subject Item: GP 005 Older Solid Fuel Boilers**

**Associated Items:** EU 001 Boiler 1

What to do	Why to do it
A. EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.6 million Btu's/hour heat input. This limit applies individually to each emission unit in this group.	Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent except for one six-minute period per hour of not more than 60 percent opacity. This limit applies individually to each emission unit in this group	Minn. R. 7011.0510, subp. 2
B. OPERATIONAL REQUIREMENTS	hdr
Emission units in GP005 may not be operated concurrently with emission units in GP006.	Title I Condition: To avoid major source classification and classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200.
Emission units in GP005 may not be operated concurrently with EU004.	Minn. R. 7007.0800, subp. 2
Equipment Removal and/or Dismantlement: due 180 days after Initial Startup of new boilers EU011 and/or EU012. Old coal boiler EU001 must be shutdown permanently (removed/dismantled) within 180 days of starting-up EU011 and/or EU012.	Title I Condition: To avoid major source classification and classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200.
C. PERFORMANCE TESTING	hdr
Initial Performance Test: due 730 days after 01/10/2005. PM, PM-10 and Opacity test is required for EU001 if construction of EU011 and EU012 has not begun. Testing shall require proximate fuel analysis. Test shall be conducted at the maximum hourly production rate at which the equipment discharging through this stack will be operated and with the maximum MMBTUH from lignite and sub-bituminous coal the permittee wishes to be authorized to combust. Test results for PM and PM-10 must be expressed as lb/MMBTU heat input and as lb/ton of fuel. PM-10 test results are to be used to generate a facility specific emission factor.	Minn. R. 7017.2020, subp. 1
Performance Test Notifications and Submittals; Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-Test Meeting: due 7 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.	Minn. R. 7017.2030, subp. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subp. 1-2
Testing required at other times by an applicable requirement or compliance document and at additional times if the commissioner requests a performance test.	Minn. R. 7017.2020, subp. 1
D. MODELING REQUIREMENTS	hdr
The protocol for PM-10 must include the facility specific emission factor as measured by stack testing if this value is higher than the emission factor provided in the permit application for this permit.	Minn. Stat. Section 116.07, subs. 4a and 9; Minn. R. 7009.0020; Minn. R. 7011.0150; Minn. R. 7007.0100; Minn. R. 7007.0800, subp. 2.

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: University of Minnesota - Crookston

Permit Number: 11900016 - 002

**Subject Item: GP 006 New Gas Boilers**

**Associated Items:** EU 011 Boiler No. 5

EU 012 Boiler No. 6

What to do	Why to do it
A. OPERATIONAL REQUIREMENTS	hdr
Combined EU011 and EU012 Propane Fuel Usage: less than or equal to 1200000 gallons/year using 12-month Rolling Sum	Title I Condition: To avoid major source classification and classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200.
At all times, including periods of start up, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate any affected facility, including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.	40 CFR Section 60.11(d)
No owner or operator shall build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard.	40 CFR Section 60.12
Fuel type for EU011 and EU012: natural gas and propane only, by design.	Minn. R. 7005.0100, subp. 35a; Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 11
Emissions for EU011 and EU012 were calculated assuming low NOx burners with emission factors equal to 0.00005 lb.NOx per cubic foot of natural gas and 0.019 lb. of NOx per gallon of propane burned. If the final manufacturer's guarantee for the boilers is higher than these values, the permittee must report this information with the first emission inventory submitted for the operation of these units. The permittee must use the emission factors guaranteed by the manufacturer in all calculations. The permittee shall operate and maintain the boilers in accordance with the conditions of the manufacturer's guarantee and terms.	Title I Condition: To avoid major source classification and classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200. Minn. R. 7005.0100, subp. 35a; Minn. R. 7007.0800, subp. 2
Installation, Operation and Maintenance of Fuel Usage Meters. The permittee shall install, operate and maintain instrumentation and methods to measure the amount of propane burned in each boiler in this group in accordance with the fuel usage recordkeeping and reporting requirements in this permit.	Minn. R. 7007.0800, subp. 4 and 5
B. RECORDKEEPING	hdr
Recordkeeping: Record and maintain records of the amounts of each fuel combusted in each boiler on a monthly basis. Natural gas records may consist of purchase records or receipts. Records shall include the information listed in Appendix B of this permit.	40 CFR Section 60.13(i) and February 20, 1992, EPA memorandum to meet the requirements of 40 CFR Section 60.48c(g) and (i). Minn. R. 7007.0800, subp. 4 - 6.
Recordkeeping: The permittee shall maintain monthly propane use records, calculate the 12-month rolling sum and compare with the annual limits for each fuel by the 15th day of each month for the previous 12-month period.	Title I Condition: To avoid major source classification and classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200.
Recordkeeping: Maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the facility including; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.	40 CFR Section 60.7(b), Minn. R. 7019.0100, subp. 1
Recordkeeping: Maintain a file of all measurements, maintenance, reports and records for at least five years.	40 CFR Section 60.7(f); Minn. R. 7019.0100, subp. 1
Recordkeeping: The permittee shall maintain a records of monthly calculations of nitrogen dioxide emissions from this group based on actual monthly fuel usages. The permittee shall use emission factors consistent with the information provided in the permit application. This information shall be submitted to the MPCA with the annual compliance certification that is required by Table B of this permit.	Title I Condition: To avoid major source classification and classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200.

