

AIR EMISSION PERMIT NO. 07100002- 009
Major Amendment

IS ISSUED TO

Boise White Paper LLC

BOISE WHITE PAPER LLC - INTL FALLS
400 2nd Street
International Falls, Koochiching County, MN 56649

The emission units, control equipment and emission stacks at the stationary source authorized in this permit amendment are as described in the Permit Applications Table.

This permit amendment supersedes Air Emission Permit No. 13500002-008 and authorizes the Permittee to operate and modify the stationary source at the address listed above unless otherwise noted in Table A. The Permittee must comply with all the conditions of the permit. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500. Terms used in the permit are as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

Permit Type: Federal; Pt 70/Major for NSR

Operating Permit Issue Date: September 09, 2004

Authorization to Construct and Operate (40 CFR § 52.21) Issuance Date: October 01, 2008

Major Amendment Issue Date: October 15, 2008

Expiration: 9/9/04*

Title I Conditions do not expire.

* The Permittee can continue to operate this facility after the expiration date of this permit per the provision under Minn. R. 7007.0450, subp. 3 (Boise's Pt. 70 reissuance app received 3/11/2004).

Don Smith, P.E., Manager
Air Quality Permits Section
Industrial Division

for Brad Moore
Commissioner
Minnesota Pollution Control Agency

Permit Applications Table

Permit Type	Application Date	Permit Action	Issuance Date
Total Facility Operating Permit	04/14/1995	001	09/09/1999
Major Amendment	09/01/1999	002	Not Issued
Major Amendment	03/31/1999	003	10/02/2000
Minor Amendment	08/08/2001	004	08/10/2001
Major Amendment	05/2001 & 02/2002	005	11/07/2002
Major Amendment	09/24/2002 & 03/05/2004	006	11/15/2004
Administrative Amendment	10/14/2004	006	11/15/2004
Administrative Amendment	04/18/2005	007	10/13/2005
Major Amendment	05/04/2005	007	10/13/2005
MPCA initiated reopening	02/02/2005	007	10/13/2005
Minor Amendment	08/28/2007	008	05/05/2008
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NOTICE TO THE PERMITTEE:

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

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

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

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

PERMIT SHIELD:

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

PERMIT DESCRIPTION AND HISTORY:

Permit Action 001 (issued 09/09/1999):

A Part 70 permit (07100002-001) was issued to Boise in September, 1999. The Part 70 operating permit was a consolidation of existing conditions from the 1989 Prevention of Significant Deterioration Program (PSD) permit and subsequent amendments. The Part 70 permit also authorized a modification that resulted in a significant net emissions increase subject to New Source Review for Boiler No. 2. The modification was for an overfire air project, which is a waste reduction measure that will allow Boise to burn more sludge and bark in the boiler rather than landfilling the sludge and bark.

Permit Action 002 (not issued):

The permit application for this permitting action was for a major amendment for two trailer-mounted package boilers and one trailer-mounted generator. The MPCA did not require a permit for this equipment since they were temporary sources to be used as insurance for Y2K and a one-time event. The MPCA requested a notification describing the purpose and timing associated with this project as well as information on the size of the equipment and the fuel that will be used. The facility was also requested to provide notification once the equipment was shipped off-site.

Permit Action 003 (issued 10/02/2000):

Boise received a major amendment (07100002-003) in October 2000 for Boise's proposed Efficiency Improvement Project. The project was considered a modification that resulted in a significant net emissions increase under PSD. The purpose of the project was to allow Boise to increase pulp production and generation of black liquor solids so that the facility is less dependent on market pulp. To achieve the higher pulp production and black liquor processing rates, Boise proposed to make several physical modifications.

The Efficiency Improvement Project was evaluated along with the Boiler No. 2 project in an Environmental Assessment Worksheet (EAW) and application for PSD amendment. The project required preparation of a mandatory EAW, because the modifications resulted in increased potential emissions of greater than 100 tons per year for at least a single air pollutant. Applications for modifications subject to PSD require major amendments to the permit. Both the Efficiency Improvement Project and the Boiler No. 2 project were subject to the requirement to obtain a major amendment prior to construction on their own, due to the increase in potential-to-emit.

Permit Action 004 (issued 08/10/2001):

A minor permit amendment (07100002-004) was issued in August 2001, for installation of a sludge dryer. The dryer allowed Boise to dry the secondary sludge, from the on-site wastewater treatment plant. The sludge is burned in the boiler, rather than being disposed of in the facility's industrial landfill.

Permit Action 005 (issued 11/07/2002):

A major permit amendment (07100002-005) was issued in November 2002. This permit amendment combined two permit amendment applications. The first permit amendment application was for an increase in Particulate Matter less than 10 um in size (PM₁₀) limit for the smelt dissolving tank and the lime kiln. Boise submitted a second permit application (January 2002), to increase the Sulfur Dioxide (SO₂) limit on the brownstock washer and for installation of the No. 3 rotary debarker.

Permit Action 006 (issued 11/15/2004):

A major permit amendment (07100002-006) was issued in November 2004. This permit amendment included the following: changed carbon monoxide (CO) emission limit for the boilers and incorporated use of a CO continuous emissions monitoring; adjusted CO and SO₂ limits on No. 2 boiler, CO and nitrogen oxides emission rates on recovery furnace, and established Clean Unit Designations; incorporated National Emission Standards for Hazardous Air Pollutant (NESHAP) Subpart MM— NESHAPs for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semicemical Pulp Mills; incorporated changes necessary due to performance tests; and incorporated ownership change from Boise Cascade to Boise Paper LLC.

Permit Action 007 (issued 10/13/2005):

A major permit amendment (07100002-007) was issued in October 2005. The reason for the permit action was a request from Boise White Paper to remove the requirements for the Moonlight Rock Landfill flare from the permit. The landfill is not contiguous with the facility, and neither the landfill or the flare is owned or operated by Boise Paper. The landfill and flare were owned by Boise Cascade. Portions of Boise Cascade (excluding the landfill and flare) were purchased by Boise Paper, LLC. Boise Cascade, now known as OfficeMax, still owns the landfill and flare.

Permit Action 008 (issued 05/05/2008):

Permit action (07100002-008) was a minor amendment to the existing Part 70 operating permit to install an emergency diesel generator (EU 908). Also included in this minor amendment was a NESHAP notification related to an off-machine coater (EU 909) that incorporated Subpart JJJJ into the permit. Emission Units 303, 305 and 307 were removed from GP340. The boiler plate language of the permit was updated since the last amendment (-007).

Permit Action 009 (see above):

This Major Amendment is requested by the facility to allow for the testing of alternative biomass fuels in Boiler No. 2 (EU 430) and the Recovery Furnace (EU Unit 320) and to increase the Total Facility black liquor solids (BLS) production limit while administratively incorporating updates to the facility's performance testing and opacity requirements. In addition, the facility is requesting to increase the Particulate Matter (PM)/PM₁₀ emission limits for the Smelt Dissolving Tank (SV 322) and the Lime Kiln (SV 340) while decreasing the PM/PM₁₀ emission limits from the Recovery Furnace (SV 320) by an equivalent amount.

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls
 Permit Number: 07100002 - 009

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
FACILITY LIMITS	hdr
Black Liquor Solids (virgin bone dried basis) Production: less than or equal to 44,200 tons/month using 12-month Rolling Average	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000
Black Liquor Solids (BLS) Increase Project Recordkeeping: The Permittee shall monitor the emissions of any regulated NSR pollutant that are expected to increase as a result of the project. NOx and CO emissions will be monitored using existing continuous emission monitoring systems. Other parameters (PM, PM10, SO2, VOC's and TRS) will be monitored based on stack testing and emission inventory calculation methods. On an annual basis and for a period of 5 years following resumption of normal operation after the change, the Permittee shall calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis. On an annual basis and for a period of 5 years following resumption of normal operation after the change, the Permittee shall calculate the overall change in emissions from the BLS Increase project for each regulated NSR pollutant. (continued below)	40 CFR Section 52.21(r)(6)(iii)
(continued from above) The change in emissions shall be calculated for each unit by subtracting the baseline actual emissions, as submitted in the permit application for the project, from each unit from the actual emissions for the calendar year. The Permittee may exclude, in calculating the increase in emissions from the BLS Increase project, any emissions that the unit could have accommodated during the baseline period and are unrelated to the BLS Increase project (i.e., emissions from less than 41,000 ton/ month on a 12 month rolling average).	40 CFR Section 52.21(r)(6)(iii) (continued)
Annual Report for Black Liquor Solids (BLS) Increase Project: The Permittee shall submit a report to the MPCA if the annual emissions, in tons per year, from the BLS Increase Project, exceed the baseline actual by a significant amount (PSD threshold) for that regulated NSR pollutant and if such emissions differ from the preconstruction estimate as documented in the permit application.. Such report shall be submitted to the MPCA within 60 days after the end of the year. The report shall include the following: (a) The name, address, and telephone number of the source; (b) The annual emissions as calculated pursuant to the BLS Increase Project recordkeeping requirement; and (c) Any other information that the Permittee wishes to include in the report (e.g. an explanation as to why the emissions differ from the preconstruction projection).	40 CFR Section 52.2(r)(6)(v)
Recordkeeping: Monthly record and monthly calculation of 12-month rolling average of the black liquor solids production, by the 15th of the following month.	Title I Condition: Recordkeeping for Title I Condition; Minn. R. 7007.0800, subp. 5
Reporting: Annually by January 30th, a report of the previous 12 monthly 12-month rolling average calculations of the black liquor solids production.	Minn. R. 7007.0800, subp. 6
FACILITY REQUIREMENTS	hdr
The Permittee shall comply with National Primary and Secondary Ambient Air Quality Standards, 40 CFR pt. 50, and the Minnesota Ambient Air Quality Standards, Minn. R. 7009.0010 to 7009.0080. Compliance shall be demonstrated upon written request by the MPCA.	40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7A, 7L & 7M; Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0010-7009.0080
Parameters Used in Modeling: If the Permittee intends to change any of the stack parameters used in the most recently MPCA-approved modeling, the Permittee must submit the revised parameters to the Commissioner and receive written approval before making any changes. The revised parameter information submittal must include but is not limited to: the locations, heights and diameters of the stacks, locations and dimensions of nearby buildings, the velocity and temperatures of the gases emitted, and the emission rates. The plume dispersion characteristics due to the revisions of the information must equal or exceed the dispersion characteristics modeled for this permit, and the Permittee shall demonstrate this in the proposal. If the information does not demonstrate equivalent or better dispersion characteristics, or if a conclusion cannot readily be made about the dispersion, the Permittee must remodel.	Title I Condition: 40 CFR Section 52.21(k); Minn. R. 7007.3000; Minn. R. 7009.0020 (criteria pollutants); Minn. R. 7007.0800, subp. 2 (non-criteria pollutants)

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls
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<p>Parameters Used in Modeling (continued): If the Permittee proposes to emit any pollutant in addition to those listed in the Boise Cascade Air Toxics Review, dated January 1999, or proposes to increase the emission rate of any pollutant, the Permittee shall first use the ATR as a template for re-evaluating the risk due to the change in emissions. If the proposed change may adversely affect the calculated risk, e.g. the change is an increase in one of the pollutants determined to be a risk driver, (i.e. a pollutant contributing to 95% of the acute, subchronic, or chronic hazard index or 95% of the excess cancer risk), then the Permittee shall submit a report to the MPCA of the proposed change and demonstrate that the recalculated risk for all pollutants emitted from the facility does not exceed the acceptable risk criteria used in the ATR. The Permittee must receive written approval from the MPCA before making any changes.</p>	<p>Minn. R. 7007.0800, subp. 2 (non-criteria pollutants)</p>
<p>Parameters Used in Modeling (continued): For changes that do not involve an increase in an emission rate or that do not seem likely to increase the calculated risk, the Permittee shall keep records of such changes. A report shall be submitted with the annual certification which describes these changes. This report shall include an explanation of why it was determined that notification to the agency was not necessary.</p> <p>This is a state only requirement and is not enforceable by the EPA Administrator and citizens under the Clean Air Act.</p>	<p>Minn. R. 7007.0800, subp. 2 (non-criteria pollutants)</p>
<p>Parameters Used in Modeling (continued): For changes involving increases in emission rates and that require a minor permit amendment, the proposal must be submitted as soon as practicable, but no less than 60 days before making the change to any parameter.</p> <p>For changes involving increases in emission rates and that require a permit amendment other than a minor amendment, the proposal must be submitted prior to or with the permit amendment application.</p> <p>This is a state only requirement and is not enforceable by the EPA Administrator and citizens under the Clean Air Act.</p>	<p>Minn. R. 7007.0800, subp. 2 (non-criteria pollutants)</p>
<p>Plans and Specifications: This is the Ambient TRS Plan. The Ambient TRS Plan has been submitted. This is a state only requirement and is not federally enforceable or enforceable by citizens under the Act.</p>	<p>Minn. R. 7007.0800, subp. 2</p>
<p>Ambient TRS Plan: The Ambient TRS Plan shall describe the steps to be taken to ensure that the ambient air TRS target is not exceeded. The Ambient TRS Plan has been submitted. The Plan shall include a description of the location of the TRS monitor and the quality assurance requirements for the monitor and its data. Also to be included are steps that the Permittee will follow if the ambient air TRS target, if the exceedance is attributable to Boise. This will include the investigative steps and the timelines for reporting the corrective actions that the Permittee will take to meet the ambient air TRS target. Upon approval by the Commissioner, the Plan shall be an enforceable part of the permit. This is a state only requirement and is not federally enforceable or enforceable by citizens under the Act.</p>	<p>Minn. R. 7007.0800, subp. 2</p>
<p>Cease Operation: The Permittee may cease operation of the ambient TRS monitor as described in the Ambient TRS Plan. Prior to ceasing operation, the MPCA shall issue a public notice to inform the public that the ambient monitoring will cease. The Permittee shall not cease operation until after the public notice period. The Permittee shall continue to abide by the Ambient TRS Plan, except for those provisions related to operation and maintenance of the TRS monitor, after the monitor has been shut off. This is a state only requirement and is not federally enforceable or enforceable by citizens under the Act.</p>	<p>Minn. R. 7007.0800, subp. 2</p>
<p>Operation and Maintenance Plan: The O&M Plan has been submitted.</p>	<p>Minn. R. 7007.0800, subp. 2</p>
<p>Operation and Maintenance Plan: The O&M Plan shall include information for the following control equipment: CE220, CE240, CE320, CE322, CE323, CE340, CE341, CE430, and CE431. The Plan has been submitted; a description of what the Plan should include is given below. The Commissioner may require reasonable additions or changes to the O&M Plan prior to granting approval. The Plan may be amended with the Commissioner's written approval. Upon approval, the Plan shall be an enforceable part of the permit and the Permittee shall comply with all parts of the Plan.</p>	<p>Minn. R. 7007.0800, subp. 2</p>
<p>Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment. At a minimum, the O & M plan shall identify all air pollution control equipment and control practices and shall include a preventative maintenance program for the equipment and practices, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment and practices to proper operation to meet applicable permit conditions, a description of the employee training program for proper operation and maintenance of the control equipment and practices, and the records kept to demonstrate plan implementation.</p>	<p>Minn. R. 7007.0800, subsps. 14 and 16(J)</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls
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<p>NGC Venting: The Permittee shall control NCGs through thermal oxidation in either the Lime Kiln (primary device), Power Boiler #2 (secondary device) or Power Boiler #1 (tertiary device). When none of these control devices is available, the Permittee may vent NCGs directly to atmosphere. Upon venting NCGs in an uncontrolled manner, the Permittee shall initiate investigation of the cause and take necessary action to re-establish control. If control cannot be re-established within 30 minutes, the Permittee shall initiate shutdown of the NCG-emitting sources in a controlled manner. The NCG-emitting sources, except for the evaporators, shall be shut down within 10 minutes and the remaining sources (the evaporators) shall be shutdown within one hour. The Permittee shall not re-start any of the NCG emitting sources until one of the control systems is operational.</p>	<p>Minn. R. 7007.0800, subp. 2</p>
<p>Fugitive Emissions Control Plan: The Permittee has submitted a fugitive emissions control plan for review and approval by the Commissioner. A revision to the plan, dated 2/14/02, was also submitted and approved. The Plan is considered an enforceable part of the permit. The plan shall identify all fugitive emission sources, including paved and unpaved roads, primary and contingent control measures, and record keeping. The Permittee shall follow the actions and record keeping specified in the control plan. The plan may be amended by the Permittee with the Commissioner's approval. If the Commissioner determines the permittee is out of compliance with Minn. R. 7011.0150 or the fugitive emission control plan, then the permittee may be required to amend the control plan and/or to install and operate particulate matter ambient monitors.</p>	<p>Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2</p>
<p>Comply with Fugitive Emission Control Plan: The Permittee shall follow the actions and record keeping specified in the control plan. The plan may be amended by the Permittee with the Commissioner's approval. If the Commissioner determines the Permittee is out of compliance with Minn. R. 7011.0150 or the fugitive control plan, then the Permittee may be required to amend the control plan and/or to install and operate particulate matter ambient monitors as requested by the Commissioner.</p>	<p>Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0800, subp. 2</p>
<p>List of Insignificant Activities Required to be Listed: Appendix C includes activities and sources at the facility that have been determined to be insignificant activities under Minn. R. 7007.1300. This list does not include every insignificant activity and is subject to change.</p> <p>The Permittee shall maintain proper maintenance of the sources listed in Appendix C, as well as all silos, baghouses, and cyclones, so as to prevent excessive amounts of particulate matter from being emitted from the associated stacks/vents.</p>	<p>Minn. R. 7007.0800, subp. 2; Minn. R. 7007.1300</p>
<p>DETERMINING IF A PROJECT/MODIFICATION IS SUBJECT TO NEW SOURCE REVIEW</p>	<p>hdr</p>
<p>These requirements apply where there is a reasonable possibility that a proposed project, analyzed using the actual-to-projected-actual (ATPA) test and found to not be part of a major modification, may result in a significant emissions increase. If the ATPA test is not used for a particular project, or if there is not a reasonable possibility that the proposed project could result in a significant emissions increase, then these requirements do not apply to that project.</p> <p>Even though a particular modification is not subject to New Source Review, a permit amendment, recordkeeping, or notification may still be required under Minn. R. 7007.1150 - 7007.1500.</p>	<p>Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000</p>
<p>Preconstruction Documentation -- Before beginning actual construction on a project, the Permittee shall document the following information:</p> <ol style="list-style-type: none"> 1. A description of the project 2. Identification of the emission unit(s) whose emissions of an NSR pollutant could be affected 3. A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions, the potential emissions, the projected actual emissions, the amount of emissions excluded due to increases not associated with the modification and that the unit(s) could have accommodated during the baseline period, an explanation of why the amounts were excluded, and any creditable contemporaneous increases and decreases that were considered in the determination. <p>The Permittee shall maintain records of this documentation.</p>	<p>Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5</p>
<p>The Permittee shall monitor the actual emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using the ATPA test, and the potential emissions of any regulated NSR pollutant that could increase as a result of the project and that were analyzed using potential emissions. The Permittee shall calculate and maintain a record of the sum of the actual and potential (if used in the analysis) emissions of the regulated pollutant, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change, or for a period of 10 years following resumption of regular operations after the change if the project increases the design capacity of or potential to emit of any unit associated with the project.</p>	<p>Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls

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<p>The Permittee must submit a report to the Agency if the annual summed (actual plus potential, if applicable) emissions differ from the preconstruction projection and exceed the baseline actual emissions by a significant amount as listed at 40 CFR Section 52.21(b)(23). Such report shall be submitted to the Agency within 60 days after the end of the year in which the exceedances occur. The report shall contain:</p> <p>a. The name and ID number of the facility, and the name and telephone number of the facility contact person</p> <p>b. The annual emissions (actual plus potential, if any part of the project was analyzed using potential emissions) for each pollutant for which the preconstruction projection and significant emissions increase are exceeded.</p> <p>c. Any other information, such as an explanation as to why the summed emissions differ from the preconstruction projection.</p>	<p>Title I Condition: 40 CFR Section 52.21(r)(6) and Minn. R. 7007.3000; Minn. R. 7007.0800, subp. 4 & 5</p>
<p>MACT REQUIREMENTS - SUBPART S</p>	<p>hdr</p>
<p>MACT Requirements: This facility is subject to all pertinent requirements of the MACT, 40 CFR pt. 63, subp. S (National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry). This permit contains many of the applicable requirements from 40 CFR part 63, Subparts A and S. Some of the requirements may be paraphrased in this permit. If there is a conflict between a permit term and the regulation, the regulation shall take precedence.</p>	<p>40 CFR pt. 63, subp. S</p>
<p>Compliance Dates for Enclosures and Closed-Vent Systems: Compliance for the requirements in 40 CFR 63.450 and described below (i.e. the standards for enclosures and closed-vent systems) shall be achieved by the date for the applicable system. The compliance date for the NCG system, pulping condensates and bleach plant is April 16, 2001; the compliance date for the brownstock washer system is April 17, 2006.</p>	<p>40 CFR Section 63.440</p>
<p>Standards for Enclosures and Closed-vent Systems: Each enclosure shall maintain negative pressure at each enclosure or hood opening as demonstrated by procedures specified in 40 CFR Section 63.457(e). Each enclosure or hood opening closed during the initial performance test specified in 40 CFR Section 63.457(a) shall be maintained in the same closed and sealed position as during the performance test at all times except when necessary to use the opening for sampling, inspection, maintenance, or repairs.</p> <p>Each component of the closed-vent system used to comply with 40 CFR Section 63.443(c) and 63.445(b) that is operated at positive pressure and located prior to a control device shall be designed for and operated with no detectable leaks as indicated by an instrument reading of less than 500 ppm by volume above background, as measured by the procedures in 40 CFR Section 63.457(d).</p>	<p>40 CFR Section 63.450(b)</p>
<p>Each bypass line in the closed-vent system that could divert vent streams containing HAP to the atmosphere without meeting the emission limitations in 40 CFR Section 63.443 or 63.445 shall comply with either of the following requirements:</p> <p>1) On each bypass line, the owner or operator shall install, calibrate, maintain and operate according to manufacturer's specifications a flow indicator that provides a record of the presence of gas stream flow in the bypass line at least once every 15 minutes. The flow indicator shall be installed in the bypass line in such a way as to indicate flow in the bypass line; or</p> <p>2) For bypass line valves that are not computer controlled, the owner or operator shall maintain the bypass line valve in the closed position with a car seal or a seal placed on the valve or closure mechanism in such a way that valve or closure mechanism cannot be opened without breaking the seal.</p>	<p>40 CFR Section 63.450(b) CONTINUED</p>
<p>Monitoring Requirements for Enclosure and Closed-vent Systems:</p> <p>1) For each enclosure opening, a visual inspection of the closure mechanism specified in 40 CFR Section 63.450(b) shall be performed at least once every 30 days to ensure the opening is maintained in the closed position and sealed.</p> <p>2) Each closed-vent system required by 40 CFR Section 63.450(a) shall be visually inspected every 30 days and at other times as requested by the Administrator. The visual inspection shall include inspection of ductwork, piping, enclosures and connections to covers for visible evidence of defects.</p> <p>3) For positive pressure closed-vent systems or portions of closed-vent systems, demonstrate no detectable leaks as specified in 40 CFR Section 63.450(c) measured initially and annually by the procedures in 40 CFR Section 63.457(d).</p> <p>4) Demonstrate initially and annually that each enclosure opening is maintained at negative pressure as specified in 40 CFR Section 63.457(e).</p>	<p>40 CFR Section 63.453(k)</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls

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<p>5) The valve or closure mechanism specified in 40 CFR Section 63.450(d)(2) shall be inspected at least once every 30 days to ensure that the valve is maintained in the closed position and the emission point gas stream is not diverted through the bypass line.</p> <p>6) If an inspection required by paragraphs 1 through 5 of this section identified visible defects in ductwork, piping or enclosure or connections to covers required by 40 CFR Section 63.450, or if an instrument reading of 500 ppm by volume or greater above background is measured, or if enclosure openings are not maintained at negative pressure, then the following corrective actions shall be taken as soon as practicable:</p> <p>(i) A first effort to repair or correct the closed-vent system shall be made as soon as practicable but no later than 5 calendar days after the problem is identified.</p> <p>(ii) The repair or corrective action shall be completed no later than 15 calendar days after the problem is identified.</p>	<p>40 CFR Section 63.453(k) CONTINUED</p>
<p>Site-Specific Inspection Plan: The Permittee shall prepare and maintain a site-specific inspection plan for each applicable enclosure opening, closed-vent system, and closed collection system. The Plan shall include a drawing or schematic of the components of applicable affected equipment. The Permittee shall record the information described in 40 CFR Section 63.454(b) for each inspection.</p>	<p>40 CFR Section 63.454(b)</p>
<p>MACT REQUIREMENTS - GENERAL PROVISIONS</p>	<p>hdr</p>
<p>At all times the Permittee shall operate and maintain the emission unit subject to the MACT standard and its associated air pollution control equipment in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by all relevant standards.</p>	<p>40 CFR Section 63.6(e)(1)(i)</p>
<p>Malfunctions: Malfunctions shall be corrected as soon as practicable after their occurrence in accordance with the startup, shutdown, and malfunction plan.</p>	<p>40 CFR Section 63.6(e)(1)(ii)</p>
<p>The Permittee shall prepare and implement a Startup, Shutdown, and Malfunction Plan (SSMP) for each of the emission units subject to Maximum Control Technology Standards by the applicable compliance date. The SSMP is a federally enforceable part of the permit and shall be prepared in accordance with 40 CFR Section 63.6(e)(3) and shall include requirements specified in 40 CFR Section 63.6(e)(3). The SSMP must be located at the plant site and must be kept updated. When the SSMP is updated, the Permittee must keep all previous versions of the SSMP for a period of 5 years. The Permittee must submit the SSMP when required.</p>	<p>40 CFR Section 63.6(e)(3)(i); 40 CFR Section 63.6(e)(3)(v)</p>
<p>During periods of startup, shutdown, and malfunction, the Permittee shall operate and maintain the source (including associated air pollution control equipment) in accordance with the procedures specified in the Startup, Shutdown, and Malfunction Plan.</p>	<p>40 CFR Section 63.6(e)(3)(ii); 40 CFR Section 63.6(e)(3)(iii)</p>
<p>The Permittee shall maintain files of all information required by this part recorded in a form suitable and readily available for expeditious inspection and review. The information maintained in the files shall, at a minimum, contain the information described in 40 CFR Section 63.10(b)(2). The files should be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. Of data required to be retained for five years, only the most recent two years of information must be kept on site.</p>	<p>40 CFR Section 63.10(b)(1)</p>
<p>Startup, shutdown, and malfunction reports shall be submitted only if there is an occurrence of startup, shutdown, and malfunction during the reporting period and shall be delivered or postmarked by the 30th day following the end of each calendar half year.</p>	<p>40 CFR Section 63.10(d)(5)(i)</p>
<p>If the Permittee deviates from the startup, shutdown, and malfunction plan (SSMP) during a startup, shutdown, or malfunction, the Permittee shall record the actions taken for that event and report such actions within 2 working days after commencing actions inconsistent with the plan, followed by a letter within 7 working days after the end of the event. The report must contain name, title, and signature of a responsible official who is certifying its accuracy, explaining the circumstances of the event, the reasons for not following the SSMP, and whether any excess emissions and/or parameter monitoring exceedances are believed to have occurred.</p>	<p>40 CFR Section 63.6(e)(3)(iv); 40 CFR Section 63.10(d)(5)(ii)</p>
<p>Prior to construction or reconstruction of an "affected source" under the promulgated MACT standards, the Permittee must apply for and obtain an air emission permit.</p>	<p>40 CFR Section 63.5(b)(3)</p>
<p>GENERAL TOTAL FACILITY REQUIREMENTS</p>	<p>hdr</p>
<p>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.</p>	<p>Minn. R. 7007.0800, subp. 2; Minn. R. 7007.0800, subp. 16(J)</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

