

**AIR EMISSION PERMIT NO. 07100002- 003
IS ISSUED TO**

Boise Cascade Corporation

Boise Cascade Corporation - International Falls
400 Second Street
International Falls, Koochiching County, Minnesota 56649

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

Permit Type	Application Date
Total Facility Operating Permit	April 14, 1995
Major Amendment	March 31, 1999

This permit 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 as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

Permit Type: Federal ; PSD/NSR
Issue Date: October 2, 2000
Expiration: September 9, 2004
All Title I Conditions do not expire.

Ann M. Foss for
Rodney E. Massey, P.E.
District Director

For Karen A. Studders
Commissioner
Minnesota Pollution Control Agency

PJC:lkk

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NOTICE TO THE PERMITTEE:

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

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

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

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

PERMIT SHIELD:

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

FACILITY DESCRIPTION:

Boise Cascade Corporation operates an integrated Kraft pulp and paper mill in International Falls. The mill manufactures a variety of coated and uncoated fine paper products. The facility consists of a woodyard, chip processing center, pulp mill, bleach plant, chemical recovery system, power plant, wastewater treatment facility, industrial landfill, paper mill, finishing and sheeting, warehouse, and shipping facilities. In 1989 and 1990, Boise underwent an expansion that included the installation of a new paper machine, a new bleach plant, a new lime kiln, modification of the chemical recovery furnace, and other upgrades.

A Part 70 permit was issued to Boise Cascade on September 10, 1999. The permit included a PSD modification for the Boiler No. 2, which is an overfire air project. This project was a waste reduction measure which will allow Boise to burn more sludge and bark in the boiler rather than landfilling the sludge and bark, and which will reduce the carbon content of the ash from 45 percent to ten percent. The overfire air project is essentially a Nitrogen Oxide (NO_x) control method, which will reduce the amount of NO_x generated for a given amount of sludge or wood burned, which will allow Boise to burn more sludge and wood on an hourly basis, while still remaining within their NO_x emission limit.

This permit amendment, for the proposed Efficiency Improvement Project, would 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 proposes to make several physical modifications. An evaporator effect, two condensers and a blow tank will be added, physical modifications will be made to the evaporating process, and a new economizer will be installed on the recovery furnace. Physical modifications will also be made at the wood processing center to enhance operating flexibility. Other physical changes (equipment replacement) will be made in the course of routine replacement of aging equipment.

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/02/00

Facility Name: Boise Cascade Corp - International Falls
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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 (bone dried) Production: less than or equal to 41000 tons/month using 12-month Rolling Average	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000
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
Parameters Used in Modeling: The parameters used in the modeling performed for PSD review and for an EAW are listed in Appendix D of this permit. If the Permittee intends to change any of these parameters, 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)
Parameters Used in Modeling (continued): If the Permittee proposes to emit any pollutant in addition to those listed (in App. D) of this permit, or proposed to increase the emission rate of any pollutant listed in Appendix D, the Permittee shall first use the Boise Cascade Air Toxics Review, dated January 1999 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.	Minn. R. 7007.0800, subp. 2 (non-criteria pollutants)
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. This is a state only requirement and is not enforceable by the EPA Administrator and citizens under the Clean Air Act.	Minn. R. 7007.0800, subp. 2 (non-criteria pollutants)
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. 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. This is a state only requirement and is not enforceable by the EPA Administrator and citizens under the Clean Air Act.	Minn. R. 7007.0800, subp. 2 (non-criteria pollutants)
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.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/02/00

Facility Name: Boise Cascade Corp - International Falls

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<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 Cascade. 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, CE431 and the flare at Moonlight Rock Landfill (EU 901). 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: The O&M Plan shall include, for each pollution control equipment: the parameters to be monitored and the parameter ranges to be used, as identified in the permit; corrective 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.</p>	<p>Minn. R. 7007.0800, subp. 2</p>
<p>NCG 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. 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>MACT REQUIREMENTS - SUBPART S</p>	<p>hdr</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

<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>The Brownstock Washer and Condensate MACT Schedule has been submitted. This Schedule shall describe the Permittee's proposed schedule for controlling, collecting and/or treating emissions from the pulping system emission units (other than the LVHC system, which is already addressed in this permit as GP 340) and the kraft pulping process condensate emission units. The schedule shall include the schedule for implementing the monitoring, recordkeeping and reporting requirements which are to be followed as well as a schedule for obtaining a permit amendment to incorporate the proposed changes.</p>	<p>Minn. R. 7007.0800, subp. 2</p>
<p>Initial Compliance Status Report: This report has been submitted prior to April 15, 1999, which was the due date. This report will serve as the initial notification report specified under 40 CFR Section 63.9(b)(2). A non-binding control strategy report was submitted with the initial notification report.</p>	<p>40 CFR Section 63.455(a)</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. 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: 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 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: 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. 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. 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). 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

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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 April 16, 2001. 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(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 after April 16, 2001.</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. This requirement applies after April 16, 2001.</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

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Facility Name: Boise Cascade Corp - International Falls

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<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: Install or make needed repairs to monitoring equipment within 60 days of issuance of the permit if monitoring equipment is not installed and operational on the date the permit is issued.</p>	<p>Minn. R. 7007.0800, subp. 4(D)</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>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>
<p>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.</p>	<p>Minn. R. 7019.1000, subp. 4</p>
<p>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.</p>	<p>Minn. R. 7007.1150 through Minn. R. 7007.1500</p>
<p>Emission Fees: due 60 days after receipt of an MPCA bill.</p>	<p>Minn. R. 7002.0005 through Minn. R. 7002.0095</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

<p>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.</p>	<p>Minn. R. 7011.0150</p>
<p>Inspections: Upon presentation of credentials and other documents as may be required by law, allow the Agency, or its representative, to enter the Permittee's premises, to have access to and copy any records required by this permit, to inspect at reasonable times (which include any time the source is operating) any facilities, equipment, practices or operations, and to sample or monitor any substances or parameters at any location.</p>	<p>Minn. R. 7007.0800, subp. 9(A)</p>
<p>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.</p>	<p>Minn. R. 7007.0800, subp. 5(B)</p>
<p>Record keeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original 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).</p>	<p>Minn. R. 7007.0800, subp. 5(C)</p>
<p>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).</p>	<p>Minn. R. 7007.1400, subp. 1(H)</p>
<p>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.</p>	<p>Minn. R. 7030.0010 - 7030.0080</p>
<p>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.</p>	<p>Minn. R. 7007.0800, subp. 4; Minn. R. 7007.0800, subp. 2</p>
<p>The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.</p>	<p>Minn. R. 7007.0800, subp. 16</p>
<p>Risk Management Plan: The Permittee was required to submit a Risk Management Plan (RMP) under the federal rule, 40 CFR Part 68 which was promulgated on June 20, 1996. The Permittee submitted its RMP on May 28, 1999. 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. The RMPs must be submitted to a centralized location as specified by US EPA. These requirements must be complied with no later than the latest of the following dates: (1) June 21, 1999; (2) Three years after the date on which a regulated substance is first listed under 40 CFR Section 68.130; or (3) The date on which a regulated substance is first present above a threshold quantity in a process.</p>	<p>40 CFR Section 68</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

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 303 55% Black Liquor Solids Tank
 - EU 305 62% Black Liquor Solids Tank
 - EU 307 72% Black Liquor Solids Tank
 - EU 309 Evaporator Hotwell

What to do	Why to do it
MACT REQUIREMENTS	hdr
Compliance Date for MACT Requirements: Compliance with the requirements from the MACT standard for the LVHC system shall be achieved by April 16, 2001.	40 CFR 63.440(d)
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, heavy solids black liquor tanks, 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.	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, heavy solids black liquor tanks, 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 no more than 612 hours per year on a 12-month rolling sum basis.	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 12-month rolling sums, by the 15th of the following month.	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

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

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

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

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
Compliance Date for MACT Requirements: Compliance with the requirements from the MACT standard for the pulping process condensates, as listed in 40 CFR 63.446(b), shall be achieved by April 16, 2001.	40 CFR 63.440(d)
Condensate Treatment: The Permittee is to submit a schedule as described under the subject item Total Facility. The schedule shall include the schedule for determining the treatment option for condensates as described in 40 CFR Section 63.446.	40 CFR Section 63.446
Condensate Closed Collection System: The condensates to be treated shall be conveyed in a closed collection system that is designed and operated to meet the requirements in paragraphs (d)(1) and (d)(2) of 40 CFR Section 63.446.	40 CFR Section 63.446(d)
Condensate 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 and as described in the Brownstock Washer and Condensate MACT Report.	40 CFR Section 63.453

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

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

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

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 0.01 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, as described in 40 CFR Section 63.443(a)(1)(ii) through (iv) shall be treated as described in the Brownstock Washer and Condensate MACT Report.	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 and as described in the Brownstock Washer and Condensate MACT Report.	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
Initial Performance Test: due 180 days after Permit Issuance to measure Sulfur Dioxide emissions.	Title I Condition: Testing associated with Title I emission limit; Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test to measure Sulfur Dioxide emissions.	Minn. R. 7017.2030, subp. 4
Performance Test: due before end of each 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.	Title I Condition: Testing associated with Title I emission limit; Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before end of each 36 months starting 09/09/1999 to measure Volatile Organic Compound and Total Reduced Sulfur emissions (7 days before each Performance Test).	Minn. R. 7017.2030, subp. 4

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

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 Barametric 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: Observe and record, once per operating shift, the scrubbing liquid supply pressure 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
Pressure Drop: greater than or equal to 0.5 inches of water column or as determined during the most recent performance test (this is scrubbing liquid supply pressure).	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
Initial Performance Test: due 365 days after 09/09/1999 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.	Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test 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.	Minn. R. 7017.2030, subp. 4

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

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
Compliance Date for MACT Requirements: Compliance with the requirements from the MACT standard for the bleach plant shall be achieved by April 16, 2001.	40 CFR Section 63.440(d)
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)
Chloroform: less than or equal to 1.33 tons/month using 12-month Rolling Average . This is a state only requirement and is not federally enforceable or enforceable by citizens under the 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 gas scrubber vent gas inlet flow rate; 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 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)

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

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
Control Equipment Monitoring: Observe and record, once per operating shift, the scrubbing liquid supply pressure 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
Pressure Drop: greater than or equal to 0.5 inches of water column or as determined during the most recent performance test (this is scrubbing liquid supply pressure).	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
Initial Performance Test: due 365 days after 09/09/1999 to measure Chlorine, Chlorine Dioxide and Chloroform emissions. The performance test for chloroform will be used to generate an emission factor which will be used to calculate chloroform emissions on a monthly basis. This is a state only requirement and is not enforceable by the EPA Administrator and citizens under the Clean Air Act.	Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test to measure Chlorine, Chlorine Dioxide and Chloroform emissions. This is a state only requirement and is not enforceable by the EPA Administrator and citizens under the Clean Air Act.	Minn. R. 7017.2030, subp. 4
Initial Performance Test: due 180 days after 04/16/2001 for Total Chlorinated HAPs (not including chloroform).	40 CFR Section 63.457(a); Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Performance Test for Total Chlorinated HAPs (not including chloroform).	Minn. R. 7017.2030, subp. 4
RECORDKEEPING	hdr
Recordkeeping: Keep records of the amount and type (hardwood, softwood) of each bleach batch. This is a state only requirement and is not federally enforceable or enforceable by citizens under the Act.	Minn. R. 7007.0800, subp. 5
Chloroform calculations: Monthly calculation of 12-month rolling average chloroform emissions, by the 15th of the following month. The calculation of chloroform emissions shall be made by applying the hardwood chloroform emission rate to the total amount of hardwood bleached and applying the softwood chloroform emission rate to the total amount of softwood bleached throughout the month. Each month, a new monthly and 12-month rolling average emission rate shall be determined. This is a state only requirement and is not federally enforceable or enforceable by citizens under the Act.	Minn. R. 7007.0800, subp. 5

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

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 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)) 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
Particulate Matter < 10 micron: less than or equal to 5.5 lbs/hour	Title I Condition: 40 CFR Section 52.21 (modeling and netting); Minn. R. 7007.3000
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
POLLUTION CONTROL EQUIPMENT REQUIREMENTS	hdr
Control Equipment Monitoring: Observe and record once per operating day, the pressure drop for CE322 and CE323.	Title I Condition: Monitoring associated with Title I emission limit; Minn. R. 7007.0800, subp. 14
Control Equipment Monitoring: Observe and record once per operating day, the liquid flow rate for CE322 and CE323.	Title I Condition: Monitoring associated with Title I emission limit; Minn. R. 7007.0800, subp. 14
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.	40 CFR Section 60.284(b)(2)(i); 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); Minn. R. 7011.2450
Record once per shift, measurements obtained from the monitoring device for the continuous measurement of the pressure loss of the gas stream throught 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 6.5 inches of water column or as determined during the most recent performance test.	Minn. R. 7007.0800, subp. 14
Liquid Flow Rate: greater than or equal to 100 gallons/minute or as determined during the most recent performance test.	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
Initial Performance Test: due 365 days after 09/09/1999 to measure Total Particulate Matter, Particulate Matter <10 micron, Opacity, Nitrogen Oxides, Sulfur Dioxide, and Total Reduced Sulfur 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).	Title I Condition: Testing associated with Title I emission limits; Minn. R. 7017.2020, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