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: University of Minnesota - Crookston

Permit Number: 11900016 - 002

**Subject Item:** EU 001 Boiler 1

**Associated Items:** CE 001 Electrostatic Precipitator - Medium Efficiency

GP 001 Solid Fuel Boilers

GP 005 Older Solid Fuel Boilers

SV 001 Heating Plant

What to do	Why to do it
A. OPERATIONAL REQUIREMENTS	hdr
Fuel type: sub-bituminous coal and lignite, by design.	Minn. R. 7005.0100, subp. 35a; Minn. R. 7007.0800 subp. 2; Minn. R. 7007.0800 subp. 11.
Sulfur Content of Fuel: less than or equal to 0.5 percent by weight for sub-bituminous coal, less than or equal to 1.2 percent by weight for lignite. The permittee shall maintain a file of fuel supplier certifications for each shipment of every type of fuel received, including the name of the vendor.	Title I Condition: To avoid major source classification and classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200.
Sub-bituminous coal Fuel Usage: less than or equal to 1000 tons/year using 12-month Rolling Sum	Title I Condition: to avoid major source classification and classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid major source classification under 40 CFR Section 70.2 and Minn. R 7007.0200.
Lignite coal Fuel Usage: less than or equal to 300 tons/year using 12-month Rolling Sum	Title I Condition: To avoid major source classification and classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200.
Installation, Operation and Maintenance of Fuel Usage Meters. The permittee shall install, operate and maintain instrumentation and methods to measure the amount of fuel burned in each solid fuel boiler in accordance with the fuel usage record keeping and reporting requirements in this permit. For EU001 and EU002, this requirement expires on the date these boilers are dismantled and removed.	Minn. R. 7007.0800, subp. 4 and 5.
RECORDKEEPING	hdr
Recordkeeping: The permittee shall maintain monthly fuel use records, calculate the 12-month rolling sum and compare with the annual limits for each fuel by the 15th day of each month for the previous 12-month period . This requirement expires on the date this boiler is dismantled and removed.	Title I Condition: To avoid major source classification and classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200.

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

A-11

04/24/06

Facility Name: University of Minnesota - Crookston

Permit Number: 11900016 - 002

**Subject Item: EU 003 Boiler 3**

What to do	Why to do it
A. EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.6 million Btu/hour heat input.	Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0510, subp. 2
B. OPERATIONAL REQUIREMENTS	hdr
Fuel type for EU 003, natural gas and LP gas only, by design.	Minn. R. 7005.0100, subp. 35a, Minn. R. 7007.0800 subp. 2, Minn. R. 7007.0800 subp. 11
C. RECORDKEEPING	hdr
Recordkeeping: The permittee shall maintain monthly fuel use records, calculate the 12-month rolling sum for each fuel by the 15th day of each month for the previous 12-month period.	Title I Condition: To avoid major source classification and classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200.
Fuel usage records shall include the information listed in Appendix B of this permit.	Minn. R. 7007.0800, subp. 4 - 5.
Recordkeeping: The permittee shall maintain a records of monthly calculations of nitrogen dioxide emissions from this emission unit based on actual monthly fuel usages. The permittee shall use emission factors consistent with the information provided in the permit application. This information shall be submitted to the MPCA with the annual compliance certification that is required by Table B of this permit.	Title I Condition: To avoid major source classification and classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200.



