

**AIR EMISSION PERMIT NO. 06100001- 003
IS ISSUED TO**

**BLANDIN PAPER COMPANY
&
Minnesota Power**

Blandin Paper Company
115 Southwest First Street,
Grand Rapids, MN 55744-3662

Minnesota Power
Blandin Energy Center
502 Third Street Northwest
Grand Rapids, MN 55744

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

Total Facility Operating Permit
Minor Amendment
Administrative Amendment
Administrative Amendment
Major Amendment & Administrative Amendment
Major Amendment

Application Date

April 17, 1995
October 25, 1999
January 28, 2000
February 1, 2000
February 22, 2000
April 23, 2001

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

Permit Type: Federal; Pt 70 / PSD

Issue Date: March 13, 2002

Expiration: June 14, 2004
All Title I Conditions do not expire.

Ann M. Foss
Major Facilities Section Manager
Majors and Remediation Division

For Karen A. Studders
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. Certain requirements which have been determined not to apply are listed in Table A of this permit.

FACILITY DESCRIPTION:

Blandin Paper Company (Blandin) & Minnesota Power operates a groundwood pulp and paper facility in Grand Rapids, Minnesota. Blandin operates the pulp and paper mill itself while Minnesota Power operates the on-site steam and electricity production facility.

In the Fall of 1999, Blandin Paper Company and Minnesota Power began negotiations for the purchase, by Minnesota Power, of certain steam and electric production facilities located at the Blandin site. Effective March 1, 2000, the two parties signed an Agreement resulting in Minnesota Power operating the purchased facilities, using Minnesota Power employees, and then selling steam and electricity back to Blandin.

The facility was initially built and began operation under the name Itasca Paper Company in 1902. In 1933 the company became Blandin Paper Company and in 1997 the plant was purchased by the UPM Kymmene Group based in Finland and the plant name was changed to Blandin Paper Company a Member of the UPM Kymmene Group. Blandin produces groundwood pulp and combines it with purchased kraft pulp to produce paper of advertising supplement, catalog, and magazine quality. Raw materials used to produce the paper include wood, clay, starch, and pigments.

The main contributing air emission sources at the plant consist of four boilers (2 natural gas-fired units and 2 wood/coal-fired units), a pressurized groundwood (PGW) mill, four paper machines, and four coater/dryers. Blandin has a potential-to-emit (PTE) of greater than 250 tons per year for all criteria pollutants except lead and thus is a major source under the federal Prevention of Significant Deterioration (PSD) program. The two wood/coal boilers are subject to New Source Performance Standard (NSPS) Subpart D and the two new, natural gas boilers installed in 2000 are subject to NSPS Subpart Db. These two new natural gas boilers replaced two existing natural gas boilers. The facility is a major hazardous air pollutant (HAP) source and is thus subject to any applicable requirements within the National Emission Standards for Hazardous Air Pollutants (NESHAP) program.

The paper machines, PGW, coater/dryers, and the existing natural gas-fired boilers are all uncontrolled sources. The main power boilers (the wood/coal-fired units) are controlled by high efficiency electrostatic precipitators. The new natural gas boilers are equipped with low-NO_x burners and flue gas re-circulation.

This amendment concerns a “backwards” federal Prevention of Significant Deterioration (PSD) analysis for the PGW mill and #6 paper machine at the facility.

On April 6, 1988 Blandin received an air emissions permit amendment (Amendment No. 6 to Air Emissions Permit No. 636A-84-OT-1) which authorized modification of the facility, including the installation of a new PGW mill, and # 6 paper machine and coater. The permit was issued as a non-major modification under PSD for VOC emissions.

PSD review was now conducted for VOC emissions from these emission units. The results of the BACT analysis is the application of a regenerative thermal oxidizer (RTO) to the PGW mill, and no control for the # 6 paper machine or the #6 coater.

An unrelated item that will be changed in the permit is updating the modeling requirements that were implemented in the original Title V permit. The MPCA policy on the subject has recently changed.

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/13/02

Facility Name: Blandin Paper Co/Minnesota Power
 Permit Number: 06100001 - 003

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

Subject Item:	Total Facility
What to do	Why to do it
A. 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. 7011.0150
Comply with Fugitive Emission Control Plan (submitted August 12, 1999, and as amended): The Permittee shall follow the actions and record keeping specified in the control plan. The plan may be amended by the Permittee with the Agency's approval. If the Agency determines the Permittee is out of compliance with Minn. R. 7011.0150 or the fugitive control plan, then the Permittee may be required to amend the control plan and/or to install and operate particulate matter ambient monitors as requested by the Agency.	Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2
Comply with the O&M Plan (submitted October 12, 1999, and as amended): Follow the actions and record keeping specified in the O&M plan. The plan may be amended with the Agency's written approval.	Minn. R. 7007.0800, subp. 14; Minn. R. 7007.0800, subp. 16(J)
Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated, unless otherwise noted in Table A.	Minn. R. 7007.0800, subp. 2; 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
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
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
B. PERFORMANCE TESTING REQUIREMENTS	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
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
C. MONITORING REQUIREMENTS	hdr
Monitoring Equipment: Install or make needed repairs to monitoring equipment within 60 days of issuance of the permit if monitoring equipment is not installed and operational on the date the permit is issued, unless otherwise specified in Tables A and/or B.	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)
D. RECORDKEEPING REQUIREMENTS	hdr
Recordkeeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007.1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350 subp. 2), including records of the emissions resulting from those changes.	Minn. R. 7007.0800, subp. 5(B)

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/13/02

Facility Name: Blandin Paper Co/Minnesota Power

Permit Number: 06100001 - 003

Record keeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Minn. R. 7007.0800, subp. 5(C)
E. REPORTING REQUIREMENTS	hdr
Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 3. At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner when the shutdown is over.	Minn. R. 7019.1000, subp. 3
Breakdown Notifications: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 2. At the time of notification or as soon as possible thereafter, the owner or operator shall inform the Commissioner of the cause of the breakdown and the estimated duration. The owner or operator shall notify the Commissioner when the breakdown is over.	Minn. R. 7019.1000, subp. 2
Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify the Commissioner or the state duty officer, either orally or by facsimile, of any deviation from permit conditions which could endanger human health or the environment.	Minn. R. 7019.1000, subp. 1
Notification of Deviations Endangering Human Health or the Environment Report: Within 2 working days of discovery, notify the Commissioner in writing of any deviation from permit conditions which could endanger human health or the environment. Include the following information in this written description: 1. the cause of the deviation; 2. the exact dates of the period of the deviation, if the deviation has been corrected; 3. whether or not the deviation has been corrected; 4. the anticipated time by which the deviation is expected to be corrected, if not yet corrected; and 5. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.	Minn. R. 7019.1000, subp. 1
F. MISCELLANEOUS	hdr
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)
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
Inspections: Upon presentation of credentials and other documents as may be required by law, allow the Agency, or its representative, to enter the Permittee's premises to have access to and copy any records required by this permit, to inspect at reasonable times (which include any time the source is operating) any facilities, equipment, practices or operations, and to sample or monitor any substances or parameters at any location.	Minn. R. 7007.0800, subp. 9(A)
Emission 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

03/13/02

Facility Name: Blandin Paper Co/Minnesota Power

Permit Number: 06100001 - 003

<p>The Permittee may be required to submit a Risk Management Plan (RMP) under the federal rule, 40 CFR pt. 68. Each owner or operator of a stationary source, at which a regulated substance is present above a threshold quantity in a process, shall design and implement an accidental release prevention program. The RMPs must be submitted to a centralized location as specified by US EPA. RMP submittal information may be obtained at http://www.epa.gov/swercepp or by calling 1-800-424-9346. These requirements must be complied with no later than the latest of the following dates: (1) June 21, 1999; (2) Three years after the date on which a regulated substance is first listed under 40 CFR Section 68.130; or (3) The date on which a regulated substance is first present above a threshold quantity in a process.</p>	40 CFR pt. 68
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TABLE A: LIMITS AND OTHER REQUIREMENTS

03/13/02

Facility Name: Blandin Paper Co/Minnesota Power

Permit Number: 06100001 - 003

Subject Item: GP 001 Paper Machines/Pressurized Groundwood Mills

- Associated Items:**
- EU 007 Paper Machine #3
 - EU 008 Paper Machine #4
 - EU 009 Paper Machine #5
 - EU 010 Paper Machine #6
 - EU 015 Pressurized Groundwood Mill
 - SV 006
 - SV 007
 - SV 008
 - SV 009
 - SV 010
 - SV 011
 - SV 012
 - SV 013 PM6 No. 1 Dryer Ex (44-0713)
 - SV 014 PM6 No. 2 Dryer Ex (44-0714)
 - SV 015 PM6 No. 3 Dryer Ex (44-0715)
 - SV 035 PGW Main Stack (29-0707)
 - SV 038 PGW Disc Thickener (29-0700)
 - SV 039 PGW Bleach Press Ex (29-0703)
 - SV 040 PGW General Chest Ex (29-0708)
 - SV 041 PGW Grinder Air Lock
 - SV 042 PM6 No. 1 Former Ex (44-0734)
 - SV 043 PM6 No. 2 Former Ex (44-0736)
 - SV 044 PM6 No. 3 Former Ex (44-0735)
 - SV 045 PM6 No. 4 Former Ex (44-2430)
 - SV 046 PM6 Press Ex Fan (44-0745)
 - SV 047 PM6 Vacuum Pump Ex (44-0218)
 - SV 048 PM6 Vacuum Roll Ex (44-0744)