Performance Test Pre-test Meeting: due 7 days before Initial Performance Test to measure Total Particulate Matter, Particulate Matter <10 micron, Opacity, Nitrogen Oxides, Sulfur Dioxide, and Total Reduced Sulfur emissions.	Minn. R. 7017.2030, subp. 4
Initial Performance Test: due 1,095 days after 09/09/1999 (3 years after September 9, 1999) to measure Volatile Organic Compound emissions.	Title I Condition: Testing associated with Title I emission limits; Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test to measure Volatile Organic Compound emissions.	Minn. R. 7017.2030, subp. 4
Performance Test: due before end of each year following Initial Performance Test to measure Total Particulate Matter and Particulate Matter <10 micron emissions. The tests shall be conducted at an interval not to exceed 12 months between test dates. This testing frequency may be amended following submittal of a testing frequency plan once three consecutive tests have demonstrated compliance with the applicable emission limits.	Title I Condition: Testing associated with Title I emission limits; Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before end of each year following Initial Performance Test (7 days before each Performance Test) to measure Total Particulate Matter and Particulate Matter <10 micron emissions.	Minn. R. 7017.2030, subp. 4
Performance Test: due before end of each 60 months following Initial Performance Test to measure Sulfur Dioxide emissions. The tests shall be conducted at an interval not to exceed 60 months (5 years) between test dates.	Title I Condition: Testing associated with Title I emission limits; Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Performance Test to measure Sulfur Dioxide emissions.	Minn. R. 7017.2030, subp. 4
Performance Test: due before end of each year following Initial Performance Test to measure Total Reduced Sulfur emissions. The tests shall be conducted at an interval not to exceed 12 months between test dates.	Title I Condition: Testing associated with Title I emission limits; Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before end of each year following Initial Performance Test (7 days before each Performance Test) to measure Total Reduced Sulfur emissions.	Minn. R. 7017.2030, subp. 4
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

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

Subject Item: SV 327 Lime Slaker, etc.

Associated Items: EU 327 Lime Slaker
 EU 328 Causticizer #1
 EU 329 Causticizer #2
 EU 330 Causticizer #3
 EU 350 Reburned Lime Bin

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.91 lbs/hour	Title I Condition: 40 CFR Section 52.21 (netting and modeling); Minn. R. 7007.3000
Particulate Matter < 10 micron: less than or equal to 0.91 lbs/hour	Title I Condition: 40 CFR Section 52.21 (netting and modeling); Minn. R. 7007.3000
Opacity: less than or equal to 20 percent opacity using 6-minute Average	Minn. R. 7011.0715, subp. 1(B)
POLLUTION CONTROL EQUIPMENT REQUIREMENTS	hdr
Control Equipment Monitoring: Observe and record once per operating day, the pressure drop for CE327.	Title I Condition: Monitoring associated with Title I emission limit; Minn. R. 7007.0800, subp. 14
Control Equipment Monitoring: Observe and record once per operating day, the supply pressure for CE327.	Title I Condition: Monitoring associated with Title I emission limit; Minn. R. 7007.0800, subp. 14
Pressure Drop: greater than or equal to 0 inches of water column or as determined during the most recent performance test. The pressure drop from the most recent performance test was -0.08 inches of water column.	Minn. R. 7007.0800, subp. 14
Water pressure: greater than or equal to 100 psi (gauge) or as determined during the most recent performance test. The pressure measured is the supply pressure.	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
Initial Performance Test: due 365 days after 09/09/1999 to measure Total Particulate Matter and Particulate Matter < 10 micron emissions.	Title I Condition: Testing associated with Title I emission limits; Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test to measure Total Particulate Matter and Particulate Matter < 10 micron emissions.	Minn. R. 7017.2030, subp. 4

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

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

What to do	Why to do it
Install: due 180 days after Permit Issuance. Additional stack to combine SV 220 (ClO2 generator) and SV 240 (Bleach plant) is to be installed to match stack parameters as modeled for Air Toxics Review and as listed in Appendix D of this permit. 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

10/02/00

Facility Name: Boise Cascade Corp - International Falls
 Permit Number: 07100002 - 003

Subject Item: EU 145 Foul Condensate Stripper

Associated Items: CE 340 Centrifugal Collector - Medium Efficiency
 CE 341 Wet Scrubber-High Efficiency w/o Lime
 CE 342 Other
 GP 421 Kraft Pulping Process Condensates
 SV 145
 SV 146
 SV 340
 SV 346
 SV 347

What to do	Why to do it
TRS Control: Gases from the foul condensate stripper system shall be combusted in the lime kiln, which shall be equipped with a scrubber.	40 CFR Section 60.283(a)(1); Minn. R. 7011.2450
TRS Control: During periods when the TRS gases from the foul condensate stripper cannot be incinerated in the lime kiln, then the foul condensate stripper shall be shutdown and not operated.	Title I Condition: 40 CFR Section 52.21; Minn. R. 7007.3000

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

Subject Item: EU 320 Recovery Furnace

Associated Items: CE 320 Electrostatic Precipitator - High Efficiency

GP 420 Boilers & Recovery furnace - NOx cap

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

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 30.7 lbs/hour . This is more stringent than the NSPS subp. BB limit of 0.044 gr/dscf, which also applies.	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); Minn. R. 7007.3000
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
Opacity: less than or equal to 20 percent opacity using 6-minute Average	Minn. R. 7007.0800, 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); Minn. R. 7007.3000
Sulfur Dioxide: less than or equal to 106.2 lbs/hour	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); Minn. R. 7007.3000
Nitrogen Oxides: less than or equal to 94.5 lbs/hour using 30-day Rolling Average	Title I Condition: 40 CFR Section 52.21(j) (BACT limit); Minn. R. 7007.3000
Carbon Monoxide: less than or equal to 430.9 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
Volatile Organic Compounds: less than or equal to 31.3 lbs/hour 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
Fuel burned: limited to natural gas. Black liquor solids (BLS) are also oxidized in the recovery furnace.	Title I Condition: 40 CFR Section 52.21
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
Performance Test: due 180 days after achieving maximum capacity of increased black liquor production but no later than 365 days after permit issuance. Performance test will be done to measure SO2 emissions and to determine emission factor to be used in calculation of SO2 emissions for comparison to 200 tons/year limit.	Title I Condition: Testing associated with Title I emission limit; Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Performance Test for determining emission factor for SO2.	Minn. R. 7017.2030, subp. 4
Initial Performance Test: due 365 days after 09/09/1999 to measure Total Particulate Matter, Particulate Matter <10 micron, Sulfur Dioxide and Volatile Organic Compounds emissions.	Title I Condition: Testing associated with Title I emission limit; Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test to measure Total Particulate Matter, Particulate Matter <10 micron, Sulfur Dioxide and Volatile Organic Compounds emissions.	Minn. R. 7017.2030, subp. 4
Performance Test: due before end of each 36 months following Initial Performance Test to measure Total Particulate Matter and Particulate Matter < 10 microns emissions. The tests shall be conducted at an interval not to exceed 36 months between test dates.	Minn. R. 7017.2020, subp. 1

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

Performance Test Pre-test Meeting: due 7 days before end of each 36 months following Initial Performance Test (7 days before each Performance Test) to measure Total Particulate Matter and Particulate Matter < 10 microns emissions.	Minn. R. 7017.2030, subp. 4
Performance Test: due before end of each 60 months following Initial Performance Test to measure Volatile Organic Compound emissions. The tests shall be conducted at an interval not to exceed 60 months between test dates.	Title I Condition: Testing associated with Title I emission limit; Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before end of each 60 months following Initial Performance Test (7 days before each Performance Test) to measure Volatile Organic Compound emissions.	Minn. R. 7017.2030, subp. 4
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
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 following Permit Issuance. 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 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
TRS. If a RATA is performed during the calendar year, a CGA is not required. CEMS Cylinder Gas Audit (CGA): due before end of each calendar year following Permit Issuance	Minn. R. 7017.1170, subp. 1(A) and (B)
TRS CEMS Relative Accuracy Test Audit (RATA): due before end of each calendar 60 months following Permit Issuance	Minn. R. 7017.1170, subp. 1(A) and (B)
CEMS Cylinder Gas Audit (CGA): due before end of each calendar half-year following Permit Issuance. 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 following Permit Issuance. 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

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

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 326 Lime Kiln
 MR 327 Lime Kiln
 MR 340 Lime Kiln
 MR 341 Lime Kiln
 SV 340

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 10.6 lbs/hour . This is more stringent than the NSPS subp. BB of 0.067 gr/dscf, which also applies.	Title I Condition: 40 CFR Section 52.21 (netting and modeling); Minn. R. 7007.3000
Particulate Matter < 10 micron: less than or equal to 9.4 lbs/hour	Title I Condition: 40 CFR Section 52.21 (netting and modeling); Minn. R. 7007.3000
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 42.5 lbs/hour	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
POLLUTION CONTROL EQUIPMENT REQUIREMENTS	hdr
Control Equipment Monitoring: Observe and record once per operating day, the liquid flow rate for CE341.	Minn. R. 7007.0800, subp. 14
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.	40 CFR Section 60.284(b)(2)(i); 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); Minn. R. 7011.2450
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 at nozzle: greater than or equal to 280 psi or as determined during the most recent performance test.	Minn. R. 7007.0800, subp. 14
Liquid Flow Rate: greater than or equal to 405 gallons/minute or as determined during the most recent performance test.	Minn. R. 7007.0800, subp. 14

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

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
Initial Performance Test: due 365 days after 09/09/1999 to measure Total Particulate Matter, Particulate Matter <10 micron, Nitrogen Oxides, Sulfur Dioxide, Volatile Organic Compounds and Carbon Monoxide emissions. The performance test for NOx will also be used to determine an emission factor for use in calculating the NOx emissions from the lime kiln.	Title I Condition: Testing associated with Title I emission limits; Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test to measure Total Particulate Matter, Particulate Matter <10 micron, Nitrogen Oxides, Sulfur Dioxide, Volatile Organic Compounds and Carbon Monoxide emissions.	Minn. R. 7017.2030, subp. 4
Performance Test: due before end of each 36 months following Initial Performance Test to measure Total Particulate Matter and Particulate Matter <10 micron emissions. The tests shall be conducted at an interval not to exceed 36 months between test dates.	Title I Condition: Testing associated with Title I emission limits; Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before end of each 36 months following Initial Performance Test (7 days before each Performance Test) to measure Total Particulate Matter and Particulate Matter <10 micron emissions.	Minn. R. 7017.2030, subp. 4
CEMS REQUIREMENTS	hdr
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.	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 following Permit Issuance. 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 following Permit Issuance. 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)
RECORD KEEPING	hdr
Recordkeeping: Monthly record, by the 15th of the following month, the amount of lime produced.	Minn. R. 7007.0800, subp. 6
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

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

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 79.6 lbs/hour 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. Non-condensable gas (NCG) is also oxidized in boiler #1. The amount of NCG burned in boiler #1 is limited under GP 340; the total number of hours that #1 and #2 boilers, combined, can be used for backup is 612 hours/year. 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
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 following Permit Issuance. 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 following Permit Issuance . 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

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

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	Minn. R. 7007.0800, subp. 2
Sulfur Dioxide: less than or equal to 9.4 lbs/hour . 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 122.4 lbs/hour using 3-hour Average	Title I Condition: 40 CFR Section 52.21 (BACT 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, and natural gas. Non-condensable gas (NCG) is also oxidized in boiler #2. The amount of NCG burned in boiler #1 is limited under GP 340; the total number of hours that #1 and #2 boilers, combined, can be used for backup is 612 hours/year. 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
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, 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
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
Initial Performance Test: due 180 days after Initial Startup of overfire air system to measure Total Particulate Matter, Particulate Matter <10 micron, Sulfur Dioxide, Volatile Organic Compounds and Carbon Monoxide emissions.	Title I Condition: Testing associated with Title I emission limits; Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test to measure Total Particulate Matter, Particulate Matter <10 micron, Nitrogen Oxides, Sulfur Dioxide, Volatile Organic Compounds and Carbon Monoxide emissions.	Minn. R. 7017.2030, subp. 4
Performance Test: due before end of each 60 months following Initial Performance Test to measure Total Particulate Matter and Particulate Matter <10 micron emissions. The tests shall be conducted at an interval not to exceed 60 months between test dates.	Title I Condition: Testing associated with Title I emission limits; Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before end of each 60 months following Initial Performance Test (7 days before each Performance Test) to measure Total Particulate Matter and Particulate Matter <10 micron emissions.	Minn. R. 7017.2030, subp. 4
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