<p>Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 3.</p> <p>At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner when the shutdown is over.</p>	<p>Minn. R. 7019.1000, subp. 3</p>
<p>Breakdown Notifications: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 2.</p> <p>At the time of notification or as soon as possible thereafter, the owner or operator shall inform the Commissioner of the cause of the breakdown and the estimated duration. The owner or operator shall notify the Commissioner when the breakdown is over.</p>	<p>Minn. R. 7019.1000, subp. 2</p>
<p>Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).</p>	<p>Minn. R. 7007.0800, subp. 4(D)</p>
<p>Operation of Monitoring Equipment: Unless otherwise noted in Tables A, B, and/or C, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, or during checks of the monitoring systems, such as calibration checks and zero and span adjustments. If monitoring records are required, they should reflect any such periods of process shutdown or checks of the monitoring system.</p>	<p>Minn. R. 7007.0800, subp. 4(D)</p>
<p>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.</p>	<p>Minn. R. 7011.0020</p>
<p>Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017 unless otherwise noted in Tables A, B, and/or C.</p>	<p>Minn. R. ch. 7017</p>
<p>General Performance Test (PT) Requirements:</p> <p>Performance Tests are due as outlined in Tables A and B of the permit. See Table B for additional testing requirements.</p> <p>PT Notifications (written): due 30 days before each Performance Test PT Plan: due 30 days before each Performance Test PT Pre-test Meeting: due 7 days before each Performance Test PT Report: due 45 days after each Performance Test PT Report - Microfiche or CD-ROM: due 105 days after each Performance Test</p>	<p>Minn. R. 7017.2030, subp. 1-4; Minn. R. 7017.2035, subp. 1-2</p>
<p>Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as specified by Minn. R. 7017.2025 following formal review of a subsequent performance test on the same unit. Operating rate limits will be based on a 12 hour block average basis provided that all emission results were less than or equal to 80% of the applicable limits. Otherwise, an averaging period of 6 hours applies.</p>	<p>Minn. R. 7017.2025</p>
<p>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.</p>	<p>Minn. R. 7019.1000, subp. 1</p>
<p>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:</p> <ol style="list-style-type: none"> 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. 	<p>Minn. R. 7019.1000, subp. 1</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Operation Changes: In any shutdown, breakdown, or deviation the Permittee shall immediately take all practical steps to modify operations to reduce the emission of any regulated air pollutant. The Commissioner may require feasible and practical modifications in the operation to reduce emissions of air pollutants. No emissions units that have an unreasonable shutdown or breakdown frequency of process or control equipment shall be permitted to operate.	Minn. R. 7019.1000, subp. 4
Application for Permit Amendment: If 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
Emissions Inventory Report: due April 1 of each calendar year following permit issuance. To be submitted on a form approved by the Commissioner.	Minn. R. 7019.3000 through Minn. R. 7019.3010
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 through Minn. R. 7002.0095
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
Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A).	Minn. R. 7007.0800, subp. 9(A)
Record keeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007.1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350, subp. 2), including records of the emissions resulting from those changes.	Minn. R. 7007.0800, subp. 5(B)
Record keeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Minn. R. 7007.0800, subp. 5(C)
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)
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 federally enforceable.	Minn. R. 7030.0010 - 7030.0080
COMS and CEMS Continuous Operation: Except for system breakdowns, repairs, calibration checks, zero and span adjustments, and periods when the monitored source is not in operation, all COMS and CEMS shall be in continuous operation.	Minn. R. 7007.0800, subp. 4; Minn. R. 7007.0800, subp. 2
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
Risk Management Plan: The Permittee was required to submit a Risk Management Plan (RMP) under the federal rule, 40 CFR pt. 68. The Permittee resubmitted its RMP and EPA indicated it was complete on 6/0/04, EPA Facility ID# 1000 0002 3271. The rule requires each owner or operator of a stationary source, at which a regulated substance is present above a threshold quantity in a process, to design and implement an accidental release prevention program. A full update and resubmission of the RMP is required at least once every 5 years. The 5-year anniversary date is reset whenever the facility fully updates and resubmits their RMP. Submit RMPs to the Risk Management Plan Reporting Center, P.O. Box 1515, Lanham-Seabrook, Maryland 20703-1515. RMP information may be obtained at http://www.epa.gov/swercepp or by calling 1-800-424-9346.	40 CFR Section 68
SOLID WASTE STORAGE REQUIREMENTS	hdr
The Permittee shall store any fuels falling under the definition of solid waste in accordance with Minn. R. 7035.2855.	Minn. R. 7035.2855
Prior to operation of a storage facility, owners and operators shall obtain a written certification from an engineer licensed in Minnesota stating that the storage facility is designed and constructed to meet the requirements of this part. A copy of this certification shall be maintained on file by the owner or operator and shall be made available to the Agency upon request.	Minn. R. 7035.2855, subp. 7(A)

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Subject Item: GP 340 NCG Incineration and Venting

Associated Items: CE 342 Other

- EU 110 Turpentine Decanter #1
- EU 115 Turpentine Decanter #2
- EU 120 Turpentine Condenser dig. 1-4
- EU 125 Turpentine Condenser dig. 5-7
- EU 130 Pre-evaporator Hotwell
- EU 135 Stripper Feed Tank
- EU 140 Blow Heat Secondary Condenser
- EU 309 Evaporator Hotwell

What to do	Why to do it
MACT REQUIREMENTS	hdr
HAP Control: Gases from the LVHC system shall be combusted in the lime kiln, or boiler #2 or #1 as backup.	40 CFR Section 63.443(a)(1)(i); 40 CFR Section 63.443(d)(4)
Enclosures and Venting: All equipment listed in this group shall be enclosed and vented into a closed-vent system meeting the requirements specified in 40 CFR Section 63.450 and as described in the total facility section.	40 CFR Section 63.443(c)
OTHER REQUIREMENTS	hdr
TRS Control: Gases from the NCG sources (batch digester system (blow heat recovery), relief condensers and decant system, foul condensate stripper feed tank, and the multiple-effect evaporator) shall be combusted in the lime kiln which shall be equipped with a scrubber. The TRS limit from the lime kiln shall be 8 ppmvd corrected to 10% oxygen. The heavy black liquor tanks are not subject to the venting conditions associated with the other NCG sources.	40 CFR Section 60.283(a)(1)(i); Minn. R. 7011.2450
TRS Control - Backup and Emergency: During shutdowns and malfunctions of the lime kiln, non-condensable gases from the NCG sources (batch digester system, relief condensers and decant system, foul condensate stripper feed tank, and the multiple-effect evaporator system) shall be routed to Boiler #2 (EU430) for oxidation. During emergency situations when neither the lime kiln or Boiler #2 are available, the NCG shall be oxidized in Boiler #1 (EU420). NCG oxidation in Boilers #1 and #2, in aggregate, shall be limited to allow emissions of SO2 to no more than 115 tons per year from Boilers #1 and #2 together, on a 12-month rolling sum basis. The heavy black liquor tanks are not subject to the venting conditions associated with the other NCG sources.	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000
NCG Venting: NCG venting (venting directly to the atmosphere, rather than being oxidized in the lime kiln or Boilers #1 or #2) shall be limited to not more than 30 hours per year on a 12-month rolling sum basis. NCG venting shall also follow procedure described under the Total Facility subject item.	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000
Recordkeeping: Monthly record of hours during which NCG's are oxidized in Boiler #1 or #2 and of venting hours and monthly calculation of SO2 emissions from Boiler #1 and #2 and of 12-month rolling sums, by the 15th of the following month. Boiler #1 SO2 emissions shall be calculated using emission factors and operating data, including hours of NCG oxidation. Boiler #2 SO2 emissions shall be calculated using SO2 CEMS data and boiler operating data, including hours of NCG oxidation.	Title I Condition: Recordkeeping associated with Title I Condition; Minn. R. 7007.0800, subp. 5
Reporting: Annually by January 30th, a report of the previous 12 monthly 12-month rolling sum calculations of NCG oxidized in Boiler #1 and #2 and of NCG venting.	Minn. R. 7007.0800, subp. 6

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Subject Item: GP 420 Boilers & Recovery furnace - NOx cap

Associated Items: EU 320 Recovery Furnace

EU 322 Smelt Dissolving Tank

EU 340 Lime Kiln

EU 420 Boiler #1

EU 430 Boiler #2

EU 440 Boiler #3

EU 450 Boiler #8

EU 460 Boiler #9

What to do	Why to do it
Nitrogen Oxides: less than or equal to 3.67 tons/day from combustion sources (Boilers #1, #2, #3, #8, #9 and Recovery Furnace).	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000
Calculate: Calculate NOx emissions daily from combustion sources. The NOx emissions from EU320, EU420, EU430, EU440, EU450, and EU460 (recovery furnace, boilers #1, #2, #3, #8, and #9) shall be summed together and compared to the NOx limit for the combustion sources (3.67 tons/day). The NOx emissions from each emission unit are to be determined from the CEMS for that emission unit. Any exceedances shall be reported with the CEMS EERs.	Title I Condition: Calculations associated with Title I Condition; Minn. R. 7007.3000
Nitrogen Oxides: less than or equal to 4.18 tons/day , calculated on a semi-annual basis. This limit is the total NOx cap for the facility, and includes the combustion sources (boilers #1, #2, #3, #8, #9, and the recovery furnace) as well as the lime kiln and smelt dissolving tank.	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000
Calculate: NOx emissions from the smelt dissolving tank (EU 322) and the lime kiln (EU 340) shall be calculated by multiplying the emission factor determined from performance tests and the applicable production rate. The NOx emissions shall be added to the emissions determined from the CEMS and shall then be compared to the total NOx emission limit for GP 420. The total NOx emissions shall be calculated on a semi-annual basis. Any exceedances shall be reported with the CEMS EERs.	Title I Condition: Calculations associated with Title I Condition; Minn. R. 7007.3000

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-10

10/15/08

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Subject Item: GP 421 Kraft Pulping Process Condensates**Associated Items:** EU 145 Foul Condensate Stripper

EU 179 14% Black Liquor Tank

EU 301 18% Liquor Tank

What to do	Why to do it
Condensate Treatment: Regulated condensates shall be hardpiped to the UNOX closed biological treatment system. The UNOX treatment system shall be operated in a manner that provides at least 92% bio-treatment of HAPs to meet the requirements of 40 CFR Section 63.446(e)(3).	40 CFR Section 63.446
Condensate Closed Collection System: Regulated condensates shall be collected and conveyed in a closed collection system that is designed and operated to meet the requirements of 40 CFR Section 63.446(c) and 40 CFR Section 63.962(a)(2).	40 CFR Section 63.446; 40 CFR Section 63.962(a)(2)
Condensate Monitoring Requirements: The Permittee shall install, calibrate, certify, operate, and maintain, according to 40 CFR Section 63.453, equipment to demonstrate sufficient condensate collection and treatment in order to satisfy the requirements of 40 CFR Section 63.446(c)(2) and 40 CFR Section 63.446(e)(3). Mixed Liquor Volatile Suspended Solids (MLVSS) shall be monitored to demonstrate continuous compliance with the minimum bio-treatment requirement. A condensate collection and treatment performance test shall be conducted as required in requirement below.	40 CFR Section 63.453
Performance Test: due before 12/31/2004. This shall be the condensate collection and treatment performance test. This test was completed on 11/15/2004.	40 CFR Section 63.453

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-11

10/15/08

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Subject Item: GP 422 Paper Machines**Associated Items:** EU 505 No. 2 Paper Machine

EU 520 No. 3 Paper Machine

EU 540 No. 1 Paper Machine

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. R. 7011. 0735.	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
Periodic Monitoring: the Permittee shall perform proper maintenance of the paper machines so as to prevent excessive amounts of particulate matter from being emitted from the associated stack/vents.	Minn. R. 7007.0800, subp. 4

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-12

10/15/08

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Subject Item: GP 423 HVLC NCG Incineration and Venting**Associated Items:** CE 320 Electrostatic Precipitator - High Efficiency

EU 173 Brown Stock Washing

EU 175 Foam System (Foam Tank, Foam Chest)

EU 303 55% Black Liquor Solids Tank

EU 305 62% Black Liquor Solids Tank

EU 307 72% Black Liquor Solids Tank

EU 320 Recovery Furnace

EU 323 Precipitator Salt Cake Mix Tank

EU 324 Hopper Flush Tank

EU 905 HL Swing Tank

What to do	Why to do it
Emission units EU 303, EU 305, EU 307, EU 323, EU 324, and EU 905 are to be voluntarily controlled with this group, but are not subject to Subpart M.	hdr
Compliance Date for MACT Requirements: Compliance with the requirements from the MACT standard for the HVLC system shall be achieved no later than April 15, 2006.	40 CFR Section 63.443; 40 CFR Section 63.447

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Subject Item: SV 173 Brown Stock Washer

Associated Items: EU 173 Brown Stock Washing

EU 174 Brown Stock Decker

What to do	Why to do it
EMISSION LIMITS	hdr
Sulfur Dioxide: less than or equal to 0.02 lbs/ton air dried tons unbleached pulp.	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); Minn. R. 7007.3000
Volatile Organic Compounds: less than or equal to 0.20 lbs/ton air dried tons unbleached pulp, measured as carbon excluding methane.	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); Minn. R. 7007.3000
Sulfur - Total Reduced: less than or equal to 0.12 lbs/ton air dried tons unbleached pulp, measured as H2S.	Title I Condition: 40 CFR Section 52.21(j); (BACT limit); Minn. R. 7007.3000
OPERATIONAL LIMITS	hdr
TRS Control: The brown stock washing system is exempt from the TRS requirements in 40 CFR pt.60, subp. BB since it was demonstrated that incinerating the exhaust gases from the brown stock washing system is economically infeasible. This was done in the permitting for the 1989 New Source Review permit.	40 CFR Section 60.283(a)(1)(iv); Minn. R. 7011.2450
Compliance Date for MACT Requirements: Compliance with the requirements from the MACT standard for the brown stock washer system shall be achieved by April 17, 2006.	40 CFR 63.440(d)
Pulping System Emissions Control: The emissions from the pulping system shall meet the requirements specified in 40 CFR Section 63.443(a)(1)(ii) through (iv), or as specified in Section 63.447 Clean Condensate Alternative.	40 CFR Section 63.446
Monitoring Requirements: The Permittee shall install, calibrate, certify, operate, and maintain according to manufacturer's specifications, a continuous monitoring system (CMS) according to 40 CFR Section 63.453.	40 CFR Section 63.453
Enclosures and Venting: All equipment listed in this group shall be enclosed and vented into a closed-vent system meeting the requirements specified in 40 CFR Section 63.450 and as described in the total facility section.	40 CFR Section 63.443(c)
TESTING REQUIREMENTS	hdr
Performance Test: due before 36 months starting 09/09/1999 to measure Volatile Organic Compound and Total Reduced Sulfur emissions. The tests shall be conducted at an interval not to exceed 36 months between test dates. These tests are not required if the Brownstock Washer system has been incorporated into the closed collection system as required by the MACT standards. The Brownstock Washer (EU 173) system has been collected since April 2006. The performance test for the Brownstock Decker (EU 174) was conducted 6/6/06.	Title I Condition: Testing associated with Title I emission limit; Minn. R. 7017.2020, subp. 1
Performance Test: due before 07/01/2007 to measure Sulfur Dioxide emissions. This test is not required if the Brownstock Washer system has been incorporated into the closed collection system as required by the MACT standards. The Brownstock Washer (EU 173) system has been collected since April 2006. The performance test for the Brownstock Decker (EU 174) was conducted 6/6/06.	Title I Condition: Testing associated with Title I emission limit; Minn. R. 7017.2020, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Subject Item: SV 220 ClO2 Generator

- Associated Items:** EU 220 ClO2 Generator
 EU 221 Dump Tank
 EU 222 ClO2 Storage Tank A
 EU 223 ClO2 Storage Tank B
 EU 224 Sewer Vent (L8)
 EU 225 ClO2 Tower Seal Tank
 EU 226 Saltcake Mix Tank
 EU 227 Barometric Condenser
 EU 228 Saltcake Filter
 EU 229 Saltcake Hydroclone
 EU 230 Anti-Siphon Vent

What to do	Why to do it
EMISSION LIMITS	hdr
Chlorine: less than or equal to 0.17 lbs/hour . This is a state only limit and is not enforceable by the EPA Administrator and citizens under the Clean Air Act.	Minn. R. 7007.0800, subp. 2 (Limit established due to risk assessment performed as part of PSD permitting for 1989 permit)
Chlorine Dioxide: less than or equal to 2.2 lbs/hour . This is a state only limit and is not enforceable by the EPA Administrator and citizens under the Clean Air Act.	Minn. R. 7007.0800, subp. 2 (Limit established due to risk assessment performed as part of PSD permitting for 1989 permit)
POLLUTION CONTROL EQUIPMENT REQUIREMENTS	hdr
Control Equipment Monitoring: Observe and record, once per operating shift, the pressure drop of the gas stream for CE220.	Minn. R. 7007.0800, subp. 14
Control Equipment Monitoring: Continuously monitor the scrubbing liquid supply flow rate for CE220.	Minn. R. 7007.0800, subp. 14
Pressure Drop: greater than or equal to 3.2 inches of water column or as determined during the most recent performance test (this is pressure drop of the gas stream).	Minn. R. 7007.0800, subp. 14
Liquid Flow Rate: greater than or equal to 93 gallons/minute or as determined during the most recent performance test (this is scrubbing liquid supply flow rate).	Minn. R. 7007.0800, subp. 14
Corrective Actions: If the monitored parameter is out of the range as described above, the Permittee shall follow the facility O&M Plan and perform the necessary corrective action(s) as soon as possible to get the parameters back into the correct range. The Permittee shall keep a record of the type and date of all corrective actions taken.	Minn. R. 7007.0800, subp. 14; Minn. R. 7007.0800, subp. 5
TESTING REQUIREMENTS	hdr
Performance Test: due before end of each 60 months starting 08/08/2010 to measure Chlorine and Chlorine Dioxide emissions. This is a state only requirement and is not enforceable by the EPA Administrator and citizens under the Clean Air Act. The next test is due August 8, 2005, then every 60 months thereafter.	Minn. R. 7017.2020, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Subject Item: SV 240 Bleach plant

- Associated Items:** EU 240 D/C Tower
 EU 241 D Tower
 EU 242 D/C Blend Chest
 EU 243 D-Mixer Sample Pot.
 EU 244 D/C Filt. Tank
 EU 245 D Filt. Tank
 EU 246 Eo Filt. Tank
 EU 247 Acid Sewer Vent
 EU 248 Chlorine Blowdown Tank

What to do	Why to do it
EMISSION LIMITS	hdr
HAPs - Total: less than or equal to 10 parts per million or less than or equal to 0.02 lb per ton of oven-dried pulp or reduce the Total Chlorinated HAP mass entering the control device by 99% or more by weight. In this limit, Total HAPs refers to Total Chlorinated HAPs (not including chloroform).	40 CFR Section 63.445(c)
Chlorine: less than or equal to 0.41 lbs/hour . This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Minn. R. 7007.0800, subp. 2 (Limit established due to risk assessment performed as part of PSD permitting for 1989 permit)
Chlorine Dioxide: less than or equal to 1.2 lbs/hour . This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Minn. R. 7007.0800, subp. 2 (Limit established due to risk assessment performed as part of PSD permitting for 1989 permit)
OPERATIONAL LIMITS	hdr
The Permittee shall comply with paragraph (d)(1) or (d)(2) of 40 CFR Section 63.445 (summarized below) to reduce chloroform air emissions to the atmosphere. (1) Comply with the applicable effluent limitation guidelines and standards specified in 40 CFR part 430; (2) Use no hypochlorite or chlorine for bleaching in the bleaching system or line.	40 CFR Section 63.445(d)
Enclosures and Venting: Equipment listed at this stack, and which are associated with equipment where bleaching chemicals are added, shall be enclosed and vented into a closed-vent system meeting the requirements specified in 40 CFR Section 63.450 and as described in the total facility section.	40 CFR Section 63.443(c)
POLLUTION CONTROL EQUIPMENT REQUIREMENTS	hdr
CMS for Scrubber: The Permittee shall install, calibrate, certify, operate, and maintain a continuous monitory system (CMS) to measure the following parameters for the gas scrubber: (1) The pH or the oxidation/reduction potential of the gas scrubber effluent; (2) The scrubber fan operating condition; and (3) The gas scrubber liquid influent flow rate. An option to the CMS requirement above, is to install, calibrate, certify, operate, and maintain a CMS to measure the chlorine outlet concentration of each gas scrubber used to comply with the bleaching system outlet concentration requirement specified in 40 CFR Section 63.445(c)(2).	40 CFR Section 63.453(a), (c), (d)
Scrubber Parameter Values: To establish or reestablish the value for each operating parameter required to be monitored under 40 CFR Section 63.453, the Permittee shall use the procedures described in 40 CFR Section 63.453(n).	40 CFR Section 63.453(n)
Control Equipment Operation: The Permittee shall operate the gas scrubber in a manner consistent with the minimum or maximum (as appropriate) operating parameter value or procedure required to be monitored under paragraphs (a) through (n) of 40 CFR Section 63.453, as established by performance test, and as described in 40 CFR Section 63.453(o). Operation of the control device below minimum operating parameter values or above maximum operating parameter values established under 40 CFR pt. 63, subp. S shall constitute a violation of the applicable emission standard of 40 CFR pt. 63, subp. S and shall be reported as a period of excess emissions.	40 CFR Section 63.453(o)
Control Equipment Monitoring: Observe and record, once per operating shift, the pressure drop of the gas stream for CE240.	Minn. R. 7007.0800, subp. 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

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10/15/08

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Control Equipment Monitoring: Continuously monitor the scrubbing liquid supply flow rate for CE240.	Minn. R. 7007.0800, subp. 14
Pressure Drop: greater than or equal to 3.6 inches of water column or as determined during the most recent performance test (this is pressure drop of the gas stream).	Minn. R. 7007.0800, subp. 14
Liquid Flow Rate: greater than or equal to 121 gallons/minute or as determined during the most recent performance test (this is scrubbing liquid supply flow rate).	Minn. R. 7007.0800, subp. 14
Corrective Actions: If the monitored parameter is out of the range as described above, the Permittee shall follow the facility O&M Plan and perform the necessary corrective action(s) as soon as possible to get the parameters back into the correct range. The Permittee shall keep a record of the type and date of all corrective actions taken.	Minn. R. 7007.0800, subp. 14; Minn. R. 7007.0800, subp. 5
TESTING REQUIREMENTS	hdr
Performance Test: due before end of each 60 months starting 08/08/2010 to measure Chlorine and Chlorine Dioxide emissions. This is a state only requirement and is not enforceable by the EPA Administrator and citizens under the Clean Air Act. The next test is due August 8, 2005, then every 60 months thereafter.	40 CFR Section 63.457(a); Minn. R. 7017.2020, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Subject Item: SV 322 Smelt Dissolving Tank

Associated Items: EU 322 Smelt Dissolving Tank

EU 323 Precipitator Salt Cake Mix Tank

EU 324 Hopper Flush Tank

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 7.3 lbs/hour . (This limit is based on an emission rate limit of 0.12 lb/ton BLS (dry) and thus is more stringent than the NSPS limit (40 CFR Section 60.282(a)(2)) and MACT limit (40 CFR Section 63.862(a)(1)(i)(B)) of 0.2 lb/ton BLS for a smelt dissolving tank).	Title I Condition: 40 CFR Section 52.21 (modeling and netting); Minn. R. 7007.3000 (PENDING USEPA APPROVAL)
Total Particulate Matter: less than or equal to 5.7 lbs/hour . (This limit is based on an emission rate limit of 0.12 lb/ton BLS (dry) and thus is more stringent than the NSPS limit (40 CFR Section 60.282(a)(2)) and MACT limit (40 CFR Section 63.862(a)(1)(i)(B)) of 0.2 lb/ton BLS for a smelt dissolving tank).	Title I Condition: 40 CFR Section 52.21 (modeling and netting); Minn. R. 7007.3000 (This requirement remains applicable unless superceded by the above limit through USEPA approval)
Particulate Matter < 10 micron: less than or equal to 7.3 lbs/hour .	Title I Condition: 40 CFR Section 52.21 (modeling and netting); Minn. R. 7007.3000 (PENDING USEPA APPROVAL)
Particulate Matter < 10 micron: less than or equal to 5.7 lbs/hour	Title I Condition: 40 CFR Section 52.21 (modeling and netting); Minn. R. 7007.3000 (This requirement remains applicable unless superceded by the above limit through USEPA approval)
Opacity: less than or equal to 20 percent opacity using 6-minute Average	Minn. R. 7007.0800, subp. 2
Nitrogen Oxides: less than or equal to 0.033 lbs/ton of black liquor solids produced.	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000
Sulfur Dioxide: less than or equal to 4.3 lbs/hour (this is equivalent to 0.090 lb/ton BLS).	Title I Condition: 40 CFR Section 52.21 (modeling and netting); Minn. R. 7007.3000
Volatile Organic Compounds: less than or equal to 0.090 lbs/ton BLS (black liquor solids), measured as C excluding methane. (this is equivalent to 4.3 lb/hr)	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); Minn. R. 7007.3000
Sulfur - Total Reduced: less than or equal to 0.033 lbs/ton (lb/ton of BLS (black liquor solids)), measured as H2S. The BACT limit is the same as the NSPS limit.	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); 40 CFR Section 60.283(a)(4); Minn. R. 7007.3000; Minn. R. 7011.2450
OPERATIONAL LIMITS	hdr
<p>Process Throughput: less than or equal to 1595 tons/day of black liquor solids, calculated on a twelve-hour block average, unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3, based on the most recent MPCA approved performance test where compliance was demonstrated.</p> <p>The twelve-hour block average shall be calculated by dividing the total weight by the total operating time in each twelve-hour block. Down time of 15 or more minutes is not to be included as operating time.</p> <p>The Production limit located at the facility level also applies at all times.</p>	Minn. R. 7017.2025, subp. 3
POLLUTION CONTROL EQUIPMENT REQUIREMENTS	hdr
Install, calibrate, maintain, and operate a monitoring device for the continuous measurement of the pressure loss of the gas stream through the control equipment. The monitoring device is to be certified by the manufacturer to be accurate to within a gage pressure of +/- 2 inches water gage pressure. The monitoring device shall be operational upon startup of the control equipment. MACT Subp. MM requires monitoring of the scrubbing liquid flow rate to be certified within +/- percent of the design rate. Alternative monitoring parameters may be used with prior approval from the EPA Administrator.	40 CFR Section 60.284(b)(2)(i); 40 CFR Section 63.864(e); Minn. R. 7011.2450
Install, calibrate, maintain, and operate a monitoring device for the continuous measurement of the scrubbing liquid supply pressure to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within +/- 15 percent of design scrubbing liquid supply pressure. The pressure sensor or tap is to be located close to the scrubber liquid discharge point. The monitoring device shall be operational upon startup of the control equipment.	40 CFR Section 60.284(b)(2)(ii); 40 CFR Section 63.864(e); Minn. R. 7011.2450