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. 7011.0735.	Minn. R. 7011.0710, subp. 1.A.
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity (this opacity limit applies to equipment installed prior to 1969 and thus applies to EU 007 and EU 008).	Minn. R. 7011.0710, subp. 1.B.
Opacity: less than or equal to 20 percent opacity (this opacity limit applies to equipment installed after 1969 and thus applies to EU 009 and EU 010).	Minn. R. 7011.0715, subp. 1.B.
Periodic Monitoring: the Permittee shall maintain proper maintenance of the paper machines (EU 007 through EU 010) and the pressurized groundwood mills (EU 015) so as to prevent excessive amounts of particulate matter from being emitted from the stack/vents listed above under Associated Items.	Minn. R. 7007.0800, subp. 4
Temperature: greater than or equal to 110 degrees F using 365-day Rolling Average for the process water exiting the combined heat recovery system for No.'s 3 & 4 paper machines (EU 007 and EU 008), the heat recovery system for No. 5 paper machine (EU 009), the heat recovery system for No. 6 paper machine (EU 010), and the heat recovery system for the PGW mill (EU 015).	Title I Condition: 40 CFR Section 52.21 to avoid classification as a major modification under PSD
Operating Hours: greater than or equal to 76 hours/day using 365-day Rolling Average for all four heat recovery units combined.	Title I Condition: 40 CFR Section 52.21 to avoid classification as a major modification
Monitoring and Record Keeping: the Permittee shall monitor and record daily the heat recovery system outlet water temperature and the hours of operation on all four heat recovery systems.	Minn. R. 7007.0800, subp. 4, Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/13/02

Facility Name: Blandin Paper Co/Minnesota Power

Permit Number: 06100001 - 003

<p>Annual Energy Audit and Report: the Permittee shall perform an annual audit of the four heat exchange systems to determine if the total steam conservation achieved is at least 34 MMBtu/hour. The testing shall be performed by an independent contractor during the third quarter of each year. If the audit does not show the 34 MMBtu/hour steam conservation, a permit amendment application shall be submitted within 120 days of the audit.</p>	<p>Title I Condition: 40 CFR Section 52.21 to avoid classification as a major modification</p>
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TABLE A: LIMITS AND OTHER REQUIREMENTS

03/13/02

Facility Name: Blandin Paper Co/Minnesota Power

Permit Number: 06100001 - 003

Subject Item: GP 002 Coaters/Dryers

- Associated Items:** EU 011 Coater/Dryer #3
 EU 012 Coater/Dryer #4
 EU 013 Coater/Dryer #5
 EU 014 Coater/Dryer #6
 SV 016
 SV 017
 SV 018
 SV 019
 SV 020
 SV 021
 SV 022
 SV 023
 SV 024
 SV 025
 SV 026
 SV 027
 SV 028
 SV 029
 SV 030
 SV 031
 SV 032
 SV 033
 SV 034

What to do	Why to do it
Total Particulate Matter: less than or equal to 0.3 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. 7011.0735.	Minn. R. 7011.0710, subp. 1.A.
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity (this opacity limit applies to equipment installed prior to 1969 and thus applies to EU 011 and EU 012).	Minn. R. 7011.0710, subp. 1.B.
Opacity: less than or equal to 20 percent opacity (this opacity limit applies to equipment installed after 1969 and thus applies to EU 013 and EU 014).	Minn. R. 7011.0715, subp. 1.B.
Periodic Monitoring: the Permittee shall maintain proper maintenance of the coater/dryers (EU 011 through EU 014) so as to prevent excessive amounts of particulate matter from being emitted from the stack/vents listed above under Associated Items.	Minn. R. 7007.0800, subp. 4

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/13/02

Facility Name: Blandin Paper Co/Minnesota Power

Permit Number: 06100001 - 003

Subject Item: GP 003 Solid Fuel Power Boilers

- Associated Items:** CE 001 Electrostatic Precipitator - High Efficiency
 CE 002 Electrostatic Precipitator - High Efficiency
 CE 003 Centrifugal Collector - High Efficiency
 CE 004 Centrifugal Collector - High Efficiency
 EU 003 Boiler #5
 EU 004 Boiler #6
 MR 004 Boiler 5
 MR 005 Boiler 5
 MR 006 Boiler 5
 MR 007 Boiler 6
 MR 008 Boiler 6
 MR 009 Boiler 6
 SV 003

What to do	Why to do it
A. POLLUTANT LIMITS	hdr
Total Particulate Matter: less than or equal to 0.1 lbs/million Btu heat input (this limit applies individually to each emission unit listed above under Associated Items).	40 CFR Section 60.42(a)(1)
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 27 percent opacity (this limit applies individually to each emission unit listed above under Associated Items).	40 CFR Section 60.42(a)(2)
Sulfur Dioxide: less than or equal to 1.2 lbs/million Btu heat input using 3-hour Rolling Average (this limit applies individually to each emission unit listed above under Associated Items).	40 CFR Section 60.43(a)(2)
Nitrogen Oxides: less than or equal to 0.7 lbs/million Btu heat input using 3-hour Rolling Average (this limit applies individually to each emission unit listed above under Associated Items).	40 CFR Section 60.44(a)(3)
Carbon Monoxide: less than or equal to 1300 parts per million on a dry, 8-hour discrete average basis (this limit applies individually to each emission unit listed above under Associated Items).	Minn. Stat. Section 116.07, subp. 4a and Minn. R. 7007.0800, subp. 2
B. OPERATIONAL REQUIREMENTS	hdr
Fuels Allowed: the Permittee shall only combust wood waste (includes creosote treated railroad ties, waste paper, and paper roll fiber cores), western subbituminous coal, and on-site generated waste (includes petroleum derived waste oil/sorbents and ignitable-only solvents) in EU 003.	Minn. R. 7007.0800, subp. 2
C. PERFORMANCE TESTING REQUIREMENTS	hdr
Performance Test: due before end of each 60 months following Permit Issuance to measure particulate matter and carbon monoxide emissions from EU 003 and EU 004 operating simultaneously and venting through SV 003. The tests shall be conducted at an interval not to exceed 60 months between test dates.	Minn. R. 7017.2020, subp. 1
Performance Test Notification (written): due 30 days before each performance test.	Minn. R. 7017.2030, subp. 1
Performance Test Plan: due 30 days before each performance test	Minn. R. 7017.2030, subp. 2 and 3
Performance Test Pre-Test Meeting: due 7 days before each Performance Test	Minn. R. 7017.2030, subp. 4
Performance Test Report: due 45 days after each Performance Test	Minn. R. 7017.2035, subp. 1
Performance Test Report - Microfiche Copy: due 105 days after each Performance Test	Minn. R. 7017.2035, subp. 2
D. CONTINUOUS EMISSIONS MONITORING	hdr
Emissions Monitoring: The owner or operator shall use a COMS to measure opacity emissions from SV003.	Minn. R. 7017.1000, subp. 1; 40 CFR Section 60.45(a)
COMS Continuous Operation: Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, all COMS shall be in continuous operation.	Minn. R. 7007.0800, subp. 2; 40 CFR Section 60.13(e)
COMS Daily Calibration Drift (CD) Check: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) opacity at least once daily. The COMS must be adjusted whenever the calibration drift (CD) exceeds twice the specification of PS-1 of 40 CFR 60, Appendix B.	Minn. R. 7017.1000; 40 CFR Section 60.13(d)(2)

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/13/02

Facility Name: Blandin Paper Co/Minnesota Power

Permit Number: 06100001 - 003

COMS Calibration Error Audit: due before end of each half-year following COMS Certification Test Conduct three point calibration error audits at least 3 months apart but no greater than 8 months apart.	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
COMS Monitoring Data: Owners or operators of all COMS shall reduce all data to 6 minute averages. Opacity averages shall be calculated from all equally spaced consecutive 10-second (or shorter) data points in the 6 minute averaging period.	Minn. R. 7007.0800, subp. 2; 40 CFR Section 60.13(e)(1); 40 CFR Section 60.13(h)
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
Emissions Monitoring: The owner or operator shall use NOx and SO2 CEMS to measure NOx and SO2 emissions from EU003 and EU 004.	Minn. R. 7017.1000, subp. 1
Cylinder Gas Audit: due before end of each calendar half-year following Permit Issuance. 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 Permit Issuance for the monitors on EU 003 and EU 004. 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 RATA.	Minn. R. 7017.1180, subp. 2
Relative Accuracy Test Audit (RATA) Results Summary: due 30 days after end of each quarter year in which the CEMS RATA was conducted.	Minn. R. 7017.1180, 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