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

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 following Permit Issuance. 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 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 following Permit Issuance. 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 following Permit Issuance. 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

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

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	Minn. R. 7011.0510
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
TESTING REQUIREMENTS	hdr
Performance Test: due 365 days after 09/09/1999 to measure Volatile Organic Compounds and Carbon Monoxide emissions.	Title I Condition: Testing associated with Title I emission limits; Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Performance Test to measure Volatile Organic Compounds and Carbon Monoxide emissions.	Minn. R. 7017.2030, subp. 4
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 following Permit Issuance 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 following Permit Issuance. 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
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

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

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

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

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	Minn. R. 7011.0510
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
TESTING REQUIREMENTS	hdr
Performance Test: due 365 days after 09/09/1999 to measure Volatile Organic Compounds and Carbon Monoxide emissions.	Title I Condition: Testing associated with Title I emission limits; Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Performance Test to measure Volatile Organic Compounds and Carbon Monoxide emissions.	Minn. R. 7017.2030, subp. 4
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 following Permit Issuance. 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 following Permit Issuance. 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

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

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

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

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	Minn. R. 7011.0510
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
TESTING REQUIREMENTS	hdr
Performance Test: due 365 days after 09/09/1999 to measure Volatile Organic Compounds and Carbon Monoxide emissions.	Title I Condition: Testing associated with Title I emission limits; Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Performance Test to measure Volatile Organic Compounds and Carbon Monoxide emissions.	Minn. R. 7017.2030, subp. 4
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 following Permit Issuance. 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 following Permit Issuance. 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

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

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

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

Subject Item: EU 530 No. 4 Paper Machine

- Associated Items:** SV 511
 SV 512
 SV 513
 SV 514
 SV 515
 SV 516
 SV 517
 SV 518
 SV 519
 SV 524
 SV 525
 SV 530
 SV 531
 SV 532
 SV 533
 SV 534
 SV 535
 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

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

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

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

Subject Item: EU 901 Thermal Oxidizer - Moonlight Rock Landfill (1)

Associated Items: CE 901 Direct Flame Afterburner

SV 901

What to do	Why to do it
<p>Odorous Emissions Control: The Permittee shall operate and maintain a gas collection and flare system to control odorous emissions from the Moonlight Rock Landfill. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.</p>	<p>Minn. R. 7007.0800, subp. 2</p>
<p>Temperature: greater than or equal to 1130 degrees F using 3-hour Rolling Average until a new minimum is set pursuant to Minn. R. 7017.2025, subp. 3, based on the average temperature recorded during the most recent performance test. A temperature recorder with hard copy shall be operated continuously when the flare is operating. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.</p>	<p>Minn. R. 7007.0800, subp. 2</p>
<p>Retention Time: greater than or equal to 0.6 seconds . This is the minimum residence time in the flame zone. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.</p>	<p>Minn. R. 7007.0800, subp. 2</p>
<p>Monitoring Requirements: - The gas flow shall be indicated whenever the flare is in operation and the amount of gas flared shall be calculated. - The inlet concentration of methane shall be recorded continuously whenever the flare is in operation. - The alarms indicating the flare is out shall be monitored by control room staff (manned 24 hours per day). The flare shall be restarted in a timely manner, such that the landfill gas collection system does not vent unflared gases to the atmosphere. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.</p>	<p>Minn. R. 7007.0800, subp. 2</p>
<p>Flare System Requirements: - The vacuum system shall be enclosed to minimize noise. - A test port shall be provided. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.</p>	<p>Minn. R. 7007.0800, subp. 2</p>

TABLE A: LIMITS AND OTHER REQUIREMENTS

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

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

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

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
Initial Performance Test: due 180 days after Permit Issuance to measure Total Particulate Matter and Particulate Matter <10 micron emissions.	Title I Condition: Testing associated with Title I emission limit; Minn. R. 7017.2020, subp. 1
Performance Test Pre-test Meeting: due 7 days before Initial Performance Test to measure Total Particulate Matter and Particulate Matter <10 micron emissions.	Minn. R. 7017.2030, subp. 4

TABLE B: SUBMITTALS

10/02/00

Facility Name: Boise Cascade Corp - International Falls
Permit Number: 07100002 - 003

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

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

Send any application for a permit or permit amendment to:

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

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

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

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

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

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

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

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

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

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

What to send	When to send	Portion of Facility Affected
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility
Performance Test Notification (written)	due 30 days before Initial Performance Test 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.	SV220
Performance Test Notification (written)	due 30 days before Initial Performance Test to measure Chlorine, Chlorine Dioxide and Chloroform emissions. This is a state only requirement and is not enforceable by the EPA Administrator and citizens under the Clean Air Act.	SV240
Performance Test Notification (written)	due 30 days before Initial Performance Test to measure Sulfur Dioxide emissions.	SV173
Performance Test Notification (written)	due 30 days before Initial Performance Test to measure Total Particulate Matter and Particulate Matter < 10 micron emissions.	SV327
Performance Test Notification (written)	due 30 days before Initial Performance Test to measure Total Particulate Matter and Particulate Matter <10 micron emissions.	FS904
Performance Test Notification (written)	due 30 days before Initial Performance Test to measure Total Particulate Matter, Particulate Matter <10 micron, Nitrogen Oxides, Sulfur Dioxide, Volatile Organic Compounds and Carbon Monoxide emissions.	EU340, EU430
Performance Test Notification (written)	due 30 days before Initial Performance Test to measure Total Particulate Matter, Particulate Matter <10 micron, Opacity, Nitrogen Oxides, Sulfur Dioxide, and Total Reduced Sulfur emissions.	SV322
Performance Test Notification (written)	due 30 days before Initial Performance Test to measure Total Particulate Matter, Particulate Matter <10 micron, Sulfur Dioxide and Volatile Organic Compounds emissions.	EU320
Performance Test Notification (written)	due 30 days before Initial Performance Test to measure Volatile Organic Compound emissions.	SV322
Performance Test Notification (written)	due 30 days before Performance Test for determining emission factor for SO ₂ .	EU320
Performance Test Notification (written)	due 30 days before Performance Test for Total Chlorinated HAPs (not including chloroform).	SV240
Performance Test Notification (written)	due 30 days before Performance Test to measure Sulfur Dioxide emissions.	SV322
Performance Test Notification (written)	due 30 days before Performance Test to measure Volatile Organic Compounds and Carbon Monoxide emissions.	EU440, EU450, EU460
Performance Test Plan	due 30 days before Initial Performance Test 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.	SV220
Performance Test Plan	due 30 days before Initial Performance Test to measure Chlorine, Chlorine Dioxide and Chloroform emissions. This is a state only requirement and is not enforceable by the EPA Administrator and citizens under the Clean Air Act.	SV240
Performance Test Plan	due 30 days before Initial Performance Test to measure Sulfur Dioxide emissions.	SV173
Performance Test Plan	due 30 days before Initial Performance Test to measure Total Particulate Matter and Particulate Matter < 10 micron emissions.	SV327

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

Performance Test Plan	due 30 days before Initial Performance Test to measure Total Particulate Matter and Particulate Matter <10 micron emissions.	FS904
Performance Test Plan	due 30 days before Initial Performance Test to measure Total Particulate Matter, Particulate Matter <10 micron, Nitrogen Oxides, Sulfur Dioxide, Volatile Organic Compounds and Carbon Monoxide emissions.	EU340, EU430
Performance Test Plan	due 30 days before Initial Performance Test to measure Total Particulate Matter, Particulate Matter <10 micron, Opacity, Nitrogen Oxides, Sulfur Dioxide, and Total Reduced Sulfur emissions.	SV322
Performance Test Plan	due 30 days before Initial Performance Test to measure Total Particulate Matter, Particulate Matter <10 micron, Sulfur Dioxide and Volatile Organic Compounds emissions.	EU320
Performance Test Plan	due 30 days before Initial Performance Test to measure Volatile Organic Compound emissions.	SV322
Performance Test Plan	due 30 days before Performance Test for determining emission factor for SO ₂ .	EU320
Performance Test Plan	due 30 days before Performance Test to measure Sulfur Dioxide emissions.	SV322
Performance Test Plan	due 30 days before Performance Test to measure Volatile Organic Compounds and Carbon Monoxide emissions.	EU440, EU450, EU460
Performance Test Plan	due 60 days before Performance Test for Total Chlorinated HAPs (not including chloroform).	SV240
Performance Test Report - Microfiche Copy	due 105 days after Initial Performance Test 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.	SV220
Performance Test Report - Microfiche Copy	due 105 days after Initial Performance Test to measure Chlorine, Chlorine Dioxide and Chloroform emissions. This is a state only requirement and is not enforceable by the EPA Administrator and citizens under the Clean Air Act.	SV240
Performance Test Report - Microfiche Copy	due 105 days after Initial Performance Test to measure Sulfur Dioxide emissions.	SV173
Performance Test Report - Microfiche Copy	due 105 days after Initial Performance Test to measure Total Particulate Matter and Particulate Matter < 10 micron emissions.	SV327
Performance Test Report - Microfiche Copy	due 105 days after Initial Performance Test to measure Total Particulate Matter and Particulate Matter <10 micron emissions.	FS904
Performance Test Report - Microfiche Copy	due 105 days after Initial Performance Test to measure Total Particulate Matter, Particulate Matter <10 micron, Nitrogen Oxides, Sulfur Dioxide, Volatile Organic Compounds and Carbon Monoxide emissions.	EU340, EU430
Performance Test Report - Microfiche Copy	due 105 days after Initial Performance Test to measure Total Particulate Matter, Particulate Matter <10 micron, Opacity, Nitrogen Oxides, Sulfur Dioxide, and Total Reduced Sulfur emissions.	SV322
Performance Test Report - Microfiche Copy	due 105 days after Initial Performance Test to measure Total Particulate Matter, Particulate Matter <10 micron, Sulfur Dioxide and Volatile Organic Compounds emissions.	EU320
Performance Test Report - Microfiche Copy	due 105 days after Initial Performance Test to measure Volatile Organic Compound emissions.	SV322
Performance Test Report - Microfiche Copy	due 105 days after Performance Test for determining emission factor for SO ₂ .	EU320

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

Performance Test Report - Microfiche Copy	due 105 days after Performance Test for Total Chlorinated HAPs (not including chloroform).	SV240
Performance Test Report - Microfiche Copy	due 105 days after Performance Test to measure Sulfur Dioxide emissions.	SV322
Performance Test Report - Microfiche Copy	due 105 days after Performance Test to measure Volatile Organic Compounds and Carbon Monoxide emissions.	EU440, EU450, EU460
Performance Test Report	due 45 days after Initial Performance Test 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.	SV220
Performance Test Report	due 45 days after Initial Performance Test to measure Chlorine, Chlorine Dioxide and Chloroform emissions. This is a state only requirement and is not enforceable by the EPA Administrator and citizens under the Clean Air Act.	SV240
Performance Test Report	due 45 days after Initial Performance Test to measure Sulfur Dioxide emissions.	SV173
Performance Test Report	due 45 days after Initial Performance Test to measure Total Particulate Matter and Particulate Matter < 10 micron emissions.	SV327
Performance Test Report	due 45 days after Initial Performance Test to measure Total Particulate Matter and Particulate Matter <10 micron emissions.	FS904
Performance Test Report	due 45 days after Initial Performance Test to measure Total Particulate Matter, Particulate Matter <10 micron, Nitrogen Oxides, Sulfur Dioxide, Volatile Organic Compounds and Carbon Monoxide emissions.	EU340, EU430
Performance Test Report	due 45 days after Initial Performance Test to measure Total Particulate Matter, Particulate Matter <10 micron, Opacity, Nitrogen Oxides, Sulfur Dioxide, and Total Reduced Sulfur emissions	SV322
Performance Test Report	due 45 days after Initial Performance Test to measure Total Particulate Matter, Particulate Matter <10 micron, Sulfur Dioxide and Volatile Organic Compounds emissions.	EU320
Performance Test Report	due 45 days after Initial Performance Test to measure Volatile Organic Compound emissions.	SV322
Performance Test Report	due 45 days after Performance Test for determining emission factor for SO ₂ .	EU320
Performance Test Report	due 45 days after Performance Test for Total Chlorinated HAPs (not including chloroform).	SV240
Performance Test Report	due 45 days after Performance Test to measure Sulfur Dioxide emissions.	SV322
Performance Test Report	due 45 days after Performance Test to measure Volatile Organic Compounds and Carbon Monoxide emissions.	EU440, EU450, EU460
Relative Accuracy Test Audit (RATA) Notification	due 30 days before CEMS Relative Accuracy Test Audit (RATA) .	EU320, EU340, EU420, EU430, EU440, EU450, EU460
Testing Frequency Plan	due 90 days after Initial Performance Test for Nitrogen Oxides, Sulfur Dioxide, Volatile Organic Compound and Carbon Monoxide emissions. The plan shall specify a testing frequency for each pollutant using the test data and MPCA guidance. Future performance tests based on year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required on written approval of MPCA per Minn. R. 7017.2020, subp. 1.	EU340