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Record once per shift, measurements obtained from the monitoring device for the continuous measurement of the pressure loss of the gas stream through the control equipment and from the monitoring device for the continuous measurement of the scrubbing liquid supply pressure to the control equipment.	40 CFR Section 60.284(c)(4); Minn. R. 7011.2450
Pressure Drop: greater than or equal to 10 inches of water column using 3-hour Block Average or as determined during the most recent performance test. Three-hour block average is the average scrubber pressure drop in each three-hour block. Downtime of 15 or more minutes is not to be included as operating time.	Minn. R. 7017.2025, subp. 3
Liquid Flow Rate: greater than or equal to 81 gallons/minute using 3-hour Block Average or as determined during the most recent performance test. To determine the three-hour block average, divide the total gallons by the total operating time in each three-hour block. Downtime of 15 or more minutes is not to be included as operating time.	Minn. R. 7017.2025, subp. 3
Corrective Actions: If the monitored parameter is out of the range as described above, the Permittee shall follow the facility O&M Plan and perform the necessary corrective action(s) as soon as possible to get the parameters back into the correct range. The Permittee shall keep a record of the type and date of all corrective actions taken.	40 CFR Sections 63.864(k) and 63.867(c); Minn. R. 7007.0800, subp. 14; Minn. R. 7007.0800, subp. 5
TESTING REQUIREMENTS	hdr
Initial Performance Test: due before 09/09/2004 to measure Particulate Matter (Method 5 front-half) emissions. This is the initial compliance test for the MACT Subpart MM standard. Tests shall be conducted in accordance with the requirements of 40 CFR Section 63.7 and 63.865. This initial performance test has been completed.	40 CFR Section 63.7(a)(2); 40 CFR Section 63.865(b)(1)
Performance Test: due before end of each 36 months starting 10/27/2004 to measure Particulate Matter < 10 micron and Total Reduced Sulfur (TRS) emissions. The next test is due October 27, 2009, then every 36 months thereafter.	Title I Condition: Testing associated with Title I emission limits; Minn. R. 7017.2020, subp. 1
Performance Test: due before end of each 36 months starting 08/08/2000 to measure Total Particulate Matter, Opacity, Volatile Organic Compound and Nitrogen Oxides emissions. The Nitrogen Oxides test data will also be used to determine an emission factor which shall be used in calculating the total NOx emissions for comparison to the total NOx cap (GP 420). The next test is due November 4, 2009, then every 36 months (3 years) thereafter.	Title I Condition: Testing associated with Title I emission limits; Minn. R. 7017.2020, subp. 1
Performance Test: due before end of each 60 months starting 11/04/2006 to measure Sulfur Dioxide emissions. The next test is due November 4, 2011, then every 60 months (5 years) thereafter.	Title I Condition: Testing associated with Title I emission limits; Minn. R. 7017.2020, subp. 1
RECORD KEEPING	hdr
NOx Emissions Calculation: The NOx emissions shall be calculated on a semi-annual basis. The NOx emission factor, obtained from performance test, shall be multiplied by the production rate of the black liquid solids production. The NOx emissions shall be calculated and converted to a tons/day basis for determining the total NOx emissions from the facility and comparison to the NOx cap (GP 420).	Minn. R. 7007.0800, subp. 6

TABLE A: LIMITS AND OTHER REQUIREMENTS

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10/15/08

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Subject Item: SV 903 Combined SV220 and SV240 (ClO2 Generator & Bleach Plant)

What to do	Why to do it
Additional stack to combine SV 220 (ClO2 generator) and SV 240 (Bleach plant) has been installed to match stack parameters as modeled for Air Toxics Review. The stack must be maintained. This is a state only requirement and is not federally enforceable or enforceable by citizens under the Act.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Subject Item: EU 320 Recovery Furnace

Associated Items: CE 320 Electrostatic Precipitator - High Efficiency

GP 420 Boilers & Recovery furnace - NOx cap

GP 423 HVLC NCG Incineration and Venting

MR 320 Recovery Furnace

MR 321 Recovery Furnace

MR 322 Recovery Furnace

MR 323 Recovery Furnace

MR 324 Recovery Furnace

MR 325 Recovery Furnace

SV 320 Recovery Furnace

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 27.0 lbs/hour . This is more stringent than the NSPS subp. BB and MACT MM limits of 0.044 gr/dscf @ 8% O2, which also apply.	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); 40 CFR Section 63.864(c)(2)(i); 40 CFR Section 60.282(a)(i); Minn. R. 7007.3000 (PENDING USEPA APPROVAL)
Total Particulate Matter: less than or equal to 30.7 lbs/hour . This is more stringent than the NSPS subp. BB and MACT MM limits of 0.044 gr/dscf @ 8% O2, which also apply.	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); 40 CFR Section 63.864(c)(2)(i); 40 CFR Section 60.282(a)(i); Minn. R. 7007.3000 (This requirement remains applicable unless superceded by the above limit through USEPA approval)
Particulate Matter < 10 micron: less than or equal to 19.2 lbs/hour .	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); Minn. R. 7007.3000 (PENDING USEPA APPROVAL)
Particulate Matter < 10 micron: less than or equal to 22.9 lbs/hour	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); Minn. R. 7007.3000 (This requirement remains applicable unless superceded by the above limit through USEPA approval)
Opacity: less than or equal to 20 percent opacity using 6-minute Average , except for one six-minute period per hour of not more than 27 percent opacity. This is more stringent than 35% opacity limit of NSPS subp. BB and MACT subp. MM, which also applies.	40 CFR Section 63.864(c)(2)(i); 40 CFR Section 60.282(a)(ii); Minn. R. 7011.0515 subp. 2
Sulfur Dioxide: less than or equal to 200 tons/year using 12-month Rolling Sum , calculated using emission factor derived from performance test and using monthly production throughput.	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); 40 CFR Section 63.864(c)(2)(i); Minn. R. 7007.3000
Sulfur Dioxide: less than or equal to 106.2 lbs/hour using 3-hour Average	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); Minn. R. 7007.3000
Nitrogen Oxides: less than or equal to 110 lbs/hour using 30-day Rolling Average . This is equivalent to 80 ppm on a dry basis, corrected to 8% oxygen.	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); Minn. R. 7007.3000
Carbon Monoxide: less than or equal to 538 lbs/hour using 24-hour Rolling Average . This is equivalent to 600 ppm on a dry basis, corrected to 8% oxygen.	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); Minn. R. 7007.3000
Carbon Monoxide: less than or equal to 2289 tons/year using 12-month Rolling Average	Minn. R. 7008.0800, subp. 2
Volatile Organic Compounds: less than or equal to 31.3 lbs/hour using 3-hour Average measured as C, excluding methane. (this is based on emission rate of 0.6 lb/salt cake free, bone dry tons of black liquor solids).	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); Minn. R. 7007.3000
Sulfur - Total Reduced: less than or equal to 5 parts per million on a dry basis, corrected to 8% oxygen, using a 12-hour average. The BACT limit is the same as the NSPS limit.	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); 40 CFR Section 60.283(a)(2); Minn. R. 7007.3000; Minn. R. 7011.2450
OPERATIONAL LIMITS	hdr

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Fuel burned: limited to natural gas. HVLC NCGs and black liquor solids (BLS) (virgin bone dried basis) are also oxidized in the recovery furnace.	Title I Condition: 40 CFR Section 52.21
Process Throughput: less than or equal to 1595 tons/day of virgin black liquor solids (virgin bone dried basis), calculated on a twelve-hour block average, unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3, based on the most recent MPCA approved performance test where compliance was demonstrated. The twelve-hour block average shall be calculated by dividing the total weight by the total operating time in each twelve-hour block. Down time of 15 or more minutes is not to be included as operating time. The Production limit located at the facility level also applies at all times.	Minn. R. 7017.2025, subp. 3
Recordkeeping: records of the black liquor solids firing rates in units of tons/day shall be maintained.	40 CFR Section 63.867(c)(1)
POLLUTION CONTROL EQUIPMENT REQUIREMENTS	hdr
ESP Monitoring: The COMS for this emission unit shall be used to assess proper operation of this ESP.	40 CFR Section 63.865(c)(1); Minn. R. 7007.0800, subp. 2
TESTING REQUIREMENTS	hdr
Initial Performance Test: due before 09/09/2004 (180 days after March 13, 2004) to measure PM emissions (using EPA Method 5, front-half only) for MACT Subp. MM. Tests shall be conducted in accordance with the requirements of 40 CFR Section 63.7 and 63.865. This test was completed October 2003.	40 CFR Section 63.865(b)(1); Minn. R. 7017.2020, subp. 1
Performance Test: due before end of each 60 months starting 08/08/2000 to measure Total Particulate Matter, Particulate Matter < 10 microns, and Sulfur Dioxide emissions. The next test is due November 4, 2011, then every 60 months (5 years) thereafter. The SO2 performance test will also be used to determine emission factor to be used in calculation of SO2 emissions for comparison to 200 tons/year limit.	Minn. R. 7017.2020, subp. 1
Performance Test: due before end of each 60 months starting 08/08/2000 to measure Volatile Organic Compound emissions. The next test is due November 4, 2011, then every 60 months (5 years) thereafter.	Title I Condition: Testing associated with Title I emission limit; Minn. R. 7017.2020, subp. 1
COMS REQUIREMENTS	hdr
Emissions Monitoring: The Permittee shall use a COMS to measure Opacity emissions from EU320.	Title I Condition: Monitoring associated with Title I emission limits; Minn. R. 7017.1006; 40 CFR Section 63.865(c)(1)
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. 7017.1211, subp. 2; 40 CFR 60.13(d)(2); 40 CFR Section 63.865(c)(1)
COMS Calibration Error Audit: due before end of each calendar quarter starting 03/14/2004. Filter values used shall be compliant with Minn. R. 7017.1210, subp. 3.	Minn. R. 7017.1210, subp. 3; 40 CFR Section 63.865(c)(1)
Recordkeeping: The owner or operator must retain records of all COMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source.	Minn. R. 7017.1130; 40 CFR Section 63.865(c)(1)
QA Plan Required: Develop and implement a written quality assurance plan which covers each COMS. The plan shall be on site and available for inspection. The plan shall contain the written procedures listed in Minn. R. 7017.1210, subp. 1.	Minn. R. 7017.1210; 40 CFR Section 63.865(c)(1)
COMS Monitoring Data: The Permittee shall reduce the COMS data to six-minute averages. Opacity averages shall be calculated from all equally spaced consecutive 10-second (or shorter) data points in the six-minute averaging period.	Minn. R. 7017.1200, subp. 1, 2, & 3; 40 CFR Section 63.865(c)(1)
COMS Continuous Operation: Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, all COMS shall be in continuous operation. A COMS must not be bypassed except in emergencies where failure to bypass the COMS would endanger human health, safety, or plant equipment.	Minn. R. 7017.1090, subp. 1; 40 CFR Section 63.865(c)(1)
CEMS REQUIREMENTS	hdr
The Permittee shall install, calibrate, maintain and operate a continuous monitoring system for measuring and recording, Nitrogen Oxide emissions, Carbon Monoxide emissions, Total Reduced Sulfur emissions, and either Oxygen or Carbon Dioxide.	Title I Condition: Monitoring associated with Title I emission limit; 40 CFR Section 60.45(a); Minn. R. 7017.1006
CEMS Daily Calibration Drift (CD) Test: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) gas concentrations at least once daily. The CEMS shall be adjusted whenever the CD exceeds twice the specification of 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F, shall be used to determine out-of-control periods for CEMS.	Minn. R. 7017.1170, subp. 3

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

CEMS Cylinder Gas Audit (CGA): due before end of each calendar year starting 09/09/1999 for TRS. If a RATA is performed during the calendar year, a CGA is not required.	Minn. R. 7017.1170, subp. 1(A) and (B)
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar 60 months starting 09/09/1999 TRS	Minn. R. 7017.1170, subp. 1(A) and (B)
CEMS Cylinder Gas Audit (CGA): due before end of each calendar half-year starting 09/09/1999 . Conduct cylinder gas audit (CGA) at least 3 months apart but not greater than 8 months apart. If a RATA is performed during the calendar half-year a CGA is not required. Follow the procedures in 40 CFR pt. 60, Appendix F.	Minn. R. 7017.1170, subp. 4
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar year starting 09/09/1999 . If the relative accuracy is 15% or less the next CEMS RATA is not due for 24 months from the date of the last test. Follow the procedures in 40 CFR pt. 60, Appendix B and Appendix F.	Minn. R. 7017.1170, subp. 5
QA Plan: Develop and implement a written quality assurance plan that covers each CEMS. The plan shall be on site and available for inspection. The plan shall contain all of the information required by 40 CFR 60, App. F, section 3.	Minn. R. 7017.1170, subp. 2
CEMS Continuous Operation: Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, all CEMS shall be in continuous operation. A CEMS must not be bypassed except in emergencies where failure to bypass the CEMS would endanger human health, safety, or plant equipment.	Minn. R. 7017.1090, 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
ALTERNATIVE FUELS TESTING	hdr
Test burns shall consist of up to two phases - feasibility and performance testing. If an alternative biomass fuel meets feasibility requirements (as defined by the Permittee) such that it may be proposed as an additional fuel, the Permittee may move into the performance testing phase.	Minn. R. 7007.0800, subp. 2
Alternative Biomass Fuel Testing Restrictions: Feasibility test burns for any alternative biomass fuel shall be limited to no more than 168 hours of operation using the fuel, and a test period not to exceed 30 days. Performance tests for any alternative biomass fuel shall be limited to no more than 168 additional hours of operation using the proposed fuel and a test period not to exceed 60 additional days.	Minn. R. 7007.0800, subp. 2
Alternative Biomass Fuel Testing Authorization: The Permittee is authorized to conduct operational test burns of the following biomass fuels: BLS Soap, BLS Soap Tall Oil, Wastewater Treatment Residual, Glycerin or glycerol, herbs, nuts; vegetable oils; crop field residue or field processing residues; shells, husks, seeds, dust, screenings and other agricultural processing residues; cultivated grasses or grass by products and leaves. Acceptable biomass fuels do not include wood that has been painted or pressure treated; peat; off-site generated waste oil, farm chemicals, pesticide containers, demolition waste except wood, waste from farms from an open dump, tire derived fuels, non-agricultural industrial process wastes except wood derived wastes or any material meeting the definition of a hazardous waste.	Minn R. 7007.0800, subp. 2
Alternative Biomass Fuel Testing Requirements and Restrictions: Operational test burn will include, but not be limited to, nitrogen oxide, carbon monoxide, and opacity emission limits monitored by existing CEMs and COMs. Alternative biomass fuels will further be limited to less than 5,000 tons. Alternative test fuels will be limited to less than 25 percent of the heat input capacity of the boiler (i.e., less than 25% of 395 mmBTU/hr or 99 mmBTU/hr). Feasibility test burns will be monitored for NOx, CO, TRS, and opacity. If feasibility test burns prove successful, then PM, PM-10, SO2 and VOC performance test data will be gathered during the performance testing phase. Preliminary fuel testing will be completed to estimate the maximum HAP emissions (HCl and Hg).	Minn R. 7007.0800, subp. 2
Alternative Biomass Fuel Emission Testing Notification and submittals; Pretest meeting: due 7 days before Performance Test Test Report: Due 45 days after Performance Test Test Report: CD copy due 105 days after Performance Test The Notification, the test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018	Minn R. 7017.2030, subp. 1-4; Minn R. 7017.2018 and Minn. R. 7017.2035, subp. 1-2

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Subject Item: EU 340 Lime Kiln

Associated Items: CE 340 Centrifugal Collector - Medium Efficiency

CE 341 Wet Scrubber-High Efficiency w/o Lime

GP 420 Boilers & Recovery furnace - NOx cap

MR 327 O2 monitor

MR 340 Lime Kiln

MR 341 Lime Kiln

MR 903 TRS Monitor

SV 340 Lime Kiln

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 12.7 lbs/hour .	Title I Condition: 40 CFR Section 52.21 (netting and modeling); Minn. R. 7007.3000 (PENDING USEPA APPROVAL)
Total Particulate Matter: less than or equal to 10.6 lbs/hour	Title I Condition: 40 CFR Section 52.21 (netting and modeling); Minn. R. 7007.3000 (This requirement remains applicable unless superceded by the above limit through USEPA approval)
Total Particulate Matter: less than or equal to 0.066 grains/dry standard cubic foot @10% oxygen. This is equivalent to the NSPS subp. BB of 0.066 gr/dscf @10% oxygen, which also applies.	40 CFR Section 63.862(a)(ii); 40 CFR Section 63.865; Minn. R. 7011.7700(B) (PENDING USEPA APPROVAL)
Total Particulate Matter: less than or equal to 0.064 grains/dry standard cubic foot @10% oxygen. This is more stringent than the NSPS subp. BB of 0.067 gr/dscf @10% oxygen, which also applies.	40 CFR Section 63.862(a)(i)(c); 40 CFR Section 63.862(a)(ii); 40 CFR Section 63.865; Minn. R. 7011.7700(B) (This requirement remains applicable unless superceded by the above limit through USEPA approval)
Particulate Matter < 10 micron: less than or equal to 12.7 lbs/hour .	Title I Condition: 40 CFR Section 52.21 (netting and modeling); Minn. R. 7007.3000 (PENDING USEPA APPROVAL)
Particulate Matter < 10 micron: less than or equal to 10.6 lbs/hour	Title I Condition: 40 CFR Section 52.21 (netting and modeling); Minn. R. 7007.3000 (This requirement remains applicable unless superceded by the above limit through USEPA approval)
Opacity: less than or equal to 20 percent opacity using 6-minute Average	Minn. R. 7011.0610, subp. 1(A)(2)
Sulfur Dioxide: less than or equal to 13.5 lbs/hour	Title I Condition: 40 CFR Section 52.21 (netting and modeling); Minn. R. 7007.3000
Nitrogen Oxides: less than or equal to 34.9 lbs/hour using 3-hour Average	Title I Condition: 40 CFR Section 52.21 (BACT limit and modeling); Minn. R. 7007.3000
Carbon Monoxide: less than or equal to 23.7 lbs/hour	Title I Condition: 40 CFR Section 52.21 (BACT limit and modeling); Minn. R. 7007.3000
Volatile Organic Compounds: less than or equal to 11.4 lbs/hour , measured as C excluding methane.	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); Minn. R. 7007.3000
Sulfur - Total Reduced: less than or equal to 8 parts per million using 12-hour Average (calculated on a dry basis and corrected to 10% oxygen). The BACT limit is the same as the NSPS limit.	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); 40 CFR Section 60.283(a)(5); Minn. R. 7007.3000; Minn. R. 7011.2450
OPERATIONAL LIMITS	hdr
Fuel Usage: Limited to natural gas. Non-condensable gas (NCG) is also oxidized in the lime kiln.	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

<p>Production: less than or equal to 207.9 tons/day of lime, calculated on a twelve-hour block average, unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3, based on the most recent MPCA approved performance test where compliance was demonstrated.</p> <p>The twelve-hour block average shall be calculated by dividing the total weight by the total operating time in each twelve-hour block. Down time of 15 or more minutes is not to be included as operating time.</p>	Minn. R. 7017.2025, subp. 3
<p>Recordkeeping: records of the CaO production rate in units of tons/day shall be maintained.</p>	40 CFR Section 63.867(c)(2)
<p>POLLUTION CONTROL EQUIPMENT REQUIREMENTS</p>	hdr
<p>Install, calibrate, maintain, and operate a monitoring device for the continuous measurement of the pressure loss of the gas stream through the control equipment. The monitoring device is to be certified by the manufacturer to be accurate to within a gage pressure of +/- 2 inches water gage pressure. The monitoring device shall be operational upon startup of the control equipment.</p>	40 CFR Section 63.864(e); 40 CFR Section 60.284(b)(2)(i); Minn. R. 7011.2450
<p>Install, calibrate, maintain, and operate a monitoring device for the continuous measurement of the scrubbing liquid supply pressure to the control equipment. The monitoring device is to be certified by the manufacturer to be accurate within +/- 15 percent of design scrubbing liquid supply pressure. The pressure sensor or tap is to be located close to the scrubber liquid discharge point. The monitoring device shall be operational upon startup of the control equipment. MACT Subp. MM requires monitoring of the scrubbing liquid flow rate to be certified within +/- percent of the design rate. Alternative monitoring parameters may be used with prior approval from the EPA Administrator.</p>	40 CFR Section 63.864(e); 40 CFR Section 60.284(b)(2)(ii); Minn. R. 7011.2450
<p>Install, calibrate, maintain, and operate a continuous parameter monitoring system (CPMS) that can be used to determine and record the scrubber liquid supply pressure and the scrubbing liquid flow rate at least once every successive 15-minute period using the procedures in 63.8(c), as well as the procedures in paragraphs (e)(10)(i) and (ii).</p>	40 CFR Section 63.864(e)(10) & (13)
<p>Record once every 15 minutes as equally spaced intervals, or as an arithmetic or integrated three-hour block average, measurements obtained from the monitoring device for the continuous measurement of the pressure loss of the gas stream through the control equipment and from the monitoring device for the continuous measurement of the scrubbing liquid supply pressure to the control equipment.</p>	40 CFR Section 63.864(a)(2); 40 CFR Section 60.284(c)(4); Minn. R. 7011.2450
<p>Pressure at nozzle: greater than or equal to 308 psi or as determined during the most recent performance test, using a 3-hour Block Average. This pressure is the scrubber liquid supply pressure.</p> <p>Determine the average liquid supply pressure in each three-hour block. Downtime of 15 or more minutes is not to be included as averaging time.</p>	Minn. R. 7017.2025, subp. 3; EPA letter dated 12/8/04 allowing this under 40 CFR Section 63.864(j)(2) and (3) (ADI Control Number M050014)
<p>Liquid Flow Rate: greater than or equal to 425 gallons/minute using 3-hour Block Average or as determined during the most recent performance test.</p> <p>To determine the three-hour block average, divide the total gallons by total operating time in each three-hour block. Downtime of 15 or more minutes is not to be included as operating time.</p>	Minn. R. 7017.2025, subp. 3; EPA letter dated 12/8/04 allowing this under 40 CFR Section 63.864(j)(2) and (3) (ADI Control Number M050014)
<p>Corrective Actions: If the monitored parameter is out of the range as described above, the Permittee shall follow the facility O&M Plan and the SSMP and perform the necessary corrective action(s) as soon as possible to get the parameters back into the correct range. The Permittee shall keep a record of the type and date of all corrective actions taken.</p>	40 CFR Section 63.864(k); Minn. R. 7007.0800, subp. 14; Minn. R. 7007.0800, subp. 5
<p>TESTING REQUIREMENTS</p>	hdr
<p>Performance Test: due before end of each year starting 08/08/2001 to measure Total Particulate Matter and Particulate Matter <10 micron emissions. The next test is due February 2, 2009, then every year (12 months) thereafter.</p>	Title I Condition: Testing associated with Title I emission limits; Minn. R. 7017.2020, subp. 1
<p>Initial Performance Test: due before 09/09/2004 (180 days after March 13, 2004) to measure PM emissions (using EPA Method 5, front-half only) for MACT Subp. MM. Tests shall be conducted in accordance with the requirements of 40 CFR Section 63.7 and 63.865. This test was completed on 08/31/2004.</p>	40 CFR Section 63.865(b)(1); Minn. R. 7017.2020, subp. 1
<p>Performance Test: due before end of each 36 months starting 08/08/2000 to measure Nitrogen Oxides, Sulfur Dioxide, Volatile Organic Compounds and Carbon Monoxide emissions. The next test is due July 1, 2010, then every 36 months (3 years) thereafter.</p>	Title I Condition: Testing associated with Title I emission limits; Minn. R. 7017.2020, subp. 1
<p>CEMS REQUIREMENTS</p>	hdr
<p>The Permittee shall install, calibrate, maintain and operate a continuous monitoring system for measuring and recording the Total Reduced Sulfur emissions, and either Oxygen or Carbon Dioxide.</p>	Title I Condition: Monitoring associated with Title I emission limits; 40 CFR Section 60.45(a); Minn. R. 7017.1006

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

<p>CEMS Daily Calibration Drift (CD) Test: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) gas concentrations at least once daily. The CEMS shall be adjusted whenever the CD exceeds twice the specification of 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F, shall be used to determine out-of-control periods for CEMS.</p>	<p>40 CFR 60.13(d)(1); Minn. R. 7017.1170, subp. 3</p>
<p>CEMS Cylinder Gas Audit (CGA): due before end of each calendar year starting 09/09/1999 . Follow the procedures in 40 CFR pt. 60, Appendix F. If a RATA is performed during the calendar year, a CGA is not required.</p>	<p>Minn. R. 7017.1170, subp. 1(A) and (B)</p>
<p>CEMS Relative Accuracy Test Audit (RATA): due before end of each 60 months starting 11/01/2005. (PER007 requires new RATA to be done by 11/1/05 and every 60 months thereafter). Follow the procedures in 40 CFR pt. 60, Appendix B and Appendix F.</p>	<p>Minn. R. 7017.1170, subp. 1(A) and (B)</p>
<p>QA Plan: Develop and implement a written quality assurance plan that covers each CEMS. The plan shall be on site and available for inspection. The plan shall contain all of the information required by 40 CFR 60, App. F, section 3.</p>	<p>Minn. R. 7017.1170, subp. 2; 40 CFR pt. 60, App. F, section 3</p>
<p>CEMS Continuous Operation: Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, all CEMS shall be in continuous operation. A CEMS must not be bypassed except in emergencies where failure to bypass the CEMS would endanger human health, safety, or plant equipment.</p>	<p>40 CFR 60.13(e); Minn. R. 7017.1090, subp. 1</p>
<p>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.</p>	<p>Minn. R. 7017.1130; 40 CFR 60.7(f)</p>
<p>RECORD KEEPING</p>	<p>hdr</p>
<p>Recordkeeping: Monthly record, by the 15th of the following month, the amount of lime produced.</p>	<p>Minn. R. 7007.0800, subp. 6</p>
<p>NOx Emissions Calculation: The NOx emissions shall be calculated on a semi-annual basis. The NOx emission factor, obtained from performance test, shall be multiplied by the production rate of the black liquid solids production (virgin bone dried basis). The NOx emissions shall be calculated and converted to a tons/day basis for determining the total NOx emissions from the facility and comparison to the NOx cap (GP 420).</p>	<p>Minn. R. 7007.0800, subp. 6</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Subject Item: EU 420 Boiler #1

Associated Items: CE 420 Other

GP 420 Boilers & Recovery furnace - NOx cap

MR 420 Boiler 1

MR 421 Boiler 1

SV 420 Boiler #1

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.6 lbs/million Btu heat input	Title I Condition: 40 CFR Section 52.21 (modeling and netting); Minn. R. 7011.0510, subp. 1
Particulate Matter < 10 micron: less than or equal to 0.6 lbs/million Btu heat input	Title I Condition: 40 CFR Section 52.21 (modeling and netting); Minn. R. 7011.0510, subp. 1
Opacity: less than or equal to 20 percent opacity , except for one six-minute period per hour of not more than 60 percent Opacity.	Minn. R. 7011.0510, subp. 2
Nitrogen Oxides: less than or equal to 0.2 lbs/million Btu heat input using 30-day Rolling Average	Title I Condition: 40 CFR Section 52.21(modeling); Minn. R. 7007.3000
OPERATIONAL LIMITS	hdr
Fuel burned: limited to natural gas. Exhaust from the sludge dryer (EU 903) may also vent to boiler #1. Non-condensable gas (NCG) is also oxidized in boiler #1. The amount of NCG burned in boiler #1 is limited under GP 340. The amount of NCG burned in boiler #1 is limited under GP 340.	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000
The Permittee shall comply with all applicable portions of 40 CFR Section 63, Subpart DDDDD, by September 13, 2007.	40 CFR Section 63, Subpart DDDDD
CEMS REQUIREMENTS	hdr
The Permittee shall install, calibrate, maintain and operate a continuous monitoring system for measuring and recording Nitrogen Oxide emissions.	Minn. R. 7017.1006
CEMS Daily Calibration Drift (CD) Test: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) gas concentrations at least once daily. The CEMS shall be adjusted whenever the CD exceeds twice the specification of 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F, shall be used to determine out-of-control periods for CEMS.	Minn. R. 7017.1170, subp. 3
CEMS Cylinder Gas Audit (CGA): due before end of each calendar half-year starting 09/09/1999 . Conduct cylinder gas audit (CGA) at least 3 months apart but not greater than 8 months apart. If a RATA is performed during the calendar half-year a CGA is not required. Follow the procedures in 40 CFR pt. 60, Appendix F.	Minn. R. 7017.1170, subp. 4
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar year starting 09/09/1999 . If the relative accuracy is 15% or less the next CEMS RATA is not due for 24 months from the date of the last test. Follow the procedures in 40 CFR pt. 60, Appendix B and Appendix F.	Minn. R. 7017.1170, subp. 5
QA Plan: Develop and implement a written quality assurance plan that covers each CEMS. The plan shall be on site and available for inspection. The plan shall contain all of the information required by 40 CFR 60, App. F, section 3.	Minn. R. 7017.1170, subp. 2
CEMS Continuous Operation: Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, all CEMS shall be in continuous operation. A CEMS must not be bypassed except in emergencies where failure to bypass the CEMS would endanger human health, safety, or plant equipment.	Minn. R. 7017.1090, 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