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/13/02

Facility Name: Blandin Paper Co/Minnesota Power

Permit Number: 06100001 - 003

Subject Item: GP 004 Natural Gas Boilers 7 and 8

Associated Items: EU 016 Boiler #7

EU 017 Boiler #8

What to do	Why to do it
<p>Fuel Usage: less than or equal to 3695.3 million cubic feet/year using 365-day Rolling Sum (combined fuel usage limit for Boilers 7 and 8) except that for the first 365 days of operation the limit is defined by the following equation, calculated every 30 days:</p> $N \leq 400 + 9.028n$ <p>Where "N" is the applicable fuel usage limit (millions of cubic feet) at day "n" since startup of either Boiler 7 or Boiler 8, whichever is first.</p>	<p>Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000. To avoid classification as a major modification under NSR</p>
<p>Recordkeeping: The Permittee shall maintain daily records of the amount of natural gas combusted in each boiler.</p>	<p>Minn. R. 7007.0800, subp. 5</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/13/02

Facility Name: Blandin Paper Co/Minnesota Power

Permit Number: 06100001 - 003

Subject Item: EU 015 Pressurized Groundwood Mill

- Associated Items:** CE 012 Direct Flame Afterburner w/Heat Exchanger
 GP 001 Paper Machines/Pressurized Groundwood Mills
 SV 035 PGW Main Stack (29-0707)
 SV 038 PGW Disc Thickener (29-0700)
 SV 039 PGW Bleach Press Ex (29-0703)
 SV 040 PGW General Chest Ex (29-0708)
 SV 041 PGW Grinder Air Lock

What to do	Why to do it
LIMITS	hdr
<p>Required Control Equipment: The Permittee shall operate and maintain a Regenerative Thermal Oxidizer (RTO) to control emissions from the General Chest (SV 040) and Grinder Air Lock vents (SV 041) anytime the PGW grinders are grinding wood, and/or screening and cleaning operations are occurring.</p> <p>Report all excess emissions during a malfunction condition, and take actions to reduce emissions, according to Minn. R. 7019.1000.</p>	<p>Title I Condition: 40 CFR Section 52.21 operational and reporting requirement in support of BACT limit; Minn. R. 7007.3000; Minn. R. 7019.1000</p>
<p>Volatile Organic Compounds: greater than or equal to 90 percent destruction efficiency or less than or equal to 0.081 lb VOC (as C)/ton of bone-dry pulp from the General Chest (SV 040) and Grinder Air Lock vents (SV 041). The Permittee shall operate and maintain the RTO such that it continuously achieves these limits.</p>	<p>Title I Condition: 40 CFR Section 52.21 BACT limit; Minn. R. 7007.3000</p>
MONITORING REQUIREMENTS	hdr
<p>Temperature: greater than or equal to 1600 degrees F using 3-hour Rolling Average in the combustion chamber unless a new minimum is set pursuant to Minn. R. 7017.2025, subp. 3, based on the average temperature recorded during the most recent MPCA approved performance test where compliance was demonstrated. If the 3-hour rolling average temperature drops below the minimum temperature limit, the VOC emitted during that time shall be considered uncontrolled until the average minimum temperature is once again achieved. This shall be reported as a deviation.</p>	<p>Title I Condition: 40 CFR Section 52.21 monitoring requirement in support of BACT limit; Minn. R. 7007.3000</p>
<p>Corrective Action: If the 3-hour rolling average combustion chamber temperature falls below the minimum required value, take corrective action, as outlined in the facility Operation and Maintenance Plan, to restore the temperature to the minimum required value. Make a record of all temperature deviations and corrective actions taken.</p>	<p>Title I Condition: 40 CFR Section 52.21 monitoring requirement in support of BACT limit; Minn. R. 7007.3000</p>
<p>Monitoring Equipment: The Permittee shall install and maintain monitoring equipment necessary for measuring the temperature as required by this permit. The monitoring equipment must be installed, in use, and properly maintained whenever the RTO is required to be operated.</p>	<p>Minn. R. 7007.0800, subp. 4</p>
<p>The Permittee shall maintain and operate a thermocouple monitoring device that continuously indicates and records the RTO combustion chamber temperature. The monitoring device shall have a margin of error less than the greater of +/- 0.75 percent of the temperature being measured or +/- 2.5 degrees Celsius. The recording device shall also calculate the 3-hour rolling average combustion chamber temperature.</p>	<p>Minn. R. 7007.0800, subp. 4</p>
<p>The Permittee shall maintain a continuous hard copy readout or computer file of the temperature readings and calculated 3-hour rolling average temperatures for the RTO combustion chamber.</p>	<p>Minn. R. 7007.0800, subp. 5</p>
<p>Daily Monitoring: The Permittee shall physically check the temperature recording device, and make a record, at least once each operating day to verify that it is working and recording properly.</p>	<p>Minn. R. 7007.0800, subp. 4</p>
<p>Quarterly Inspections: At least once per calendar quarter, the Permittee shall inspect the control equipment internal and external system components specified in the Operation and Maintenance Plan for the facility. The Permittee shall maintain a written record of the inspections and any corrective actions taken resulting from the inspections.</p>	<p>Minn. R. 7007.0800, subps. 2, 5, 14</p>
<p>Annual Calibration: The Permittee shall calibrate the temperature monitor at least annually and shall maintain a written record of the calibration and any action resulting from the calibration.</p>	<p>Minn. R. 7007.0800, subps. 2, 5, 14</p>
CONSTRUCTION SCHEDULE	hdr
<p>Start Of Construction: due 180 days after Permit Issuance on the RTO.</p>	<p>Title I Condition: 40 CFR Section 52.21 operational requirement in support of BACT limit; Minn. R. 7007.3000; Minn. R. 7017.2020, subp. 1</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/13/02

Facility Name: Blandin Paper Co/Minnesota Power

Permit Number: 06100001 - 003

Initial Startup: due 300 days after Start Of Construction on the RTO.	Title I Condition: 40 CFR Section 52.21 operational requirement in support of BACT limit; Minn. R. 7007.3000; Minn. R. 7017.2020, subp. 1
PERFORMANCE TESTING	hdr
Initial Performance Test: due 120 days after Initial Startup of the RTO. The performance test must use current EPA reference test methods and need not include methane emissions as part of VOC emissions.	Title I Condition: 40 CFR Section 52.21 testing requirement in support of BACT limit; Minn. R. 7007.3000; Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Performance Test	Minn. R. 7017.2030, subp. 4