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

Testing Frequency Plan	due 90 days after Initial Performance Test for Sulfur Dioxide, Volatile Organic Compounds, and Carbon Monoxide emissions. The plan shall specify a testing frequency using the test data and MPCA guidance. When developing the plan, data from tests performed prior to permit issuance shall also be considered. Future performance tests based on year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required on written approval of MPCA per Minn. R. 7017.2020, subp. 1	EU430
Testing Frequency Plan	due 90 days after Initial Performance Test for Volatile Organic Compounds and Carbon Monoxide emissions. The plan shall specify a testing frequency using the test data and MPCA guidance. Future performance tests based on year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required on written approval of MPCA per Minn. R. 7017.2020, subp. 1	EU460
Testing Frequency Plan	due 90 days after Initial Performance Test for Volatile Organic Compounds and Carbon Monoxide emissions. The plan shall specify a testing frequency using the test data and MPCA guidance. When developing the plan, data from tests performed prior to permit issuance shall also be considered. Future performance tests based on year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required on written approval of MPCA per Minn. R. 7017.2020, subp. 1	EU440, EU450
Testing Frequency Plan	due 90 days after Initial Performance Test to measure Chlorine and Chlorine Dioxide emissions. The plan shall specify a testing frequency for each pollutant using the test data and MPCA guidance. When developing the plan, data from tests performed prior to permit issuance shall also be considered. Future performance tests based on year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required on written approval of MPCA per Minn. R. 7017.2020, subp. 1. This is a state only requirement and is not enforceable by the EPA Administrator and citizens under the Clean Air Act.	SV220
Testing Frequency Plan	due 90 days after Initial Performance Test to measure Chlorine, Chlorine Dioxide and Chloroform emissions. The plan shall specify a testing frequency for each pollutant using the test data and MPCA guidance. When developing the plan, data from tests performed prior to permit issuance shall also be considered. Future performance tests based on year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required on written approval of MPCA per Minn. R. 7017.2020, subp. 1. This is a state only requirement and is not enforceable by the EPA Administrator and citizens under the Clean Air Act.	SV240
Testing Frequency Plan	due 90 days after Initial Performance Test to measure Sulfur Dioxide emissions. The plan shall specify a testing frequency for each pollutant using the test data and MPCA guidance. When developing the plan, data from tests performed prior to permit issuance shall also be considered. Future performance tests based on year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required on written approval of MPCA per Minn. R. 7017.2020, subp. 1.	SV173

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

Testing Frequency Plan	due 90 days after Initial Performance Test to measure Total Particulate Matter and Particulate Matter < 10 microns emissions. The plan shall specify a testing frequency for each pollutant using the test data and MPCA guidance. When developing the plan, data from tests performed prior to permit issuance shall also be considered. Future performance tests based on year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required on written approval of MPCA per Minn. R. 7017.2020, subp. 1.	SV327
Testing Frequency Plan	due 90 days after Initial Performance Test to measure Volatile Organic Compound emissions. The plan shall specify a testing frequency for each pollutant using the test data and MPCA guidance. When developing the plan, data from tests performed prior to permit issuance shall also be considered. Future performance tests based on year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required on written approval of MPCA per Minn. R. 7017.2020, subp. 1.	SV322
Testing Frequency Plan	due 90 days after Performance Test for determining emission factor for SO2. The plan shall specify a testing frequency using the test data and MPCA guidance. When developing the plan, data from tests performed prior to permit issuance, as well as other relevant information (e.g. variability of TRS emissions using data from CEMS), may also be considered. Future performance tests based on year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required on written approval of MPCA per Minn. R. 7017.2020, subp. 1.	EU320
Testing Frequency Plan	due 90 days after Performance Test to measure Total Particulate Matter and Particulate Matter <10 micron emissions. The plan shall specify a testing frequency using the test data. Future performance tests based on year (12 month), 36 month, and 60 month intervals, or as applicable, shall be required on written approval of MPCA per Minn. R. 7017.2020, subp. 1.	FS904

TABLE B: RECURRENT SUBMITTALS

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

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
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 following Permit Issuance (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 following Permit Issuance (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.	EU320, EU420, EU430
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter following Permit Issuance (Submit Deviations Reporting Form DRF-1 as amended). The 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. The reports shall clearly indicate which exceedances occurred during combustion of wood only and which occurred during combustion of any other fuel type or combination.	EU340, EU450, EU460
Excess Emissions/Downtime Reports (EER's)	due 30 days after end of each calendar quarter following Permit Issuance (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
COMS Calibration Error Audit Results Summary	due 30 days after end of each calendar half-year following COMS Calibration Error Audit.	EU320, 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 following Permit Issuance . The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31.	Total Facility
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

TABLE B: RECURRENT SUBMITTALS

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

Annual Report	due 30 days after end of each calendar year starting 09/09/1999. The annual Landfill Flare report shall contain the following data: flare downtime or bypassing, methane minimum concentrations, and flare minimum temperatures when the flare is operating. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	EU901
Compliance Certification	due 31 days after end of each calendar year following Permit Issuance (for the previous calendar year). To be submitted on a form approved by the Commissioner, both to the Commissioner, and to the U.S. EPA regional office in Chicago. This report covers all deviations experienced during the calendar year. The EPA copy shall be sent to: Mr. George Czerniak, Chief, Air Enforcement and Compliance Assurance Branch, Air and Radiation Division, EPA Region V, 77 West Jackson Boulevard, Chicago, Illinois 60604.	Total Facility
Cylinder Gas Audit (CGA) Results Summary	due 30 days after end of each calendar year following Cylinder Gas Audit.	EU340, EU450, EU460
Emissions Inventory Report	due 91 days after end of each calendar year following Permit Issuance (April 1). To be submitted on a form approved by the Commissioner.	Total Facility
Performance Test Notification (written)	due 30 days before end of each year following Initial Performance Test (30 days before each Performance Test) to measure Total Particulate Matter and Particulate Matter <10 micron emissions.	SV322
Performance Test Notification (written)	due 30 days before end of each year following Initial Performance Test (30 days before each Performance Test) to measure Total Reduced Sulfur emissions.	SV322
Performance Test Plan	due 30 days before end of each year following Initial Performance Test (30 days before each Performance Test) to measure Total Particulate Matter and Particulate Matter <10 micron emissions.	SV322
Performance Test Plan	due 30 days before end of each year following Initial Performance Test (30 days before each Performance Test) to measure Total Reduced Sulfur emissions.	SV322
Performance Test Report - Microfiche Copy	due 105 days after end of each year following Initial Performance Test (105 days after each Performance Test) to measure Total Particulate Matter and Particulate Matter <10 micron emissions.	SV322
Performance Test Report - Microfiche Copy	due 105 days after end of each year following Initial Performance Test (105 days after each Performance Test) to measure Total Reduced Sulfur emissions.	SV322
Performance Test Report	due 45 days after end of each year following Initial Performance Test (45 days after each Performance Test) to measure Total Particulate Matter and Particulate Matter <10 micron emissions.	SV322
Performance Test Report	due 45 days after end of each year following Initial Performance Test (45 days after each Performance Test) to measure Total Reduced Sulfur emissions.	SV322
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

TABLE B: RECURRENT SUBMITTALS

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

Compliance Status Report	due 30 days after end of each calendar 24 months starting 04/15/1999 (following initial Compliance Status Report). The Compliance Status Report will serve as the non-binding control strategy report and shall be prepared in accordance with the requirements in 40 CFR Section 63.455(b).	Total Facility
Performance Test Notification (written)	due 30 days before end of each 36 months following Initial Performance Test (30 days before each Performance Test) to measure Total Particulate Matter and Particulate Matter < 10 microns emissions.	EU320
Performance Test Notification (written)	due 30 days before end of each 36 months following Initial Performance Test (30 days before each Performance Test) to measure Total Particulate Matter and Particulate Matter <10 micron emissions.	EU340
Performance Test Notification (written)	due 30 days before end of each 36 months starting 09/09/1999 to measure Volatile Organic Compound and Total Reduced Sulfur emissions (30 days before each Performance Test).	SV173
Performance Test Plan	due 30 days before end of each 36 months following Initial Performance Test (30 days before each Performance Test) to measure Total Particulate Matter and Particulate Matter < 10 microns emissions.	EU320
Performance Test Plan	due 30 days before end of each 36 months following Initial Performance Test (30 days before each Performance Test) to measure Total Particulate Matter and Particulate Matter <10 micron emissions.	EU340
Performance Test Plan	due 30 days before end of each 36 months starting 09/09/1999 to measure Volatile Organic Compound and Total Reduced Sulfur emissions (30 days before each Performance Test).	SV173
Performance Test Report - Microfiche Copy	due 105 days after end of each 36 months following Initial Performance Test (105 days after each Performance Test) to measure Total Particulate Matter and Particulate Matter < 10 microns emissions.	EU320
Performance Test Report - Microfiche Copy	due 105 days after end of each 36 months following Initial Performance Test (105 days after each Performance Test) to measure Total Particulate Matter and Particulate Matter <10 micron emissions.	EU340
Performance Test Report - Microfiche Copy	due 105 days after end of each 36 months starting 09/09/1999 to measure Volatile Organic Compound and Total Reduced Sulfur emissions (105 days after each Performance Test).	SV173
Performance Test Report	due 45 days after end of each 36 months following Initial Performance Test (45 days after each Performance Test) to measure Total Particulate Matter and Particulate Matter < 10 microns emissions.	EU320
Performance Test Report	due 45 days after end of each 36 months following Initial Performance Test (45 days after each Performance Test) to measure Total Particulate Matter and Particulate Matter <10 micron emissions.	EU340
Performance Test Report	due 45 days after end of each 36 months starting 09/09/1999 to measure Volatile Organic Compound and Total Reduced Sulfur emissions (45 days after each Performance Test).	SV173
Performance Test Notification (written)	due 30 days before end of each 60 months following Initial Performance Test (30 days before each Performance Test) to measure Total Particulate Matter and Particulate Matter <10 micron emissions.	EU430

TABLE B: RECURRENT SUBMITTALS

10/02/00

Facility Name: Boise Cascade Corp - International Falls

Permit Number: 07100002 - 003

Performance Test Notification (written)	due 30 days before end of each 60 months following Initial Performance Test (30 days before each Performance Test) to measure Volatile Organic Compound emissions.	EU320
Performance Test Plan	due 30 days before end of each 60 months following Initial Performance Test (30 days before each Performance Test) to measure Total Particulate Matter and Particulate Matter <10 micron emissions.	EU430
Performance Test Plan	due 30 days before end of each 60 months following Initial Performance Test (30 days before each Performance Test) to measure Volatile Organic Compound emissions.	EU320
Performance Test Report - Microfiche Copy	due 105 days after end of each 60 months following Initial Performance Test (105 days after each Performance Test) to measure Total Particulate Matter and Particulate Matter <10 micron emissions.	EU430
Performance Test Report - Microfiche Copy	due 105 days after end of each 60 months following Initial Performance Test (105 days after each Performance Test) to measure Volatile Organic Compound emissions.	EU320
Performance Test Report	due 45 days after end of each 60 months following Initial Performance Test (45 days after each Performance Test) to measure Total Particulate Matter and Particulate Matter <10 micron emissions.	EU430
Performance Test Report	due 45 days after end of each 60 months following Initial Performance Test (45 days after each Performance Test) to measure Volatile Organic Compound emissions.	EU320
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
Relative Accuracy Test Audit (RATA) Results Summary	due 30 days after end of each calendar 60 months following CEMS Relative Accuracy Test Audit (RATA).	EU450
Relative Accuracy Test Audit (RATA) Results Summary	due 30 days after end of each calendar 60 months following CEMS Relative Accuracy Test Audit (RATA).	EU460

APPENDIX MATERIAL

Facility Name: Boise Cascade Corp.- International Falls
Permit Number: 07100002-003

- Appendix A (not used in this permit)
- Appendix B (not used in this permit)
- Appendix C List of Insignificant Activities
- Appendix D Stack Parameters

TECHNICAL SUPPORT DOCUMENT
For
AIR EMISSION PERMIT NO. 07100002-003

This Technical Support Document (TSD) is for all the interested parties of the permit. The purpose of this document is to set forth the legal and factual basis for the permit conditions, including references to the applicable statutory or regulatory provisions.