**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: University of Minnesota - Crookston

Permit Number: 11900016 - 002

**Subject Item: EU 004 Boiler 4**

**Associated Items:** CE 001 Electrostatic Precipitator - Medium Efficiency

GP 001 Solid Fuel Boilers

SV 001 Heating Plant

What to do	Why to do it
A. EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input	Minn. R. 7011.0515, subp. 1
Opacity: less than or equal to 20 percent except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0515, subp. 2
B. OPERATIONAL REQUIREMENTS	hdr
Fuel type for EU 001, EU002 and EU004: sub-bituminous coal and lignite, by design.	Minn. R. 7005.0100, subp. 35a; Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 11.
Sulfur Content of Fuel: less than or equal to 0.5 percent by weight for sub-bituminous coal, less than or equal to 1.2 percent by weight for lignite. The permittee shall maintain a file of fuel supplier certifications for each shipment of every type of fuel received, including the name of the vendor.	Title I Condition: To avoid major source classification and classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200.
Fuel Usage: less than or equal to 4000 tons/year using 12-month Rolling Sum of Sub-bituminous coal while GP005 is allowed to operate.	Title I Condition: To avoid major source classification and classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200.
Fuel Usage: less than or equal to 1200 tons/year using 12-month Rolling Sum of Lignite coal while GP005 is allowed to operate	Title I Condition: To avoid major source classification and classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200.
Fuel Usage: less than or equal to 5000 tons/year using 12-month Rolling Sum of Sub-bituminous coal after GP006 begins to operate.	Title I Condition: To avoid major source classification and classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200.
Fuel Usage: less than or equal to 1200 tons/year using 12-month Rolling Sum of Lignite coal after GP006 begins to operate	Title I Condition: To avoid major source classification and classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200.
Installation, Operation and Maintenance of Fuel Usage Meters. The permittee shall install, operate and maintain instrumentation and methods to measure the amount of fuel burned in each solid fuel boiler in accordance with the fuel usage record keeping and reporting requirements in this permit.	Minn. R. 7007.0800, subp. 4 and 5.
C. RECORDKEEPING	hdr
Recordkeeping: The permittee shall maintain monthly fuel use records, calculate the 12-month rolling sum and compare with the annual limits for each fuel by the 15th day of each month for the previous 12-month period .	Title I Condition: To avoid major source classification and classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200.
Recordkeeping: The permittee shall maintain a record of monthly calculations of nitrogen dioxide emissions from this emission unit based on actual monthly fuel usages. The permittee shall use emission factors consistent with the information provided in the permit application. This information shall be submitted to the MPCA with the annual compliance certification that is required by Table B of this permit.	Title I Condition: To avoid major source classification and classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200.
Fuel use records shall include the information listed in Appendix B of this permit.	Minn. R. 7007.0800, subp. 4 and 5.
C. PERFORMANCE TESTING	hdr
Initial Performance Test: due 730 days after 01/10/2005. Performance Test for PM, PM-10 and Opacity is required for EU004. Test shall be conducted at the maximum hourly production rate at which the equipment discharging through this stack will be operated and with the maximum MMBTUH from lignite and sub-bituminous coal the permittee wishes to be authorized to operate. Testing shall require proximate fuel analysis. Test results for PM and PM-10 must be expressed as lb/MMBTU heat input and as lb/ton of fuel. PM-10 test results are to be used to generate a facility specific emission factor.	Minn. R. 7017.2020, subp. 1,2, and 3

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

A-13

04/24/06

Facility Name: University of Minnesota - Crookston

Permit Number: 11900016 - 002

Performance Test Notifications and Submittals; Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-Test Meeting: due 7 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.	Minn. R. 7017.2030, subp. 1-4; Minn. R. 7017.2018 and Minn. R. 7017.2035, subp. 1-2
Testing required at other times by an applicable requirement or compliance document and at additional times if the commissioner requests a performance test.	Minn. R. 7017.2020, subp. 1
D. MODELING REQUIREMENTS	hdr
The protocol for PM-10 must include the facility specific emission factor as measured by stack testing if this value is higher than the emission factor provided in the permit application for this permit.	Minn. Stat. Section 116.07, subds. 4a and 9; Minn. R. 7009.0020; Minn. R. 7011.0150; Minn. R. 7007.0100; Minn. R. 7007.0800, subp. 2.