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/13/02

Facility Name: Blandin Paper Co/Minnesota Power

Permit Number: 06100001 - 003

Subject Item: EU 016 Boiler #7

Associated Items: CE 006 Modified Furnace or Burner Design

CE 008 Flue Gas Recirculation

GP 004 Natural Gas Boilers 7 and 8

MR 010 Boiler 7

MR 011 Boiler 7

SV 036

What to do	Why to do it
A. POLLUTANT LIMITS	hdr
<p>Nitrogen Oxides: less than or equal to 0.040 lbs/million Btu heat input using 365-day Rolling Average . A new 365-day rolling average shall be calculated each steam generating unit operating day as the average of all the hourly nitrogen oxides emission data for the preceding 365 calendar days. This standard applies at all times including periods of startup, shutdown and malfunction except that during the first 365 days after startup of EU016 the following applies:</p> <p>Beginning with the start of the performance test for nitrogen oxides required by 40 CFR Section 60.8, emissions data relating to the 0.040 lb/mmBtu emission limit for nitrogen oxides shall be calculated on a 30-day rolling average basis using the same data reduction procedure required for the limit in 40 CFR Section 60.44b(l). The 365-day rolling average procedure shall apply starting on the 365th day following startup of EU016.</p>	<p>Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000. To avoid classification as a major modification under NSR.</p>
<p>Nitrogen Oxides: less than or equal to 0.20 lbs/million Btu heat input using 30-day Rolling Average . A new 30-day rolling average shall be calculated each steam generating unit operating day as the average of all the hourly nitrogen oxides emission data for the preceding 30 steam generating unit operating days. This standard applies at all times including periods of startup, shutdown and malfunction.</p>	<p>Title I Condition: 40 CFR Section 60.44b(l); Minn. R. 7011.0565</p>
<p>Carbon Monoxide: less than or equal to 11.2 lbs/hour . This standard applies at all times including periods of startup, shutdown and malfunction.</p>	<p>Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000. To avoid classification as a major modification under NSR.</p>
B. REPORTING & RECORDKEEPING REQUIREMENTS	hdr
<p>Recordkeeping: The permittee shall record and maintain records of the amounts of each fuel combusted during each operating day. In addition, the permittee shall maintain records of the operational data listed in 40 CFR 60.49b(g).</p>	<p>40 CFR Section 60.49b(d)&(g); Minn. R. 7011.0565</p>
C. PERFORMANCE TESTING REQUIREMENTS	hdr
<p>Performance Test: due 180 days after Initial Startup or within 60 days of achieving maximum operating rate, whichever is sooner, to determine Nitrogen Oxides emissions using the CEMS as described in 40 CFR 60.46b(e)(1).</p>	<p>Title I Condition: 40 CFR Section 60.8; 40 CFR Section 60.46b(e); Minn. R. 7011.0565; Minn. R. 7017.2020, subp. 1</p>
<p>Initial Performance Test: due 180 days after Initial Startup of EU016 to measure carbon monoxide emissions. The carbon monoxide test shall be conducted at the lowest achievable low load condition that is representative of normal operation.</p>	<p>Title I Condition: Minn. R. 7017.2020, subp. 1</p>
<p>Performance Test Notification (Written): due 30 days before each performance test</p>	<p>Minn. R. 7017.2030, subp. 1</p>
<p>Performance Test Plan: due 30 days before each performance test</p>	<p>Minn. R. 7017.2030, subp. 2</p>
<p>Performance Test Pretest Meeting: due 7 days before each performance test</p>	<p>Minn. R. 7017.2030, subp. 4</p>
<p>Performance Test Report: due 45 days after each performance test</p>	<p>Minn. R. 7017.2035, subp. 1 & 2</p>
<p>Performance Test Report - Microfiche Copy: due 105 days after each performance test</p>	<p>Minn. R. 7017.2035, subp. 2</p>
D. CONTINUOUS EMISSION MONITORING REQUIREMENTS	hdr
<p>CEMS Installation: Install, calibrate, maintain and operate a continuous monitoring system for measuring nitrogen oxides emissions discharged to the atmosphere and record the output of the system.</p>	<p>Title I Condition: 40 CFR Section 60.48b(b); Minn. R. 7011.0565;Minn. R. 7017.1006</p>
<p>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. Data is recorded during calibration checks, and zero and span adjustments. 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. The 1-hour average emission rates shall be expressed in lb/mmBtu and the span value for the CEMS shall be 210 ppm.</p>	<p>40 CFR Section 60.48b(c)-(e); Minn. R. 7011.0565; 40 CFR Section 60.13(e); Minn. R. 7017.1090, subp. 1</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/13/02

Facility Name: Blandin Paper Co/Minnesota Power

Permit Number: 06100001 - 003

When nitrogen oxides emissions data are not obtained because of CEMS breakdowns, repairs, calibration checks and zero and span adjustments, emission data shall be obtained using standby procedures to provide emissions data for a minimum of 75% of operating hours in each steam generating unit operating day, in at least 22 of 30 successive steam generating unit operating days.	40 CFR Section 60.48b(f); Minn. R. 7011.0565
CEM Certification Test: due 60 days after achieving maximum capacity but not later than 180 days after initial startup of Boiler #7.	40 CFR Section 60.13(b); Minn. R. 7011.0565; 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 30 days before CEMS Certification Test.	40 CFR Section 60.7(a)(5); Minn. R. 7017.1060, subp. 1 & 2
CEMS Certification Test Report: due 45 days after CEMS Certification Test.	Minn. R. 7017.1080, subp. 1, 2, & 4; 40CFR 60.13(c)(2)
CEMS Certification Test Report - Microfiche Copy: due 105 days after CEMS Certification Test.	Minn. R. 7017.1080, subp. 3
CEMS 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 Part 60, Appendix F, Section 3
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar year following CEM Certification Test. Follow the procedures in 40 CFR pt. 60, Appendix F.	40 CFR part 60, Appendix F, Section 5.1.1; Minn. R. 7017.1170, subp. 5
Relative Accuracy Test Audit (RATA) Notification: due 30 days before each CEMS 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; 40 CFR Part 60, Appendix F, Section 1
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 Part 60, Appendix F, Section 4.1; 40 CFR Section 60.13(d)(1); Minn. R. 7017.1170, subp. 3
CEMS Cylinder Gas Audit (CGA): due before end of each calendar quarter following CEM Certification Test but in no more than three calendar quarters per calendar year. The RATA shall be conducted during the calendar quarter in which a CGA is not performed.	40 CFR Part 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; 40 CFR Part 60, Subp. Db; Minn. R. 7011.0565; 40 CFR Part 60, Appendix F, Section 1; Minn. R. 7017.1180, subp. 1
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)
Records of Startup, Shutdown, or Malfunction: Any owner or operator subject to the provisions of this part shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; 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)

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/13/02

Facility Name: Blandin Paper Co/Minnesota Power

Permit Number: 06100001 - 003

Subject Item: EU 017 Boiler #8

Associated Items: CE 007 Modified Furnace or Burner Design

CE 009 Flue Gas Recirculation

GP 004 Natural Gas Boilers 7 and 8

MR 012 Boiler 8

MR 013 Boiler 8

SV 037

What to do	Why to do it
A. POLLUTANT LIMITS	hdr
<p>Nitrogen Oxides: less than or equal to 0.040 lbs/million Btu heat input using 365-day Rolling Average . A new 365-day rolling average shall be calculated each steam generating unit operating day as the average of all the hourly nitrogen oxides emission data for the preceding 365 calendar days. This standard applies at all times including periods of startup, shutdown and malfunction except that during the first 365 days after startup of EU017 the following applies:</p> <p>Beginning with the start of the performance test for nitrogen oxides required by 40 CFR Section 60.8, emissions data relating to the 0.040 lb/mmBtu emission limit for nitrogen oxides shall be calculated on a 30-day rolling average basis using the same data reduction procedure required for the limit in 40 CFR Section 60.44b(l). The 365-day rolling average procedure shall apply starting on the 365th day following startup of EU017.</p>	<p>Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000. To avoid classification as a major modification under NSR.</p>
<p>Nitrogen Oxides: less than or equal to 0.20 lbs/million Btu heat input using 30-day Rolling Average . A new 30-day rolling average shall be calculated each steam generating unit operating day as the average of all the hourly nitrogen oxides emission data for the preceding 30 steam generating unit operating days. This standard applies at all times including periods of startup, shutdown and malfunction.</p>	<p>Title I Condition: 40 CFR Section 60.44b(l); Minn. R. 7011.0565.</p>
<p>Carbon Monoxide: less than or equal to 11.2 lbs/hour . This standard applies at all times including periods of startup, shutdown and malfunction.</p>	<p>Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000. To avoid classification as a major modification under NSR.</p>
B. REPORTING & RECORDKEEPING REQUIREMENTS	hdr
<p>Recordkeeping: The permittee shall record and maintain records of the amounts of each fuel combusted during each operating day. In addition, the permittee shall maintain records of the operational data listed in 40 CFR 60.49b(g).</p>	<p>40 CFR Section 60.49b(d)&(g)); Minn. R. 7011.0565.</p>
C. PERFORMANCE TESTING REQUIREMENTS	hdr
<p>Performance Test: due 180 days after Initial Startup or within 60 days of achieving maximum operating rate, whichever is sooner, to determine Nitrogen Oxides emissions using the CEMS as described in 40 CFR 60.46b(e)(1).</p>	<p>Title I Condition: 40 CFR Section 60.8; 40 CFR Section 60.46b(e)); Minn. R. 7011.0565; Minn. R. 7017.2020, subp. 1</p>
<p>Initial Performance Test: due 180 days after Initial Startup of EU016 to measure carbon monoxide emissions. The carbon monoxide test shall be conducted at the lowest achievable low load condition that is representative of normal operation.</p>	<p>Title I Condition: Minn. R. 7017.2020, subp. 1</p>
<p>Performance Test Notification (Written): due 30 days before each performance test</p>	<p>Minn. R. 7017.2030, subp. 1</p>
<p>Performance Test Plan: due 30 days before each performance test</p>	<p>Minn. R. 7017.2030, subp. 2</p>
<p>Performance Test Pretest Meeting: due 7 days before each performance test</p>	<p>Minn. R. 7017.2030, subp. 4</p>
<p>Performance Test Report: due 45 days after each performance test</p>	<p>Minn. R. 7017.2035, subp. 1 & 2</p>
<p>Performance Test Report - Microfiche Copy: due 105 days after each performance test</p>	<p>Minn. R. 7017.2035, subp. 2</p>
D. CONTINUOUS EMISSION MONITORING REQUIREMENTS	hdr
<p>CEMS Installation: Install, calibrate, maintain and operate a continuous monitoring system for measuring nitrogen oxides emissions discharged to the atmosphere and record the output of the system.</p>	<p>Title I Condition: 40 CFR Section 60.48b(b)); Minn. R. 7011.0565; Minn. R. 7017.1006</p>
<p>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. Data is recorded during calibration checks, and zero and span adjustments. 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. The 1-hour average emission rates shall be expressed in lb/mmBtu and the span value for the CEMS shall be 210 ppm.</p>	<p>40 CFR Section 60.48b(c)-(e); Minn. R. 7011.0565; 40 CFR Section 60.13(e); Minn. R. 7017.1090, subp. 1</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