1. General Information

Owner and Operator Address and Phone Number (list both if different)	Facility Address (SIC Code: 2621, 2611)
Boise Cascade Corporation 1111 Jefferson Street Boise, Idaho 83702	Boise Cascade Corporation 400 Second Street International Falls, Minnesota 56649 Koochiching County

1.2. Description of the facility

Boise Cascade Corporation operates an integrated Kraft pulp and paper mill in International Falls. The mill manufactures a variety of coated and uncoated fine paper products. The facility consists of a woodyard, chip processing center, pulp mill, bleach plant, chemical recovery system, power plant, wastewater treatment facility, industrial landfill, paper mill, finishing and sheeting, warehouse, and shipping facilities. In 1989/1990, Boise underwent an expansion that included the installation of a new paper machine, a new bleach plant, a new lime kiln, modification of the chemical recovery furnace, and other upgrades.

A Part 70 permit was issued to Boise in September, 1999. A Part 70 permit is an air emission operating permit required by Title V of the federal Clean Air Act Amendments of 1990, codified in 40 CFR pt. 70. "Part 70" is a section in the Code of Federal Regulations for the Protection of the Environment. Previously, the facility operated under a total facility permit, which was also a PSD permit, issued by the Minnesota Pollution Control Agency (MPCA) on May 12, 1989. 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 included a PSD modification for the 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. The overfire air project is essentially a Nitrogen Oxide (NO_x) control method, which reduces the amount of NO_x generated for a given amount of sludge or wood burned. This allows Boise to burn more sludge and wood on an hourly basis, while still remaining within their NO_x emission limit.

1.3 Description of the Activities Allowed by This Permit Action

This permit amendment, for the proposed Efficiency Improvement Project, would 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 proposes to make several physical modifications. An evaporator effect, two condensers and a blow tank will be added, physical modifications will be made to the evaporating process, and a new economizer will be installed on the recovery furnace. Physical modifications will also be made at the wood processing center to enhance operating flexibility, including the replacement of a bark hog. Other physical changes (equipment replacement) will be made in the course of routine replacement of aging equipment, including the replacement of the brownstock decker.

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 modification results in an increased generation of greater than 100 tpy for at least a single air pollutant. The application for the PSD amendment was for a major modification; both the Efficiency Improvement Project and the Boiler No. 2 project would be considered major amendments on their own, due to the increase in PTE.

The EAW, which combined both projects, was placed on public notice from February 22, 1999 to April 7, 1999. During the public comment period, many concerns were raised about the proposed increase in wood use and the impacts on timber harvesting and forest management. The proposed modification of Boiler No. 2, which was believed to be environmentally beneficial, received minimal comment. Because the Boiler No. 2 project entailed time-sensitive factors which could jeopardize the project, permitting for that project proceeded along with the Title V permitting.

The Efficiency Improvement Project is being permitted separately under this permit action. Further discussion of the PSD application and EAW is contained further in this document.

1.4. Facility Emissions:

Table 1. Emissions Increases for Project Impacted Emission Units

Pollutant	Current Actual (tpy)	Future Potential (tpy)	Net Increase (tpy)	PSD Significant Emission Rate (tpy)	Significant Increase?
Particulate Matter (PM)	275	525	250	25	Yes
Particulate Matter < 10 microns (PM ₁₀)	134	341	207	15	Yes
Sulfur Dioxide (SO ₂)	66	443	377	40	Yes
Nitrogen Oxides (NO _x)	900	1567	666	40	Yes
Carbon Monoxide (CO)	1140	3063	1923	100	Yes
Volatile Organic Compounds (VOC)	134	563	429	40	Yes
Sulfuric Acid Mist (H ₂ SO ₄)	1	4	3	7	No
Hydrogen Sulfide (H ₂ S)	7	8	1	10	No
Total Reduced Sulfur (TRS)	34	66	32	10	Yes

Table 2. Total Facility Potential to Emit Summary:

EU/ SV No.	Emission Unit Description	PM tpy	PM₁₀ tpy	SO₂ tpy	NO_x Tpy	CO tpy	VOC tpy	TRS tpy
SV 173	Brown Stock Washers	--	--	2.2	--	--	43	26
SV 220	CIO2 Generator	--	--	--	--	--	0.06	--
SV 240	Bleach Plant	--	--	0.1	--	160	1.8	0.09
EU 320	Recovery Furnace	135	100	200	414	1886	137	21
SV 322	Smelt Dissolving Tank	49	49	22	8	--	22	8.1
SV 327	Lime Slaker	4.8	4.8	--	--	--	2.9	0.20
EU 340	Lime Kiln	47	41	59	186	104	50	5.0
EU 420	Boiler No. 1	5.2	5.2	1.1	349	70	2.4	--
EU 430	Boiler No. 2	57	51	156	439	536	178	--
EU 440	Boiler No. 3	4.9	4.9	0.98	82	147	14.7	--
EU 450	Boiler No. 8	2.7	2.7	0.54	45	81	8.1	--
EU 460	Boiler No. 9	2.7	2.7	0.54	45	81	8.1	--
EU 602	Wastewater Treatment Cooling Tower	--	--	--	--	--	36	3.6
EU 901	Thermal Oxidizer	--	--	14.2	14.3	1.1	0.42	--
EU 902	Paint Spray Booth	1.0	1.0	--	--	--	23.5	--
	Misc. Sources	6	4	--	--	--	183	10
	Fugitive Sources	136	46	--	--	--	--	--
	Totals	451	312	457	1582	3066	711	74

	PM tpy	PM₁₀ tpy	SO₂ tpy	NO_x Tpy	CO tpy	VOC tpy	TRS tpy
Total Facility Limited Potential Emissions	451	312	457	1582	3066	711	74
Total Facility Actual Emissions	317	141	54	892	1333	254	43

Table 3. PTE Comparison:

	PM tpy	PM₁₀ tpy	SO₂ tpy	NO_x tpy	CO tpy	VOC Tpy	TRS tpy
PTE for affected units – As permitted in Title V permit	461	310	929	1547	2887	655	65
PTE for affected units – Proposed in this permit action	451	312	457	1582	3066	711	74

Table 4. Facility (TF) and Permit Classification

Classification (put x in appropriate box)	Major/Affected Source	*Synthetic Minor	*Minor
PSD (list pollutant)	PM, PM ₁₀ , SO ₂ , NO _x , VOC, CO, TRS		
NAAR (list pollutant) <i>Not applicable</i>			
Part 70 Permit Program (list pollutant)	PM, PM ₁₀ , SO ₂ , NO _x , VOC, CO		

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

2. Regulatory and/or Statutory Basis

Regulatory Overview of Units Affected by the Modification

Table 5. Regulatory Overview

EU, GRP, or SV #	Applicable Regulations	Comments:
Regulations applicable to permit changes:		
Total Facility	40 CFR § 52.21	Prevention of Significant Deterioration. Limit set for black liquor production, since emissions used in modeling were based on this level of production. Requirement added to evaluate need for additional modeling and to conduct additional modeling if stack parameters (included in appendix to permit) are significantly changed from what was used in modeling.

SV 173 (BSW); EU 320 (recovery furnace); FS 904 (chip cyclone)	40 CFR § 52.21	Prevention of Significant Deterioration. BACT limits set. Pollutants considered in BACT analysis included PM/PM ₁₀ , VOC, CO, SO ₂ , NO _x , TRS.
Total Facility	Minn. R. 7007.0800, subp.2	Requirement added to evaluate need to perform additional modeling if stack parameters (included in appendix to permit) are significantly changed from what was used in modeling.
SV 903 (Combined stack for ClO ₂ generator and bleach plant)	Minn. R. 7007.0800, subp.2	The stacks for the bleach plant and chlorine dioxide generator are to be combined to match the parameters used in the modeling for the Air Toxics and improve dispersion.
Existing conditions:		
EU 440; EU 450; EU 460	40 CFR pt. 60, subp. Db	Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units
GP 340; SV 322; EU 145; EU 320; EU 340	40 CFR pt. 60, subp. BB	Standards of Performance for Kraft Pulp Mills
numerous	40 CFR § 52.21	Prevention of Significant Deterioration. BACT limits set for NO _x , VOCs, TRS. Limits set for PM, PM ₁₀ , SO ₂ due to modeling and netting.
EU 902	40 CFR § 52.21	Prevention of Significant Deterioration. Limit taken to avoid classification as major modification
EU 420; EU 430	Minn. R. 7011.0510	Standards of Performance for New Indirect Heating Equipment
SV 327; EU 902	Minn. R. 7011.0715	Standards of Performance for Post-1969 Industrial Process Equipment
GP 420	40 CFR § 52.21	Cap limit for NO _x for combustion units (i.e. boilers and recovery furnace). Total NO _x cap includes combustion units as well as the lime kiln and smelt dissolving tank. Limit was set due to visibility concerns for Class I area.
SV 220, SV 240		Limits for toxics (chlorine, chlorine dioxide, chloroform) set due to risk assessment performed for EAW for 1989 permit
GP 340; GP 421; SV 173; SV 220; SV 240	40 CFR pt. 63, subp. S	National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry

3. Technical Information

3.1 Environmental Assessment Worksheet

The Efficiency Improvement Project was reviewed in an Environmental Assessment Worksheet (EAW). The preparation of the EAW was mandatory, and was done to assess the potential for significant environmental effects from the project. The Efficiency Improvement Project and the Boiler No. 2 projects were reviewed together in the EAW. The Boiler No. 2 project has already been permitted in conjunction with the Title V permit, issued in September 1999. The Efficiency Improvement Project was delayed due to concerns raised about the increased timber harvesting associated with the project. A question was also raised about whether the Generic Environmental Impact Statement (GEIS), which was used as a basis for some of the evaluation in the EAW, was still adequate. The GEIS was prepared in 1994 and some commentors felt that it was no longer adequate. The Environmental Quality Board (EQB) made a determination as to the adequacy of the GEIS on December 16, 1999; the GEIS was determined to still be adequate.

Other issues that were addressed in the EAW were PSD applicability and review, air toxics, and odor. Odor from the facility is mainly caused by total reduced sulfur (TRS) compounds. The Title V permit included a requirement for Boise to perform ambient monitoring of TRS and to submit a plan which would include the steps that Boise would take if the ambient TRS measurements exceed the ambient air TRS target. In addition, compliance with the MACT is expected to reduce emissions of TRS compounds, and thus would reduce the amount of odor experienced around the facility.

3.2 Air Toxics Review

The Air Toxics Review (ATR) is a risk analysis focusing on incremental risks to human health due to inhalation of projected air emissions from the Boise Cascade Pulp and Paper Mill located at International Falls, Minnesota. The document was prepared as part of the EAW process; the final document was submitted on January 28, 1999. Staff reviewed the ATR and prepared a "Summary of Findings for Risk Manager Consideration," dated February 11, 1999 (Attachment A of this document). A Risk Management Decision Document was then prepared and concluded that there should be no significant incremental human health inhalation risks from the proposed modifications to the Boise Cascade facility.

The ATR was completed to evaluate the potential human health impacts related to the inhalation of chemicals known or expected to be emitted from the facility. Potential risks were calculated for the maximum potential air emissions from the facility under both the current emissions and future conditions, i.e. after implementation of the Efficiency Improvement Project and after the facility is in compliance with the MACT. The results indicated that the potential inhalation human health risks associated with the facility's air emissions are expected to decrease from the current to the future scenarios.

Due to the complex nature of pulp manufacturing, human health inhalation risks from this facility could increase over currently calculated risks due to future changes in chemical use patterns or mill processes. Therefore, the Summary of Findings recommended that risk recalculation be required before Boise Cascade could increase the emission rate of any pollutant modeled in the ATR or emit any pollutant in addition to those considered in the ATR. Also, remodeling may be required should Boise Cascade change modeling parameters that result in less conservative dispersion characteristics. The proposed permit requires Boise to evaluate the need to re-model and re-calculate risks resulting from any changes to the emission rates of non-limited chemicals and to do so if needed. This permit condition can be found at the Total Facility level in Table A of the permit.

Where applicable, Boise Cascade entered existing or proposed emission limits into the air dispersion model rather than maximum potential emission rates. In these cases, the permit includes these limits in Table A. There were a few cases where some assumptions were made about potential emissions. One case is that it was assumed that compliance with the Cluster rules will reduce the future potential-to-emit for H₂S, methanol and methyl mercaptan. This assumption can not easily be verified by performing stack testing on the sources where this reduction is expected. However, this is a reasonable assumption based on the control required in the Cluster Rules. Also, the relevant emission sources and pollutants did not significantly contribute to the calculated risk. Another assumption that was made is that emissions of H₂SO₄ were estimated at 1.0 percent of SO₂ emissions from the boilers. Performance testing conducted during preparation of the ATR showed that the H₂SO₄ emissions were approximately 0.6 percent of the SO₂ emissions. Based on these results, as well as the fact that H₂SO₄ emissions did not contribute to the calculated risk, further testing was not deemed necessary.