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Subject Item: EU 430 Boiler #2

Associated Items: CE 430 Centrifugal Collector - Medium Efficiency

CE 431 Electrostatic Precipitator - High Efficiency

GP 420 Boilers & Recovery furnace - NOx cap

MR 430 Boiler 2

MR 431 Boiler 2

MR 432 Boiler 2

MR 433 Boiler 2

SV 430

SV 431

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 13.0 lbs/hour	Title I Condition: 40 CFR Section 52.21 (BACT limit); Minn. R. 7007.3000
Particulate Matter < 10 micron: less than or equal to 11.7 lbs/hour	Title I Condition: 40 CFR Section 52.21 (BACT limit); Minn. R. 7007.3000
Opacity: less than or equal to 20 percent opacity using 6-minute Average except for one six-minute period per hour of not more than 27 percent opacity	Minn. R. 7011.0515 subp. 2
Sulfur Dioxide: less than or equal to 39.5 lbs/hour 6-hour rolling average. This limit does not apply when NCG is being oxidized in the #2 boiler.	Title I Condition: 40 CFR Section 52.21 (BACT and modeling limit); Minn. R. 7007.3000
Sulfur Dioxide: less than or equal to 9.4 lbs/hour using 12-month Rolling Average . This limit does not apply when NCG is being oxidized in the #2 boiler.	Title I Condition: 40 CFR Section 52.21 (BACT limit); Minn. R. 7007.3000
Nitrogen Oxides: less than or equal to 100.2 lbs/hour using 30-day Rolling Average	Title I Condition: 40 CFR Section 52.21 (BACT limit); Minn. R. 7007.3000
Carbon Monoxide: less than or equal to 800 lbs/hour using 1-Hour Average	Title I Condition: 40 CFR Section 52.21 (BACT and modeling limit); Minn. R. 7007.3000
Carbon Monoxide: less than or equal to 200 lbs/hour using 12-month Rolling Average	Title I Condition: 40 CFR Section 52.21 (BACT and modeling limit); Minn. R. 7007.3000
Volatile Organic Compounds: less than or equal to 40.2 lbs/hour measured as C excluding methane.	Title I Condition: 40 CFR Section 52.21 (BACT limit); Minn. R. 7007.3000
OPERATIONAL LIMITS	hdr
Fuel Burned: Fuels to be burned are limited to bark, wood refuse, wastewater treatment sludge, paper, and natural gas. Non-condensable gas (NCG) is also oxidized in boiler #2. The amount of NCG burned in boiler #2 is limited under GP 340.	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000
Fuel Usage: less than or equal to 27010 tons/month using 12-month Rolling Average . The fuel usage limit is for combined total of bark, wood refuse, paper, and sludge and shall be expressed in units of green tons per month.	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000
Fuel Usage: less than or equal to 5193 tons/month using 12-month Rolling Average (SLUDGE USAGE LIMIT).	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000
<p>Fuel Usage: less than or equal to 36.9 tons/hour of total bark/wood refuse/sludge, calculated on a six-hour block average. This limit is in effect unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3, based on the most recent MPCA approved performance test where compliance was demonstrated.</p> <p>The six-hour block average shall be calculated by dividing the total weight by the total operating time in each six-hour block. Down time of 15 or more minutes is not to be included as operating time.</p>	Minn. R. 7017.2025, subp. 3
The Permittee shall comply with all applicable portions of 40 CFR Section 63, Subpart DDDDD, by September 13, 2007.	40 CFR Section 63 Subpart DDDDD
POLLUTION CONTROL EQUIPMENT REQUIREMENTS	hdr
ESP Monitoring: The COMS for this emission unit shall be used to assess proper operation of this ESP.	Minn. R. 7007.0800, subp. 2
TESTING REQUIREMENTS	hdr

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Performance Test: due before end of each 60 months starting 08/08/2000 to measure Total Particulate Matter, Particulate Matter <10 micron, and Volatile Organic Compounds emissions. The next test is due August 8, 2010, then every 60 months (5 years) thereafter.	Title I Condition: Testing associated with Title I emission limits; Minn. R. 7017.2020, subp. 1
COMS REQUIREMENTS	hdr
Emissions Monitoring: The Permittee shall use a COMS to measure Opacity emissions from EU430.	Title I Condition: Monitoring associated with Title I emission limits; Minn. R. 7017.1006
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. 7017.1211, subp. 2; 40 CFR 60.13(d)(2)
COMS Calibration Error Audit: due before end of each calendar half-year starting 09/09/1999 . Conduct audits at least 3 months apart but no greater than 8 months apart. Filter values used shall be compliant with Minn. R. 7017.1210, subp. 3.	Minn. R. 7017.1210, subp. 3
Recordkeeping: The owner or operator must retain records of all COMS monitoring data and support information for a period of five years from the date of the monitoring sample, measurement or report. Records shall be kept at the source.	Minn. R. 7017.1130
QA Plan Required: Develop and implement a written quality assurance plan which covers each COMS. The plan shall be on site and available for inspection. The plan shall contain the written procedures listed in Minn. R. 7017.1210, subp. 1.	Minn. R. 7017.1210
COMS Monitoring Data: The Permittee shall reduce the COMS data to six-minute averages. Opacity averages shall be calculated from all equally spaced consecutive 10-second (or shorter) data points in the six-minute averaging period.	Minn. R. 7017.1200, subp. 1, 2, & 3
COMS Continuous Operation: Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, all COMS shall be in continuous operation. A COMS must not be bypassed except in emergencies where failure to bypass the COMS would endanger human health, safety, or plant equipment.	Minn. R. 7017.1090, subp. 1
CEMS REQUIREMENTS	hdr
The Permittee shall install, calibrate, maintain and operate a continuous monitoring system for measuring and recording Nitrogen Oxide, Sulfur Dioxide, and Carbon Monoxide emissions.	Title I Condition: Monitoring associated with Title I emission limits; Minn. R. 7017.1006
CEMS Daily Calibration Drift (CD) Test: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) gas concentrations at least once daily. The CEMS shall be adjusted whenever the CD exceeds twice the specification of 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F, shall be used to determine out-of-control periods for CEMS.	Minn. R. 7017.1170, subp. 3
CEMS Cylinder Gas Audit (CGA): due before end of each calendar half-year starting 09/09/1999 . Conduct cylinder gas audit (CGA) at least 3 months apart but not greater than 8 months apart. If a RATA is performed during the calendar half-year a CGA is not required. Follow the procedures in 40 CFR pt. 60, Appendix F.	Minn. R. 7017.1170, subp. 4
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar year starting 09/09/1999 . If the relative accuracy is 15% or less the next CEMS RATA is not due for 24 months from the date of the last test. Follow the procedures in 40 CFR pt. 60, Appendix B and Appendix F.	Minn. R. 7017.1170, subp. 5
QA Plan: Develop and implement a written quality assurance plan that covers each CEMS. The plan shall be on site and available for inspection. The plan shall contain all of the information required by 40 CFR 60, App. F, section 3.	Minn. R. 7017.1170, subp. 2
CEMS Continuous Operation: Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, all CEMS shall be in continuous operation. A CEMS must not be bypassed except in emergencies where failure to bypass the CEMS would endanger human health, safety, or plant equipment.	Minn. R. 7017.1090, 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
ALTERNATIVE FUELS TESTING	hdr
Test burns shall consist of up to two phases - feasibility and performance testing. If an alternative biomass fuel meets feasibility requirements (as defined by the Permittee) such that it may be proposed as an additional fuel, the Permittee may move into the performance testing phase.	Minn. R. 7007.0800, subp. 2
Alternative Biomass Fuel Testing Restrictions: Feasibility test burns for any alternative biomass fuel shall be limited to no more than 168 hours of operation using the fuel, and a test period not to exceed 30 days. Performance tests for any alternative biomass fuel shall be limited to no more than 168 additional hours of operation using the proposed fuel and a test period not to exceed 60 additional days.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

<p>Alternative Biomass Fuel Testing Authorization: The Permittee is authorized to conduct operational test burns of the following biomass fuels: BLS Soap, BLS Soap Tall Oil, Wastewater Treatment Residual, Glycerin or glycerol, herbs, nuts; vegetable oils; crop field residue or field processing residues; shells, husks, seeds, dust, screenings and other agricultural processing residues; cultivated grasses or grass by products and leaves. Acceptable biomass fuels do not include wood that has been painted or pressure treated; peat; off-site generated waste oil, farm chemicals, pesticide containers, demolition waste except wood, waste from farms from an open dump, tire derived fuels, non-agricultural industrial process wastes except wood derived wastes or any material meeting the definition of a hazardous waste.</p>	<p>Minn R. 7007.0800, subp. 2</p>
<p>Alternative Biomass Fuel Testing Requirements and Restrictions: Operational test burn will include, but not be limited to, nitrogen oxide, sulfur dioxide, carbon monoxide, and opacity emission limits monitored by existing CEMs and COMs. Alternative biomass fuels will further be limited to less than 5,000 tons and no more than 7 days (or 168 hours) operation using the fuel, and a testing period to last no more than 30 operational days beginning the first day fuel is used. Further alternative test fuels will be limited to less than 25 percent of the heat input capacity of the boiler (i.e., less than 25% of 395 mmBTU/hr or 99 mmBTU/hr). Operational test burns will be monitored for NOx, CO, SO2, and opacity. If operational test burns prove successful, then PM, PM-10 and VOC performance test data will be gathered during the test. Preliminary fuel testing will be completed to estimate the maximum HAP emissions (HCl and Hg).</p>	<p>Minn R. 7007.0800, subp. 2</p>
<p>Alternative Biomass Fuel Emission Testing Notification and submittals; Pretest meeting: due 7 days before Performance Test Test Report: Due 45 days after Performance Test Test Report: CD copy due 105 days after Performance Test The Notification, the test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018</p>	<p>Minn R. 7017.2030, subp. 1-4; Minn R. 7017.2018 and Minn. R. 7017.2035, subp. 1-2</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Subject Item: EU 440 Boiler #3

- Associated Items:** CE 440 Other
 GP 420 Boilers & Recovery furnace - NOx cap
 MR 440 Boiler 3
 MR 441 Boiler 3
 SV 440

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.003 lbs/million Btu heat input	Title I Condition: 40 CFR Section 52.21 (netting, modeling); Minn. R. 7007.3000
Particulate Matter < 10 micron: less than or equal to 0.003 lbs/million Btu heat input	Title I Condition: 40 CFR Section 52.21 (netting, modeling); Minn. R. 7007.3000
Opacity: less than or equal to 20 percent opacity using 6-minute Average , except for one six-minute period per hour of not more than 27 percent opacity	Minn. R. 7011.0515 subp. 2
Nitrogen Oxides: less than or equal to 0.050 lbs/million Btu heat input using 30-day Rolling Average	Title I Condition: 40 CFR Section 52.21 (BACT limit; modeling); Minn. R. 7007.3000
Carbon Monoxide: less than or equal to 0.090 lbs/million Btu heat input	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); Minn. R. 7007.3000
Carbon Monoxide: less than or equal to 33.6 lbs/hour	Title I Condition: 40 CFR Section 52.21(k) (modeling); Minn. R. 7007.3000
Volatile Organic Compounds: less than or equal to 0.0090 lbs/million Btu heat input , measured as C excluding methane (this is equivalent to 3.4 lb/hr).	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); Minn. R. 7007.3000
OPERATIONAL LIMITS	hdr
Fuel Burned: Fuels to be burned are limited to natural gas.	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000
Annual Capacity Factor: Record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor for natural gas each calendar quarter. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month.	Title I Condition: 40 CFR Section 52.21; 40 CFR Section 60.49b(d); Minn. R. 7007.3000
The Permittee shall comply with all applicable portions of 40 CFR Section 63, Subpart DDDDD, by September 13, 2007.	40 CFR Section 63 Subpart DDDDD
TESTING REQUIREMENTS	hdr
Performance Test: due before end of each calendar 60 months starting 08/08/2000 to measure Volatile Organic Compounds and Carbon Monoxide emissions. The next test is due August 8, 2010, then every 60 months thereafter.	Title I Condition: Testing associated with Title I emission limits; Minn. R. 7017.2020, subp. 1
CEMS REQUIREMENTS	hdr
The Permittee shall install, calibrate, maintain and operate a continuous monitoring system for measuring and recording the Nitrogen Oxide emissions, and either Oxygen or Carbon Dioxide.	Title I Condition: Monitoring associated with Title I emission limits; NSPS Subp. Db; 40 CFR Section 60.45(a); Minn. R. 7017.1006
CEMS Daily Calibration Drift (CD) Test: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) gas concentrations at least once daily. The CEMS shall be adjusted whenever the CD exceeds twice the specification of 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F, shall be used to determine out-of-control periods for CEMS.	40 CFR 60.13(d)(1); Minn. R. 7017.1170, subp. 3; 40 CFR pt. 60, App. F, section 4.1;
CEMS Cylinder Gas Audit (CGA): due before end of each calendar quarter starting 09/09/1999 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 pt. 60, App. F, section 5.1.2; Minn. R. 7017.1170, subp. 4
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar year starting 09/09/1999 . Follow the procedures in 40 CFR pt. 60, Appendix B and Appendix F.	40 CFR pt. 60, App. F, section 5.1.1; Minn. R. 7017.1170, subp. 5
QA Plan: Develop and implement a written quality assurance plan that covers each CEMS. The plan shall be on site and available for inspection. The plan shall contain all of the information required by 40 CFR 60, App. F, section 3.	Minn. R. 7017.1170, subp. 2; 40 CFR pt. 60, App. F, section 3

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-31

10/15/08

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

CEMS Continuous Operation: Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, all CEMS shall be in continuous operation. A CEMS must not be bypassed except in emergencies where failure to bypass the CEMS would endanger human health, safety, or plant equipment.	40 CFR 60.13(e); Minn. R. 7017.1090, 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 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 60.7(b)

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Subject Item: EU 450 Boiler #8

Associated Items: CE 450 Other
 GP 420 Boilers & Recovery furnace - NOx cap
 MR 450 Boiler 8
 MR 451 Boiler 8
 SV 450

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.003 lbs/million Btu heat input	Title I Condition: 40 CFR Section 52.21 (netting, modeling); Minn. R. 7007.3000
Particulate Matter < 10 micron: less than or equal to 0.003 lbs/million Btu heat input	Title I Condition: 40 CFR Section 52.21 (netting, modeling); Minn. R. 7007.3000
Opacity: less than or equal to 20 percent opacity using 6-minute Average , except for one six-minute period per hour of not more than 27 percent opacity	Minn. R. 7011.05150 subp. 2
Nitrogen Oxides: less than or equal to 0.050 lbs/million Btu heat input using 30-day Rolling Average	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000
Carbon Monoxide: less than or equal to 0.090 lbs/million Btu heat input using 3-hour Average	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); Minn. R. 7007.3000
Carbon Monoxide: less than or equal to 33.6 lbs/hour	Title I Condition: 40 CFR Section 52.21(k) (modeling); Minn. R. 7007.3000
Volatile Organic Compounds: less than or equal to 0.0090 lbs/million Btu heat input measured as C excluding methane (this is equivalent to 3.4 lb/hr).	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); Minn. R. 7007.3000
OPERATIONAL LIMITS	hdr
Fuel Burned: Fuels to be burned are limited to natural gas.	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000
<p>Fuel Usage: less than or equal to 192.0 million Btu's/hour of natural gas heat input, calculated on a twelve-hour block average, unless a new limit is set pursuant to Minn. R. 7017.2025, subp. 3, based on the most recent MPCA approved performance test where compliance was demonstrated.</p> <p>The twelve-hour block average shall be calculated by dividing the total weight by the total operating time in each twelve-hour block. Down time of 15 or more minutes is not to be included as operating time.</p>	Minn. R. 7017.2025, subp. 3
Annual Capacity Factor: Record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor for natural gas each calendar quarter. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month.	Title I Condition: 40 CFR Section 52.21; 40 CFR Section 60.49b(d); Minn. R. 7007.3000
The Permittee shall comply with all applicable portions of 40 CFR Section 63, Subpart DDDDD, by September 13, 2007.	40 CFR Section 63 Subpart DDDDD
TESTING REQUIREMENTS	hdr
Performance Test: due before end of each calendar 60 months starting 08/08/2000 to measure Volatile Organic Compounds and Carbon Monoxide emissions. The next test is due August 8, 2010, then every 60 months thereafter.	Title I Condition: Testing associated with Title I emission limits; Minn. R. 7017.2020, subp. 1
CEMS REQUIREMENTS	hdr
The Permittee shall install, calibrate, maintain and operate a continuous monitoring system for measuring and recording Nitrogen Oxide emissions.	Title I Condition: Monitoring associated with Title I emission limits; 40 CFR Section 60.45(a); Minn. R. 7017.1006
CEMS Daily Calibration Drift (CD) Test: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) gas concentrations at least once daily. The CEMS shall be adjusted whenever the CD exceeds twice the specification of 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F, shall be used to determine out-of-control periods for CEMS.	40 CFR 60.13(d)(1); Minn. R. 7017.1170, subp. 3
CEMS Cylinder Gas Audit (CGA): due before end of each calendar year starting 09/09/1999 . Follow the procedures in 40 CFR pt. 60, Appendix F. If a RATA is performed during the calendar year, a CGA is not required.	Minn. R. 7017.1170, subp. 1(A) and (B)

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-33

10/15/08

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar 60 months starting 09/09/1999 . Follow the procedures in 40 CFR pt. 60, Appendix B and Appendix F.	Minn. R. 7017.1170, subp. 1(A) and (B)
QA Plan: Develop and implement a written quality assurance plan that covers each CEMS. The plan shall be on site and available for inspection. The plan shall contain all of the information required by 40 CFR 60, App. F, section 3.	Minn. R. 7017.1170, subp. 2; 40 CFR pt. 60, App. F, section 3
CEMS Continuous Operation: Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, all CEMS shall be in continuous operation. A CEMS must not be bypassed except in emergencies where failure to bypass the CEMS would endanger human health, safety, or plant equipment.	40 CFR 60.13(e); Minn. R. 7017.1090, 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 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 60.7(b)

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Subject Item: EU 460 Boiler #9

Associated Items: CE 460 Other
 GP 420 Boilers & Recovery furnace - NOx cap
 MR 460 Boiler 9
 MR 461 Boiler 9
 SV 460

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.003 lbs/million Btu heat input	Title I Condition: 40 CFR Section 52.21 (netting, modeling); Minn. R. 7007.3000
Particulate Matter < 10 micron: less than or equal to 0.003 lbs/million Btu heat input	Title I Condition: 40 CFR Section 52.21 (netting, modeling); Minn. R. 7007.3000
Opacity: less than or equal to 20 percent opacity using 6-minute Average , except for one six-minute period per hour of not more than 27 percent opacity	Minn. R. 7011.05150 subp. 2
Nitrogen Oxides: less than or equal to 0.050 lbs/million Btu heat input using 30-day Rolling Average	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000
Carbon Monoxide: less than or equal to 0.090 lbs/million Btu heat input using 3-hour Average	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); Minn. R. 7007.3000
Carbon Monoxide: less than or equal to 33.6 lbs/hour	Title I Condition: 40 CFR Section 52.21(k) (modeling); Minn. R. 7007.3000
Volatile Organic Compounds: less than or equal to 0.0090 lbs/million Btu heat input measured as C excluding methane (this is equivalent to 3.4 lb/hr).	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); Minn. R. 7007.3000
OPERATIONAL LIMITS	hdr
Fuel Burned: Fuels to be burned are limited to natural gas.	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000
Annual Capacity Factor: Record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor for natural gas each calendar quarter. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month.	Title I Condition: 40 CFR Section 52.21; 40 CFR Section 60.49b(d); Minn. R. 7007.3000
The Permittee shall comply with all applicable portions of 40 CFR Section 63, Subpart DDDDD, by September 13, 2007.	40 CFR Section 63 Subpart DDDDD
TESTING REQUIREMENTS	hdr
Performance Test: due before end of each calendar 60 months starting 08/08/2000 to measure Volatile Organic Compounds and Carbon Monoxide emissions. The next test is due August 8, 2010, then every 60 months thereafter.	Title I Condition: Testing associated with Title I emission limits; Minn. R. 7017.2020, subp. 1
CEMS REQUIREMENTS	hdr
The Permittee shall install, calibrate, maintain and operate a continuous monitoring system for measuring and recording Nitrogen Oxide emissions.	Title I Condition: Monitoring associated with Title I emission limits; 40 CFR Section 60.45(a); Minn. R. 7017.1006
CEMS Daily Calibration Drift (CD) Test: The CD shall be quantified and recorded at zero (low-level) and upscale (high-level) gas concentrations at least once daily. The CEMS shall be adjusted whenever the CD exceeds twice the specification of 40 CFR pt. 60, Appendix B. 40 CFR pt. 60, Appendix F, shall be used to determine out-of-control periods for CEMS.	40 CFR 60.13(d)(1); Minn. R. 7017.1170, subp. 3
CEMS Cylinder Gas Audit (CGA): due before end of each calendar year starting 09/09/1999 . Follow the procedures in 40 CFR pt. 60, Appendix F. If a RATA is performed during the calendar year, a CGA is not required.	Minn. R. 7017.1170, subp. 1(A) and (B)
CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar 60 months starting 09/09/1999 . Follow the procedures in 40 CFR pt. 60, Appendix B and Appendix F.	Minn. R. 7017.1170, subp. 1(A) and (B)
QA Plan: Develop and implement a written quality assurance plan that covers each CEMS. The plan shall be on site and available for inspection. The plan shall contain all of the information required by 40 CFR 60, App. F, section 3.	Minn. R. 7017.1170, subp. 2; 40 CFR pt. 60, App. F, section 3

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-35

10/15/08

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

CEMS Continuous Operation: Except for system breakdowns, repairs, calibration checks, and zero and span adjustments, all CEMS shall be in continuous operation. A CEMS must not be bypassed except in emergencies where failure to bypass the CEMS would endanger human health, safety, or plant equipment.	40 CFR 60.13(e); Minn. R. 7017.1090, 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 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 60.7(b)

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Subject Item: EU 530 No. 4 Paper Machine

- Associated Items:** SV 511
 SV 512
 SV 513
 SV 514
 SV 515
 SV 516
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 SV 518
 SV 519
 SV 524
 SV 525
 SV 530
 SV 531
 SV 532
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 SV 536
 SV 537

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. R. 7011. 0735.	Minn. R. 7011.0610, subp. 1(A)(1)
Opacity: less than or equal to 20 percent opacity ; except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0610, subp. 1(A)(2)
Fuel Burned: Fuels to be burned are limited to natural gas.	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000
Periodic Monitoring: the Permittee shall perform proper maintenance of the paper machine so as to prevent excessive amounts of particulate matter from being emitted from the associated stack/vents.	Minn. R. 7007.0800, subp. 4

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-37

10/15/08

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Subject Item: EU 602 Wastewater Treatment Plant Cooling Tower**Associated Items: SV 602**

What to do	Why to do it
Wastewater Process Throughput: less than or equal to 1700E6 gallons/year using 12-month Rolling Sum	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); Minn. R. 7007.3000
Recordkeeping: Monthly wastewater processed rate and monthly calculation of 12-month rolling sum, by the 15th of the following month.	Title I Condition: Recordkeeping associated with Title I limit; Minn. R. 7007.0800, subp. 5
Reporting: Annually by January 30th, a report of the previous 12 monthly 12-month rolling sum calculations of wastewater throughput.	Minn. R. 7007.0800, subp. 6

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Subject Item: EU 902 Paint Spray Booth

Associated Items: CE 902 Paper Filter (Not Accordian) - Use if paint filter not spec

SV 902

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. R. 7011. 0735.	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity using 6-minute Average	Minn. R. 7011.0715, subp. 1(B)
Operating Hours: less than or equal to 1044 hours/year using 12-month Rolling Sum	Title I Condition: Limit taken to avoid classification as major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Spray Booth Operation: The particulate filter for the emission unit shall be securely in place whenever paint spraying occurs. The filter shall be maintained and replaced according to manufacturer's specifications.	Title I Condition: To limit emissions to avoid classification as major modification under 40 CFR Section 52.21; Minn. R. 7007.3000
Recordkeeping: Monthly record of operating hours and monthly calculation of 12-month rolling sum, by the 15th of the following month.	Title I Condition: Recordkeeping for Title I Condition; Minn. R. 7007.0800, subp. 5
Reporting: Annually by January 30th, a report of the previous 12 monthly 12-month rolling sum calculations of spray booth operation.	Minn. R. 7007.0800, subp. 6

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-39

10/15/08

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Subject Item: EU 903 Sludge Dryer**Associated Items:** CE 904 Other

CE 905 Venturi Scrubber

CE 906 Spray Tower

SV 430

SV 431

SV 904 Sludge Dryer

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. R. 7011.0735.	Minn. R. 7011.0715, subp. 1(A)
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
Operation and Maintenance Plan: Within 30 days of initial startup of EU 903 (Sludge Dryer), submit an update to the O&M Plan. The update shall include the parameter ranges for the parameters identified below for CE 905 and CE 906. The plan shall also identify correction action procedures to be followed to return the control equipment to within specified range(s); corrective action procedures to be followed in the event of a malfunction, breakdown or exceedance of operating ranges; a description of inspection procedures to be followed; and records kept to demonstrate plan implementation.	Minn. R. 7007.0800, subp. 2
Control Equipment Monitoring: Observe and record once per operating day, the liquid flow rate and pressure drop for CE 905 and CE 906.	Minn. R. 7007.0800, subp. 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-40

10/15/08

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Subject Item: EU 908 Emergency Diesel Generator**Associated Items:** SV 908 Diesel Generator

What to do	Why to do it
40 CFR pt. 63, subp. ZZZZ applies to this generator. In accordance with Section 63.6590(c) the generator must meet the requirements of this part by meeting the requirements of 40 CFR part 60, subp. IIII. Because the model year of the engine is 2004, there are no applicable requirements from Subp. IIII for this emission unit.	40 CFR pt. 63, subp. ZZZZ Minn. R. 7011.8150
EMISSION LIMITS	hdr
Opacity: less than or equal to 20 percent opacity once operating temperatures have been attained.	Minn. R. 7011.2300, subp. 1
Sulfur Dioxide: less than or equal to 0.5 lbs/million Btu heat input . The potential to emit from the unit is 0.051 lb/MMBtu due to equipment design and allowable fuels.	Minn. R. 7011.2300, subp. 2
OPERATIONAL REQUIREMENTS	hdr
Fuel type: No. 2 fuel oil only.	Minn. R. 7005.0100, subp. 35a
Hours of Operation: less than or equal to 500 hours per year based on a 12-month rolling sum. The U.S. EPA memorandum entitled "Calculating Potential to Emit (PTE) for Emergency Generators", dated September 6, 1995, limits operation to 500 hours per year.	Minn. R. 7007.0800, subp. 4 & 5
RECORDKEEPING REQUIREMENTS	hdr
Recordkeeping - Hours of Operation: The Permittee shall maintain documentation of hours of operation for EU 908.	Minn. R. 7007.0800, subps. 4 & 5
Reporting: Annually by January 30th the report of the previous 12 monthly 12-month rolling sum calculations on the emergency diesel generator.	Minn. R. 7007.0800, subp. 6
Fuel Supplier Documentation: The Permittee shall obtain and maintain fuel supplier documentation for each shipment of No. 2 fuel oil, documenting that the sulfur content does not exceed 0.5% by weight. Records shall be maintained for 5 years.	Minn. R. 7007.0800, subps. 4 & 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Subject Item: EU 909 Off-Machine Coater