03/13/02

Facility Name: Blandin Paper Co/Minnesota Power

Permit Number: 06100001 - 003

When nitrogen oxides emissions data are not obtained because of CEMS breakdowns, repairs, calibration checks and zero and span adjustments, emission data shall be obtained using standby procedures to provide emissions data for a minimum of 75% of operating hours in each steam generating unit operating day, in at least 22 of 30 successive steam generating unit operating days.	40 CFR Section 60.48b(f)); Minn. R. 7011.0565
CEM Certification Test: due 60 days after achieving maximum capacity but not later than 180 days after initial startup of Boiler #7.	40 CFR Section 60.13(b)); Minn. R. 7011.0565; 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 30 days before CEMS Certification Test.	40 CFR Section 60.7(a)(5); Minn. R. 7017.1060, subp. 1 & 2
CEMS Certification Test Report: due 45 days after CEMS Certification Test.	Minn. R. 7017.1080, subp. 1, 2, & 4; 40CFR Section 60.13(c)(2)
CEMS Certification Test Report - Microfiche Copy: due 105 days after CEMS Certification Test.	Minn. R. 7017.1080, subp. 3
CEMS 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 Part 60, Appendix F, Section 3
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar year following CEM Certification Test. Follow the procedures in 40 CFR pt. 60, Appendix F.	40 CFR Part 60, Appendix F, Section 5.1.1; Minn. R. 7017.1170, subp. 5
Relative Accuracy Test Audit (RATA) Notification: due 30 days before each CEMS 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; 40 CFR Part 60, Appendix F, Section 1
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 Part 60, Appendix F, Section 4.1; 40 CFR Section 60.13(d)(1); Minn. R. 7017.1170, subp. 3
CEMS Cylinder Gas Audit (CGA): due before end of each calendar quarter following CEM Certification Test but in no more than three calendar quarters per calendar year. The RATA shall be conducted during the calendar quarter in which a CGA is not performed.	40 CFR Part 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; 40 CFR Part 60, Subp. Db); Minn. R. 7011.0565; 40 CFR Part 60, Appendix F, Section 1; Minn. R. 7017.1180, subp. 1
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)
Records of Startup, Shutdown, or Malfunction: Any owner or operator subject to the provisions of this part shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; 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)

TABLE B: SUBMITTALS

03/13/02

Facility Name: Blandin Paper Co/Minnesota Power
Permit Number: 06100001 - 003

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

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

Send any application for a permit or permit amendment to:

Permit Technical Advisor
Permit Section
Air Quality Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

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

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

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

Supervisor
Compliance Determination Unit
Air Quality Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194

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

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

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

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

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

03/13/02

Facility Name: Blandin Paper Co/Minnesota Power

Permit Number: 06100001 - 003

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 Information	due 1,096 days after 06/14/1999 (1,096 days after issuance of Title V permit) for SO2 and NOx. This data will include information specified in MPCA modeling guidance for Modeling Information Requests. This modeling information is for data collection purposes, no modeling analysis is required at this time. 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 Protocol	due 1,096 days after 06/14/1999 (1,096 days after issuance of Title V permit) for PM-10. This protocol will describe the proposed modeling methodology and input data, in accordance with MPCA modeling guidance for Title V air dispersion modeling analyses. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Total Facility
Computer Dispersion Modeling Results	due 1,462 days after 06/14/1999 (1,462 days after issuance of Title V permit) for PM-10. To be submitted after the MPCA has reviewed and approved the modeling protocol, and 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 14 days after Initial Startup on the RTO.	EU015
Notification of the Actual Date of Initial Startup	due 15 days after Initial Startup	EU016, EU017
Notification of the Date Construction Began	due 14 days after Start Of Construction on the RTO.	EU015
Notification of the Date Construction Began	due 30 days after Start Of Construction	EU016, EU017
Notification	due 15 days after achieving maximum capacity of Boiler #7.	EU016
Notification	due 15 days after achieving maximum capacity of Boiler #8.	EU017
Notification	due 60 days before Initial Startup of the Monitor. 60 days before installing the continuous emissions monitoring system for NOx, submit a notification that shall include plans and drawings of the system.	EU016, EU017
Performance Test Notification (written)	due 30 days before Performance Test	EU015
Performance Test Plan	due 30 days before Performance Test	EU015
Performance Test Report - Microfiche Copy	due 105 days after Performance Test	EU015
Performance Test Report	due 45 days after Performance Test	EU015
Testing Frequency Plan	due 60 days after Initial Performance Test for VOC 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, or 60 month intervals, or as applicable, shall be required upon written approval of the MPCA.	EU015
Testing Frequency Plan	due 90 days after Initial Performance Test for carbon monoxide. Testing frequency can be every 1, 3 or 5 years depending on the proximity to the emission limit and as defined in the current MPCA guidance document.	EU016, EU017

TABLE B: RECURRENT SUBMITTALS

03/13/02

Facility Name: Blandin Paper Co/Minnesota Power

Permit Number: 06100001 - 003

What to send	When to send	Portion of Facility Affected
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter following Permit Issuance (Submit Deviations Reporting Form DRF-1 as amended). The EER must contain all of the information requested in 40 CFR60.7(c). 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.	EU016
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter following Permit Issuance (Submit Deviations Reporting Form DRF-1 as amended). The EER must contain all of the information requested in 40 CFR60.7(c). 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.	EU017
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter following Permit Issuance for the monitors on EU 003 and EU 004 (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.	GP003
Semiannual Deviations Report	due 30 days after end of each calendar half-year following Permit Issuance. The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31.	Total Facility
Compliance Certification	due 31 days after end of each calendar year following Permit Issuance (for the previous calendar year). To be submitted on a form approved by the Commissioner, both to the Commissioner, and to the U.S. EPA regional office in Chicago. This report covers all deviations experienced during the calendar year. The EPA copy shall be sent to: Mr. George Czerniak, Chief, Air Enforcement and Compliance Assurance Branch, Air and Radiation Division, EPA Region V, 77 West Jackson Boulevard, Chicago, Illinois 60604.	Total Facility
Emissions Inventory Report	due 91 days after end of each calendar year following Permit Issuance (April 1). To be submitted on a form approved by the Commissioner.	Total Facility

APPENDIX MATERIAL

Facility Name: Blandin Paper Co/Minnesota Power

Permit Number: 06100001-003

Insignificant Activities List

M.R. 7007.1300, subp. 3 - Insignificant Activities Required to be Listed

- A. Fuel Use: Space heaters fueled by kerosene, natural gas, or propane:
 - A#1 Space heater with a total maximum capacity of 20 MMBtu/hr
 - A#2 Several natural gas fired space heaters used for comfort heat only.

- D. Finishing Operations: Equipment vented inside a building used for buffing, polishing, carving, cutting, drilling, machining, routing, sanding sawing, surface grinding, or turning of ceramic precision parts, leather, metals, plastics, masonry, carbon, wood, or glass, provided that emissions from the equipment are:
 - a. filtered through an air cleaning system; and
 - b. vented inside of the building 100% of the time
 - D#1 Paper Trimmers

- E. Storage tanks:
 - 2. Non-hazardous air pollutant VOC storage tanks with a combines total tankage capacity not more than 10,000 gallons of non-hazardous air pollutant VOC's and with a vapor pressure of not more than 1.0 psia at 60 degrees F.

FACILITY NUMBER	LOCATION	CONTENTS	SIZE (GAL)	SECONDARY CONTAINMENT	COLOR
MAIN MILL					
26	Main	#1 Dye Run Tank	225	Bldg	Silver
27	Main	#2 Dye Run Tank	225	Bldg	Silver
28	Main	#3 Dye Run Tank	225	Bldg	Silver
29	Main	#4 Dye Run Tank	225	Bldg	Silver
31	Bsmt	Kerosene	92	Bldg	Green
NO. 5 PAPER MACHING BUILDING					
16	Grd Flr	Kerosene	92	Bldg	Green
18	Mez	Ret. Aid Make Down	1982	Bldg	Silver
19	Mez	#1 Dye Make Down	360	Bldg	Silver
20	Mez	#2 Dye Make Down	360	Bldg	Silver
21	Opr Flr	Ret. Aid Tank		Bldg	Silver
COATING PREP					
6	Bsmt	Latex	20000	Bldg	Silver
7	Bsmt	Latex	20000	Bldg	Silver
22	Mez	#3 Starch Mix-Top	800	Bldg	Gray
23	Mez	#3 Starch Mix-Wire	700	Bldg	Gray
24	Mez	#3 Clay Mix-Top	1100	Bldg	Gray
25	Mez	#3 Clay Mix-Wire	1100	Bldg	Gray
26	Mez	#3 Cook Tank-Top	1100	Bldg	Gray
27	Mez	#3 Cook Tank-Top	1100	Bldg	Gray
28	Mez	#3 Stor. Tank-Top	1200	Bldg	Gray
29	Mez	#3 Stor. Tank-Top	1100	Bldg	Gray
30	Mez	#4 Starch Mix-Top	400	Bldg	Gray