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

Facility Name: University of Minnesota - Crookston

Permit Number: 11900016 - 002

**Subject Item: CE 001 Electrostatic Precipitator - Medium Efficiency**

**Associated Items:** EU 001 Boiler 1

EU 004 Boiler 4

GP 001 Solid Fuel Boilers

What to do	Why to do it
A. OPERATIONAL REQUIREMENTS	hdr
<p>The Permittee shall operate and maintain CE001 at all times that any emission unit controlled by the electrostatic precipitator is in operation. CE001 shall be operated and maintained in accordance with the Operations and Maintenance (O&amp;M) Plan.</p>	<p>Title I Condition: To avoid major source classification and classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200. Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subp. 14; Minn. R. 7007.0800, subp 16(J)</p>
<p>Total Particulate Matter: greater than or equal to 90 percent control efficiency Compliance with Minn. R. 7011.0510, subp. 1 and Minn. R. 7011.0515, subp. 1 is deemed sufficient to demonstrate compliance with this requirement.</p>	<p>Title I Condition: To avoid major source classification and classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200. Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subp. 14; Minn. R. 7007.0800, subp 16(J)</p>
<p>CE001 must be operated with at least the minimum specific collection area (SCA) in service determined during the most recent particulate matter emissions test with results equal to or less than the particulate matter emissions limit.</p> <p>If the sections in the CE001 are physically and electrically equivalent, the Permittee can meet this requirement by operating CE001 with no less than the number of sections that were operating during the most recent particulate emission tests with results equal to or less than the particulate matter emission limit.</p> <p>If the the number of SCA or number of sections drop below the minimum required anytime that flue gases are going through the control equipment, this shall be reported as a deviation.</p>	<p>Title I Condition: To avoid major source classification and classification as a major modification under 40 CFR Section 52.21 and Minn. R. 7007.3000. To avoid major source classification under 40 CFR Section 70.2 and Minn. R. 7007.0200. Minn. R. 7007.0800, subp. 2, Minn. R. 7007.0800, subp. 14; Minn. R. 7007.0800, subp 16(J)</p>
<p>Quarterly Inspections. At least once per calendar quarter, the permittee shall inspect the control equipment external system components, including but not limited to the electrical systems. The permittee shall maintain a written record of the inspection and any corrective actions taken during the inspection.</p>	<p>Minn. R. 7007.0800, subp. 4, 5 and 14</p>
<p>Corrective Actions: The permittee shall take corrective actions as soon as possible if any of the following occur:</p> <ul style="list-style-type: none"> <li>- visible emissions indicate evidence of pollution control malfunction;</li> <li>- the monitored secondary voltage and current, spark rate and rapping are outside the recommended range in the Operation and Maintenance (O &amp; M) Plan;</li> <li>- the monitored SCA is less than what is required required; or</li> <li>- any of the components in the the electrostatic precipitator are found during the inspections to need repair.</li> </ul> <p>Corrective actions shall return the secondary voltage and current, the SCA and spark rate to within the recommended or required ranges, eliminate excessive visible emissions, and/or include completions of necessary repairs identified during the inspections as applicable. Corrective actions include, but are not limited to, those outlined in the O&amp;M Plan for the electrostatic precipitator. The permittee shall keep record of the type and date of any corrective action taken.</p>	<p>Minn. R. 7007.0800 subp. 4, 5 and 14</p>
B. RECORDKEEPING	hdr
<p>Daily Monitoring and Recordkeeping. The permittee shall physically verify and record the identity and minimum number of electrostatic precipitator sections ( or SCA if sections are not equivalent) in service each day that CE001 is operating. The permittee shall maintain a written record of the verification.</p>	<p>Minn. R. 7007.0100 subp. 35a; Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 14; Minn. R. 7007.0800, subp. 16(J)</p>
<p>Operation and Maintenance Plan: This plan shall include the appropriate range of operation for the primary and secondary voltage and current and spark rate to ensure optimum performance for the lectrostatic precipitator.</p>	<p>Minn. R. 7007.0800, subp. 14 and Minn. R. 7007.0800, subp. 16(J)</p>
C. MONITORING REQUIREMENTS	hdr

**TABLE A: LIMITS AND OTHER REQUIREMENTS**

A-15

04/24/06

Facility Name: University of Minnesota - Crookston

Permit Number: 11900016 - 002

The permittee shall install, operate and maintain instrumentation to check and monitor the following electrostatic precipitator operating parameters: analog meters for primary voltage and current, digital monitors for secondary voltage and current and number of sections or SCA in operation. Secondary current and voltage shall be monitored at each transformer. The monitoring equipment must be installed, in use, and properly maintained whenever operation of the monitored control equipment is required.