Associated Items: SV 907 EU 909 OMC Exhaust Vent

What to do	Why to do it
EMISSION AND OPERATIONAL LIMITS	hdr
HAPs - Organic: less than or equal to 20 percent of the mass of coating solids applied for each calendar month for the web coating line (as defined in 40 CFR Section 63.3310).	40 CFR Section 63.3320(b)(3); Minn. R. 7011.7385
MONITORING AND RECORDKEEPING	hdr
The Permittee shall maintain the following records on a monthly basis: 1) Records specified in 40 CFR Section 63.10(b)(2) of all measurements need to demonstrate compliance, including: volatile matter and coating solids content data for the purpose of demonstrating compliance in accordance with the requirements of 40 CFR Section 63.3360(d) material usage, organic HAP usage, volatile matter usage, and coating solids usage and compliance demonstrations using these data in accordance with 40 CFR Section 63.3370(c).	40 CFR Section 63.3410(a); 40 CFR Section 63.10(b)(1); Minn. R. 7011.7385
COMPLIANCE DEMONSTRATION	hdr
The monthly average of all coating materials used at an existing affected source does not exceed 0.2 kg organic HAP per kg coating solids as-applied on a monthly average basis using equation 5 of Section 63.3370 as specified in the following requirements.	40 CFR Section 63.3370(a)(2)(iv); 40 CFR Section 63.3370(c)(5)(ii); Minn. R. 7011.7385
The Permittee must determine the organic HAP applied on these web coating lines using Equation 5 of Appendix D of this permit. The organic HAP emitted from an uncontrolled web coating line is equal to the organic HAP applied on that web coating line.	40 CFR Section 63.3370(c)(4); Minn. R. 7011.7385
By the end of each calendar month, the Permittee shall calculate the following for the previous calendar month: 1) The total organic HAP emitted by summing the HAP emissions calculated for all units subject to 40 CFR pt. 63, subp. JJJJ as detailed earlier in this permit; 2) The coating solids content of each coating material applied during the month following the procedure detailed earlier in this permit; and 3) The total organic HAP emission rate based on coating solids applied using Equation 5 of Appendix D of this permit.	40 CFR Section 63.3370(c)(4); Minn. R. 7011.7385
REPORTING	hdr
Content of Compliance Status Report: At a minimum, the report shall include: 1) Company name and address; 2) A statement by a responsible official with that official's name, title, and signature certifying the accuracy of the content of the report; 3) Date of report and beginning and ending dates of the reporting period; 4) If there are no deviations from any emission limitations (emission limit or operating limit) that apply to you, a statement that there were no deviations from the emission limitations during the reporting period, and that no CMS was inoperative, inactive, malfunctioning, out-of-control, repaired, or adjusted; and 5) For each deviation from an emission limitation (emission limit or operating limit) that applies to you, the information listed in 40 CFR Section 63.3400(c)(2)(v)(A)-(C).	40 CFR Section 63.3400(c)(2); Minn. R. 7011.7385

TABLE A: LIMITS AND OTHER REQUIREMENTS

A-42

10/15/08

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Subject Item: FS 904 Intermediate Chip Booster Station (Blower with cyclone)**Associated Items:** CE 903 Single Cyclone

What to do	Why to do it
Total Particulate Matter: less than or equal to 3.0 lbs/hour	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); Minn. R. 7007.3000
Particulate Matter < 10 micron: less than or equal to 2.9 lbs/hour	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); Minn. R. 7007.3000
Periodic Monitoring: the Permittee shall perform proper maintenance of the cyclone so as to prevent excessive amounts of particulate matter from being emitted from the associated stack/vents.	Minn. R. 7007.0800, subp. 4

TABLE B: SUBMITTALS

B-1 10/15/08

Facility Name: Boise White Paper LLC - Intl Falls
Permit Number: 07100002 - 009

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.

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

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 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 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.

Send any application for a permit or permit amendment to:

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

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

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

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

B-2 10/15/08

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

What to send	When to send	Portion of Facility Affected
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility
Performance Test Plan	due 30 days before Performance Test (Alternative Biomass Fuel Emission Testing submittal) of the operational and emission testing of a biomass fuel (emission testing will be conducted only if operational testing has been proven feasible), the permittee shall submit a written performance test notification and test plan. The test plan shall include (1) the type(s) and estimated amount of biomass to be tested, (2) operating parameters and anticipated fuel mixes during the emission testing of the boiler to be tested, (3) air pollutants that will be monitored (ie., PM, PM-10, and VOC), and (4) a testing schedule.	EU320, EU430
Relative Accuracy Test Audit (RATA) Notification	due 30 days before CEMS Relative Accuracy Test Audit (RATA) .	EU320, EU340, EU420, EU430, EU440, EU450, EU460

TABLE B: RECURRENT SUBMITTALS

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

What to send	When to send	Portion of Facility Affected
Ambient Air Monitoring Report	due 45 days after end of each calendar quarter starting 09/09/1999. This is the TRS Ambient Air Monitoring Report. This is a state only requirement and is not federally enforceable or enforceable by citizens under the Act.	Total Facility
COMS Calibration Error Audit Results Summary	due 30 days after end of each calendar quarter starting 03/14/2004.	EU320
Cylinder Gas Audit (CGA) Results Summary	due 30 days after end of each calendar quarter following Cylinder Gas Audit.	EU440
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter starting 09/09/1999 (Submit Deviations Reporting Form DRF-1 as amended). The EER must contain all of the information requested in 40 CFR 60.7(c). The EER shall indicate all periods of exceedances of the limit including exceedances allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions.	EU440
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter starting 09/09/1999 (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.	EU420
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter starting 09/09/1999 (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. The first EER for the CO CEMS will be due after the 2nd quarter, 2002. The first quarter in 2002 will be used as a data collection and analysis period as allowed in the June 28, 2001, stipulation agreement	EU430
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter starting 09/09/1999 (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. The report must contain the required elements specified in 40 CFR Section 63.10(c).	EU320
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter starting 09/09/1999 (Submit Deviations Reporting Form DRF-1 as amended). The TRS CEMS EER shall indicate all periods of exceedances of the limit including exceedances allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions.	EU450, EU460
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter starting 09/09/1999 (Submit Deviations Reporting Form DRF-1 as amended). The TRS CEMS EER shall indicate all periods of exceedances of the limit including exceedances allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions.	EU340

TABLE B: RECURRENT SUBMITTALS

Facility Name: Boise White Paper LLC - Intl Falls

Permit Number: 07100002 - 009

Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter starting 09/09/1999 (Submit Deviations Reporting Form DRF-1). Excess emissions for opacity are defined in 40 CFR Section 60.45(g)(1). The COMS EER shall indicate all periods of exceedances of the limit including exceedances allowed by an applicable standard, i.e. during startup, shutdown, and malfunctions.	EU320, EU430
Compliance Status Report	due 30 days after end of each calendar half-year starting 12/05/2005, including the information listed for EU 909 listed in Table A.	EU909
COMS Calibration Error Audit Results Summary	due 30 days after end of each calendar half-year following COMS Calibration Error Audit.	EU430
Cylinder Gas Audit (CGA) Results Summary	due 30 days after end of each calendar half-year following Cylinder Gas Audit.	EU320, EU420, EU430
Semiannual Deviations Report	due 30 days after end of each calendar half-year starting 09/09/1999 . 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
Annual Report	due 30 days after end of each calendar year starting 09/09/1999. A report of the previous 12 monthly 12-month rolling average calculations for the annual capacity factor shall be submitted.	EU440, EU450, EU460
Compliance Certification	due 31 days after end of each calendar year starting 09/09/1999 (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
Cylinder Gas Audit (CGA) Results Summary	due 30 days after end of each calendar year following Cylinder Gas Audit.	EU340, EU450, EU460
Relative Accuracy Test Audit (RATA) Results Summary	due 30 days after end of each calendar year following CEMS Relative Accuracy Test Audit (RATA).	EU320, EU420, EU430, EU440
Relative Accuracy Test Audit (RATA) Results Summary	due 30 days after end of each calendar 60 months following CEMS Relative Accuracy Test Audit (RATA).	EU340, EU450, EU460

APPENDIX C – Insignificant Activities

Facility Name: Boise White Paper LLC – International Falls

Permit Number: 07100002-008

Insignificant Activities Not Required to be Listed

LOCATION	EMISSION UNIT	REFERENCES
Bldg. 10	Sewer Tank	7007.1300 Subp. 2.F
Outside	Diesel Tank	7007.1300 Subp. 2.E.3
Outside	Gas Tank	7007.1300 Subp. 2.E.4
Bldg. 4	Sewers	7007.1300 Subp. 2.F
Bldg. 4	Air Conditioning Units	7007.1300 Subp. 2.K(5)
Bldg. 4	Lube Oil Tank (4)	7007.1300 Subp. 2.E(2)
Woodyard	Mobile Equipment Emissions	7007.1300 Subp. 2.K(3)
Woodyard	Diesel Oil Storage Tank(s)	7007.1300 Subp. 2.E.3
Garage	Motor Vehicle Exhaust	7007.1300 Subp. 2.K(3)
Base Mill Machine Shop	Metal cutting	7007.1300 Subp. 2.D(3)
M,D & W	Forge/Foundry	7007.1300 Subp. 2.C(2)
Plant Yard	Motor Vehicle Exhaust	7007.1300 Subp. 2.B(3)
Mill	Vehicle Exhaust Inside Buildings	7007.1300 Subp. 2.K(3)
Bldg. 40	Sewer Drain	7007.1300 Subp. 2.F

Insignificant Activities Required to be Listed

LOCATION	EMISSION UNIT	REFERENCES
	BLEACHING AREA	
Bldg. 32	Alkaline Sewer	7007.1300 , Subpart 4
Bldg. 31	Bleached HW H/D Chest	7007.1300 , Subpart 4
Bldg. 31	Bleached SW H/D Chest	7007.1300 , Subpart 4
Bldg. 31	Bleached Trans. H/D Chest	7007.1300 , Subpart 4
Bldg. 31	Building Sewer	7007.1300 , Subpart 4
Bldg. 31	FF Decker Filtrate Tank	7007.1300 , Subpart 4
Bldg. 31	FF Decker Hood	7007.1300 , Subpart 4
Bldg. 31	Lab	7007.1300, Subpart 3.G
Bldg. 51	Methanol Tank	7007.1300 , Subpart 4
Bldg. 31	Pre-wash Blend Chest	7007.1300 , Subpart 4
Bldg. 31	Pre-wash Filtrate Tank	7007.1300 , Subpart 4
Bldg. 32	Sulfuric Acid Tank & Unloading	7007.1300 , Subpart 4
	POWER BOILERS	
Outside Bldg. 10 ¹	Bark Handling Cyclone	7011.0065, Subpart 1 (A)
Outside Bldg. 10	Ash Pit	7007.1300 , Subpart 4
Bldg. 10	Blow Down Tank	7007.1300 , Subpart 4
Bldg. 11B	Blow Tank Overflow	7007.1300 , Subpart 4
Bldg. 10	Condensate Collection Tank	7007.1300 , Subpart 4
Bldg. 10	Flash Tank	7007.1300 , Subpart 4
Bldg. 10	Laboratory	7007.1300 , Subpart 3.G

¹ These sources are insignificant by the Control Equipment Rule

Bldg. 10	Natural Gas Air Heater	7007.1300, Subpart 3.A
Bldg. 10	Sewer U-drain - Bldg 10	7007.1300 , Subpart 4
Bldg. 11B	Sewer U-drain - Bldg. 11B	7007.1300 , Subpart 4
Outside Bldg. 10	Sludge Pit	7007.1300 , Subpart 4
CHEMICAL RECOVERY AREA		
Bldg. 33	4th Causticizer	7007.1300 , Subpart 4
Bldg. 33	Concentrated Acid Tank	7007.1300 , Subpart 4
Bldg. 20D	Deaerator	7007.1300 , Subpart 4
Bldg. 33	Dilute Acid Tank	7007.1300 , Subpart 4
Bldg. 34	Dregs Drop Pt. From Conveyor to Mud Pit	7007.1300 , Subpart 4
Bldg. 34	Dregs Drop Pt. From Dregs Filt. to Convey.	7007.1300 , Subpart 4
Bldg. 34	Dregs Filter Hood Exhaust	7007.1300 , Subpart 4
Bldg. 34	Dregs Precoat Filter Process	7007.1300 , Subpart 4
Bldg. 34	Dregs Surge Tank	7007.1300 , Subpart 4
Bldg. 20C	Evaporator Condensate Flash Tank	7007.1300 , Subpart 4
Bldg. 33	Flexible Liquor Storage Tank (WL, GL, or BL)	7007.1300 , Subpart 4
Bldg. 20 ²	Fresh Lime Silo	7011.0065, Subpart 1 (A)
Bldg. 34	Lime Kiln Scrubber Clarifier	7007.1300 , Subpart 4
Bldg. 34	Lime Mud & Dregs Filter Vacuum Pumps	7007.1300 , Subpart 4
Bldg. 34	Lime Mud Drop Pt-Convey. to Mud Pit	7007.1300 , Subpart 4
Bldg. 34	Lime Mud Drop Pt-Lime Mud Filt to Conv.	7007.1300 , Subpart 4
Bldg. 33	Lime Mud Mix Tank	7007.1300 , Subpart 4
Bldg. 34	Lime Mud Pit	7007.1300 , Subpart 4
Bldg. 34	Lime Mud Precoat Filter Process	7007.1300 , Subpart 4
Bldg. 33	Lime Mud Storage Tank	7007.1300 , Subpart 4
Bldg. 20D	Recovery Furnace Chemical Feed System	7007.1300 , Subpart 4
Bldg. 20C	Sewer U-drain - Bldg. 20C	7007.1300 , Subpart 4
Bldg. 20C	Soap Tank	7007.1300 , Subpart 4
Bldg. 20	Spill Collection Tanks	7007.1300 , Subpart 4
Bldg. 33	Weak Wash Tank	7007.1300 , Subpart 4
Bldg. 34	White Liquor Pressure Filter	7007.1300 , Subpart 4
Bldg. 36	White Liquor Storage	7007.1300 , Subpart 4
PULPING		
Bldg. 24 ²	#1 Wood Chip Cyclone	7011.0065, Subpart 1 (A)
Bldg. 24 ²	#2 Wood Chip Cyclone	7011.0065, Subpart 1 (A)
Bldg. 24	Digester Chip Fill Chutes	7007.1300 , Subpart 4
Bld. 22	Dump Tanks (Screening Room)	7007.1300 , Subpart 4
Chip Line ²	Intermediate Chip Cyclone	7011.0065, Subpart 1 (A)
Bldg 22A	Knot Tank & Knots Handling	7007.1300 , Subpart 4
Bldg. 31	Lab	7007.1300, Subpart 3.G
Bldg. 22A	No. 2 Washer Filtrate Tank	7007.1300 , Subpart 4
Bldg. 22A	No. 3 Washer Filtrate Tank	7007.1300 , Subpart 4
Bldg 22A	No. 4 Washer Filtrate Tank	7007.1300 , Subpart 4
Bldg. 21	Pressure Screen Accepts Tanks	7007.1300 , Subpart 4
Bldg. 21	Pressure Screen Rejects Tanks	7007.1300 , Subpart 4
Bldg. 21	Primary Pressure Screen	7007.1300 , Subpart 4
Bldg. 21	Quaternary Pressure Screen	7007.1300 , Subpart 4

² These sources are insignificant by the Control Equipment Rule

Bldg 22A	Riffle Screen	7007.1300 , Subpart 4
Bldg. 21	Secondary Pressure Screen	7007.1300 , Subpart 4
Bldg. 51	Talc Slurry Tank	7007.1300 , Subpart 4
Bldg. 21	Tertiary Pressure Screen	7007.1300 , Subpart 4
Bldg. 51	Turpentine Storage Tank	7007.1300 , Subpart 4
Bldg. 21	U-Sewer Drain - Bldg. 21	7007.1300 , Subpart 4
Bldg. 22A	U-Sewer Drain - Bldg. 22A	7007.1300 , Subpart 4
Bldg. 24	U-Sewer Drain - Bldg. 24	7007.1300 , Subpart 4
Bldg. 50	U-Sewer Drain - Bldg. 50	7007.1300 , Subpart 4
Bldg. 51	U-Sewer Drain - Bldg. 51	7007.1300 , Subpart 4
Bldg. 24	Unit Heater #1	7007.1300, Subpart 3.A
Bldg. 24	Unit Heater #2	7007.1300, Subpart 3.A
	WASTEWATER COLLECTION & TREATMENT	
Treat. Plant	#2 Lift Station	7007.1300 , Subpart 4
Treat. Plant	#2 Lift Station Surge Tank	7007.1300 , Subpart 4
Treat. Plant	#3 Lift Station Defoamer Tank	7007.1300 , Subpart 4
Treat. Plant	#8 Lift Station Defoamer Tank	7007.1300 , Subpart 4
Treat. Plant	Ammonia Tank for Filter Plant	7007.1300 , Subpart 4
Treat. Plant	Belt Presses	7007.1300 , Subpart 4
Filter Plant	Diesel oil-fired water pump	7007.1300 , Subpart 4
Filter Plant	Diesel oil-fired water pump	7007.1300 , Subpart 4
Filter Plant	Dry Polymer Drop	7007.1300 , Subpart 4
Filter Plant	Filter Plant - Chemical Storage Tank	7007.1300 , Subpart 4
Treat. Plant	Foam Chamber	7007.1300 , Subpart 4
IC	Insulite Clarifier	7007.1300 , Subpart 4
Filter Plant	Laboratory	7007.1300, Subpart 3.G
Filter Plant	Laboratory	7007.1300, Subpart 3.G
O ₂ Plant	Laboratory	7007.1300, Subpart 3.G
Filter Plant	Main Sulfuric Acid Storage Tk. & Unloading	7007.1300 , Subpart 4
Old Wood Rm	New Defoamer Tank	7007.1300 , Subpart 4
Filter Plant	New Demin Acid Day Tank	7007.1300 , Subpart 4
Bldg AA	No. 3 Lift Station	7007.1300 , Subpart 4
Bldg 106	No. 8 Lift Station	7007.1300 , Subpart 4
O ₂ Plant	O2 Plant Degreasing	7007.1300 , Subpart 4
Bldg. 111	Oil Accumulator Tank	7007.1300 , Subpart 4
Old Wood Rm	Old Defoamer Tank	7007.1300 , Subpart 4
Filter Plant	Old Demin Acid Day Tank	7007.1300 , Subpart 4
Treat. Plant	Old Woodroom Sanitary Lift Station	7007.1300 , Subpart 4
Bldg. 46	Refuse Disposal Site	7007.1300 , Subpart 4
Filter Plant	Salt Drop	7007.1300 , Subpart 4
Treat. Plant	Screw Presses	7007.1300 , Subpart 4
Treat. Plant	Sludge Press Dry Polymer Drop	7007.1300 , Subpart 4
Treat. Plant	Sludge Slurry Tank	7007.1300 , Subpart 4
Bldg. 51	Sodium Silicate Bldg.	7007.1300 , Subpart 4
Treat. Plant	Splitter Building	7007.1300 , Subpart 4
Treat. Plant	Sulfuric Acid Tank Inside	7007.1300 , Subpart 4
Treat. Plant	Sulfuric Acid Tank Outside	7007.1300 , Subpart 4
Treat. Plant	Treatment Plant Process Sewer U-drains	7007.1300 , Subpart 4

Bldg 17	UNOX Vent	7007.1300 , Subpart 4
Bldg 40	Water Filtration Plant	7007.1300 , Subpart 4
	PAPER MACHINE AREAS	
Bldg. 93	#1 Sheeter Bldg.	7007.1300 , Subpart 4
Outside Bldg. 6B ³	#1 Size Press Base Mill Starch Silo	7011.0065, Subpart 1 (A)
Outside Bldg. 6B ³	#1 Wet End Base Mill Starch Silo	7011.0065, Subpart 1 (A)
Outside Bldg. 30 ³	#2 Size Press I-1 Starch Silo	7011.0065, Subpart 1 (A)
Outside Bldg. 30 ³	#2 Wet End I-1 Starch Silo	7011.0065, Subpart 1 (A)
Bldg. 4	#4 PM Natural Gas Dryer	7007.1300 , Subpart 4
Bldg 4	A-mixer (BM)	7007.1300 , Subpart 4
Bldg. 30	Additive Area (#1 PM)	7007.1300 , Subpart 4
Bldg. 30	Additive Storage Area (#1 PM)	7007.1300 , Subpart 4
Bldg. 4	ASA Boilout Tank	7007.1300 , Subpart 4
Bldg. 30	ASA Storage Tank	7007.1300 , Subpart 4
Bldg 4	B-mixer (BM)	7007.1300 , Subpart 4
Bldg. 30	Broke Thickener Feed Chest	7007.1300 , Subpart 4
Bldg. 30	Caustic Boilout Tank	7007.1300 , Subpart 4
Bldg. 6A	Chemical Enclosure	7007.1300 , Subpart 4
Bldg. 4	Coater Broke Tank	7007.1300 , Subpart 4
Bldg. 30	Cooked Size Press Starch Tanks	7007.1300 , Subpart 4
Bldg. 4	Cooked Wet End Starch Tank	7007.1300 , Subpart 4
Bldg. 30	Cooked Wet End Starch Tanks	7007.1300 , Subpart 4
Bldg. 30	Deaerator Vacuum (#1 PM)	7007.1300 , Subpart 4
Bldg. 30	Hardwood and Softwood Levelling Chests	7007.1300 , Subpart 4
Bldg. 4	Hot Melt Glue Pots (BM)	7007.1300 , Subpart 4
Bldg. 4	Kady Mill Blend Tank	7007.1300 , Subpart 4
Bldg. 4	Kady Mill Mix Tank	7007.1300 , Subpart 4
Bldg. 30	Laboratory	7007.1300 , Subpart 3.G
Bldg. 4	Laboratory	7007.1300, Subpart 3.G
Bldg. 4	Laboratory Testing Area (BM)	7007.1300, Subpart 3.G
Bldg. 30	Machine Dump Chests	7007.1300 , Subpart 4
Bldg. 30	NG-Fired Space Heaters (#1 PM)	7007.1300, Subpart 3.A
Bldg. 30	No. 1 PM Broke Storage Chest	7007.1300 , Subpart 4
Bldg. 30	No. 1 PM Machine Chest	7007.1300 , Subpart 4
	PAPER MACHINE AREAS	
Bldg. 4	No.2 PM Cycle Tanks (2) - HW & SW	7007.1300 , Subpart 4
Bldg. 4	No.3 PM Cycle Tanks (2) - HW & SW	7007.1300 , Subpart 4
Bldg. 4	No.4 PM Calender NG-fired Heater (BM)	7007.1300 , Subpart 4
Bldg. 4	No.4 PM Cycle Tanks (2) - HW & SW	7007.1300 , Subpart 4
Bldg. 30	Open Dye Tanks (6) (#1 PM)	7007.1300 , Subpart 4
Bldg. 30	Paint Storage Area	7007.1300 , Subpart 4
Bldg. 4	Paint Storage Areas	7007.1300 , Subpart 4
Bldg. 4	Paper shredder (BM)	7007.1300 , Subpart 4
Bldg. 30	Retention Aid Mix Tank	7007.1300 , Subpart 4
Bldg. 30	Scripset Storage Tank	7007.1300 , Subpart 4
Bldg. 4	Scripset Tanks (2) (BM)	7007.1300 , Subpart 4

³ These sources are insignificant by the Control Equipment Rule

Bldg. 4	Sheeter Trim System (BM)	7007.1300 , Subpart 4
Bldg 4	Solvent Drum Storage Areas (BM)	7007.1300 , Subpart 4
Bldg. 6A	Starch Slurry	7007.1300 , Subpart 4
Bldg. 4	Stock Hydraulic Tanks (4)	7007.1300 , Subpart 4
Bldg. 4	Stock Preparation	7007.1300 , Subpart 4
Bldg. 4	Stock Tanks (6)	7007.1300 , Subpart 4
Bldg. 30	Stuff Box	7007.1300 , Subpart 4
Bldg. 4	Sulfuric Acid Tank #3 (BM)	7007.1300 , Subpart 4
Bldg. 30	U-Drain/Sewer Inside Bldg.	7007.1300 , Subpart 4
Bldg. 4	Upper White Water Chest	7007.1300 , Subpart 4
Bldg. 30	Various Parts Cleaning Compounds	7007.1300 , Subpart 4
Bldg. 4	Warehouse Space Heaters (BM)	7007.1300, Subpart 3.A
Bldg. 30	Welding	7007.1300, Subpart 3.H(4)
Bldg. 4	Wet End Slurry Tank (2)	7007.1300 , Subpart 4
	WOODYARD	
Woodyard	Bark Hog	7007.1300 , Subpart 4
Woodyard ⁴	Blower Feed Screen #1	7011.0065, Subpart 1 (A)
Woodyard ⁴	Blower Feed Screen #2	7011.0065, Subpart 1 (A)
Woodyard ⁴	Blower Feed Screen #3	7011.0065, Subpart 1 (A)
Woodyard	Chipper Blowers (5)	7007.1300 , Subpart 4
Woodyard	Small Sawdust Piles	7007.1300 , Subpart 4
Chipper Bldg.	Space Heaters	7007.1300, Subpart 3.A
	MISCELLANEOUS SOURCES	
Instrument Shop	Blasting booth	7007.1300 , Subpart 4
Bldg. 39	Blueprint Machine	7007.1300, Subpart 3.H.5
Bldg. 39	Blueprint Machine	7007.1300, Subpart 3.H.5
M,D & W	Chemical Storage Area	7007.1300 , Subpart 4
MA Mort, O'Leary, Fagen	Contractor Welding Areas (3)	7007.1300, Subpart 3.H(4)
Bdlg. 40	Degasifier Vacuum	7007.1300 , Subpart 4
Bldg 150	Degreaser - 1	7007.1300 , Subpart 4
Bldg 30	Degreaser - 14	7007.1300 , Subpart 4
Bldg. 17	Degreaser - 19	7007.1300 , Subpart 4
Bldg 24	Degreaser - 2	7007.1300 , Subpart 4
Bldg 30	Degreaser - 29	7007.1300 , Subpart 4
Bldg 13	Degreaser - 3	7007.1300 , Subpart 4
Bldg 14	Degreaser - 4	7007.1300 , Subpart 4
Bldg 14	Degreaser - 6	7007.1300 , Subpart 4
MD&W	Degreasers - 12, 13	7007.1300 , Subpart 4
Chip Proc.	Degreasers - 12, 13	7007.1300 , Subpart 4
Bldg 10A	Degreasers - 4, 5	7007.1300 , Subpart 4
Fugitive	Flanges, Pumps, Valves, etc.	7007.1300 , Subpart 4
Base Mill Machine Shop	Lead dryer	7007.1300, Subpart 3.B(1)
M,D & W	Locomotive exhaust emissions	7007.1300, Subpart 3.K(3)
Bldg. 35	Natural Gas Heater Unit #1	7007.1300, Subpart 3.A
Bldg. 39	Natural Gas Heater Units (4) #2	7007.1300, Subpart 3.A
Bldg. 102	Natural Gas Heater Units (4) #3	7007.1300, Subpart 3.A

⁴ These sources are insignificant by the Control Equipment Rule

Base Mill Electric Shop	Oven Dryer/Incinerator	7007.1300 , Subpart 4
Instrument Shop	Soldering	7007.1300, Subpart 3.H(4)
M,D & W	Space Heaters #2	7007.1300, Subpart 3.A
M,D & W	Vehicle exhaust	7007.1300, Subpart 3.K(3)
Finishing/Shipping Shop	Welding #7	7007.1300, Subpart 3.H(4)
Garage	Welding #1	7007.1300, Subpart 3.H(4)
Base Mill Pipe	Welding #2	7007.1300, Subpart 3.H(4)
Power & Recovery Shop	Welding #3	7007.1300, Subpart 3.H(4)
Base Mill Mill Right Shop	Welding #6	7007.1300, Subpart 3.H(4)
No. 1 PM Mill Right	Welding #9	7007.1300, Subpart 3.H(4)
Base Mill Machine Shop	Welding areas (2) #4	7007.1300, Subpart 3.H(4)
Pulp Mill Shop	Welding areas (3) #5	7007.1300, Subpart 3.H(4)
M,D & W	Welding areas (4) #10	7007.1300, Subpart 3.H(4)
Training Shop	Welding areas (4) #8	7007.1300, Subpart 3.H(4)
Base Mill Pipe	Welding Rod Oven	7007.1300, Subpart 3.H(4)
Instrument Shop	Wood working machinery	7007.1300 , Subpart 4

APPENDIX D – Equation to show compliance with 40 CFR Pt. 63, Subp. JJJJ

Facility Name: Boise White Paper LLC – International Falls

Permit Number: 07100002-008

Equation to show compliance with 40 CFR §63.3320(b)(3)

$$H_S = \frac{\sum_{i=1}^p C_{hi} M_i + \sum_{j=1}^q C_{hij} M_{ij} - M_{vret}}{\sum_{i=1}^p C_{si} M_i + \sum_{j=1}^q C_{sij} M_{ij}} \quad \text{Eq. 5}$$

Where:

H_s = Monthly average, as-applied, organic HAP to coating solids ratio, kg organic HAP/kg coating solids applied.

p = Number of different coating materials applied in a month.