31	Mez	#4 Starch Mix-Wire	400	Bldg	Gray
32	Mez	#4 Clay Mix-Top	1100	Bldg	Gray
33	Mez	#4 Clay Mix-Wire	1100	Bldg	Gray
34	Mez	#4 Cook Tank-Top	1100	Bldg	Gray
35	Mez	#4 Cook Tank-Wire	1100	Bldg	Gray
36	Mez	#4 Stor. Tank-Top	1100	Bldg	Gray
37	Mez	#4 Stor. Tank-Wire	1100	Bldg	Gray
38	Mez	#5 Starch Mix-Top	800	Bldg	Gray
39	Mez	#5 Starch Mix-Wire	800	Bldg	Gray
40	Mez	#5 Clay Mix-Top	1900	Bldg	Gray
41	Mez	#5 Clay Mix-Wire	1900	Bldg	Gray
42	Mez	#5 Cook Tank-Top	1800	Bldg	Gray
43	Mez	#5 Cook Tank-Wire	1800	Bldg	Gray
44	Mez	#5 Stor. Tank-Top	1900	Bldg	Gray
45	Mez	#5 Stor. Tank-Wire	1900	Bldg	Gray
46	Mez	#6 Starch Mix-Top	1800	Bldg	Gray
47	Mez	#6 Starch Mix-Wire	1800	Bldg	Gray
48	Mez	#6 Clay Mix-Top	4000	Bldg	Gray
FACILITY NUMBER	LOCATION	CONTENTS	SIZE (GAL)	SECONDARY CONTAINMENT	COLOR
49	Mez	#6 Clay Mix-Wire	4000	Bldg	Gray
50	Mez	#6 Cook Tank-Top	4000	Bldg	Gray
51	Mez	#6 Cook Tank-Wire	4000	Bldg	Gray
52	Mez	#6 Stor. Tank-Top	4000	Bldg	Gray
53	Mez	#6 Stor. Tank-Wire	4000	Bldg	Gray

COOPERAGE

2	Grd Flr	Latex	24000	Bldg	Off-White
3	Grd Flr	Latex	24000	Bldg	Off-White
6	Grd Flr	Ctg Plastic Pigment (Ropaque)	7850	Bldg	Brown
7	Grd Flr	City Plastic Pigment	7850	Bldg	Brown

NO. 6 PAPER MACHINE BUILDING

12	Mez	Ret. Make Down	2400	Yes	Silver
17	Opr Flr	Ret. Aid Run Tank	2400	Yes	Silver
21	Opr Flr	Dye Run Tank	750	Yes	Silver
22	Opr Flr	Dye Make Down	500	Yes	Silver
24	Grd Flr	Kerosene	92	Bldg	Yellow

G. Emissions from a laboratory, as defined in the form instructions:

G#1 Research Paper Coater – Coating could not be used for production.

H. Brazing, soldering, or welding equipment

H#1 Several maintenance welding stations located throughout the facility.

I. Individual emission units at a stationary source which each have a potential to emit for each of the following pollutants less than:

1) 4000 lbs/year of carbon monoxide

- 2) 2000 lbs/year each of nitrogen oxide, sulfur dioxide, particulate matter, particulate matter less than ten microns, volatile organic compounds (including hazardous air pollutants containing VOC), and ozone.

- I#1 Clay Unload and Convey – Clay is received wet in slurry form and contains a very small amount of VOCs.
I#2 Log Debarking – all wood is wet.
I#3 Five – 5000 cfm 400,000 Btu Modine Recirculation Units in Building No. 5 Shipping
I#4 Ten - 5000 cfm 400,000 Btu Modine Recirculation Units in Kraft Warehouse
I#5 Natural gas-fired office boiler – 1.9 mmBtu/hr

M.R. 7007.1300, subp. 4 - Insignificant Activities Required to be Listed in a Part 70 Application

Several parts washers used for maintenance activities utilizing solvent containing high flash point solvents

Several makeup air units:

- TM2 Outside - 11 MMBtu/hr
- Calcium Carbonate Bldg. – 3.5 MMBtu/hr
- Building #5 Coater + Shop – 16.85 MMBtu/hr
- Old Powerhouse – 4.3 MMBtu/hr
- Old Powerhouse – 4.3 MMBtu/hr

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 06100001-003

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

1. General Information

1.1. Applicant and Stationary Source Location:

Owner & Operator Address and Phone No. (Co-permittee)	Owner & Operator Address and Phone No. (Co-permittee)	<u>Facility Address</u> (SIC Code: 2611/2621)
Blandin Paper Company – Member, UPM Kymmene Group 115 1 st Street Southwest Grand Rapids, MN 55744 Facility Contact: Curt Firman - (218) 327-6306	Minnesota Power Blandin Energy Center 502 3 rd Street NW Grand Rapids, MN 55744 Permit Contact: Brandon Krogh – 30 West Superior Street Duluth, MN 55802-2093 (218) 723-3954	Blandin Paper Company/ Minnesota Power-Blandin Energy Center 115 1 st Street Southwest Grand Rapids, MN 55744 Itasca County Facility Contact: Curt Firman - (218) 327-6306

1.2. *Description Of The Facility*

Blandin Paper Company (Blandin) and Minnesota Power operate a Pressurized Groundwood (PGW) pulp mill and paper facility in Grand Rapids, which is described in the Technical Support Document (TSD) for the Title V permit issued on June 14, 1999. Blandin operates the pulp and paper mill while Minnesota Power operates the steam and electricity production facility.

Effective March 1, 2000, Blandin Paper Company and Minnesota Power signed an Agreement resulting in Minnesota Power being the operator of certain steam and electric production facilities located at the Blandin site. Minnesota Power uses its own employees, and then sells steam and electricity back to Blandin.

Blandin and Minnesota Power are considered co-permittees for this stationary source since the boilers act as a support facility for Blandin’s mill operations.

The Blandin/Minnesota Power site is an existing major source under federal Prevention of Significant Deterioration (PSD) requirements. Since this permit amendment is being pursued primarily by Blandin staff, Blandin will be referred to as the applicant throughout most of this TSD. This does not impact the co-permittee status at the facility.

1.3. *Description of the Activities Allowed By This Permit Action*

This amendment concerns a “backwards” federal PSD analysis for the PGW mill and #6 paper machine at the facility.

On April 6, 1988 Blandin received an air emissions permit amendment (Amendment No. 6 to Air Emission Permit No. 636A-84-OT-1) which authorized modification of the facility, including the installation of a new PGW mill, and # 6 paper machine and coater. The permit was issued as a non-major modification under PSD for Volatile Organic Compound (VOC) emissions.

During the intervening years some work was done by Blandin to determine the VOC emissions from the #6 paper machine. In July of 1997 the National Council for Air and Stream Improvement (NCASI) published a study which provided VOC emissions data for a number of mechanical pulp mills around the country. This data indicated that the VOC emissions at Blandin from the PGW mill and #6 paper machine were likely higher than previously believed. Blandin has subsequently undertaken detailed stack testing to determine VOC emissions from the PGW and #6 paper machine. The test results showed the VOC emissions from these emission units to be over the significance level of 40 tons per year. These results were then used in the application that is the subject of this amendment – a “backwards” PSD permit amendment application for the PGW mill and #6 paper machine and coater.

For a more complete chronology of the events leading up to the submittal of this amendment application please see the Schedule of Compliance Dated November 29, 2000.

An unrelated item that will be changed in the permit is updating the modeling requirements that were implemented in the original Title V permit. The MPCA policy on the subject has recently changed (see Attachment 5). According to the new policy, a modeling analysis for PM₁₀ and modeling information requests for Sulfur Dioxide (SO₂) and Nitrogen Oxides (NO_x) are required. The permit has been changed, under the total facility section, to reflect this.

On November 8, 2001, an addition to the original PSD application was received which was for:

- 1) the incorporation of a number of small makeup air units into the Title V permit which were missed with the previous Title V application, and
- 2) the addition of a second screen in the Softwood (SW) refined rejects system in the PGW mill.

Currently the SW rejects system does not have enough screening capacity to handle the rejects from all existing SW grinders. This change will not increase the maximum design capacity of the pulp mill (750 bone dry tons per day) but will help to bring the actual capacity up to this level. 750 bone dry tons per day was used in the balance of this amendment as the maximum design capacity of the pulp mill. Calculation of the net emission change from the PGW mill due to this screen change could have triggered PSD review of the PGW mill for that change alone. Since PSD review of the PGW mill is already the subject of this amendment, the second screen project was incorporated into this amendment.

Table 1. Potential to Emit Summary:

	PM Tpy	PM ₁₀ tpy	SO ₂ tpy	NO _x tpy	CO tpy	VOC tpy	Pb tpy	All HAPs tpy
Pressurized Groundwood Mill*						34		
Paper Machine No. 6*						82		
Coater No.6*						12		
Total Future Potential *						128		
Total Past Potential**						228		
Total Past Actual***						139		

* Future potential emissions reflect the control efficiency of the RTO and assume operation of the PGW mill at a rate of 750 tons/day, 365 days/year and the #6 paper machine/coater at 771 tons/day, 365 days/year.