Minn. R. 7007.0800, subp. 4(C)

**TABLE B: SUBMITTALS**

B-1 04/24/06

Facility Name: University of Minnesota - Crookston  
Permit Number: 11900016 - 002

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**

Facility Name: University of Minnesota - Crookston

Permit Number: 11900016 - 002

What to send	When to send	Portion of Facility Affected
Annual Report	due 91 days after 01/10/2005 (April 1, for the previous calendar year). The permittee shall submit a list of contemporaneous changes, if any, and supporting calculations related to the pre-approved changes to GP002.	Total Facility
Computer Dispersion Modeling Protocol	due 60 days after Initial Performance Test of EU004 for PM-10. This protocol is for PM-10 and will describe the proposed modeling methodology and input data, in accordance with MPCA modeling guidance for Title V air dispersion modeling analyses. The protocol will be based on projected operating conditions under the next permit term. This is a state-only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Total Facility
Computer Dispersion Modeling Results	due 366 days after Computer Dispersion Modeling Protocol for PM-10. To be submitted after the MPCA has reviewed and approved the modeling protocol. The submittal should adhere to MPCA modeling guidance for Title V air dispersion modeling analyses. This is a state-only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Total Facility
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup of EU011. Notify MPCA.	GP006
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup of EU012. Notify MPCA.	GP006
Notification of the Date Construction Began	due 30 days after Start Of Construction of EU012. Submit to MPCA the name and number of the unit, the date the construction began, the design capacity of the unit, and identification of the fuels to be combusted.	GP006
Notification of the date of Equipment Removal/Dismantlement	due 15 days after Equipment Removal and/or Dismantlement of EU001. This notification must be provided in writing and must state the date when the boiler is physically removed or dismantled to the point that it cannot longer function as designed.	GP005
Notification	due 60 days before Start Of Construction of EU012. Notification to MPCA of any physical or operational change which increases emission rate: due 60 days (or as soon as practical) before the change is commenced. Within 180 days of completion of any physical or operational change subject to the control measures specified in 60.14(a), compliance with all applicable standards must be achieved.	GP006
Testing Frequency Plan	due 60 days after Initial Performance Test for particulate 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. Please see other Performance Test Notifications and Submittals listed in Table A.	EU004
Testing Frequency Plan	due 60 days after Initial Performance Test for particulate 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. Please see other Performance Test Notifications and Submittals listed in Table A.	GP005

**TABLE B: RECURRENT SUBMITTALS**

B-3 04/24/06

Facility Name: University of Minnesota - Crookston

Permit Number: 11900016 - 002

What to send	When to send	Portion of Facility Affected
Semiannual Deviations Report	due 30 days after end of each calendar half-year starting 01/10/2005 . 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.	Total Facility
Compliance Certification	due 30 days after end of each calendar year starting 01/10/2005 (for the previous calendar year). To be submitted to the Commissioner on a form approved by the Commissioner. This report covers all deviations experienced during the calendar year.	Total Facility
Fuel Supplier Certification	due 91 days after end of each calendar year starting 01/10/2005 For each shipment include the date, vendor name, heat content and sulfur content on a weight basis. To be submitted within 30 days of the calendar quarter if there are deviations greater than 5% of applicable limit.	GP001
Fuel Usage Report	due 91 days after end of each calendar year starting 01/10/2005 To be submitted within 30 days of the calendar quarter if there are deviations greater than 5% of an applicable limit. Fuel usage report for an emission unit is not needed after its removal.	GP001
Fuel Usage Report	due 91 days after end of each calendar year starting 01/10/2005 To be submitted within 30 days of the calendar quarter if there are deviations greater than 5% of an applicable limit. Fuel usage report for an emission unit is not needed after its removal.	GP006

**APPENDIX MATERIAL**

**Facility Name:** University of Minnesota - Crookston  
**Permit Number:** 11900016- 002

**APPENDIX A**

**Table 1 Insignificant Activities (Required to be Listed)**

<b>Activity</b>	<b>Criteria for Insignificant Status</b>
Two 1,000 gallon gasoline storage tanks and two 2,000 gallon storage tanks.	Minn. R. 7007.1300, subp. 3(E)(1)
Emissions from laboratory. There are eight laboratories located at the University Teaching and Outreach Center, Dowell Hall and Hill Hall. There is also application of pesticides to research crops.	Minn. R. 7007.1300, subp. 3(G)
Brazing, soldering, or welding equipment. There are six welders located at Kiser Maintenance Building, Soil and Water Building, Farm Shop, and North Agronomy Farm.	Minn. R. 7007.1300, subp. 3(H)(4)
Three grain dryers, grain handling operations, cracking mill and grain cleaning operations, each with potential to emit of less than 1 ton per year of the regulated pollutants. There are five parts cleaners located at Owens Hall, Kieser Maintenance Building, Heating Plant, and Farm Shops.	Minn. R. 7007.1300, subp. 3(I)
Coal unloading operations with potential to emit less than one ton per year of regulated pollutant	Minn. R. 7007.1300, subp. 3(I)
Sixteen silos with potential to emit less than one ton per year of regulated pollutant	Minn. R. 7007.1300, subp. 3(I)
Paint shop with portable paint sprayer – infrequent use	Minn. R. 7007.1300, subp. 3(K)
Combustion units with potential to emit less than one ton per year of regulated pollutant with potential to emit less than one ton per year of regulated pollutant – listed in Table 2	Minn. R. 7007.1300, subp. 3(I)