3.3 PSD Review

Boise has prepared a PSD Permit Application and revised it in accordance with comments received from the MPCA and the Federal Land Managers (FLMs). The original document was submitted in April 1996 and the final revised document is dated March 31, 1999. The original PSD Permit Application and the revisions were submitted to the Federal Land Managers and discussions were held with the FLM in order to incorporate and resolve their comments.

The PSD Permit Application considered the boiler #2 project together with the Efficiency Improvement Project. These projects are separate projects, but are expected to occur within a short period of time, and therefore were considered together for determining pollutant applicability, for modeling and for the Additional Impacts Analysis.

The applicability analysis determined that the pollutants which were to be subject to PSD review included NO_x, CO, VOC, SO₂, TRS and PM/PM₁₀.

BACT Analysis

The Boiler No. 2 project was permitted with the Title V permit, issued in September 1999. A discussion of the BACT analysis for the Boiler No. 2 project is included in the TSD for the Title V permit.

The PSD review contained BACT analyses for the recovery furnace, the brownstock washing system and the new chip cyclone. BACT for the recovery furnace was considered for all the pollutants subject to PSD review, i.e. NO_x, CO, VOC, SO₂, TRS and PM/PM₁₀. Only VOC, SO₂, and TRS were included in the analysis for the brownstock washer. The BSW emits VOC and SO₂, and several of the controls considered in the BACT analysis cause emissions of TRS, so TRS was also analyzed. The only pollutants emitted from the cyclone are particulates, so controls for PM/PM₁₀ were the only ones considered.

Results from the BACT analysis are summarized in Attachments B and C to this TSD. The control technologies proposed as BACT for the recovery furnace are an electrostatic precipitator for PM/PM₁₀ and good combustion control for the other pollutants. The existing BSW gas collection and venting system was selected as BACT for the brownstock washer. A cyclone was determined to be BACT for the softwood chip line.

Ambient Air Quality Analysis

Boise performed the Class II air quality analysis in three parts and considered the boiler #2 project together with the efficiency improvement project. The first part of the analysis was a preliminary analysis in which project-related increases were modeled to determine which pollutants were subject to full impact analysis and to determine the area of significant impact. Second, dispersion modeling, using ISCST3, was done to compare modeled impacts to federal and state ambient air quality standards. The third part of the analysis involved modeling the change in ambient air concentrations from increment consuming sources to compare to PSD allowable increments.

The results of the preliminary analysis indicated that there was no significant impact zone for CO and therefore the CO analysis was complete. Full analysis was required for NO_x, SO₂, and PM₁₀. Modeling was also performed for H₂S, which was not triggered for PSD review, but was evaluated for compliance with the state standard. A summary of the National Ambient Air Quality Standards (NAAQS) and Minnesota Ambient Air Quality Standards (MAAQS) modeling results for NO_x, SO₂, and PM₁₀ are given below:

Pollutant	Ave. Period	Maximum Predicted Impacts ($\mu\text{g}/\text{m}^3$)		National Ambient Air Quality Standard		Minnesota Ambient Air Quality Standard	
		Conc. w/o bkgd	Conc. w/bkgd	Primary Standard ($\mu\text{g}/\text{m}^3$)	Secondary Standard ($\mu\text{g}/\text{m}^3$)	Primary Standard ($\mu\text{g}/\text{m}^3$)	Secondary Standard ($\mu\text{g}/\text{m}^3$)
NO _x	Annual	38	46	100	100	100	100
SO ₂	Annual	2	5	80	--	80	60
	24-Hour	32	45	365 ^a	--	365 ^a	365 ^a
	3-Hour	608	637	--	1300 ^a	--	915 ^a
	1-Hour	766	798	--	--	1300 ^a	--
PM ₁₀	Annual	37	47	50	50	--	--
	24-Hour	77	95	150 ^a	150 ^a	--	--
H ₂ S	½-Hour	37	38	--	--	70 ^b	--
	½-Hour	<42	<42 ^d	--	--	42 ^c	--

^a Not to be exceeded more than once per year; therefore, the maximum second-highest results are shown.

^b Not to be exceeded more than twice per year; the maximum second-highest result is shown.

^c Not to be exceeded more than twice in five consecutive days at any given receptor.

^d During the five modeled years, the 42 $\mu\text{g}/\text{m}^3$ standard was never exceeded more than twice within five consecutive days at any given receptor; therefore, the standard is met.

A summary of the increment consumption results for PM₁₀, NO_x and SO₂ is given below:

Pollutant	Avg. Period	Maximum Modeled Impact ($\mu\text{g}/\text{m}^3$)	PSD Class II Increment ($\mu\text{g}/\text{m}^3$)
NO _x	Annual	11	25
SO ₂	Annual	2	20
	24-Hour	28	91 ^a
	3-Hour	102	512 ^a
PM ₁₀	Annual	0.12	17
	24-hour	9.4	30 ^a

^a Not to be exceeded more than once per year; therefore, the maximum second-highest results are shown.

As a result of the modeling, it was determined that none of the applicable ambient air quality standards would be violated and that none of the applicable increments established by the PSD rule would be violated.

Class I Impact Analysis

Boise also performed a Class I Impact Analysis, due to its proximity to Voyageurs National Park and the Boundary Waters Canoe Area Wilderness. The primary concern of the Federal Land Managers (FLMs) has been concern about visibility, mainly related to NO_x emissions. There is no increase in NO_x associated with the PSD project. Boise has evaluated the air quality related impacts on the Class I areas in the PSD application; the evaluation was performed with the efficiency improvement project and the boiler #2 project combined. Boise has worked with the Federal Land Managers to address their concerns. The NO_x cap established in the 1989 permit is maintained, and the NO_x cap was expanded in the Title V permit to include all significant NO_x emitting units. The amount of NO_x emissions did not increase with the Title V permit, nor will it increase with this permit.

As part of the Class I analysis, air dispersion modeling was done to demonstrate compliance with PSD increments. A summary of the Class I increment consumption modeling results for PM₁₀, NO_x and SO₂ is given below:

Pollutant	Avg. Period	Maximum Modeled Increment Consumed (µg/m³)	Allowable Increment (µg/m³)
NO _x	Annual	0.7	2.5
SO ₂	Annual	0.2	2
	24-Hour	2	5 ^a
	3-Hour	9	25 ^a
PM ₁₀	Annual	0.1	4
	24-hour	1	8 ^a

^a Not to be exceeded more than once per year; therefore, the maximum second-highest results are shown.

Visibility impacts for the Class I areas were also analyzed using modeling, as was regional haze. The impact of the projects on the buffering capacity of surface water was also evaluated. No significant adverse impacts to any of these air quality related values are expected as a result of the proposed project.

Additional Impacts Analysis

The PSD permit application included an Additional Impacts Analysis. Again, the analysis was performed with the Efficiency Improvement project and the boiler #2 project combined. The analysis concluded that there would be no adverse impacts due to the projects.

4.0 Permit Changes

A. Changes due to PSD and/or Air Toxics Review

EU, GRP, or SV #	Change:
Total Facility	Facility limits were removed, except for a limit for black liquor solids production. This limit was increased from 35,000 tons/month to 41,000 tons/month. The higher limit was used in the PSD review and in the ATR. Other production limits used in calculations are dependent on the black liquor solids production; thus, only the black liquor solids production limit is needed.
	Modeling Requirements: the parameters used for the modeling for the PSD review and for the Air Toxics Review are included in an appendix to the permit. If changes are to be made to stack parameters, or to emission rates, the changes are to be evaluated to determine their effect on the dispersion and on the risk calculations. A permit amendment may be required prior to changes being made. These requirements are included in the permit to ensure that the Permittee may not make changes that could negatively impact the previous analyses without prior approval.
SV 173 (Brown Stock Washer)	SO ₂ BACT limit added. There was previously no SO ₂ limit but a BACT analysis done for the BSW system included analysis for SO ₂ and thus a limit has been established. Performance testing requirements for SO ₂ have also been added.
SV 903 (Combined stack for ClO ₂ generator and bleach plant)	Install stack to combine SV 220 (ClO ₂ generator) and SV 240 (Bleach plant) to match stack parameters as modeled for Air Toxics Review and as listed in Appendix D of this permit. The modeling for the ATR for the future scenario was modeled with a combined stack and relied upon the dispersion (along with other information) to show an acceptable level of risk.
EU 320 (recovery furnace)	SO ₂ limit has been changed. There was a limit of 163.1 lb/hr using a 30-day rolling average. There are now two SO ₂ limits, both of which are BACT. There is a short-term limit because there are times, such as starting up or shutting down, when the SO ₂ emissions may be high. However, the recovery furnace is normally operated in a fashion which produces lower SO ₂ emissions. If the short-term limit had been used in the BACT analysis, the cost effectiveness for the control technologies considered would have been considerably lower. However, use of this number would not have reflected the amount of emissions reduction that would actually be experienced. Thus a long-term limit was also established and used in the BACT analysis.

	<p>The short-term limit is 106.2 lb/hr and there is a long-term limit of 200 tons/year, using a 30-day rolling average. To calculate whether the long-term limit is being met, an emission factor derived from testing will be used along with the production throughput. Records for black liquor solids production are required under Total Facility. A performance test is required to establish an emission factor for use in calculating the SO₂ long-term emission rate. A testing frequency plan to establish the frequency of further testing is also required. Information that can be used to determine the required frequency for testing will include the test results but may also include information from the TRS CEMS and past data from the SO₂ CEMS. This information can give an indication of the variability of the normal operation of the recovery furnace.</p>
EU 320	<p>NO_x limit increased from 86.9 to 94.5 lb/hr and identified as BACT limit; the previous limit was not a BACT limit. Although the NO_x limit on this emission unit has been increased, the NO_x emission cap for the facility has not been increased. The NO_x emission rate on a pound per ton of black liquor solids basis is the same as what it was previously, but since the black liquor production will be increasing, the lb/hr emission rate will increase.</p>
EU 320	<p>PM limit increased from 28.3 to 30.7 lb/hr; PM₁₀ limit increased from 21.2 to 22.9 lb/hr; VOC limit increased from 28.8 to 31.3 lb/hr; CO limit increased from 396.4 to 430.9 lb/hr. These limits were not previously BACT limits but are now set as BACT limits. These limits are based on the same emission factors that were used previously, but are increased due to increased black liquor production.</p>
FS 904	<p>BACT limits for PM, PM₁₀ placed on chip blower line. Testing is to be performed after permit issuance to verify compliance with limit. A testing frequency plan is also required. Periodic monitoring for this source consists of proper maintenance of the cyclone.</p>

4.2 Administrative Changes

There are several changes that have been made to the permit as administrative types of changes. These are summarized below:

EU, GRP, or SV #	Change:
Numerous	Any submittals or actions that were to have been done after permit issuance and which have been completed were removed or indicated as having been submitted.
Numerous	Requirements for initial performance tests that have been performed have been removed from permit. Dates have been put in for subsequent testing where needed.

4.3 Changes due to Comments Received during Public Notice Period

Due to a letter received during the public notice period for the permit, a public meeting was held in International Falls to discuss air toxics issues. The comment period was also extended to a period beyond the public meeting, and was also limited to air toxics issues. A response document was prepared which provided responses to comments collected in letters received during the public notice period and during the public meeting. This response document, which has copies of the letters and a summary of comments made in the meeting, is attached to this document. A comment letter was also received from a Federal Land Manager; the MPCA response to this letter and the comment letter are also attached to this document.

One change was made to the permit as a result of comments received. This change is shown below; the additional language is underlined.

EU, GRP, or SV #	Change:
Total Facility	Cease Operation: The Permittee may cease operation of the ambient TRS monitor as described in the Ambient TRS Plan. <u>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.</u> 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.

5. Conclusion

Based on the information provided by Boise Cascade, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 07100002-003 and this technical support document, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Robert Beresford, Stuart Arkley, Paula Connell

Attachment:

Others specified in section 3

ATTACHMENT A

SUMMARY OF FINDINGS FOR RISK MANAGER CONSIDERATION: BOISE CASCADE, INC., INTERNATIONAL FALLS, MINNESOTA, PULP AND PAPER FACILITY AIR TOXICS REVIEW (ATR)

PURPOSE OF THE SUMMARY OF FINDINGS

Air Toxics Staff have prepared this “Summary of Findings for Risk Manager Consideration” in order to summarize and evaluate the ATR and its results for risk management decision-making. The ATR is one piece of information considered to determine the acceptability of an entire proposed project.