** Past potential emissions do not reflect the control efficiency of the RTO and assume operation of the PGW mill at a rate of 750 tons/day, 365 days/year and the #6 paper machine/coater at 771 tons/day, 365 days/year.

***Past actual emissions reflect operation of the PGW mill at a rate of 171,772 tpy and the #6 paper machine/coater at 165,087 tpy which are the average of the past two years of production for those emission units.

Table 2. Facility Classification

Classification	Major/Affected Source	*Synthetic Minor	*Minor
PSD (all criteria pollutants except lead)	X		
NAAR (NA)			
Part 70 Permit Program (same as PSD)	X		

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

2. Regulatory and/or Statutory Basis

Summary Regulatory and/or Statutory Basis of the Emission or operational Limit

Regulatory Overview of Units Affected by the Modification

Table 4. Regulatory Overview

EU, GP, or SV #	Applicable Regulations	Comments
EU 010 EU 014 EU 015	40 CFR § 52.21	PSD review of the PGW mill and #6 paper machine as specified at 40 CFR § 52.21.

3. Technical Information

NOTE: all measurement units referred to in this document as “VOC” mean VOC reported as carbon (12). It is also important to document where the production rates are measured so there are no inconsistencies in later permits. PGW mill production is reported as "bone-dry" tons of grinder pulp. On-line flow meters and consistency meters calculate this tonnage. The paper machine production is reported in tons (~3.3 percent moisture) measured at the reel located at the end of paper machine. This figure is calculated based on the paper's basis weight and moisture (both of which are being constantly scanned) and the lineal feet of paper produced.

3.1. Emission Characterization

As stated above, these emission units are being reviewed only as a source of VOCs. The emission units considered are PGW mill, the #6 paper machine, and the #6 coaters. Emission calculations can be found in Attachment 1.

3.1.1. PGW Mill

For reference, a drawing of the PGW mill process flows is included in this document as Attachment 2. The PGW mill's production is rated at 750 tons/day. The mill has two parallel pulp processing lines. The two lines together have ten grinders that are all rated at the same nominal capacity (75 tons/day). Currently, and during stack testing, the pulp was produced using 6 softwood grinders and 4 hardwood grinders, resulting in about 60 percent of the pulp production being softwood pulp. Blandin reports that there are two “crossovers” on each line, which allow it to operate the pulp mill using 4 softwood grinders and 6 hardwood grinders. Any operating scenario outside the limits of these two situations would require physical changes to the facility.

All five stacks associated with the PGW mill were tested, some more than once. During stack testing, the operation of 6 softwood grinders and 4 hardwood grinders was deemed to be the worst-case scenario. The resulting emission factor was calculated as 0.82 lb VOC/ton pulp. A 20 percent safety factor was added to this figure to arrive at 0.98 lb VOC/ton pulp. The hourly, maximum VOC Potential to Emit (PTE) then becomes 31 lb VOC/hr.

Based on a production figure of 750 tons/day, 365 days/year, and the emission factor of 0.98 lb VOC/ton pulp, the annual PTE becomes 134 tons VOC/year. Actual emissions are calculated to be 84 tons per year based on the PGW mill emission factor and the average of the past two years of production of 171,772 tons.

3.1.2. #6 Paper Machine

The maximum production from the #6 paper machine is rated at 771 ton/day. There are 10 stacks associated with the #6 paper machine. Three of these stacks were selected for testing based on an examination of data in the NCASI study mentioned previously. The remaining stacks were assumed equivalent to one of the three tested. Based on this information the emission factor was calculated as 0.48 lb VOC/ton paper. A 20 percent safety factor was added to this figure to arrive at 0.58 lb VOC/ton pulp. The hourly, maximum VOC PTE then becomes 18.6 lb VOC/hr.

Based on a production figure of 771 tons/day, 365 days/year, and the emission factor of 0.58 lb VOC/ton pulp, the annual PTE becomes 82 tons VOC/year. Actual emissions are calculated to be 48 tons per year based on the #6 paper machine emission factor and the average of the past two years of production of 165,087 tons.

3.1.3. #6 Coater/Dryers

The emission factor for these units was developed by applying the emission rate determined for the Retroactive PSD analysis submitted in 1996. The emission rate was determined using a mass balance. This data is believed to be conservative since the facility now uses lower volumes, and VOC content, coatings than in 1996. To have the information necessary to calculate the cost of different control options, one stack from the coaters was tested to determine the airflow. The emission factor calculated in this way is 0.072 lb VOC/ton paper. A 20 percent safety factor was added to this figure to arrive at 0.086 lb VOC/ton paper. The hourly, maximum VOC PTE is 2.8 lb VOC/hr based on the #6 paper machine production figure of 771 tons/day.

Based on a production figure of 771 tons/day, 365 days/year, and the emission factor of 0.086 lb VOC/ton paper, the annual PTE becomes 12 tons VOC/year. Actual emissions are calculated to be 7 tons per year based on the emission factor and the average of the past two years of production of 165,087 tons.

3.2. PSD Review

This permit involves a PSD review for VOCs from the PGW mill, #6 paper machine and the #6 coaters. The components of PSD review include: Best Available Control Technology (BACT) analysis, Air Quality Analysis, Class I Area Impact Analysis, and an Additional Impacts Analysis. The facility is a major source under PSD (PTE greater than 250 tons/yr) for VOC. Although there is a National Ambient Air Quality Standard (NAAQS) for ozone (the reason for which VOCs are regulated), an ambient air quality analysis is not currently required to be conducted for VOCs.

3.2.1. Best Available Control Technology (BACT) Analysis

For the three sources mentioned in section 3.1, a “top-down” BACT analysis was completed. Initially all available control technologies were considered. The second step involved eliminating technically infeasible options. At this step, biofiltration was eliminated due to concerns over the temperatures of these exhaust streams, which are above 110 degrees Fahrenheit. These high temperatures could stress the microorganisms. An argument could be made that the air stream could be cooled down before contact with the microorganisms occurs, but this was not pursued. Carbon adsorption was also eliminated due to the generally low concentration streams that are emitted from these two sources along with the high temperature and high moisture content.

The third step involved ranking the remaining control options in order of control effectiveness, defined as the cost in dollars per ton of pollutant removed, with the most effective first. Each remaining control technology was assigned a nominal control efficiency of 90 percent. This efficiency is supported by test results from a Regenerative Thermal Oxidizer (RTO) installed on a pulp mill at International Paper in Sartell, Minnesota. The economic, energy, and environmental impacts were then examined for each source. A summary of the BACT analyses can be found as Attachment 3.

3.2.1.1. PGW mill

The PGW mill is the largest source of VOC emissions under this permit action. The permit application contains two economic impact analyses for this source. One case, titled the “PGW – Scenario 1”, examines controlling all five stacks at the source (~28,000 acfm and 134 ton/yr). Another, titled the “PGW – Scenario 2”, examines controlling the two highest emitting stacks, the general chest exhaust and the grinder airlock vent (~7000 acfm and 111 ton/yr). The calculated average cost effectiveness for a RTO, the least costly control option, for the first scenario is \$3727/ton, and for the second scenario is \$1966/ton.

These cost figures are within the U.S. Environmental Protection Agency’s (EPA) guidelines for reasonable costs. In addition, two other mechanical pulp mills in the state have either installed and commenced operation of an RTO (International Paper in Sartell, Minnesota), or will be soon installing (Stora Enso – Duluth) an RTO to control VOC from their pulping operations. International Paper’s RTO installation was as a part of a netting exercise and Stora Enso’s was part of a BACT determination. Both installations demonstrate the technical and economic feasibility of the RTO technology for mechanical pulp mills.

EPA guidance on the subject, contained in the New Source Review Workshop Manual, commonly called “the puzzle book”, states on page B.29 “In the absence of unusual circumstance, the presumption is that sources within the same category are similar in nature, and that cost and other impacts that have been borne by one source of a given source category may be borne by another source of the same source category.” Also on page B.31 it states that “...where a control technology has been successfully applied to similar sources in a source category, an applicant should concentrate on documenting significant cost differences, if any, between the

application of the control technology on those other sources and the particular source under review.” No significant cost differences between this potential installation and the other two in the state have been provided. On page B.44 it states “if the cost of reducing emissions...is on the same order as the cost previously borne by other sources of the same type..., the alternative should initially be considered economically achievable, and therefore acceptable as BACT.” A control option can be eliminated only “...where unusual factors exist that result in cost/economic impacts beyond the range normally incurred by other sources,...” in that category, “...provided that the applicant has adequately identified the circumstances, including the cost or other analyses, that show what is significantly different about the proposed source.”