Generally Applicable Requirements	Minn. R. 7011.0610	Standards of Performance for Fossil-Fuel-Burning Direct Heating Equipment. These standards apply to driers and heaters.
Generally Applicable Requirements	Minn. R. 7011.0710 and Minn. R. 7011.0715	Standards of Performance for Industrial Process Equipment. These standards apply to miscellaneous sources of particulate matter.



**APPENDIX A****Table 2 Insignificant Activities – Combustion Units (Required to be Listed)**

<b>Unit</b>	<b>Rated Heat Input MMBH</b>
Dryer XX DR-01	1
Dryer XX-DR-02	1
Dryer XX-DR-03	2
NW Experiment Station Heaters/Furnace SH-1	0.132
NW Experiment Station Heaters/Furnace SH-02	0.066
NW Experiment Station Heaters/Furnace SH-03	0.25
NW Experiment Station Heaters/Furnace SH-04	0.045
NW Experiment Station Heaters/Furnace SH-05	0.045
NW Experiment Station Heaters/Furnace SH-06	0.075
NW Experiment Station Heaters/Furnace SH-07	0.075
NW Experiment Station Heaters/Furnace SH-08	0.044
NW Experiment Station Heaters/Furnace SH-09	0.135
NW Experiment Station Heaters/Furnace SH-10	0.075
NW Experiment Station Heaters/Furnace SH-11	0.08
NW Experiment Station Heaters/Furnace SH-12	0.08
NW Experiment Station Heaters/Furnace SH-13	0.1
NW Experiment Station Heaters/Furnace SH-14	0.1
NW Experiment Station Heaters/Furnace SH-15	0.035
NW Experiment Station Heaters/Furnace SH-16	0.035
NW Experiment Station Heaters/Furnace SH-17	0.035
NW Experiment Station Heaters/Furnace SH-18	0.12
Research Lab. Boiler	0.5
Lysaker Gym Emergency Generator	0.28
Heating Plant Emergency Generator	0.275
Conference Center Emergency Generator	1.2

**APPENDIX B**  
**Compliance Demonstration**  
**Fuel Use Limits and Specific Averaging Times**

**B1. Natural Gas Use.** To the extent that record keeping will be used to demonstrate compliance with permitted emission limits, the permittee shall maintain records of natural gas use which include at least the following:

- A. Calendar dates of the compliance demonstration period; and
- B. Actual amount of fuel used since last compliance determination period and the value calculated per the limitation.

**B2. Propane and LP Gas Use.** To the extent that record keeping will be used to demonstrate compliance with permitted emission limits, the permittee shall maintain records of propane and LP gas use which include at least the following:

- C. Calendar dates of the compliance demonstration period; and
- D. Actual amount of fuel used since last compliance determination period and the value calculated per the limitation.

**B3. Diesel Oil Use.** To the extent that record keeping will be used to demonstrate compliance with permitted emission limits, the permittee shall maintain records of distillate oil use which include at least the following:

- A. Calendar dates of the compliance demonstration period.
- B. Actual amount of fuel used since last compliance determination period and the value calculated per the limitation.
- C. A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period; and
- D. Fuel supplier certifications.

**B4. Sub-bituminous Coal and Lignite Coal Use.** To the extent that record keeping will be used to demonstrate compliance with permitted emission limits, the permittee shall maintain records of sub-bituminous and lignite coal use which include at least the following:

- A. Calendar dates of the compliance demonstration period.
- B. Actual amount of fuel used since last compliance determination period and the value calculated per the limitation.
- C. A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period; and
- D. Fuel supplier certifications.

**B5. Limitations Based on a 12-month rolling sum.** To determine compliance with limitations using a 12-month rolling sum, the permittee shall calculate the total annual sum on a monthly

basis. For the first 12 months of operation compliance shall be based on the permittee's actual operating history prior to issuance of this permit.

**B6. Monthly Nitrogen Oxides Emissions.** When required to calculate nitrogen oxide emissions on a monthly basis in tons per month, once each month that any fuel oil is combusted in any combustion unit for which there is a fuel usage or hour of operation limit, the permittee shall:

- A. Establish the aggregate fuel combustion rate expressed in gallons per month, cubic feet per month or tons per month as appropriate, by measurements with instruments having an error of no greater than 1 percent.
- B. Establish the mass emission rate of nitrogen oxides in tons per month using the appropriate emission factor.