This memo provides a technical summary of ATR findings and limitations, along with staff recommendations regarding the proposed facility’s potential to pose significant human health risks via the inhalation route. Staff findings and recommendations are based on toxicology and risk assessment principles and guidelines which are standard to the risk assessment and toxicology disciplines.

PROJECT OVERVIEW

Boise Cascade proposes to undertake a number of process modifications collectively described as the Efficiency Improvement Project. In addition, Boise Cascade proposes to modify an existing boiler. The purpose of the ATR is to provide sufficient information regarding air toxics and their corresponding potential human health inhalation risks to allow the evaluations required for environmental review and permitting of the Efficiency Improvement and Boiler No. 2 Projects.

While the Efficiency Improvement Project is Cluster Rule related (The Cluster Rule is a combined air and water federal rule for the pulp and paper industry that reduces toxic pollutant releases to both air and water), the No. 2 boiler project is totally unrelated the Cluster Rule. The No. 2 boiler modifications will allow the boiler to burn more hog fuel (i.e. bark, wood-waste and/or sludge) while maintaining present NO_x emissions.

The proposed projects include a number of elements that are considered to be environmentally beneficial:

- Elimination of elemental chlorine gas bleaching, thereby reducing the release of chloroform to air and water
- Enhancement of fugitive dust control
- Reduction of solid waste volumes, sludge and waste wood residuals
- Reduction of fugitive Total Reduced Sulfur (TRS) emissions through enhancements to the management of foul condensates

STAFF FINDINGS AND RECOMMENDATIONS

The MPCA's Air Toxics Review (ATR) is a risk analysis focusing on incremental risks to human health due to inhalation of projected air emissions from the Boise Cascade Pulp and Paper Mill located at International Falls, MN.

Note: In this document, incremental risks refer to the inhalation health risks associated only with the emissions from Boise Cascade's facility. Other existing inhalation health risks at receptor locations (i.e. background risks) are not considered in the calculation of inhalation health risks in the ATR. All references in this document to human health inhalation risk refer to incremental risk above background due to the Boise Cascade facility.

Based on the quantitative evaluation of human health inhalation carcinogenic and non-carcinogenic risks for the project as currently modeled and proposed, there does not appear to be significant human health inhalation risks from the proposed operations. The ATR did not provide an analysis of human health risks associated with non-inhalation routes of exposure, background or cumulative risks, or ecological risks.

Due to the complex nature of pulp manufacturing, human health inhalation risks from this facility could increase over currently calculated risks due to future changes in chemical use patterns or mill processes. Therefore, staff recommends that risk recalculation be required before Boise Cascade could increase the emission rate of any pollutant modeled in the ATR or emit any pollutant in addition to those considered in the ATR. Also, remodeling may be required should Boise Cascade change modeling parameters that result in less conservative dispersion characteristics.

Where applicable, Boise Cascade entered existing or proposed emission limits into the air dispersion model rather than maximum potential emission rates. In these cases, the permit should include these limits.

LIMITATIONS IN THE ATR FINDINGS

The ATR evaluates total facility human health inhalation risks for both current and future operations. By comparing the current and future potential risks, the change in estimated human health inhalation risks resulting from the proposed project is evaluated.

The ATR only evaluates inhalation risks from the facility's emissions and does not consider other chemical exposure pathways, background risks, or cumulative risks related to neighboring sources of air pollution. It is possible that multipathway, background, or cumulative risks alone or in combination with human health inhalation risks could represent significant human health risks.

Similarly, ecological risks from this facility have not been calculated in the ATR. Therefore, it is possible that emissions of bioaccumulative, or persistent chemicals, alone or in combination with background ecological risks, could result in significant ecological risks.

Additional ATR limitations and uncertainties include:

- Synergistic effects were not assessed.
- Surrogate toxicity values were used for chromium VI and TRS compounds.
- A chemical's effects on toxic endpoints other than the critical endpoint were not considered, except as explained in section C below.
- Only some criteria pollutants were included in quantitative risk characterization.
- Toxicity value uncertainty.
- Emission rates are estimates of maximum potential emissions from the proposed facility.
- Exposure variables including, meteorological data, air dispersion methodology, and exposure duration and frequency assumptions are designed to err on the side of overestimation.

TECHNICAL SUMMARY

A. EXPOSURE ASSESSMENT

1. Bounding Estimate.

MPCA directed Boise Cascade to evaluate risk according to worst case exposure frequency and duration assumptions. This worst case risk or "bounding" estimate was provided in the ATR. The bounding estimate reports the highest modeled risk at any receptor on or beyond the facility's fenced property regardless of land use zoning. A bounding estimate was also provided for the U.S. Customs Station, which is located very near the property boundary.

2. RME and MCT Exposure Cases.

Boise Cascade also chose to provide risk estimates for the reasonable maximum exposure (RME) scenario and the modified central tendency scenario (MCT). Both scenarios use less than maximum exposure frequency and duration assumptions but use the same emission rates and meteorological data as the bounding estimate.

The RME and MCT cases were developed at both an off-site receptor and for a worker receptor (i.e. the U.S. Customs Station). For the RME and MCT cases the off site receptor is the receptor on or beyond the facility's fenced property having the highest modeled risk regardless of land use zoning.

3. Maximum Residential Receptor.

Boise Cascade, at its own discretion, chose to perform the above described three exposure cases (i.e. bounding, RME, and MCT) to evaluate the highest modeled risk for a receptor located in a residentially zoned location (as opposed to any location regardless of land use). These optional analyses were included in the Boise Cascade Comments Section of the ATR and were not technically reviewed by MPCA staff because MPCA only evaluates the receptors of maximum potential risk in the ATR. Receptors located in a residential location may not be the receptors of maximum potential risk, and therefore, the MPCA has not chosen to analyze less conservative exposure scenarios.

4. Acute Exposure.

For the acute analysis at all receptors, the maximum modeled impact is equal to the bounding estimate, because it is assumed that someone could be located at any receptor for the entire one-hour exposure period. RME or MCT analyses for acute exposure were not performed since they would require the adjustment of exposure assumptions that were beyond the scope of the ATR.

5. MPCA worked closely with Boise Cascade to develop the exposure assessment component of this ATR. MPCA approves of the exposure assessment as presented in the ATR.

B. RISK CHARACTERIZATION

Risk characterization is the step in quantitative risk assessment that combines exposure and toxicity information to estimate the probability of a health risk to an exposed individual or population. Target risk levels currently used in Minnesota are 1E-5 for excess cancer risk (i.e. 1 excess cancer in 100,000 persons exposed) and one for non-cancer Hazard Index (HI).

The risk characterization included quantitative analysis for all chemicals of concern (COCs). COCs were quantitatively evaluated for both excess cancer and non-cancer health risks. Three exposure durations were analyzed for non-cancer health risks; these are chronic, subchronic, and acute. Health risks were calculated for the future maximum potential emissions from the facility (i.e. estimated potential health risks after the project is completed) and for current maximum potential emissions (i.e. estimated potential health risks under current operations).

1. Chronic Non-cancer Risks.

The future chronic hazard index (HI) at the maximally impacted off site receptor = 1.6, for the lower respiratory endpoint. A hazard index greater than one indicates potential adverse health effects. The current chronic hazard index (HI) at the maximally impacted off site receptor = 1.9, for the lower respiratory endpoint.

A HI of 1.6 indicates the potential for future emissions from Boise Cascade to cause adverse health effects to the lower respiratory system at maximally exposed off site receptors. The projected HI of 1.6 represents a decrease in the calculated risk for lower respiratory effects compared to current facility emissions.

For the future scenario, there are 13 receptors, all on the property boundary, with a HI greater than one. For the current scenario, there are 30 receptors, all on the property boundary, with a HI greater than one. There is no one living at the property boundary, therefore, there is no population constantly exposed to the risk levels at receptors with a HI greater than one.

The future chronic RME and MCT HIs for lower respiratory effects = 0.38 and 0.18, respectively, at off site receptors regardless of land use zoning.

The future chronic HI at the maximally impacted residential receptor = 0.98 for lower respiratory effects. (as the HI approaches one, the level of concern with regard to lower respiratory compounds emitted from Boise Cascade increases). The current chronic HI at the maximally impacted residential receptor = 1.1 for the lower respiratory endpoint.

Chronic HIs for all other toxic endpoints are below the 1.0 human health significance level, and therefore, do not indicate additional human health inhalation concerns.

2. Subchronic and Acute Non-cancer Risks.

All subchronic and acute HIs at maximally impacted receptors are below the 1.0 human health significance level (for both current and future scenarios). These results indicate that there are no other calculated significant non-cancer human health inhalation risks from the proposed Boise Cascade facility.

3. Cancer Risks.

Based on process changes which will reduce the ambient air concentrations of certain COCs at the proposed facility, the future calculated lifetime inhalation cancer risk is below MDH's lifetime excess cancer risk significance level of 1.E-05.

The excess cancer risk at the maximally impacted off site receptor would exceed MDH's lifetime excess cancer risk significance level if it were not for the reduction of chloroform emissions, and the subsequent decrease in the ambient air concentration of chloroform. Chloroform is responsible for 98.9% of the current excess cancer risk, which is currently 1.E-04. However, to meet the requirements of the Cluster Rule, the proposed project will change the mill's bleaching process to eliminate elemental chlorine gas bleaching, thereby reducing the release of chloroform to the air. The subsequent reduction of chloroform emissions will result in a future excess cancer risk of 9.E-06.

A summary of bounding estimate risk results is presented below. Target risk levels currently used in Minnesota are 1E-5 for excess cancer risk and 1 for non-cancer Hazard Index (HI).

Maximally Impacted Off site Receptor	HI Current Analysis	HI Future Analysis
Acute Hazard Index	0.8	0.5
Subchronic Hazard Index	0.9	0.7
Chronic Hazard Index	1.9	1.6
Excess Cancer Risk	1.E-04	9.E-06

U.S. Customs Station Receptor	HI Current Analysis	HI Future Analysis
Acute Hazard Index	0.4	0.3
Subchronic Hazard Index	0.1	0.09
Chronic Hazard Index	0.3	0.2
Excess Cancer Risk	6.E-06	7.E-07

C. ACUTE CHEMICALS WITH NON-CRITICAL UPPER RESPIRATORY ENDPOINTS

The upper respiratory hazard index (HI) represents the highest acute risk (0.45) from the future scenario. The acute upper respiratory endpoint increases slightly from the current to the future scenario.

Although the acute upper respiratory HI is still below the 1.0 significance level, MPCA requested further information with regard to acute respiratory effects. The MPCA identified five chemicals with known acute respiratory effects that were not included in the acute upper respiratory HI. These chemicals affect other toxic endpoints (e.g. organs or biological systems) at a lower concentration, and therefore, have no toxicity values for the acute upper respiratory endpoint. In general, toxicity values are associated with the critical endpoint (i.e., the endpoint where toxic effects are observed at the lowest concentration of the chemical). However, non-critical (less sensitive) endpoints may also be affected by the same chemical. Non-critical endpoints would be effected at a higher concentration of the chemical than the critical endpoint, therefore, non-critical endpoints would be associated with a higher toxicity value.

Since risk projections for non-critical endpoints are not included in the risk characterization of the ATR, only the six chemicals with acute upper respiratory toxicity values were included in the acute upper respiratory HI, although other COCs may cause acute upper respiratory effects. Five additional respiratory irritants (listed below) were not included in the acute upper respiratory HI because there was no toxicity value for the acute upper respiratory effect available from MDH or EPA.

The five chemicals that may have acute upper respiratory effects as a non-critical endpoint include chlorine dioxide, hydrogen sulfide, NO_x, acrolein, and phenol. These chemicals were evaluated in the ATR for other, more sensitive, acute effects as follows:

- Chlorine dioxide – lower respiratory endpoint (70 ug/m³)
- Hydrogen sulfide – developmental endpoint (90 ug/m³)
- Nitrogen oxides – lower respiratory endpoint (1,300 ug/m³)
- Acrolein – not evaluated as an acute toxin (evaluated on a subchronic and chronic basis for the upper respiratory critical endpoint)
- Phenol – not evaluated as an acute toxin (evaluated on a chronic basis for the upper respiratory critical endpoint)

Since acute health based inhalation toxicity values for the upper respiratory endpoint were not developed for these chemicals, the acute upper respiratory HI reported in the ATR may have been underestimated.

MPCA, therefore, requested that Boise Cascade perform a quantitative evaluation of acute upper respiratory effects that considered these five select chemicals. This analysis was provided for use in the risk management decision process only.

Since there were no readily available, MDH approved toxicity values to evaluate the acute effects of these chemicals on the upper respiratory system, Boise prepared the quantitative evaluation for acute upper respiratory effects using the critical end-point inhalation toxicity values (listed above) for chlorine dioxide, hydrogen sulfide, and nitrogen oxides, even though these toxicity values were developed to protect another toxic endpoint more sensitive than the upper respiratory system.