C_{hi} = Organic HAP content of coating material, i , as-purchased, expressed as a mass fraction, kg/kg.

M_i = Mass of as-purchased coating material, i , applied in a month, kg.

q = Number of different materials added to the coating material.

C_{hij} = Organic HAP content of material, j , added to as-purchased coating material, i , expressed as a mass fraction, kg/kg.

M_{ij} = Mass of material, j , added to as-purchased coating material, i , in a month, kg.

M_{vret} = Mass of volatile matter retained in the coated web after curing or drying, or otherwise not emitted to the atmosphere, kg. The value of this term will be zero in all cases except where you choose to take into account the volatile matter retained in the coated web or otherwise not emitted to the atmosphere for the compliance demonstration procedures in §63.3370.

C_{si} = Coating solids content of coating material, i , expressed as a mass fraction, kg/kg.

C_{sij} = Coating solids content of material, j , added to as-purchased coating material, i , expressed as a mass-fraction, kg/kg.

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 07100002-009

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

1. General Information

1.1. Applicant and Stationary Source Location:

Applicant/Address	Stationary Source/Address (SIC Code: 2611, 2621)
Boise White Paper, LLC 1111 West Jefferson Street Boise, ID 83702	400 2 nd Street International Falls Koochiching County
Contact: David Reimer Phone: 218-285-5170	Kirby Dahlquist 218-285-5264

Description of the Permit Action

This Major Amendment is requested by the facility to allow for the testing of alternative biomass fuels in Boiler #2 (EU 430) and the Recovery Furnace (EU Unit 320) and to increase the Total Facility black liquor solids (BLS) production limit from 41,000 to 44,200 tons/month using a 12-month rolling average while administratively incorporating updates to the facility's performance testing and opacity requirements. In addition, the facility is requesting to increase the PM/PM₁₀ emission limits for the Smelt Dissolving Tank (SV 322) and the Lime Kiln (SV 340) while decreasing the PM/PM₁₀ emission limits from the Recovery Furnace (SV 320) by an equivalent amount. These requests are presented in the following under the headings "Alternative Biomass Fuels for Testing", "Black Liquor Solids Increase" and "PM/PM₁₀ Adjustment", respectively.

Alternative Biomass Fuels For Testing

Boise's facility in International Falls, MN is an integrated Kraft pulp and paper mill. As part of the Kraft pulping and papermaking processes, steam is needed and is produced by the EU 320 Recovery Furnace, EU 420 Boiler #1, EU 430 Boiler #2, EU 440 Boiler #3, EU 450 Boiler #8, and EU 460 Boiler #9. Fuels listed in the permit are restricted by emission units as Title I permit conditions and do not currently allow flexibility to test alternative biomass fuels. The purpose of this major permit amendment is to allow limited operational testing followed by emission testing of biomass fuels in EU 430 Boiler #2 using

current emission limits monitored by existing Continuous Emission Monitors (CEMS) and Continuous Opacity Monitors (COMs). Biomass sources (e.g., wood bark) are becoming more cost competitive and as a result alternative fuels will be needed in the future to supplement current bark supplies.

EU 320 Recovery Furnace and EU 430 Boiler #2 currently use biomass fuels. The primary biomass fuel in the Recovery Furnace is Black Liquor Solids (BLS) as well as natural gas. Boiler #2 fuels include bark, wood refuse, waste water treatment sludge (primary and secondary), paper, and natural gas. If operational combustion proves feasible during testing, then emission data gathered can be used to obtain a major permit amendment for the biomass fuel on a non-test basis. Boiler #2 currently has CEMs for nitrogen oxides (NO_x), sulfur dioxide (SO₂), carbon monoxide (CO) and COMs for opacity monitoring. Further, the main air emission control device on Boiler #2 is a high efficiency electrostatic precipitator. This control device provides very good particulate removal ensuring confidence that particulate matter permit compliance will be maintained.

Some alternative fuels that are currently being considered include BLS soap (currently burned in EU 320 Recovery Furnace as a component of BLS), acidulated BLS tall oil, and glycerol. Other biomass fuels may prove to be desirable in the future and would be allowed for testing in this permit amendment. Biomass fuels could include agricultural processing residuals; herbs, nuts; vegetable oils; crop field residue or field processing residues; shells, husks, seeds, dust, screenings and other agricultural processing residuals; cultivated grasses or grass by-products and leaves. Acceptable biomass fuels do not include wood that has been painted or pressure treated; peat; off-site generated waste oil, farm chemicals, pesticide containers, demolition waste except wood, waste from farms from an open dump, tire derived fuels, non-agricultural industrial process wastes except wood derived wastes, or any material meeting the definition of a hazardous waste.

Any operational test burn will be limited to current nitrogen oxide, sulfur dioxide, carbon monoxide, and opacity emission limits monitored by existing CEMs and COMs. Alternative biomass fuels will further be limited to less than 5,000 tons and a test period to last no more than 7 operational days. Further alternative test fuels will be limited to less than 25 percent of the heat input capacity of the boiler (i.e., less than 25 percent of 395 mmBTU/hr or limited to 99 mmBTU/hr). Operational test burns will be monitored for NO_x, CO, SO₂, and opacity. If operational test burns prove feasible, then PM, PM-10 and VOC performance test data will be gathered. Preliminary fuel testing will be completed to estimate the maximum HAP emissions (HCl and Hg).

Thirty days prior to emission testing of biomass fuel the permittee shall submit written performance test notification and a test plan. The test plan shall meet the requirements of Minn. R. 7017.2030 and shall also include: (1) the type(s) and estimated biomass to be tested, (2) operating parameters and anticipated fuel mixes during the testing for the boiler to be tested, (3) air pollutants that will be monitored and measured during the testing (e.g., PM, PM-10 and VOC), and (4) a testing schedule.

Upon gathering of data of test burns, a major permit amendment application would need to be prepared, submitted and permitted prior to using as an approved fuel. The application would include PSD calculations including baseline emissions, post modification emissions, accommodated emissions, emission increase determinations, and comparison to PSD thresholds.

Black Liquor Solids Increase

Boise's facility in International Falls, MN is an integrated Kraft pulp and paper mill. As part of the Kraft pulping process, the facility produces black liquor. The black liquor is the material from the pulping process that contains much of the organic material that was originally in the wood and almost all of the inorganic material that was used in the digesting process. The solids in the black liquor are called black liquor solids (BLS). The black liquor is processed in the multi-effect evaporators to remove water, which concentrates the BLS and produces a combustible material. After the evaporation, the black liquor is burned in the recovery furnace to recover the energy from the BLS and to recover the inorganic material for reuse. Since black liquor is produced from the pulping of wood, the fuel is biomass and is a renewable fuel.

The current Air Emission Permit for this facility contains a limit of 41,000 tons/month (using 12-month rolling average) for BLS. This limit is a total facility requirement which was set in the 2000 PSD permit for the Efficiency Improvement Project (permit 07100002-003). The permit limit is a Title 1 condition since emissions which were used in the PSD modeling from the recovery furnace and the smelt dissolving tank were based on this level of production. However, the recovery furnace is capable of accommodating higher BLS burn rates and multiple stack tests have been conducted at rates of approximately 2.9 million pounds/day which is equivalent to approximately 44,200 tons/month.

The BLS 12-month limit was calculated based on the maximum pulp production rate and a BLS generation rate based on processing aspen in the pulp mill. However, due to product demand requirements and wood procurement issues, the facility has recently processed more softwood and alternate species which both generate more black liquor per ton of pulp produced. In several individual months, Boise has burned more than 41,000 tons of BLS. However, they continue to maintain the BLS rate below the 12-month limit, a maximum rate of approximately 97 percent in March of 2007.

Due to this increase in BLS generation, Boise submitted the application to increase the BLS limit. When evaluating this project, it is important to note that this project does not affect the amount of pulp produced; rather, it affects the type of wood species that can be processed. Therefore, the only emission sources affected by the increase in BLS are the Recovery Furnace (EU 320 and SV 320) and the Smelt Dissolving Tank (EU 322 and SV 322). Since this project does not impact pulp production rates, other emission units are not affected.

As previously stated, BLS is produced from the pulping of wood and the fuel is biomass, a renewable fuel. Therefore, increasing the amount of BLS that is processed at the facility will increase the amount of biomass burned for energy production.

PM/PM₁₀ Adjustment

This permitting action includes a request an adjustment to the PM and PM₁₀ emission limits for the Recovery Furnace (SV 320), Smelt Dissolving Tank (SV 322) and the Lime Kiln (SV 340), pending approval from the U.S. Environmental Protection Agency (EPA). The proposed permitting action is provided for in MACT Subpart MM which contains an alternative provision to adjust the particulate emission limits for the Lime Kiln, Smelt Dissolving Tank and the Recovery Furnace as detailed in 40 CFR § 63.862(a)(ii) and 40 CFR § 63.865. Therefore, Boise is proposing to increase the PM/PM₁₀ emission limits for the Smelt Dissolving Tank (SV 322) and the Lime Kiln (SV 340) while decreasing the PM/PM₁₀ emission limits from the Recovery Furnace (SV 320) by an equivalent amount.

1.3 Description of the Activities Allowed by this Permit Action

This permitting action provides the facility limited operational testing followed by emission testing of biomass fuels in EU 430 (Boiler #2) and EU 320 (Recovery Furnace) using current emission limits monitored by existing CEMS and COMs. Furthermore, this permitting action increases the amount of BLS that is processed while incorporating updates to the facility’s performance testing requirements. In addition, this permitting action allows for the increase in PM/PM₁₀ emission limits for the Smelt Dissolving Tank (SV 322) and the Lime Kiln (SV 340) while decreasing the PM/PM₁₀ emission limits from the Recovery Furnace (SV 320) by an equivalent amount.

1.4. Facility Emissions:

**Table 1. Title I Emissions Increase Summary:
Emissions increases from units affected by the BLS permit limit increase**

Pollutant	EU 320 (Recovery Boiler)					
	Projected Actual Emissions ⁽¹⁾	Baseline Actual Emissions	Exclusions from Projected Actuals	Description of Exclusions from Projected Actuals	Increase	Baseline Period
	(tons/yr)	(tons/yr)	(tons/yr)	---	(tons/yr)	Years
CO	1,354.7	1,201.0	55.60	Accommodated ⁽²⁾	98.1	'06-'07
NO _x	428.2	382.1	15.0	Accommodated ⁽²⁾	31.1	'05-'06
PM	41.6	35.9	1.7	Accommodated ⁽²⁾	4.0	'04-'05
PM10	45.3	38.7	1.8	Accommodated ⁽²⁾	4.8	'04-'05
SO ₂	2.8	1.5	0.17	Accommodated ⁽²⁾	1.1	'02-'03
Ozone (VOC)	25.8	17.3	0.7	Accommodated ⁽²⁾	7.8	'06-'07
Total Reduced Sulfur incl. H ₂ S	1.7	1.1	0.04	Accommodated ⁽²⁾	0.54	'05-'06

(1) Projected = the projected emissions are based on 44,200 tons/yr and emission factors (lbs/ton BLS) based on past performance
 (2) Accommodated Emissions = estimated emissions increase that would have occurred had BLS rate been at maximum permitted rate (41,000 tons BLS/month)

Pollutant	EU 322 (Smelt Dissolving Tank)
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	Projected Actual Emissions(1)	Baseline Actual Emissions	Exclusions from Projected Actuals	Description of Exclusions from Projected Actuals	Increase	Baseline Period
	(tons/yr)	(tons/yr)	(tons/yr)	---	(tons/yr)	Years
CO	---	---	---	---	---	'06-'07
NOx	1.5	0.7	0.7	Accommodated(2)	0.1	'05-'06
PM	16.7	14.5	0.7	Accommodated(2)	1.6	'04-'05
PM10	18.3	15.6	0.7	Accommodated(2)	1.9	'04-'05
SO2	2.5	1.4	0.2	Accommodated(2)	1.0	'02-'03
Ozone (VOC)	0.7	0.5	0.0	Accommodated(2)	0.2	'06-'07
Total Reduced Sulfur incl. H2S	3.6	2.4	0.1	Accommodated(2)	1.2	'05-'06

(1) Projected = the projected emissions are based on 44,200 tons/yr and emission factors (lbs/ton BLS) based on past performance

(2) Accommodated Emissions = estimated emissions increase that would have occurred had BLS rate been at maximum permitted rate (41,000 tons BLS/month)

**Table 2. Title I Emissions Increase Summary:
Total Increase in Emissions from the BLS permit limit increase**

Total Increase				
Pollutant	Emissions Increase from the Modification (tpy)	Limited Emissions Increase from the Modification (tpy)	PSD/112(g) Significant Thresholds for major sources	NSR/112(g) Review Required? (Yes or No)
CO	98.1	98.1	100	No
NO _x	31.1	31.1	40	No
PM	5.6	5.6	25	No
PM10	6.7	6.7	15	No
SO ₂	2.2	2.2	40	No
Ozone (VOC)	8.1	8.1	40	No
Total Reduced Sulfur incl. H ₂ S	1.7	1.7	10	No

Table 3. Facility Classification

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

Part 63 NESHAP	X		
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2. Regulatory and/or Statutory Basis

New Source Review

The facility is an existing major source under New Source Review regulations.

Part 70 Permit Program

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

New Source Performance Standards (NSPS)

There are no new standards applicable to the operations at this facility. The recovery furnace, lime kiln, smelt dissolving tank, brown stock washers, and NCG incineration group are subject to 40 CFR pt. 60, subpart BB. Boilers 3, 8, and 9 are subject to 40 CFR pt. 60, subpart Db.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

The facility is a major source of HAPs. There are no new standards applicable to the operations at this facility. The facility is subject to the following NESHAPs:

- 40 CFR pt. 63, Subp. S Pulp & Paper (non-combustion) MACT I and (non-chemical) MACT III
- 40 CFR pt. 63, Subp. MM Pulp & Paper (chemical recovery combustion) MACT II
- 40 CFR pt. 63, Subp. DDDDD Industrial/Commercial/Institutional Boilers and Process Heaters National Emission Standards for Hazardous Air Pollutants
- 40 CFR pt. 63, Subp. JJJJ—National Emission Standards for Hazardous Air Pollutants: Paper and Other Web Coating

Minnesota State Rules

There are no Minnesota Standards of Performance triggered by or applicable to the changes authorized by this permit action. The facility is subject to the following standards:

- Minn. R. 7011.0510 Standards of Performance for Existing Indirect Heating Equipment
- Minn. R. 7011.0715 Standards of Performance for Post-1969 Industrial Process Equipment

Table 4. Regulatory Overview of Units Affected by the Modification/Permit Amendment¹

Total Facility, EU, GP, or SV	Applicable Regulations	Comments:
Total Facility	Title I Condition: 40 CFR § 52.21; Minn. R. 7007.3000	Black Liquor Solids (virgin bone-dry basis) Production: less than or equal to 41,000 <u>44,200</u> tons/month using 12-month rolling average.
	<u>40 CFR § 52.21(r)(6)(iii)</u>	<u>Black Liquor Solids (BLS) Increase Project Recordkeeping: The Permittee shall monitor the emissions of any regulated NSR pollutant that that are expected to increase as a result of the project. NO_x and CO emissions will be monitored using existing continuous emission monitoring systems. Other parameters (PM, PM10, SO₂, VOC's, and TRS) will be monitored based on stack testing and emission inventory calculation methods. On an annual basis and for a period of 5 years following resumption of normal operation after the change, the Permittee shall calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis. On an annual basis and for a period of 5 years following resumption of normal operation after the change, the Permittee shall calculate the overall change in emissions from the BLS Increase project for each regulated NSR pollutant. The change in emissions shall be calculated for each unit by subtracting the baseline actual emissions, as submitted in the permit application for the project, from each unit from the actual emissions for the calendar year. The Permittee may exclude, in calculating the increase in emissions from the BLS Increase project, any emissions that the unit could have accommodated during the baseline period and are unrelated to the BLS Increase project (i.e. emissions from less than 41,000 ton/month on a 12 month rolling average).</u>
		<u>Annual Report for Black Liquor Solids (BLS) Increase Project: The Permittee shall submit a report to the MPCA if the annual emissions, in tons per year, from the BLS Increase Project, exceed the baseline actual by a significant amount for that regulated NSR pollutant and if such emissions differ from the preconstruction estimate as documented in the permit application. Such report shall be submitted to the MPCA within 60 days after the end of the year. The report shall include the following:</u> <u>(a) The name, address, and telephone number of the source;</u> <u>(b) The annual emissions as calculated pursuant to the BLS Increase Project recordkeeping requirement; and</u> <u>(c) Any other information that the Permittee wishes to include in the report (e.g. an explanation as to why the emissions differ from the preconstruction projection).</u>
	<u>Minn. R. 7035.2855</u>	<u>The Permittee shall store any fuels falling under the definition of solid waste in accordance with Minn. R. 7035.2855.</u>
	<u>Minn. R. 7035.2855, subp. 7(A)</u>	<u>Prior to operation of a storage facility, owners and operators shall obtain a written certification from an engineer licensed in Minnesota stating that the storage facility is designed and constructed to meet the requirements of this part. A copy of this certification shall be maintained on file by the owner or operator and shall be made available to the Agency upon request.</u>
EU 320 (recovery furnace)	Title I Condition: 40 CFR § 52.21(j) (BACT	NO _x ≤ 402 <u>110</u> lb/hr using 30 day rolling average. This is equivalent to 80 ppm on a dry basis, converted to 8% oxygen. CO ≤ 500 <u>538</u> lb/hr using 24-hour rolling average. This is equivalent to 600 ppm on

limit); Minn. R. 7007.3000	a dry basis, converted to 8% oxygen.
40 CFR § 63.864(c)(2)(i); 40 CFR § 60.282(a)(ii); Minn. R. 7007.0800 subp. 2	Opacity less than or equal to 20 percent opacity using 6 minute average, <u>except for one six-minute period per hour of not more than 27 percent opacity.</u> This is more stringent than the 35% opacity limit of NSPS subp. BB and MACT subp. MM, which also apply.
Minn. R. 7017.2020 subp. 1	Performance Test due before end of each 36 60 months starting 08/08/2000 to measure Total Particulate Matter, Particulate Matter < 10 microns, and Sulfur Dioxide emissions. The next test is due November 4, 2011 06 , then every 36 60 months (3-5 years) thereafter. The SO2 performance test will also be used to determine emission factor to be used in calculation of SO2 emissions for comparison to 200 tons/year limit.
<u>Minn R. 7007.0800, subp. 2</u>	<u>Test burns shall consist of up to two phases - feasibility and performance testing. If an alternative biomass fuel meets feasibility requirements (as defined by the Permittee) such that it may be proposed as an additional fuel, the Permittee may move into the performance testing phase.</u>
<u>Minn R. 7007.0800, subp. 2</u>	<u>Alternative Biomass Fuel Testing Restrictions: Feasibility test burns for any alternative biomass fuel shall be limited to no more than 168 hours of operation using the fuel, and a test period not to exceed 30 days. Performance tests for any alternative biomass fuel shall be limited to no more than 168 additional hours of operation using the proposed fuel and a test period not to exceed 60 additional days.</u>
<u>Minn R. 7007.0800, subp. 2</u>	<u>Alternative Biomass Fuel Testing Authorization: The Permittee is authorized to conduct operational test burns of the following biomass fuels: BLS Soap, BLS Soap Tall Oil, Wastewater Treatment Residual, Glycerin or glycerol, herbs, nuts, vegetable oils; crop field residue or field processing residues; shells, husks, seeds, dust, screenings and other agricultural processing residues; cultivated grasses or grass by products and leaves. Acceptable biomass fuels do not include wood that has been painted or pressure treated; peat; off-site generated waste oil, farm chemicals, pesticide containers, demolition waste except wood, waste from farms from an open dump, tire derived fuels, non-agricultural industrial process wastes except wood derived wastes or any material meeting the definition of a hazardous waste.</u>
<u>Minn R. 7007.0800, subp. 2</u>	<u>Alternative Biomass Fuel Testing Requirements and Restrictions: Operational test burn will include, but not be limited to, nitrogen oxide, carbon monoxide, and opacity emission limits monitored by existing CEMs and COMs. Alternative biomass fuels will further be limited to less than 5,000 tons. Alternative test fuels will be limited to less than 25 percent of the heat input capacity of the boiler (i.e., less than 25% of 395 mmBTU/hr or 99 mmBTU/hr). Feasibility test burns will be monitored for NOx, CO, TRS, and opacity. If feasibility test burns prove successful, then PM, PM-10, SO2 and VOC performance test data will be gathered during the performance testing phase. Preliminary fuel testing will be completed to estimate the maximum HAP emissions (HCl and Hg).</u>
<u>Minn R. 7017.2030, subp. 1-4; Minn R. 7017.2018</u>	<u>Alternative Biomass Fuel Emission Testing submittals: 30 days prior to operational and emission testing of a biomass fuel (emission testing will be conducted only if operational testing has been proven feasible), the permittee shall submit a written performance test notification and test plan. The test plan shall include (1) the type(s) and estimated amount of biomass to be tested, (2) operating parameters and anticipated fuel mixes during the emission testing of the boiler to be tested, (3) air</u>

		pollutants that will be monitored (i.e., PM, PM-10, and VOC), and (4) a testing schedule.
	<u>Minn R. 7017.2030, subp. 1-4; Minn R. 7017.2018 and Minn. R. 7017.2035, subp. 1-2</u>	Alternative Biomass Fuel Emission Testing Notification and submittals; Pretest meeting: due 7 days before Performance Test Test Report: Due 45 days after Performance Test Test Report: CD copy due 105 days after Performance Test The Notification, the test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018
EU 430 (Boiler #2) EU 440 (Boiler #3) EU 450 (Boiler #8) EU 460 (Boiler #9)	<u>Minn. R. 7011.0515 subp. 2</u>	Opacity less than or equal to 20% opacity using 6 minute average, except for one six-minute period per hour of not more than 27 percent opacity
EU 430 (Boiler #2)	<u>Minn R. 7007.0800, subp. 2</u>	Test burns shall consist of up to two phases - feasibility and performance testing. If an alternative biomass fuel meets feasibility requirements (as defined by the Permittee) such that it may be proposed as an additional fuel, the Permittee may move into the performance testing phase.
	<u>Minn R. 7007.0800, subp. 2</u>	Alternative Biomass Fuel Testing Restrictions: Feasibility test burns for any alternative biomass fuel shall be limited to no more than 168 hours of operation using the fuel, and a test period not to exceed 30 days. Performance tests for any alternative biomass fuel shall be limited to no more than 168 additional hours of operation using the proposed fuel and a test period not to exceed 60 additional days.
		Alternative Biomass Fuel Testing Authorization: The Permittee is authorized to conduct operational test burns of the following biomass fuels: BLS Soap, BLS Soap Tall Oil, Wastewater Treatment Residual, Glycerin or glycerol, herbs, nuts; vegetable oils; crop field residue or field processing residues; shells, husks, seeds, dust, screenings and other agricultural processing residues; cultivated grasses or grass by products and leaves. Acceptable biomass fuels do not include wood that has been painted or pressure treated; peat; off-site generated waste oil, farm chemicals, pesticide containers, demolition waste except wood, waste from farms from an open dump, tire derived fuels, non-agricultural industrial process wastes except wood derived wastes or any material meeting the definition of a hazardous waste.
	<u>Minn R. 7007.0800, subp. 2</u>	Alternative Biomass Fuel Testing Requirements and Restrictions: Operational test burn will include, but not be limited to, nitrogen oxide, sulfur dioxide, carbon monoxide, and opacity emission limits monitored by existing CEMs and COMs. Alternative biomass fuel tests will further be limited to less than 5,000 tons and no more than 7 days (or 168 hours) operation using the fuel, and a testing period to last no more than 30 operational days beginning the first day fuel is used. Further alternative test fuels will be limited to less than 25 percent of the heat input capacity of the boiler (i.e., less than 25% of 395 mmBTU/hr or 99 mmBTU/hr). Operational test burns will be monitored for NOx, CO, SO2, and opacity. If operational test burns prove successful, then PM, PM-10 and VOC performance test data will be gathered during the test. Preliminary fuel testing will be completed to estimate the

		<u>maximum HAP emissions (HCl and Hg).</u>
	<u>Minn R. 7017.2030, subp. 1-4; Minn R. 7017.2018</u>	<u>Alternative Biomass Fuel Emission Testing submittals: 30 days prior to operational and emission testing of a biomass fuel (emission testing will be conducted only if operational testing has been proven feasible), the permittee shall submit a written performance test notification and test plan. The test plan shall include (1) the type(s) and estimated amount of biomass to be tested, (2) operating parameters and anticipated fuel mixes during the emission testing of the boiler to be tested, (3) air pollutants that will be monitored (ie., PM, PM-10, and VOC), and (4) a testing schedule.</u>
	<u>Minn R. 7017.2030, subp. 1-4; Minn R. 7017.2018 and Minn. R. 7017.2035, subp. 1-2</u>	<u>Alternative Biomass Fuel Emission Testing Notification and submittals; Pretest meeting: due 7 days before Performance Test Test Report: Due 45 days after Performance Test Test Report: CD copy due 105 days after Performance Test The Notification, the test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018</u>
SV 322 (Smelt Dissolving Tank)	Title I Condition: 40 CFR § 52.21 (modeling and netting); Minn. R. 7007.3000 (PENDING EPA APPROVAL)	Total Particulate Matter: less than or equal to 5.7 <u>7.3</u> lbs/hour. (This limit is based on an emission rate limit of 0.12 lb/ton BLS (dry) and thus is more stringent than the NSPS limit (40 CFR Section 60.282(a)(2)) and MACT limit (40 CFR Section 63.862(a)(1)(i)(B)) of 0.2 lb/ton BLS for a smelt dissolving tank). Particulate Matter < 10 micron: less than or equal to 5.7 <u>7.3</u> lbs/hour.
EU 320 (Recovery Furnace)	Title I Condition: 40 CFR § 52.21(j) (BACT limit); 40 CFR § 63.864(c)(2)(i); 40 CFR § 60.282(a)(i); Minn. R. 7007.3000 (PENDING EPA APPROVAL)	Total Particulate Matter: less than or equal to 30.7 <u>27.0</u> lbs/hour. This is more stringent than the NSPS subp. BB and MACT MM limits of 0.044 gr/dscf @ 8% O2, which also apply.
	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); Minn. R. 7007.3000 (PENDING EPA APPROVAL)	Particulate Matter < 10 micron: less than or equal to 22.9 <u>19.2</u> lbs/hour.
	<u>Minn. R. 7008.0800, subp. 2</u>	<u>Carbon Monoxide: less than or equal to 2289 tons/year using 12-month Rolling Average</u>
EU 340 (Lime Kiln)	Title I Condition: 40 CFR § 52.21 (netting and modeling); Minn. R. 7007.3000 (PENDING EPA APPROVAL)	Total Particulate Matter: less than or equal to 40.6 <u>12.7</u> lbs/hour.