**TECHNICAL SUPPORT DOCUMENT**  
**For**  
**AIR EMISSION PERMIT NO. 11900016-002**

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

**1. General Information**

**1.1. Applicant and Stationary Source Location:**

Applicant/Address	Stationary Source/Address (SIC Code: <b>8221</b> )
University of Minnesota-Board of Regents Responsible Official: Kathleen O'Brien Vice President of University Services 317 Morrill Hall 100 Church Street Minneapolis, MN 55455	University of Minnesota - Crookston 2900 University Avenue Crookston Polk County
Contact: <b>Tom Feiro</b> <b>EH&amp;S Specialist</b> Phone: <b>(218) 281-8300</b> Fax: <b>(218) 281-8489</b>	

**1.2. Description of the Facility**

The "Facility" is the Crookston undergraduate rural campus of the University of Minnesota System. The main campus consists of approximately 30 buildings, including classrooms, laboratories, dormitories, offices, garages, a central heating plant and the University of Minnesota's Northwest Experiment Station. This Facility currently operates four boilers, six emergency generators and the experiment station, which consists of several pieces of grain processing equipment and several insignificant activities. This facility also has authorization to install and operate two new gas boilers, (Boiler Nos. 5 and 6, numbered EU011 and EU012, respectively, in Delta,) to replace the existing coal boilers, (Boiler Nos. 1 and 2, numbered EU001 and EU002, respectively,) and pre-authorization to install additional emergency generators under specified conditions. To date, EU002 has been retired and construction has begun on EU011.

The authorized fuels are sub-bituminous coal and lignite for Boilers Nos. 1 and 4. Particulate emissions from the solid fuel boilers are controlled by an Electrostatic Precipitator (ESP) and are vented through a common stack. The specific operating parameters required for the ESP will be determined from particulate matter emissions testing. The authorized fuels for Boiler No.3 and the new Boilers Nos. 5 and 6 are natural gas and propane. There are no back-up burners installed in any of the boilers.

Each emergency generator is fueled by natural gas, propane or diesel, and each unit is limited to a maximum of 500 operating hours per year.

This Facility has taken fuel restrictions in order to keep the Facility below all major source thresholds following the installation of new emergency generators and boilers.

The significant emission units in the Northwest Experiment Station include the grain loading and unloading operations and the grain grinding operations. There are several other grain processing units with insignificant emissions.

The pollutants of concern are primarily Particulate Matter (PM), fine Particulate Matter (PM<sub>10</sub>), Sulfur Dioxide (SO<sub>2</sub>), carbon monoxide (CO) and Nitrogen Oxides (NO<sub>x</sub>), which are limited in this permit mainly through fuel use restrictions, process rate limitations and hours of operation limits. These emission units also emit relatively smaller quantities of Volatile Organic Compounds (VOC), and small amounts of Hazardous Air Pollutants (HAPs).

### **1.3 Description of the Activities Allowed by this Permit Action**

This permit action is an Administrative Amendment that extends a performance testing deadline for Boiler No. 4 (EU004) 365 days, which is an increase from a 180-day extension, to allow for testing to be completed at worst case conditions. This Facility has upgrades to the ESP and coal handling equipment occurring at the same time the testing is supposed to be completed. Once the upgrades are complete, the weather will not be cold enough to provide the 'worst case' conditions required for testing. This permit action also includes permit condition clarifications that qualify as administrative changes.

Since the results of this performance test are a factor in setting the Testing Frequency Plan, the deadline for submission of the Testing Frequency Plan has been extended accordingly.

Since the PM<sub>10</sub> emission factor was to be determined from this testing and used in Computer Dispersion Modeling for NAAQS and MAAQS compliance predictions, the deadlines for the Computer Dispersion Modeling Protocol, Computer Dispersion Modeling, & Computer Dispersion Modeling Results have also all been extended accordingly. The Computer Dispersion

Modeling Protocol has been restated for clarification. It was “due 180 days after permit issuance or 60 days after testing of EU004 for PM<sub>10</sub>, whichever is later.” Since the last permit was issued on 1/10/2005 and 180 days has passed, the Computer Dispersion Modeling Protocol is now simply “due 60 days after Initial Performance Test of EU004 for PM<sub>10</sub>.” The deadline for Computer Dispersion Modeling Results has been extended to 366 days after the deadline for the Computer Dispersion Modeling Protocol, to be consistent with the timeframe of the previous permit action.