For acrolein and phenol, acute inhalation toxicity values developed for the MacMillan Bloedel OSB Mill risk assessment (Jeff Stevens & Associates, 1989) were used. At the maximally impacted receptor (#49), the acute upper respiratory HI (for the critical endpoint chemicals plus the five select non-critical endpoint chemicals) is 0.7 for both the future and the current scenarios.

For the U.S. Customs Station receptor #36, the same evaluation produces an acute upper respiratory HI (including the critical endpoint chemicals plus the five select non-critical endpoint chemicals) of 0.6 for both the future and the current scenarios.

Therefore this conservative quantitative evaluation produces results that are below the target risk level. It also shows that the upper respiratory impact (including both critical and select non-critical endpoint chemicals) at the maximally impacted receptor and at the U.S. Customs Station is about the same in the current and future scenarios.

D. EVALUATION OF CRITERIA POLLUTANTS

During the scoping process, MPCA requested that the ATR include a table of the results of criteria pollutant modeling at the receptors of peak risk impact, and show the endpoint and the ratio of the criteria pollutant ambient concentration to the federal or state ambient air quality standard. This table is included in the ATR. Since these results are not included in the hazard indices presented in the ATR, potential inhalation health risks associated with the respiratory system may be underestimated since most criteria pollutants affect the respiratory endpoint.

At MDH's direction, an evaluation of potential NO_x acute impacts was included in the acute HI since there is no federal or State 1-hour ambient air quality standard for NO_x. Regarding H₂S (for which there is a State ambient air quality standard), estimated risk is included in the acute HI for the developmental endpoint based on the MDH draft IHRV; H₂S impacts for the subchronic and chronic evaluations are included in the upper respiratory HI based on draft IHRV and IRIS toxicity values.

E. QUALITATIVE DISCUSSION OF CHEMICALS WITHOUT INHALATION TOXICITY VALUES

Boise Cascade performed a limited qualitative review of the 91 COPCs which could not be quantitatively evaluated in the ATR. Many chemicals that are expected to be emitted from the Mill have no inhalation toxicity values, and are therefore not included in the additive risk characterization of this ATR. It is possible that some chemicals emitted from the Mill have health effects but have no health-based inhalation toxicity values. The exclusion of these chemicals from the analysis may underestimate inhalation health risks to exposed individuals or populations.

Chemicals that may be emitted from the facility, but that have no inhalation toxicity values were categorized into one of several groups for the purpose of qualitative discussion of potential health impacts: 1) chemicals emitted in trace or small quantities; 2) incomplete combustion products; 3) particulate matter; 4) VOC; or 5) individual chemicals potentially emitted in quantities greater than 500 pounds per year.

1. Chemicals Emitted in Trace or Small Quantities.

Sixty-four of the 91 chemicals that have no health-based inhalation toxicity values are expected to be emitted in trace (less than ten pounds per year), and small (less than five-hundred pounds per year) quantities. Due to the quantities potentially emitted, these chemicals may not contribute significantly to health effects, unless they were found to have very low inhalation toxicity values.

2. Chemicals Emitted in Moderate or Large Quantities.

Twenty-seven of the 91 chemicals with no inhalation toxicity values are expected to be emitted in moderate (ranging from 500 to 5000 pounds per year), and large (greater than 5000 pounds per year) quantities. It is possible that health risks from this facility are underestimated in the ATR because these chemicals are not being evaluated quantitatively due to the absence of health-based inhalation toxicity values.

F. ACCEPTABILITY OF ATR INHALATION RISK FINDINGS

Incremental human health inhalation risks from the proposed facility have received adequate review by MPCA as part of the ATR. Results of the evaluation indicate that the proposed project will not result in unacceptable human health inhalation risks, and that a net beneficial trend of decreased potential inhalation risk will result from the proposed projects. However, since the scope of this ATR was limited to the inhalation pathway, the total potential risk from the project may be underestimated.

Attachment B-1
Summary of Technologies Considered for BACT Analysis for Recovery Furnace

<i>Process Equipment</i>	<i>Pollutant</i>	<i>Technology Considered</i>	<i>Comments</i>
Recovery Furnace	NO _x	Selective Catalytic Reduction (SCR)	Not technically or economically feasible. Particulate and acids in flue gas would poison catalyst. If catalyst were downstream of particulate control, then gas stream would need to be reheated. Cost effectiveness was calculated with the reheating; cost was \$29,700/ton, which is considered too high.
		Selective Noncatalytic Reduction (SNCR)	Not technically feasible. The technology requires injection of chemicals, which may interfere with process in recovery furnace which is particularly sensitive to chemical upset. The paper industry has recommended against this application because of explosion potential.
		Flue Gas Recirculation	Not technically feasible; has not been applied to recovery furnaces. Flue gases have high amount of particulate which results in erosion of fan blades and ductwork; also, may not be compatible with liquid fuel.
		Good Combustion Control	Considered BACT. BACT limit will be 80 ppmv and 94.5 lb/hr, on a 30-day rolling average
	CO and VOC	Thermal Oxidation	Technically feasible. Thermal oxidation results in increased NO _x emissions and high energy costs. Not considered BACT because cost effectiveness too high.
		Catalytic Oxidation	Not technically feasible. Particulate and acids in flue gas would poison catalyst. Has not been applied to recovery furnaces.
		Good Combustion Control	Considered BACT. BACT limit for CO is 600 ppmv and 430.9 lb/hr on a 24-hour average.

Recovery Furnace (continued)	SO ₂	Flue Gas Desulfurization (FGD)	Not technically feasible. The technology requires injection of chemicals, which may interfere with process in recovery furnace which is particularly sensitive to chemical upset. The paper industry has recommended against this application
		Caustic Scrubbers	Technically feasible. Cost effectiveness considered to be too high to be economically feasible.
		Good Combustion Control	Considered BACT. Emission limit on short-term basis will be 106.2 lb/hr on a 1-hour average, and will have an annual limit of 200 ton/yr based on a 12-month rolling average.
	TRS	Caustic Scrubbers	Technically feasible for removal of hydrogen sulfide and methyl mercaptan, but not other constituents of TRS (dimethyl sulfide and dimethyl disulfide). Not cost effective, however.
		Good Combustion Control	BACT. Emission limit will be 5 ppm, corrected to 8% oxygen, which is the same as the NSPS limit.
	PM/PM ₁₀	Baghouses	Not technically feasible. High moisture content and hydroscopic nature of particulate matter in exhaust gases would plug/bind bags.
		Electrostatic Precipitators (ESPs)	BACT. Existing ESP will continue to be used. Wet ESPs may have higher efficiency but are not technically feasible in International Falls due to weather. Emission limits will be: PM: 0.022 grains/dscf and 30.7 lb/hr. PM ₁₀ : 0.016 gr/dscf and 22.9 lb/hr.
		Scrubbers	Technically feasible, but not as effective as existing ESP.

Attachment B-2
Summary of Technologies Considered for BACT Analysis for Brownstock Washer System

<i>Process Equipment</i>	<i>Pollutant</i>	<i>Technology Considered</i>	<i>Comments</i>
Brownstock Washer System	TRS, VOC, SO ₂	<i>The technologies available for control would provide control for TRS and VOCs; these control options cause oxidation of the TRS, which results in increased SO₂. The brownstock washer system by itself is not a large source of SO₂. A scrubber for removal of SO₂ was considered as an additional part of the control system for some of the options considered.</i>	
		Regenerative Thermal Oxidizer (RTO)	Considered technically feasible, but not cost effective. Use of RTO requires consumption and combustion of natural gas. Would produce additional SO ₂ and NO _x emissions.
		RTO with scrubber	Technically feasible; scrubber would control SO ₂ . Not cost effective. Would produce additional NO _x emissions.
		Vent to existing power boiler #1	Technically feasible; not cost effective. Would produce additional SO ₂ emissions.
		Vent to existing power boiler #1; add scrubber	Technically feasible; scrubber would control SO ₂ . Not cost effective.
		Vent to existing power boiler #2	Technically feasible; not cost effective. Would produce additional SO ₂ emissions.
		Vent to existing lime kiln	Not technically feasible; the lime kiln does not have the capacity to handle the additional flow of the BSW system.
		Vent to existing recovery furnace	Not technically feasible. Incineration of the gases from the BSW system could potentially be a safety hazard and would interfere with the effectiveness of combustion control practices in the recovery furnace.
		Vent to flare	Technically feasible; not cost effective. Would produce additional SO ₂ and NO _x emissions.
		Vent to existing exhaust gas collection and stack system	This is the baseline case. Currently gases from the BSW system are collected and vented to the atmosphere through a 161-foot tall stack. This is considered BACT. The TRS limit will be 0.12 lb/ADTUP; the VOC limit will be 0.2 lb/ADTUP; the SO ₂ limit will be 0.01 lb/ADTUP.

Attachment B-3
Summary of Technologies Considered for BACT Analysis for Wood Processing Center

<i>Process Equipment</i>	<i>Pollutant</i>	<i>Technology Considered</i>	<i>Comments</i>
Wood Processing Center (Softwood Chip Line)	PM/PM ₁₀	Baghouses	Not technically feasible. High moisture content and cold weather would plug/bind bags.
		Wet Electrostatic Precipitators (ESPs)	Not technically feasible. Cold weather would create ice formation at and downstream of a wet ESP.
		ESPs	Not technically feasible. Due to nature of the particulate matter, there is a high potential for fire. Also, there is some ice formation potential.
		Scrubbers	Not technically feasible. Scrubbers would require water, which could freeze at various points in the system.
		Cyclones	BACT. A high efficiency cyclone will be used, and the PM limit will be 3 lb/hr, the PM ₁₀ limit will be 2.9 lb/hr.
		Drop Box	Technically feasible, but with lower efficiency than cyclones.

Attachment C-1
Summary of Top-Down BACT Impact Analysis for Recovery Furnace

Pollutant/ Emission Unit	Control Alternative	Emissions (tons/yr)	Emissions Reduction (tons/yr)	Total Annualized Cost (\$/yr)	Average Cost Effectiveness (\$/ton)	Toxic Impacts (Yes/No)	Adverse Environmental Impacts (Yes/No)	Energy Impacts - Increase over Baseline (MMBtu/yr)
CO and VOCs	Thermal Oxidation	20	2004	\$26,126,100	\$13,036	No	Yes	1,268,000
	Baseline	2024	--	--	--	--	--	--
SO ₂	Scrubber	10	190	\$1,001,173	\$5,269	No	No	--
	Baseline	200	--	--	--	--	--	--
TRS	Scrubber	4.1	16.4	\$1,001,173	\$61,047	No	No	--
	Baseline	20.5	--	--	--	--	--	--

Attachment C-2
Summary of Top-Down BACT Impact Analysis for Brownstock Washer

Pollutant/ Emission Unit	Control Alternative	Emissions (tons/yr)	Emissions Reduction (tons/yr)	Total Annualized Cost (\$/yr)	Average Cost Effectiveness (\$/ton)	Toxic Impacts (Yes/No)	Adverse Environmental Impacts (Yes/No)	Energy Impacts - Increase over Baseline (MMBtu/yr)
Total Reduced Sulfur	RTO & Scrubber	0.56	27.5	\$1,020,457	\$37,056	No	Yes	81,500
	RTO	0.56	27.5	\$830,069	\$30,143	No	Yes	81,500
	Power Boiler & Scrubber	0.56	27.5	\$1,615,439	\$58,662	No	No	--
	Power Boiler	0.56	27.5	\$702,642	\$25,515	No	Yes	--
	Flare	0.56	27.5	\$2,974,696	\$108,021	No	Yes	2,076,000
	Baseline	28.1	--	--	--	--	--	--
VOCs	RTO & Scrubber	1.6	78.3	\$1,020,457	\$13,032	No	Yes	81,500
	RTO	1.6	78.3	\$830,069	\$10,601	No	Yes	81,500
	Power Boiler & Scrubber	1.6	78.3	\$1,615,439	\$20,631	No	No	--
	Power Boiler	1.6	78.3	\$702,642	\$8,973	No	Yes	--
	Flare	1.6	78.3	\$2,974,696	\$37,990	No	Yes	2,076,000
	Baseline	79.9	--	--	--	--	--	--
Sulfur Dioxide	Baseline	2.17	--	--	--	--	--	--
	Power Boiler & Scrubber	2.59	-0.4	\$1,615,439	-\$3,829,764	No	No	--
	RTO & Scrubber	2.59	-0.4	\$1,020,457	-\$2,419,224	No	Yes	81,500
	Flare	51.84	-49.7	\$2,974,696	-\$59,894	No	Yes	2,076,000
	Power Boiler	51.84	-49.7	\$702,642	-\$14,147	No	Yes	--

	RTO	51.84	-49.7	\$830,069	-\$16,713	No	Yes	81,500
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