<p>40 CFR Section 63.862(a)(i)(C); 40 CFR § 63.862(a)(ii); 40 CFR § 63.865; Minn. R. 7011.7700(B) (PENDING EPA APPROVAL)</p>	<p>Total Particulate Matter: less than or equal to 0.064 <u>0.066</u> grains/dry standard cubic foot @10% oxygen. This is more stringent than <u>equivalent</u> to the NSPS subp. BB of 0.066 gr/dscf @10% oxygen, which also applies.</p>
<p>Title I Condition: 40 CFR § 52.21 (netting and modeling); Minn. R. 7007.3000 (PENDING EPA APPROVAL)</p>	<p>Particulate Matter < 10 micron: less than or equal to 40.6 <u>12.7</u> lbs/hour.</p>
<p>Title I Condition: Testing associated with Title I emission limits; Minn. R. 7017.2020, subp. 1</p>	<p>Performance Test: due before end of each year starting 08/08/2001 to measure Total Particulate Matter and Particulate Matter <10 micron emissions. The next test is due October 1, 2005 <u>February 2, 2009</u>, then every year (12 months) thereafter.</p>

1 – New language is underlined. ~~Old language is strikethrough.~~

3. Technical Information

3.1 Black Liquor Solids Increase

PSD Calculations

To determine applicability of Federal Prevention of Significant Deterioration (PSD) rules under 40 CFR § 52.21 for this project, one must compare the emissions before the change (baseline emissions) with the emissions after the change (post-modification emissions). The emission calculations are presented in the attached and a description of the various calculation variables are presented below.

- **Baseline (Past-Actual) Emissions:** The PSD regulation defines the baseline period as any consecutive 24-month period during the past 10 years. Each pollutant must use the same 24-month period (i.e. all SO₂ emissions must be from the same 24-month period), but different pollutants can use different 24-month periods (i.e. SO₂ emissions can use one 24-month period and NO_x can use a different 24-month period).

Based on regulatory definitions, not all of the past 10 years are available for the baseline period of this project, because the recovery boiler received a PSD permit in 2000 for the Efficiency Improvement Project. Therefore, actual emissions since the completion of the Recovery Boiler and Smelt Dissolving Tank portion of that project are eligible for the baseline period analysis. Since that part of the project was completed in 2001, emissions data from 2002 through 2006 was available for the baseline emissions evaluation. The actual emissions for 2002 through 2006 are determined based on the emission inventories as approved by MPCA, except for TRS which is not submitted on the emission inventory. The actual emissions for 2007 are based on the emission inventory calculations which were submitted to MPCA. TRS emission calculations were only conducted for 2005, 2006, and 2007.

Baseline actual emissions of each pollutant are calculated using the highest 2-year average actual emission rate during 2002 to 2007. The years for the baseline periods are determined to be the following:

- CO: 2006-2007
- NO_x: 2005-2006
- PM: 2004-2005
- PM₁₀: 2004-2005
- SO₂: 2002-2003
- VOC: 2006-2007
- TRS: 2005-2006

- **Post-modification (Projected Actual) Emissions:** The PSD regulation requires the calculation of post-modification emissions by one of two methods: (1) using the potential to emit of the changed units; or (2) estimating projected actual emissions of the changed units. This permit applicability analysis is conducted using the projected actual emissions.

The projected actual emissions are calculated as follows:

$$\text{Projected Actual Emissions} = \text{Future BLS Firing Rate (tons/yr)} \times \text{Projected Emission Factor (lb/ton BLS)}$$

The “Future BLS (tons/year)” rate is estimated based on the production rate during recent stack tests (2.9 million pounds/day) which is equivalent to 44,200 tons/month (530,400 tons/year).

The “Projected Emission Factor (lb/ton BLS)” is evaluated for each pollutant after considering the historical range of actual annual emission rates. The two years of data with greatest emissions were used for CO and NO_x calculations.

- The “Projected Emission Factors (lb/ton BLS)” for CO and NO_x are based on the average emissions of 2006 to 2007 for CO and the average emissions of 2005 to 2006 for NO_x.
- The “Projected Emission Factors (lb/ton BLS)” for the other pollutants are based on the maximum average 24-month emission rates from 2002 through 2007.
- **Emissions that the Unit Could Have Accommodated (Accommodated Emissions):** Another consideration for the projected actual emissions is that certain emissions can be excluded, as noted in 40 CFR § 52.21(b)(41)(ii)(c):

“In determining the projected actual emissions under paragraph (b)(41)(i) of this section (before beginning actual construction), the owner or operator of a major stationary source: ... (c) shall exclude, in calculating any increase in emissions that results from the particular project, that portion of the unit’s emissions following the project that an existing unit could have accommodated during the consecutive 24-month period used to establish the baseline actual emissions under paragraph (b)(48) of this section and that are unrelated to the particular project, including any increased utilization due to product demand growth.”

The recovery boiler can currently accommodate BLS up to the 12-month average permitted limit (41,000 tons/month) as proven by the monthly BLS rates; therefore, the emissions from firing BLS above the baseline actual emissions rate up to the permitted rate could be accommodated by the Recovery Boiler and Smelt Dissolving Tank.

- **Determination of Emissions Increases:** Based on the PSD regulations and the information on MPCA permit application form CH-04a, the emissions increases are calculated as follows:

$$\text{Emissions Increase (tons/yr)} = \text{Projected Actual (tons/yr)} - \text{Baseline (tons/yr)} - \text{Accommodated Emissions (tons/yr)}$$

- **Comparison to PSD Thresholds:** The emissions increase of each pollutant is compared to the corresponding PSD significant emission rate threshold to determine if PSD would be triggered using the emission calculation methods described above. This comparison is presented on Form CH-04a. As illustrated in the table, the emissions from this project will not exceed any PSD threshold. Therefore, a PSD analysis is not required.

Summary

Based on the calculations as provided above, this project is not a major modification under PSD (i.e. emissions increases are less than the PSD threshold) and a synthetic minor permit limit would not be needed for any of the PSD pollutants. However, the BLS limit is a site-specific Title I permit condition, and changing a Title I permit conditions requires a major permit amendment under Minnesota Rules. The requested change is summarized in the table below. Record keeping requirements as outlined in 40 CFR § 52.21(r)(6) will be followed, to verify that the PSD pollutants do not exceed the PSD thresholds.

EU, GP, or SV #	Change
Total Facility Requirement	Black Liquor Solids (virgin bone-dry basis) Production: less than or equal to 41,000 <u>44,200</u> tons/month using 12-month rolling average.

CO + NO_x Emission Limits for Recovery Furnace (EU 320)

Background

On October 2, 2000, the MPCA issued Permit No. 07100002-003, to Boise for the Efficiency Improvement Project. This permit action allowed Boise to increase pulp production and black liquor solids processing. The permit for the Efficiency Improvement Project a Prevention of Significant Deterioration (PSD) review which included Best Available Control Technology (BACT) limits the Recovery Furnace (EU 320) for PM/PM₁₀, VOC, CO, SO₂, and NO_x.

On November 15, 2004, the MPCA issued permit 07100002-006 to Boise. One of the items addressed by this permit action was to change the CO and NO_x emission limits for the Recovery Furnace (EU 320). The NO_x and CO emission limits were based on a concentration (ppm) but were included in the permit as a mass emission limit (lb/hr). Therefore, this permit action increased the emission limits on a lb/hr basis so that the emission limit would be based on the correct maximum permitted annual BLS rate (2.7 MMlb BLS/day) rather than the value originally used in the emission calculation (2.5 MMlb BLS/day). As part of the permit application, Boise revisited the previous BACT evaluation for NO_x and CO for the recovery furnace. The analysis demonstrated that the change in the maximum NO_x and CO emission rates does not change the previous BACT evaluation. In addition, the permit also reduced the maximum emission rate from the Lime Kiln. Due to the fact that Boise has an overall NO_x emissions cap at the facility to address visibility concerns in the nearby Class I area, and because the NO_x emissions cap remained unchanged in overall emissions, there was no increase in potential NO_x emissions. Boise also conducted additional air dispersion modeling (SCREEN3) to confirm that the net ambient impact due to NO_x emission limit change results in lower concentrations. The SCREEN3 model showed consistently lower ground-level impact when shifting emissions from the Lime Kiln to the Recovery Furnace because the recovery furnace has consistently better dispersion (taller stack, hotter temperature, higher velocity).

Proposed Emission Limits

With this permit application, Boise is proposing to again raise the NO_x and CO emission limits for the Recovery Furnace. Based on Boise's analysis of this project, it is not necessary to increase the emission limits for any other pollutant for either the Recovery Furnace or the Smelt Dissolving Tank.

The approach for increasing the NO_x and CO emission limits as presented in this permit application is identical to the approach permitted by MPCA on November 15, 2004 (07100002-006). As previously stated, this permit action is requesting a change in the maximum permitted annual BLS from 41,000 tons/month (2.7 MMlb/day) to 44,200 tons/month (2.9 MMlb/day). Therefore, the requested NO_x and CO emission limits increase is necessary to maintain the mass emission limits (lb/hr) in proper proportion to the maximum permitted annual BLS rate. The proposed changes in emission limits are summarized in the table below.

	BLS* (MMlb/day)	NO_x (lb/hr)	CO (lb/hr)
Current Permit Limit	2.7	102	500
Proposed Permit Limit	2.9	110	538

* BLS: The permit presents the BLS limit in the units of tons/month on a 12-month rolling average basis. The maximum emissions calculation is calculated using the annualized limit calculated to a daily rate.

NO_x Emissions Increase Analysis

Boise’s existing air permit contains a NO_x emissions cap at the facility to address visibility concerns in the nearby Class I area. The NO_x cap is designated in the permit as “GP 420 Boilers and Recovery Furnace – NO_x cap.” The cap is summarized in the table below.

Associated Items	What to do	Why to do it
EU 320 Recovery Furnace EU 322 Smelt Dissolving Tank EU 340 Lime Kiln EU 420 Boiler #1	Nitrogen Oxides: less than or equal to 3.67 tons/day from combustion sources (Boilers #1, #2, #3, #8, #9, and Recovery Furnace)	Title I Condition: 40 CFR § 52.21; Minn. R. 7007.3000
EU 430 Boiler #2 EU 440 Boiler #3 EU 450 Boiler #8 EU 460 Boiler #9	Nitrogen Oxides: less than or equal to 4.18 tons/day, calculated on a semi-annual basis. This limit is the total NO _x cap for the facility and includes the combustion sources (Boilers #1, #2, #3, #8, #9, and Recovery Furnace) as well as the lime kiln and the smelt dissolving tank.	Title I Condition: 40 CFR § 52.21; Minn. R. 7007.3000

Although Boise is proposing to raise the permit limit from the Recovery Furnace, no changes to the NO_x cap are proposed. Therefore, there is no change in the limited potential NO_x emissions from the facility.

It is also important to note that the increase in actual NO_x emissions will not exceed PSD thresholds.

CO Emissions Increase Analysis

Boise's existing air permit contains a CO emissions limit of 500 lb/hr for the recovery furnace. As previously stated, Boise is proposing to increase the emissions limit to 538 lb/hr. This increase in the emissions limit is equivalent to an annualized increase in potential emissions of 166.4 tons/year. This increase in the annual potential emissions is compared to the following thresholds:

- *Environmental Assessment Worksheet (EAW)*: Minn. R. 4410.4300 subp. 15 requires a mandatory EAW for modifications to a stationary source facility that increase emissions by 250 tons or more per year of any single air pollutant. Since the increase in CO emissions is less than 250 tons/year, the EAW is not required.
- *Air Emissions Risk Analysis (AERA)*: Based on MPCA guidance, an AERA should be completed for proposed projects for which air emissions are expected to be greater than 100 tons per year of any one criteria pollutant after the use of control equipment. The facility is limiting CO emissions to be less than 100 tons per year.

It is also important to note that the Recovery Furnace and Smelt Dissolving Tank is subject to, and in compliance with, the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Kraft Pulp Mills (40 CFR Part 63 Subpart MM).

Boise also completed a very comprehensive Air Toxics Review in 2000 as part of the Efficiency Improvement Project. The Air Toxics review process included a culpability analysis for acute hazard index (HI), sub-chronic HI, Chronic HI and Excess Cancer Risk. The Recovery Furnace was not a significant contributor (less than 1 percent). The Smelt Dissolving Tank (including the Hopper Flush Tank and the Salt Cake Mix Tank) was a significant contributor for the chronic HI with a hazard quotient of 0.06 and for the excess cancer risk 7.27E-07. The chronic HI was associated with ammonia and the excess cancer risk was associated with the formaldehyde. In 2006 Boise installed the high volume low concentration (HVLC) system for the dilute non-condensable gases, which collects pulp mill gases for incineration in the Recovery Furnace. As part of this project the Mill collected the off-gases from the Hopper Flush Tank and Salt Cake Mix Tank, and removed them from the Smelt Dissolving Tank. The ammonia and formaldehyde emission estimates were conservative, maximum value of similar units. The increase in the chronic HI from the Smelt Dissolving Tank would be approximately 10 percent, from 0.06 to 0.07. However, this was offset by the removal of the Lime Slaker Vent, in 2001, which was approximately 2 percent HI of 0.03) of the chronic HI (again from ammonia). The total ammonia

related chronic HI, drops from 0.08 to 0.07. The excess cancer risk would also increase by 10 percent from 7.27E-07 to 8.0E-07.

It is also important to note that the increase in actual CO emissions will not exceed PSD thresholds. This information is presented in the BLS increase project description and form CH-04a.

The facility is accepting a CO annual limit of less than or equal to 2,289 tons/year on EU 320, providing an inherent enforceable limit of 99 tpy which is less than the PSD threshold of CO (100 tpy).

BACT Analysis

As previously stated, the project emissions increase does not exceed the PSD thresholds for either NO_x or CO. However, since the potential emissions are based on a BACT analysis, Boise has reevaluated the previous BACT evaluation for NO_x and CO for the Recovery Furnace.

The existing BACT limits were based on pollutant concentrations, which have not changed. However, if a control had previously been rejected due to economic reasons, then an increased emission limit in terms of lb/hr could result in a control option becoming economically feasible.

Recuperative thermal oxidation was previously determined to be a technically feasible control option for CO. In the original BACT analysis for the Efficiency Improvement Project (07100002-003), the cost effectiveness was \$13,000/ton and therefore was not economically feasible. The BACT analysis was revisited as part of the 2004 permit amendment (07100002-006), and the technology remained economically infeasible at approximately \$11,300/ton. Using similar methodology for this permit amendment, the adjusted control cost for recuperative thermal oxidation is approximately \$10,400/ton (without adjustment for inflation to 2007) and the technology remains economically infeasible for CO. Other control options were determined to not be technically feasible; therefore, good combustion remains BACT for CO.

In the original BACT analysis for the Efficiency Improvement Project (07100002-003), the NO_x control options for the recovery furnace had previously been determined to be technically infeasible. The BACT analysis was revisited as part of the 2004 permit amendment (07100002-006), and the NO_x control options remained technically infeasible. The emission limit change proposed by in this permit application does not change the technical feasibility evaluation as there are no new control technologies. Other control options were determined to not be technically feasible; therefore, good combustion remains BACT for NO_x.

In addition to reevaluating the previous BACT evaluation for NO_x and CO for the Recovery Furnace, Boise has also reviewed EPA's RACT/BACT/LAER Clearinghouse (RBLC). A summary of the RBLC data for recovery furnace BACT determinations for CO and NO_x for the last 10 years is summarized in the table below. Because the Boise recover furnace has staged air combustion (primary, secondary, tertiary and upper tertiary), and because the existing BACT analysis conclusion was good combustion, this data confirms that the existing controls for the recovery furnace are appropriate for BACT controls.

Air Dispersion Modeling – NO_x

Boise also conducted additional air dispersion modeling (SCREEN3) to evaluate the impact of shifting NO_x emissions within the NO_x cap to the Recovery Furnace. SCREEN3 modeling was conducted for each of the stacks within the NO_x cap at an emission rate of 1 gram/second. The results of this analysis are summarized in the table below.

Unit #	SV #	Unit Name	Stack Parameters				SCREEN3 Modeling Results at 1 g/s	
			Height (m)	Diameter (m)	Flow (acfm)	Temp (°F)	Max Conc. (µg/m ³)	Conc. at 1000 m (µg/m ³)
EU 320	SV 320	Recovery Furnace	60.8	3.0	300,000	391	10.2	4.0
EU 420	SV 420	Boiler #1	26.8	2.3	150,000	360	194.2	47.6
EU 430	SV 430	Boiler #2	35.5	2.3	183,000	400	151.4	24.1
EU 430	SV 431	Boiler #2	50.6	2.3	183,000	400	39.8	10.6
EU 440	SV 440	Boiler #3	45.7	2.1	130,000	340	80.2	20.0
EU 450	SV 450	Boiler #8	30.5	1.2	60,000	325	301.0	67.5
EU 460	SV 460	Boiler #9	30.5	1.2	60,000	325	301.0	67.5
EU 322	SV 322	Smelt Dissolving Tank	50.6	1.5	18,000	154	157.3	44.7
EU 340	SV 340	Lime Kiln	21.0	0.9	24,600	161	309.8	58.2

As illustrated in the table above, the SCREEN3 air dispersion modeling data demonstrates that the recovery furnace has consistently better dispersion than the other NO_x cap sources (taller stack, hotter temperature, higher velocity). Therefore, shifting NO_x emissions within the cap to the Recovery Furnace will not have a negative impact on ground level concentrations nor will it adversely impact Class I areas.

Air Dispersion Modeling – CO

Boise also conducted additional air dispersion modeling (SCREEN3) to evaluate the impact of increasing the potential CO emissions from the Recovery Furnace. SCREEN3 modeling is conducted to determine the maximum ambient concentration for the Recovery Furnace for the CO emissions at the existing potential emission rate (500 lb/hr) and the proposed potential emission rate (538 lb/hr). The difference in the SCREEN3 modeled results is calculated to determine the increase in the maximum ambient concentration. The calculated increase in the maximum ambient concentration is used to determine the potential impact on compliance with the ambient air quality standards (AAQS). The evaluation is conducted by adding the increase from the SCREEN3 results to the maximum predicted impacts from the most recent MPCA-approved modeling. If this comparison demonstrates that the impacts will not threaten compliance with the AAQS, the increase in emissions should also be considered acceptable.

The results of this analysis are summarized in the table below.

Pollutant	SCREEN3 Increase in Maximum Modeled Impacts		MPCA-Approved Modeling ^A	SCREEN3 Results + Maximum Predicted Impacts	Ambient Air Quality Standard
	Change		Maximum Predicted Impacts (w/bkgd)	Total	Secondary Standard
	($\mu\text{g}/\text{m}^3$)	Avg Period	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)
CO	526	1-hour	6,208	6,734	35,000
	368	8-hour	3,903	4,271	10,000

[A] Maximum Predicted Impacts: from Technical Support Document for permit action number 07100002-006.

As illustrated in the table above, the SCREEN3 air dispersion modeling data demonstrates that the increase in potential emissions from the Recovery Furnace will not threaten compliance with the AAQS.

Summary

In summary, the BACT study demonstrated that the NO_x and CO BACT analysis will not change and the additional air dispersion modeling demonstrated that the ground-level concentrations and Class I impacts are not adversely impacted. The requested change is summarized in the table below.

EU, GP, or SV #	Change
EU 320 (recovery furnace)	NO _x ≤ 402 110 lb/hr using 30 day rolling average. This is equivalent to 80 ppm on a dry basis, converted to 8% oxygen.
	CO ≤ 500 538 lb/hr using 24-hour rolling average. This is equivalent to 600 ppm on a dry basis, converted to 8% oxygen.

6th Effect Evaporator

Boise is also proposing to implement an energy improvement project by adding an additional evaporator effect to the evaporator train. This project was originally addressed as part of the Efficiency Improvement Project as permitted in October 2000 (Permit 07100002-003) and will ultimately reduce emission by requiring less steam. However, this activity is taking place long after permit issuance and therefore is not considered part of continuous construction for the Efficiency Improvement Project. This

The addition of the new evaporator effect will not change the maximum pulping production rates that were presented in the permit application for the Efficiency Improvement Project. In addition, an increase in the BLS limit has already been addressed in this permit application and the appropriate permit analysis and calculations have been conducted. Therefore, no additional permit analysis is required for this portion of the project.

Performance Stack Test Frequency

The current Air Emission Permit for this facility contains performance stack testing requirements for several sources. The performance stack testing requirements include a list of the pollutants which must be monitored and a requirement for testing frequency.

The testing frequency as presented in the permit is typically based on MPCA’s testing frequency guidance. This guidance, which helps identify the frequency at which the emission unit will be tested in the future, is summarized in the table below.

Stack Test Result*	Stack Test Frequency
X ≥ 90% of the most stringent limit	Stack test every 12 months
60% ≤ X < 90% of the most stringent limit	Stack test every 36 months
X < 60% of the most stringent limit	Stack test every 60 months
*NOTE: X = measured performance test result of the pollutant of interest	

MPCA’s guidance also states the following:

On some occasions the facility may request a relaxation of the testing frequency if there is adequate historical information suggesting that the frequency of testing could be reduced. Typically, adequate historical information would consist of data from three or more performance tests.

Based on the MPCA’s test frequency guidance and based on historic performance test data, as presented in the Attached. Boise proposes to change the stack testing frequency requirements for the Recovery Furnace (EU 320) as follows:

Recovery Furnace (EU 320)

What to do	Why to do it
Performance Test due before end of each 36 <u>60</u> months starting 08/08/2000 to measure Total Particulate Matter, Particulate Matter < 10 microns, and Sulfur Dioxide emissions. The next test is due November 4, 2011 06 , then every 36 <u>60</u> months (3 <u>5</u> years) thereafter. The SO2 performance test will also be used to determine emission factor to be used in calculation of SO2 emissions for comparison to 200 tons/year limit.	Minn. R. 7017.2020 subp. 1

Opacity Limits

The current Air Emission Permit for this facility contains opacity limits for several sources at the facility. Boise has reviewed the various opacity regulations that are referenced in the permit. In addition, Boise reviewed the dates of construction of the boilers, which were presented in the Title V permit application as follows:

EU	Emission Unit Name	Date of Construction	MN Rules Classification
420	Boiler #1	1956	Existing
430	Boiler #2	1965 (modified 1984)	New
440	Boiler #3	1989	New
450	Boiler #8	1990	New
460	Boiler #9	1990	New

Based on this review, Boise is proposing the following changes which correct and clarify the applicable requirements.

EU, GP, or SV #	What to do	Why to do it
EU 440 (Boiler #3)	Opacity less than or equal to 20% opacity, <u>except for one six-minute period per hour of not more than 27 percent opacity</u>	Minn. R. 7011.0515 0 subp. 2
EU 450 (Boiler #8)	Opacity less than or equal to 20% opacity, <u>except for one six-minute period per hour of not more than 27 percent opacity</u>	Minn. R. 7011.0515 0 subp. 2
EU 460 (Boiler #9)	Opacity less than or equal to 20% opacity, <u>except for one six-minute period per hour of not more than 27 percent opacity</u>	Minn. R. 7011.0515 0 subp. 2

Boise has also reviewed the opacity requirements for EU 430 (Boiler #2). The permit states that the opacity limit for this source is based on Minn. R. 7007.0800 subp. 2, which is the general statement that the “permit shall also include any condition the agency determines to be necessary to protect human health and the environment.” However, Boise reviewed the opacity requirements and is therefore proposing the following changes which are consistent with Minn. R. 7011.0510 subp. 2 (Standards of Performance for Existing Indirect Heating Equipment).

EU, GP, or SV #	What to do	Why to do it
EU 430 (Boiler #2)	Opacity less than or equal to 20% opacity using 6 minute average, <u>except for one six-minute period per hour of not more than 27 percent opacity</u>	Minn. R. 7007.0800 subp. 2 ; <u>Minn. R. 7011.0515 subp. 2</u>

Boise has also reviewed the opacity requirements for EU 320 (Recovery Furnace). In addition to Minn. R. 7007.0800 subp. 2, which is the general statement that the “permit shall also include any condition the agency determines to be necessary to protect human health and the environment,” the permit also lists the following applicable requirement:

- 40 CFR § 60.282(a)(ii) – New Source Performance Standards for Kraft Pulp Mills: no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere...Exhibit 35 percent opacity or greater.

The permit also lists 40 CFR § 63.864(c)(2)(i) as an applicable requirement for opacity for the recovery furnace; however § 63.864(c) is designated in the regulation as “reserved.” However, 40 CFR Part 63 Subpart MM (National Emission Standards for Hazardous Air Pollutants for Kraft Pulp Mills) contains the following requirements for opacity from new or existing Kraft recovery furnaces equipped with an ESP:

- 40 CFR § 63.864(k)(1)(i): Following the compliance date, owners or operators of all affected sources or process units are required to implement corrective action... when the average of ten consecutive 6-minute averages result in a measurement greater than 20 percent opacity;
- 40 CFR § 63.864(k)(2)(i): Following the compliance date, owners or operators of all affected sources or process units are in violation of the standards of §63.862... when opacity is greater than 35 percent for 6 percent or more of the operating time within any quarterly period.

Boise also reviewed opacity requirements based on other regulations and other facilities and is therefore proposing the following changes which are consistent with Minn. R. 7011.0515, subp. 2 (Standards of Performance for New Indirect Heating Equipment) and 40 CFR Part 60 Subpart Db (New Source Performance Standards for Industrial-Commercial-Institutional Steam Generating Units).

EU, GP, or SV #	What to do	Why to do it
EU 320 (recovery furnace)	<p>Opacity less than or equal to 20 percent opacity using 6 minute average, <u>except for one six-minute period per hour of not more than 27 percent opacity.</u></p> <p>This is more stringent than the 35% opacity limit of NSPS subp. BB and MACT subp. MM, which also apply.</p>	<p>40 CFR § 63.864(c)(2)(i); 40 CFR § 60.282(a)(ii); Minn. R. 7007.0800 subp. 2</p>

3.2 PM/PM₁₀ Adjustment

Boise requests to adjust the PM and PM₁₀ emission limits for the Recovery Furnace (SV 320), Smelt Dissolving Tank (SV 322) and the Lime Kiln (SV 340), pending approval from the EPA. The proposed permitting action is provided for in MACT Subpart MM which contains an alternative provision to adjust the particulate emission limits for the Lime Kiln, Smelt Dissolving Tank and the Recovery Furnace as detailed in 40 CFR § 63.862(a)(ii) and 40 CFR § 63.865. Boise is proposing to increase the PM/PM₁₀ emission limits for the Smelt Dissolving Tank (SV 322) and the Lime Kiln (SV 340) while decreasing the PM/PM₁₀ emission limits from the Recovery Furnace (SV 320) by an equivalent amount.