The Permittee requested a “clarification”, that the installation of two new gas boilers previously permitted will be staggered with each of two old coal boilers being retired concurrent with each installation, be made through this amendment. The necessary clarifications have been added to the permit and the effects of staggered installation are detailed below:

The Facility has taken limits, which were determined by emissions calculations based on certain facility operating scenarios, to avoid major source classification. These scenarios do not include co-operation of boilers in the new gas group, (numbered GP006 and consisting of EU011 and EU012,) with boilers in the old coal group, (EU001 and EU002.) Additionally, the limits on a separate coal boiler, Boiler No. 4, (numbered EU004,) are dependent on whether the new gas boilers OR the old coal boilers are operating, not one of each. Operation of the Facility under a staggered start-up/shut-down scenario would require a major permit amendment addressing each of the possible operating scenarios. Under the current permit conditions, the Permittee must be sure to retire, (dismantle or remove,) the second coal boiler, (EU001,) within 180 days of *startup* of the first new gas boiler, (EU011,) and may NOT operate EU001 at all once startup of EU011 occurs. Also, the limits on EU004, (when GP006 begins to operate,) are triggered upon startup of EU011.

This permit amendment reflects which conditions must now be satisfied twice, due to the staggered nature of activities and to ensure all of the original permit conditions will be tracked twice in Delta by compliance and enforcement staff.

Since we have already received Notification of Start of Construction of GP006 and it was only for EU011, the requirement now reads as a singular requirement for, “Notification of the Date Construction Began” for EU012.

The Notification, to the Minnesota Pollution Control Agency (MPCA) of any physical or operational change which increases emissions, due 60 days before Start of Construction now specifies that it refers to beginning construction of EU012. (Please note that we did not receive the notification due 60 days before beginning to construct EU011.)

The Notification of Initial Startup of GP006 has been split into two requirements: (1) “Notification of the Actual Date of Initial Startup” of EU011; and (2) “Notification of Actual Date of Initial Startup” of EU012. Each notification is still due within 15 days of the Initial Startup of the boiler.

Equipment Removal/Dismantlement & Notification requirements now reflect that they only apply to EU001, since EU002 has already been retired. Also, the Equipment Removal/Dismantlement requirement has been moved from the CD screen in Delta to the S/A screen with the triggering event as “Initial Startup” of EU011, to ensure compliance with this permit condition.

The Performance Test requirements for EU001 and EU002 now reflect that they only apply to EU001, since EU002 has already been retired.

Other administrative changes have been made to decrease the number of places permit conditions can be found for each emission unit. Requirements relating to EU004, such as the Performance Test, the Testing Frequency Plan, and Modeling, previously listed in the Heating Plant (SV001) section are now listed with the rest of the EU004 requirements in the EU004 section. Similarly, the same requirements for Boilers 1 & 2, (which make-up GP005 and are members of GP001,) previously listed in the SV001 and GP001 sections, are now all listed in the GP005 section.

A duplicate rule was taken out of the permit from GP006 requirements: “Notification to MPCA of any physical or operational change which increases emission rate: due 60 days (or as soon as practical) before the change is commenced. Within 180 days of completion of any physical or operational change subject to the control measures specified in 60.14(a), compliance must be achieved.”

This requirement was listed twice, with two different prefixes:

- (1) “Notification due 60 days after Startup.” And
- (2) “Notification due 60 days before Start Of Construction.”

After consulting the rules, the first requirement, “Notification due 60 days after Startup” was removed. This is not a rule and was a mistake.

The phrase, “This limit applies individually to each unit in this group,” was taken out of two requirements listed under Boiler No. 3 (EU003) because the subject item is an emission unit, not a group. Also, a recordkeeping requirement for EU003 has been clarified by eliminating the phrase, “and compare with the annual limits,” and adding the sentence, “This information shall be used in the monthly calculations showing that nitrogen oxide limits for the facility have not been exceeded.” This change makes it clear that the limit, to which the requirement refers, is on nitrogen oxides, (not on gallons per year of fuel burned,) and that the limit is at the facility level, (not specific to the emission unit.)

#### **1.4. Facility Emissions:**

There are no emissions increases associated with this amendment.

#### 4. Conclusion

Based on the information provided by the University of Minnesota - Crookston Campus, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 11900016-002, and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team:      Jessica Forsberg (permit writer/engineer)  
   Cary Hernandez (enforcement)  
   Andy Place (stack testing)  
   Michael Westereng (peer reviewer)