Blandin believes the PGW mill is already achieving a BACT-equivalent emission rate since they believe that the uncontrolled emission rate from their PGW mill (0.98 lb/ton pulp) is on par with the emission rate from Stora Enso's after application of a BACT emission limit at their PGW mill (0.42 lb/ton for the entire PGW mill). BACT is not just an emissions limit. BACT is the application of a technology or method to control a pollutant at the particular source under consideration. Each analysis is a case-by-case determination based on the data specific to that particular source. The Stora example is useful in that it shows that another facility that may be similar to Blandin has applied the RTO technology to its pulp mill. As discussed above, barring a demonstration of significant technical or economic differences between the two facilities, the Stora example (and also the International Paper example) demonstrate the economic and technical feasibility of the technology at Blandin. If the top control option has been demonstrated as economically and technically feasible, it is BACT.

Regardless of the previous discussion, the application of BACT, i.e. the installation of an RTO, at Blandin would result in an emission factor of 0.25 lb/ton pulp for the entire pulp mill. This is comparable to the 0.42 lb/ton pulp emission factor at Stora.

As stated in the application, it is reasonable to believe that the heat recovery system within the PGW mill removes some VOCs by condensation. The stack temperatures measured and the moisture contents at the PGW mill are lower, in general, than other data from similar mills available to the MPCA. It is conceivable to include this as a control option in the BACT analysis since it could be viewed as an “inherently lower polluting process.” Even under this approach, the “top-down” BACT process requires that this option would be on the bottom of the list since the list is ranked by control effectiveness. The top option (incineration) has not been eliminated based on with economic, technical feasibility, or other issues. It is still BACT. Including the heat recovery system within the PGW mill as an “inherently lower polluting process” does not change the outcome of the BACT analysis.

A decision was made concerning which alternative should be proposed as BACT. When comparing the two options (i.e. controlling two or all of the stacks at the PGW mill), the annualized costs increase by about 50 percent to control an additional 15 percent of the emissions from the PGW mill. The additional cost does not appear justified, especially in light of the fact that the concentration of these additional streams in Scenario No. 1 are about an order of magnitude below the two in Scenario No. 2. Therefore, BACT is proposed as PGW Scenario No. 2, control of the general chest exhaust stack and the grinder airlock vent with an RTO.

Energy impacts were addressed by the incorporation of their cost into the economic impacts analysis. The selection of Scenario No. 2 provides a reasonable limitation to the overall energy impacts resulting from the selected BACT option

An environmental impacts analysis of applying RTO technology to the PGW mill should consider impacts other than the regulated pollutant in question, such as solid or hazardous wastes, waste quality, visibility, or emissions of other air pollutants. In general, environmental impacts are important when site-specific or unusual parameters exist that would create greater problems than experienced elsewhere, or to choose between control options that have similar economic impacts. A positive environmental impact of installing an RTO is the control of a number of toxic air pollutants such as methanol, acetaldehyde, and formaldehyde.

BACT Permit conditions

The BACT limit in the permit was set at 90 percent destruction efficiency or an outlet emission rate of 0.081 lb VOC/ton total pulp produced by the pulp mill for the stack controlling the general chest exhaust and the grinder airlock vent. The outlet emission rate was based on a performance level of 90 percent destruction efficiency and an inlet emission rate of 0.81 lb VOC/ton pulp. The minimum combustion temperature was initially set at a level that can be expected to ensure good performance of the RTO until a performance test can be conducted. Typical monitoring, recordkeeping and reporting requirements for an RTO were also included. The construction schedule included was negotiated with the Permittee, but is within the schedule used for similar “backwards” PSD cases (the Oriented Strandboard facilities and Stora Enso-Duluth).

The implementation of production limits to limit the annual PTE from this unit was not considered necessary in this case. In the future, this emission unit will have already undergone a BACT analysis and any increase in the pulp production rate (causing an increase in VOC emissions) would not change the outcome of the BACT analysis for the PGW mill since control would already be present. This also holds true for the following discussion on the BACT analysis for the paper machine.

3.2.1.2. #6 Paper Machine

The paper machine is the second largest source of VOC emissions under this permit action. The permit application contains two economic impact analyses for this source. One case, titled the “Scenario No. 1”, examines controlling all ten stacks (~505,000 acfm and 82 ton/yr). Another, titled the “Scenario No. 2”, examines controlling only the two groups of highest concentration stacks – the dryer and vacuum vents (~190,000 acfm and 71 ton/yr). The calculated average cost effectiveness for a regenerative thermal oxidizer (RTO), the least costly control option, for Scenario No. 1 is \$102,600/ton, and for Scenario No. 2 is \$44,500/ton.

Both cases show that the costs are extremely high for controlling the paper machine VOC emissions. In addition, the VOC concentrations in the most concentrated streams from the paper machine are about 40 ppm or less, which could make achieving the nominal control efficiency assigned to the control options (90 percent) difficult to achieve in practice. Revising the control efficiency down to a more realistic number would only increase the average cost effectiveness figures. For these reasons, BACT is proposed as “no control” for this source.

BACT Permit conditions

No BACT-related permit conditions for the paper machine were deemed necessary. The BACT analysis just described was done assuming the maximum, uncontrolled VOC emission rate from the paper machine. The results of the analysis show that the average cost effectiveness is about seven times above a level where control would be required. Since a substantial change in the VOC emission rate would be necessary to change the outcome of the BACT analysis, no permit limits were deemed necessary.

3.2.1.3. #6 Coater/Dryer

The permit application contains one economic impact analysis for this source. Although there are several vents associated with the coater/dryer, conservatively, all of the emissions were assumed to be emitted from two vents (13,000 dscfm and 12 ton/yr). The calculated average cost effectiveness for a RTO, the least costly control option, is \$28,000/ton.

The costs are extremely high for controlling the coater/dryer VOC emissions. Therefore, BACT is proposed as “no control” for this source.

BACT Permit conditions

No BACT-related permit conditions for the coater/dryer were deemed necessary. The BACT analysis just described was done assuming an uncontrolled VOC emission rate that is likely significantly above the emission rate today based on the use of less and lower VOC coatings. The results of the analysis show that the average cost effectiveness is about five times above a level where control would be required. Since a substantial change in the VOC emission rate would be necessary to change the outcome of the BACT analysis, no permit limits were deemed necessary.

3.2.2. Class I Area Impact Analysis

There are two Class I areas somewhat near Blandin. They are Voyagers NP (135 km) and the Boundary Waters Canoe Area Wilderness (115 km). The Federal Land Managers (FLMs) for the two areas were notified of this permit action even though these Class I areas were not within 100 km of the facility. The notification took the form of letters dated April 23, 2001 to Mr. Don Shepherd of the National Park Service, Mr. Bob Berrisford of the USFS Superior NF, and Mr. Dale Higgins of the USFS Chequamegon NF (see Attachment 4). No interest in this permit was expressed by the FLMs.

3.2.3. Additional Impacts Analysis

The additional impacts analysis can be found attached to this document as Attachment 7. No significant additional impacts from this facility were documented.

3.3. *Hazardous Air Pollutant Review*

No stack testing has been done for hazardous air pollutants from these sources. To get a rough estimate of what the Hazardous Air Pollutant (HAP) emissions would be from these emission units, the results from Stora Enso – Duluth were used. Stora used a combination of stack test results and data from NCASI to produce its estimates. The ratio of HAP/VOC from Stora (0.038) was used to make an estimate for Blandin. Stora is expected to have higher HAP emission rates because they utilize 100 percent softwood while Blandin uses 60 percent. Using this method the total uncontrolled HAP emissions from the PGW mill and #6 paper machine is 8.0 tons per year. Assuming 75 percent control efficiency for entire PGW mill (83 percent of the emissions are controlled at 90 percent control efficiency) the emissions from the PGW mill and #6 paper machine after the installation of the RTO at the PGW mill are 4.2 tons per year. The HAP emissions from the #6 coaters were not included in this calculation but are assumed to be small in comparison to the total.

It should be recognized that this method of estimating HAP emissions is a very crude approach. It is thought to be better than using data from NCASI since there is some source testing incorporated in this method (methanol testing at Stora) and the emission units tested were processing wood species native to this area of the country. Source testing at Blandin would be necessary to generate more accurate emission figures.

Both the uncontrolled and controlled emission rates are well below the threshold that defines construction or reconstruction of a major source of hazardous air pollutants under section 112(g)(2)(B) of the act.

3.4. *Environmental Review*

This application will not trigger the need for an Environmental Assessment Worksheet to be completed because there is no increase in emissions, due to the installation of the RTO (see Table 1).

4. Conclusion

Based on the information provided by Blandin Paper Company, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 06100001-003 and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

5. Review Period/Permit Changes

No comments were received during the public notice period or during EPA's 45-day review period. However, the Company realized that an emission unit was not listed in the list of insignificant activities, in the Appendix to the permit. The Appendix has been revised to include the natural gas-fired boiler. The boiler has a capacity of 1.9 mmBtu/hr, and is listed under Part I.

Staff Members on Permit Team: Trent Wickman, Bob Beresford, and Stuart Arkley

Peer Review: Paula Connell

Attachment: 1) Emission calculations
2) PGW mill process flow drawing
3) BACT analyses for PGW mill and #6 paper machine/coater
4) FLM letter dated April 13, 2001
5) MPCA modeling policy for Title V permits