The existing PM/PM₁₀ limits in the Title V Permit 07100002-008 are as follows:

- Recovery Furnace (SV 320)
 - PM ≤ 30.7 lb/hr (more stringent than NSPS Subpart BB and MACT Subpart MM limits of 0.044 gr/dscf at 8 percent O₂).
 - PM₁₀ ≤ 22.9 lb/hr
Limits are based on BACT (40 CFR § 52.21(j)).

- Smelt Dissolving Tank (SV 322)
 - PM and PM₁₀ ≤ 5.7 lb/hr (based on 0.12 lb/ton BLS which is more stringent than the NSPS Subpart BB and MACT Subpart MM limits of 0.20 lb/ton BLS)
 - Limits are based on modeling and netting (40 CFR § 52.21).

- Lime Kiln (SV 340)
 - PM and PM₁₀ ≤ 10.6 lb/hr (based on the modeling and netting (40 CFR § 52.21)).
 - PM ≤ 0.064 gr/dscf at 10 percent O₂ (based on MACT Subpart MM limit 40 CFR § 63.862(a)(1)(i)). The NSPS Subpart BB limit for PM also applies but is less stringent than the limit listed in the permit.

The analysis for this change in emission limits included: regulatory review, emission calculations, and air dispersion modeling analysis. A summary of each portion of the analysis is presented below.

Permit and Regulatory Review

As summarized above, Air Permit 07100002-008, describes the basis of the PM/PM₁₀ emission limits. The regulatory basis to change these limits is summarized below.

1. *Recovery Furnace (SV 320):*

- a. *BACT Analysis:* The PM/PM₁₀ emission limits for the Recovery Furnace are based on a BACT analysis. Since the proposed permit action would decrease the emission limits for this source, an update to the BACT analysis is not necessary.
- b. *NSPS Subpart BB and MACT Subpart MM:* The existing lb/hr PM limit is more stringent than NSPS Subpart BB and MACT Subpart MM limits of 0.044 gr/dscf at 8 percent O₂. Since the proposed permit action would decrease the emission limits for this source, the emission limit would remain more stringent than these standards.

2. *Smelt Dissolving Tank (SV 322):*

- a. *Netting Analysis:* The PM/PM₁₀ emission limits for the Smelt Dissolving are based on netting and modeling (40 CFR § 52.21). Therefore, to maintain the applicability of the previous netting analysis which included the emissions from the Recovery Furnace, Smelt Dissolving Tank and Lime Kiln, the combined emission limit for the three sources will not change. Additional details are provided in the “Emission Calculations” section of this document.
- b. *Air Dispersion Modeling Analysis:* The PM₁₀ emission limits for the Smelt Dissolving Tank are based on modeling (40 CFR § 52.21). Therefore, to maintain the applicability of the previous air dispersion modeling analysis, Barr conducted an air dispersion modeling analysis for PM₁₀ to demonstrate that the change in emission limits for these three sources will cause a change in ambient air PM₁₀ concentration that is less than the significant impact levels (SILs) and therefore further modeling is not required because the change should be considered “of negligible consequence to ambient air quality.”^{1,2} Additional details are provided in the “Air Dispersion Modeling Analysis” section of this document.
- c. *NSPS Subpart BB and MACT Subpart MM:* The PM/PM₁₀ emission limits for the Smelt Dissolving Tank are based on an emission rate 0.12 lb/ton BLS which is more stringent than the NSPS Subpart BB and MACT Subpart MM limits of 0.20 lb/ton BLS. Therefore, to maintain compliance with the NSPS Subpart BB and MACT Subpart MM

¹ [MPCA New Source Review Reform Modeling Guidance: Policies and Procedures](#) (January 2004)

² [MPCA Guidance for Title V and PSD Air Dispersion Modeling](#) (October 2004)

limits, the emission rate cannot increase to a level greater than 0.20 lb/ton BLS. Boise proposes to maintain the emission rate of 0.12 lb/ton BLS but is proposing to increase the emission limit due to the proposed BLS limit increase. Additional details are provided in the “Emission Calculations” section of this document.

3. *Lime Kiln (SV 340):*

- a. *Netting Analysis:* The PM/PM₁₀ emission limits for the Lime Kiln are based on netting and modeling (40 CFR § 52.21). Therefore, to maintain the applicability of the previous netting analysis which included the emissions from the Recovery Furnace, Smelt Dissolving Tank and Lime Kiln, the combined emission limit for the three sources will not change. Additional details are provided in the “Emission Calculations” section of this document.
- b. *Air Dispersion Modeling Analysis:* The PM₁₀ emission limits for the Lime Kiln are based on modeling (40 CFR § 52.21). Therefore, to maintain the applicability of the previous air dispersion modeling analysis, Barr conducted an air dispersion modeling analysis for PM₁₀ to demonstrate that the change in emission limits for these three sources will cause a change in ambient air PM₁₀ concentration that is less than the significant impact levels (SILs) and therefore further modeling is not required because the change should be considered “of negligible consequence to ambient air quality.”^{3,4}
- c. *NSPS Subpart BB and MACT Subpart MM:* The PM emission limit for the Lime Kiln is 0.064 gr/dscf at 10 percent O₂ which is based on MACT Subpart MM limit 40 CFR § 63.862(a)(1)(i). The NSPS Subpart BB limit for PM (0.066 gr/dscf at 10 percent O₂) also applies but is less stringent than the MACT limit. However, MACT Subpart MM contains a provision to adjust the PM emission limits for the Lime Kiln, Smelt Dissolving Tank and the Recovery Furnace as detailed in 40 CFR § 63.862(a)(ii) and 40 CFR § 63.865. The proposed PM emission limit for the Lime Kiln is equal to the NSPS Subpart BB limit 0.066 gr/dscf at 10 percent O₂ and was calculated following the procedures provided in the MACT Subpart MM standard. Additional details are provided in the “Emission Calculations” section of this document.

The PSD/NSR regulations (40 CFR § 52.21) are applicable to major modifications. A major modification is defined in 40 CFR § 52.21(b)(2) as a “physical change or change in the method of operation of a major station source that would result in a significant emission increase... of a regulated NSR pollutant.” The change in PM and PM₁₀ emission limits is being proposed to provide a margin of safety between the actual emissions as measured during performance stack tests and the emission limit. The change in emission limits does not include a physical change or a change in the method of operation. Therefore, the PSD/NSR regulations are not applicable to this project.

³ [MPCA New Source Review Reform Modeling Guidance: Policies and Procedures](#) (January 2004)

⁴ [MPCA Guidance for Title V and PSD Air Dispersion Modeling](#) (October 2004)

Minn. R. 7007.1500, subp. 1, lists changes at a facility which require a Major permit amendment. The proposed change in PM and PM₁₀ emission limits requires a Major permit amendment because the project would require an amendment to “a permit condition that is required to be based on a case-by-case determination of an emission limitation or other standard, on a source-specific determination of ambient impacts, or on a visibility or increment analysis” as stated in Minn. R. 7007.1500, subp. 1.B. Therefore, a major permit amendment will be required for this project.

Emission Calculations

As previously stated, the PM and PM₁₀ emission limits for the Lime Kiln, Smelt Dissolving Tank and the Recovery Furnace can be adjusted as allowed by 40 CFR § 63.862(a) and 40 CFR § 63.865. These regulations were designed to provide flexibility to meet the overall MACT Subpart MM emission rate limit, reported in the units of pounds per ton of black liquor solids, while maintaining compliance with NSPS Subpart BB. The emission calculations are summarized in tables 1 and 2:

Table 1 – PM Emission Limits				
	Recovery Furnace SV 320 (lb/hr)	Smelt Dissolving Tank SV 322 (lb/hr)	Lime Kiln SV 340 (lb/hr)	TOTAL (lb/hr)
Current Permit	30.7	5.7	10.6	47.0
Proposed Limit	27.0	7.3	12.7	47.0

Table 2 – PM₁₀ Emission Limits				
	Recovery Furnace SV 320 (lb/hr)	Smelt Dissolving Tank SV 322 (lb/hr)	Lime Kiln SV 340 (lb/hr)	TOTAL (lb/hr)
Current Permit	22.9	5.7	10.6	39.2
Proposed Limit	19.2	7.3	12.7	39.2

Air Dispersion Modeling Analysis

Because the emissions rates were changing from the three stacks, an air dispersion modeling analysis for PM₁₀ was necessary to evaluate the impact on ambient air quality. In addition to adjusting the emission rates from these three stacks, the modeling analysis also included an update to the stack parameters based on recent performance stack tests. Therefore, an air dispersion modeling analysis was also conducted for NO_x and SO₂.

As illustrated in tables 3, 4 and 5, the air dispersion modeling analyses demonstrate that the predicted impact on ambient concentrations is less than the Significant Impact Levels (SILs).

Table 3 – PM₁₀ Air Dispersion Modeling Analysis Summary			
	Maximum Impact (ug/m³)	Significant Impact Level (ug/m³)	Max Impact > SIL?
24-Hour	2.98	5	No
Annual	0.37	1	No

Table 4 – NO_x Air Dispersion Modeling Analysis Summary			
	Maximum Impact (ug/m³)	Significant Impact Level (ug/m³)	Max Impact > SIL?
Annual	0.13	1	No

Table 5 – SO₂ Air Dispersion Modeling Analysis Summary			
	Maximum Impact (ug/m³)	Significant Impact Level (ug/m³)	Max Impact > SIL?
1-Hour	13.58	25	No
3-Hour	7.47	25	NO
24-Hour	1.60	5	No
Annual	0.05	1	No

Conclusions

This analysis of the proposed emission limits for the Recovery Furnace (SV 320), Smelt Dissolving Tank (SV 322) and the Lime Kiln (SV 340) concludes the following:

- The proposed emission limit for the Recovery Furnace will decrease and therefore an update to the BACT analysis is not necessary;
- The proposed emission limits for the Recovery Furnace, the Smelt Dissolving Tank, and the Lime Kiln meet the requirements of NSPS Subpart BB and MACT Subpart MM;
- The combined emission limits for the Recovery Furnace, Smelt Dissolving Tank and Lime Kiln will not change and therefore maintain the applicability of the previous netting analysis which included all three sources;
- The PM₁₀ air dispersion modeling analysis demonstrates that the change in emission limits for these three sources will cause a change in ambient air PM₁₀ concentration that is less than the SILs and therefore should be considered “of negligible consequence to ambient air quality;”
- The NO_x air dispersion modeling analysis which was conducted due to the change in stack parameters demonstrates that the change will cause a change in ambient air NO_x concentration that is less than the SILs and therefore should be considered “of negligible consequence to ambient air quality;”
- The proposed change in emission limits does not constitute a “physical change or change in the method of operation” as defined by 40 CFR § 52.21(b)(2) and therefore is not considered a major modification under PSD/NSR regulations, and therefore, the PSD/NSR regulations are not applicable to this project; and
- The proposed change in PM and PM₁₀ emission limits requires a Major permit amendment because the project would require an amendment to “a permit condition that is required to be based on a case-by-case determination of an emission limitation or other standard, on a source-specific determination of ambient impacts, or on a visibility or increment analysis” as stated in Minn. R. 7007.1500, subp. 1.B.

3.1 Emissions Increase Analysis

Emissions calculations are attached and discussed in “3. Technical Information”, as found above.

3.2 Periodic Monitoring

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

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

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

Previously permitted periodic monitoring requirements will be maintained. Requirements added through this permitting action include (see table 4 for additional information):

- BLS recordkeeping
- An Annual BLS report
- Additional Performance Testing and changes to the Test Frequency

3.3 Insignificant Activities

Boise White Paper, LLC has several operations which are classified as insignificant activities.

3.4 Permit Organization

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

3.5 Comments Received

Public Notice Period: August 30, 2008 - September 29, 2008

EPA 45-day Review Period: September 30 – October 14, 2008

Comments were not received during the comment period. The Leech Lake Band of Ojibwe provided a letter containing comments after the comment period. Those comments are attached (Attachment 6. Correspondence from Leech Lake Band of Ojibwe and Boise White Paper) and include the Facilities response.

4. Conclusion

Based on the information provided by Boise White Paper, LLC, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 07100002-009 and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Steven J. Gorg, M.S., P.E. (permit writer/engineer)
 Bob Beresford (enforcement)
 Andrew Place (stack testing)
 Paula Connell, P.E. (peer reviewer)
 Beckie Olson (support staff)
 Laurie O'Brien (support staff)

AQ File No. 102A; DQ 1433

Attachments: 1. Calculation Spreadsheets (in Delta)
 2. Facility Description and CD-01 Forms
 3. SCREEN3 Modeling Report
 4. Historic Performance Test Data: Recovery Furnace (EU 320)
 5. Air Dispersion Modeling Analysis for PM/PM₁₀ Adjustment
 6. Correspondence from Leech Lake Band of Ojibwe and Boise White Paper

Attachment 1 – Calculation Spreadsheet (in Delta)
Facility Name: Boise White Paper LLC – International Falls
Permit Number: 07100002-009

Attachment 2 – Facility Description and CD-01 Forms
Facility Name: Boise White Paper LLC – International Falls
Permit Number: 07100002-009

Attachment 3 – SCREEN3 Modeling Report
Facility Name: Boise White Paper LLC – International Falls
Permit Number: 07100002-009

SCREEN3 Modeling Methodology

In order to determine the impact on ambient concentrations of the increase in CO and NO_x emissions from the Recovery Furnace, Barr used the EPA-approved screening model, SCREEN3. SCREEN3 performs single-source (point, area, and volume), short-term calculations, including estimates of the maximum hourly ground-level concentrations and the distance to the maximum.

The SCREEN3 modeling is performed using SCREEN3 version 96043. Modeling is performed using the full meteorology option. The distance array option was selected. The SCREEN3 modeling is also performed using the downwash option with the height and dimensions of the dominant downwash structure based on previous BPIP files.

The scaling factors⁵ presented in Table 1 are then used to convert the maximum hourly concentrations to other averaging periods.

Table 1: SCREEN3 Scaling Factors

Averaging Time	Scaling Factor ¹
3-hour	0.9
8-hour	0.7
24-hour	0.4
Annual	0.08

The proposed changes in emission limits are summarized in Table 2.

Table 2: Proposed Changes to Permit Limits

BLS* (MMlb/day)	NO _x (lb/hr)	CO (lb/hr)	tpy
2.7	102	500	2,190.0
2.9	110	538	2,356.4

the BLS limit in the units of tons/month on a 12-month rolling maximum emissions calculation is calculated using the annualized rate.

⁵ USEPA, *Tutorial Package for the SCREEN Model*, (1992), Section 4.3.

NO_x Emissions Increase Modeling Analysis

Boise's existing air permit (07100002-007) contains a NO_x emissions cap at the facility to address visibility concerns in the nearby Class I area. The NO_x cap is summarized in Table 3.

Table 3: GP 420: Boilers and Recovery Furnace – NO_x Cap

Associated Items	What to do	Why to do it
EU 320 Recovery Furnace EU 322 Smelt Dissolving Tank EU 340 Lime Kiln	Nitrogen Oxides: less than or equal to 3.67 tons/day from combustion sources (Boilers #1, #2, #3, #8, #9, and Recovery Furnace)	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000
EU 420 Boiler #1 EU 430 Boiler #2 EU 440 Boiler #3 EU 450 Boiler #8 EU 460 Boiler #9	Nitrogen Oxides: less than or equal to 4.18 tons/day, calculated on a semi-annual basis. This limit is the total NO _x cap for the facility and includes the combustion sources (Boilers #1, #2, #3, #8, #9, and Recovery Furnace) as well as the lime kiln and the smelt dissolving tank.	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000

Although Boise is proposing to raise the permit limit from the Recovery Furnace, no changes to the NO_x cap are proposed. Therefore, there is no change in the limited potential NO_x emissions from the facility.

Since there are no changes to the maximum emission rate, the SCREEN3 modeling was used to evaluate the impact of shifting NO_x emissions within the NO_x cap to the Recovery Furnace. SCREEN3 modeling is conducted for each of the stacks within the NO_x cap at an emission rate of 1 gram/second. The results of this analysis are summarized in Table 4.

Table 4: NO_x SCREEN3 Modeling Analysis

Unit #	SV #	Unit Name	Stack Parameters				SCREEN3 Modeling Results at 1 g/s	
			Height (m)	Diameter (m)	Flow (acfm)	Temp (°F)	Max Conc. (µg/m ³)	Conc. at 1000 m (µg/m ³)
EU 320	SV 320	Recovery Furnace	60.8	3.0	300,000	391	10.2	4.0
EU 420	SV 420	Boiler #1	26.8	2.3	150,000	360	194.2	47.6
EU 430	SV 430	Boiler #2	35.5	2.3	183,000	400	151.4	24.1
EU 430	SV 431	Boiler #2	50.6	2.3	183,000	400	39.8	10.6
EU 440	SV 440	Boiler #3	45.7	2.1	130,000	340	80.2	20.0
EU 450	SV 450	Boiler #8	30.5	1.2	60,000	325	301.0	67.5
EU 460	SV 460	Boiler #9	30.5	1.2	60,000	325	301.0	67.5
EU 322	SV 322	Smelt Dissolving Tank	50.6	1.5	18,000	154	157.3	44.7
EU 340	SV 340	Lime Kiln	21.0	0.9	24,600	161	309.8	58.2

As illustrated in Table 4, the SCREEN3 air dispersion modeling data demonstrates that the recovery furnace has consistently better dispersion than the other NO_x cap sources (taller stack, hotter temperature, higher velocity). Therefore, shifting NO_x emissions within the cap to the Recovery Furnace will not have a negative impact on ground level concentrations nor will it adversely impact Class I areas.

CO Emissions Increase Modeling Analysis

The SCREEN3 model was also used to evaluate the impact of increasing the potential CO emissions from the Recovery Furnace. SCREEN3 modeling is conducted to determine the maximum ambient concentration for the Recovery Furnace for the CO emissions at the existing potential emission rate (500 lb/hr) and the proposed potential emission rate (538 lb/hr). The difference in the SCREEN3 modeled results is calculated to determine the increase in the maximum ambient concentration. The calculated increase in the maximum ambient concentration is used to determine the potential impact on compliance with the ambient air quality standards (AAQS). The evaluation is conducted by adding the increase from the SCREEN3 results to the maximum predicted impacts from the most recent MPCA-approved modeling. If this comparison demonstrates that the impacts will not threaten compliance with the AAQS, the increase in emissions should also be considered acceptable.

The results of this analysis are summarized in the table below. The SCREEN3 modeling report is presented in Attachment 1.

Pollutant	SCREEN3 Increase in Maximum Modeled Impacts		MPCA-Approved Modeling ^A	SCREEN3 Results + Maximum Predicted Impacts	Ambient Air Quality Standard
	Change		Maximum Predicted Impacts (w/bkgd)	Total	Secondary Standard
	($\mu\text{g}/\text{m}^3$)	Avg Period	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)
CO	526	1-hour	6,208	6,734	35,000
	368	8-hour	3,903	4,271	10,000

[A] Maximum Predicted Impacts: from Technical Support Document for permit action number 07100002-006.

As illustrated in the table above, the SCREEN3 air dispersion modeling data demonstrates that the increase in potential emissions from the Recovery Furnace will not threaten compliance with the AAQS.

Attachment 4 – Historic Performance Test Data: Recovery Furnace (EU 320)
Facility Name: Boise White Paper LLC – International Falls
Permit Number: 07100002-009

	Proposed Test Frequency	Current Test Frequency	Limit	Test Date	Results	% of Limit	Test Date	Results	% of Limit	Test Date	Results	% of Limit
REC.FURNACE (EU320)												
Production Rate (# BLS /day)	---	---	---	Sep-06	2.90E+06	---	Nov-03	2.86E+06	---	Nov-01	2.70E+06	---
TPM (lb/hr)	60	36	30.7	Sep-06	5.6	18.2%	Nov-03	9.1	29.6%	Nov-01	5	16.3%
TPM (gr/dscf)	60	36	0.044	Sep-06	0.0035	8.0%	Nov-03	0.006	13.6%	Nov-01	0.0046	10.5%
PM10 (lb/hr)	60	36	22.9	Sep-06	9	39.3%	Nov-03	9.8	42.8%	Nov-01	4.4	19.2%
VOC (lb/hr)	60	36	31.3	Sep-06	5.4	17.3%	Nov-03	3.3	10.5%	Nov-01	1.78	5.7%
SO2 (lb/hr)	60	60	106.2	Sep-06	0	0.0%	Nov-03	0.7	0.7%	Nov-01	0.08	0.1%

Attachment 5 – Air Dispersion Modeling Analysis for PM/PM₁₀ Adjustment
Facility Name: Boise White Paper LLC – International Falls
Permit Number: 07100002-009

Air Dispersion Modeling Analysis

An air dispersion modeling analysis was conducted for three emission units at the Boise pulp and paper mill in International Falls, MN: Recovery Furnace (SV 320), Smelt Dissolving Tank (SV 322), and the Lime Kiln (SV 340). Because the PM₁₀ emissions limits were changing from the three stacks, an air dispersion modeling analysis for PM₁₀ was necessary to evaluate the impact on ambient air quality. In addition to adjusting the emission rates from these three stacks, the modeling analysis also included an update to the stack parameters which were updated based on recent performance stack tests. Therefore, air dispersion modeling analyses were also conducted for NO_x and SO₂.

The existing stacks' emission rates and parameters were taken from the May 8, 2002 MPCA approved modeling. The proposed stack emission rates and parameter changes were based on proposed PM₁₀ emission rate limits and recent stack test data since the May 2002 modeling. The stack parameters are summarized in table B-1.

AERMOD (V07026) is the EPA preferred dispersion model and was used with International Falls surface and upper air meteorology data from 1986-1990 as processed by MPCA. As previously requested by Dennis Becker (MPCA) for a different project at this facility, the regulatory default mode of AERMOD was run with the rural dispersion option. The receptor grid which was used for a different project at this facility was also used for this analysis. The receptor grid included a 30 m grid spacing along the ambient air boundary and 100 meter spacing from the boundary out 500 meters.

The modeling results showed impacts below the SILS with the maximum concentrations occurring at the ambient air boundary and decreasing with distance. The modeling results are presented in Table B-2.

Table B-1: Air Dispersion Modeling Parameters
Proposed Alternative Chemical Recovery System Project

Source ID	Source Description	PM10 (lb/hr)	Ref	NOx (lb/hr)	Ref	Stack Flow (acfm)	Ref	Stack Temp (deg F)	Ref	Source Type	X Coordinate (m)	Y Coordinate (m)	Base Elevation (m)	Stack Height (m)	Stack Temp (K)	Stack Exit Velocity (m/s)	Stack Diameter (m)	PM10 NAAQS Modeling [013]		NOx NAAQS Modeling [014]		SO2 NAAQS Modeling [0]	
																		Annual	24-Hour	Annual	24-Hour	Annual	1,3,24-Hour
																		Emission Rate (g/s)	Emission Rate (g/s)	Emission Rate (g/s)	Emission Rate (g/s)	Emission Rate (g/s)	Emission Rate (g/s)
Existing 322	Smelt Dissolving Tank	5.7	[001]	2.1	[009]	17,998	[002]	154	[002]	POINT	469,961.6	5,383,834.8	341.38	50.60	340.9	4.66	1.52	0.72	0.72	0.26	NA	0.59	0.59
Proposed 322	Smelt Dissolving Tank	7.3	[003]	2.1	[010]	22,300	[004]	154	[005]	---	---	---	---	---	---	---	---	0.92	0.92	0.26	NA	0.59	0.59
Existing 320	Recovery Furnace	22.9	[001]	102.0	[011]	299,923	[002]	465	[002]	POINT	469,929.3	5,383,829.7	341.38	60.81	513.7	20.08	3.00	2.89	2.89	12.85	NA	5.75	13.38
Proposed 320	Recovery Furnace	19.0	[003]	102.0	[010]	280,000	[006]	391	[006]	---	---	---	---	---	472.4	18.75	---	2.39	2.39	12.85	NA	5.75	13.38
Existing 340	Lime Kiln	10.6	[001]	34.9	[012]	24,575	[002]	161	[002]	POINT	469,892.4	5,383,791.6	341.38	48.77	344.8	17.68	0.91	1.34	1.34	4.40	NA	1.70	1.70
Proposed 340	Lime Kiln	12.9	[003]	34.9	[010]	24,000	[007]	156	[008]	---	---	---	---	---	341.9	17.27	---	1.63	1.63	4.40	NA	1.70	1.70

References

- [001] Air Permit 07100002 lb/hr emission limit.
- [002] Most recent MPCA-approved model - Permit 07100002-005 (Final Model 050802.xls)
- [003] Proposed PM10 emission limits
- [004] Smelt Dissolving Tank stack flow: stack flow rate during most recent stack test 9-12-2006
- [005] Smelt Dissolving Tank stack temperature: no change from previous model; stack test temperatures were consistent with previous model
- [006] Recovery Furnace stack flow and stack temperature: from "Recovery Furnace Efficiency Projects - Modeling Results" (01-18-2007)
- [007] Lime Kiln stack flow: stack flow rate during most recent stack test 4-15-2008
- [008] Lime Kiln stack temperature from most recent stack test 4-15-2008
- [009] Smelt Dissolving Tank Nox Emission Limit from Permit 07100002-007 (0.033 lbs/ton BLS and 1500 tons BLS/day)
- [010] No changes proposed to NOx emission limits.
- [011] Recovery Furnace Nox Emission Limit from Permit 07100002-007 (30-day average)
- [012] Lime Kiln Nox Emission Limit from Permit 07100002-007 (3-hour average)
- [013] Assumes maximum annual emission rate is equal to maximum hourly emission rate
- [014] NOx NAAQS limits are annual limits; there are no short-term NOx NAAQS.

Table B-2: Air Dispersion Modeling Results
Proposed Alternative Chemical Recovery System Project

PM10 SCENARIOS	PM10 CONCENTRATION 1986	PM10 CONCENTRATION 1987	PM10 CONCENTRATION 1988	PM10 CONCENTRATION 1989	PM10 CONCENTRATION 1990	MAX (ug/m3)	SILS	EXCEEDENCE
24 Hour	2.47	2.98	2.65	2.57	2.66	2.98	5	no
Annual	0.31	0.33	0.29	0.37	0.35	0.37	1	no

NOX SCENARIOS	NOX CONCENTRATION 1986	NOX CONCENTRATION 1987	NOX CONCENTRATION 1988	NOX CONCENTRATION 1989	NOX CONCENTRATION 1990	MAX (ug/m3)	SILS	EXCEEDENCE
Annual	0.12	0.10	0.12	0.12	0.13	0.13	1	no

SO2 SCENARIOS	PM10 CONCENTRATION 1986	PM10 CONCENTRATION 1987	PM10 CONCENTRATION 1988	PM10 CONCENTRATION 1989	PM10 CONCENTRATION 1990	MAX (ug/m3)	SILS	EXCEEDENCE
1 Hour	13.58	13.11	10.80	12.30	13.58	13.58	25	no
3 Hour	4.59	7.47	4.97	4.51	4.59	7.47	25	no
24 Hour	1.20	1.58	1.60	1.27	1.00	1.60	5	no
Annual	0.04	0.03	0.04	0.04	0.05	0.05	1	no

Attachment 6 – Correspondence from Leech Lake Band of Ojibwe and Boise White Paper
Facility Name: Boise White Paper LLC – International Falls
Permit Number: 07100002-009