

**AIR EMISSION PERMIT NO. 07500019-006**

**IS ISSUED TO**

Louisiana-Pacific Corp

**LOUISIANA-PACIFIC CORP - TWO HARBORS**

711 25th Avenue

Two Harbors, Lake County, MN 55616

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	Issue Date	Action #
Total Facility Operating Permit Reissuance	December 15, 2003	June 5, 2007	005
Major Amendment	August 17, 2007	See Below	006

This permit supersedes permit 07500019-005 and authorizes the Permittee to operate the stationary source at the address listed above unless otherwise noted in Table A. The Permittee must comply with all the conditions of the permit. Any changes or modifications to the stationary source must be performed in compliance with Minn. R. 7007.1150 to 7007.1500. Terms used in the permit are as defined in the state air pollution control rules unless the term is explicitly defined in the permit.

**Permit Type:** Federal; Pt 70/Limits to Avoid NSR/Limits to Avoid Major Source Status under 40 CFR pt. 63

**Issue Date:** June 5, 2007

**Authorization to Construct and Operate Issue Date:** February 26, 2008

**Final Permit Amendment Issue Date:** March 11, 2008

**Expiration:** June 5, 2012  
Title I Conditions do not expire.

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Jeff J. Smith, Manager  
Air Quality Permits Section  
Industrial Division

for Brad Moore  
Commissioner  
Minnesota Pollution Control Agency

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**NOTICE TO THE PERMITTEE:**

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

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

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

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

**PERMIT SHIELD:**

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

## **FACILITY DESCRIPTION:**

The Louisiana-Pacific facility in Two Harbors, Minnesota is an oriented strand board manufacturing facility that produces structural panel used in various construction applications. This facility is situated on approximately 80 acres located in the Two Harbors Industrial Park and is identified by the Standard Industrial Classification Code 2493.

On May 18, 1984, the plant was issued its initial air emission facility permit to install and operate. In 1996 the total facility permit was revised to account for the addition of a Regenerative Thermal Oxidizer (RTO). The U.S. Environmental Protection Agency issued a Consent Decree to Louisiana-Pacific Corporation that required the Two Harbors oriented strand board plant to install an RTO. The Title V Air Permit Application was submitted March 1995. The facility is identified by the Standard Industrial Classification Code 2493.

The air emission units that exist at this plant consist of a rotary wood wafer dryer, two thermal oil heaters, one board press, twenty-two natural gas-fired paint drying ovens, painting operations, and wood waste handling operations.

The rotary wood wafer dryer exhaust is controlled by a Wet Electrostatic Precipitator (WESP) and the RTO. One thermal oil heater is controlled by a cyclone and a fabric filter. The second thermal oil heater, which is the back-up unit, is fueled by natural gas only and is not equipped with any control equipment. The board press emissions are partially captured and controlled through the wafer dryer, the WESP and the RTO. Emissions generated by the paint drying ovens are either controlled by the RTO or are uncontrolled. Particulate emissions from wood waste handling are controlled by fabric filters.

## **PERMIT ACTION 006 (MAJOR AMENDMENT)**

This permit amendment includes the addition of a spray booth (EU 036) to the existing Spray Coating/Drying Oven Operations (GP 002). The new booth will comply with the existing VOC and PM/PM<sub>10</sub> emission limits of 100, 20, and 20 tons per year, respectively, for the spray coating operations.

This amendment also includes the following changes:

- Changing the VOC emission limit on coating operations in GP 002 from a 365-day rolling sum to a 12-month rolling sum.
- Including a building control collection efficiency of 80 percent in the equation for calculating PM/PM<sub>10</sub> emissions specified in the permit for the captured emissions which vent to filters.
- Removing the airflow rate limit on GP001's RTO (CE 002).
- Correcting the maximum capacity for the wafer dryer (EU 001) to a line feed rate of 38 feet/minute of 7/16" product.
- Correcting the maximum capacities for the Board Press (EU 004) and Wood Handling Units (EU 005 - EU 007) to 17.04 tons finished product per hour.

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-1**

03/11/08

Facility Name: Louisiana-Pacific Corp - Two Harbors

Permit Number: 07500019 - 006

**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**

<b>What to do</b>	<b>Why to do it</b>
<b>TOTAL FACILITY LIMIT</b>	hdr
Materials Usage Limitation: Wood type processed at the facility shall be limited to a maximum of 10% by cord softwood (e.g. pine) as a fiscal monthly average. The remainder of the wood processed shall be aspen or other hardwood. The Permittee shall maintain weekly records of the type of wood processed. The records shall include the percent by cord of the amount of softwood processed as well as the total amount of wood processed. This data shall be compiled to determine the fiscal monthly total and average by the 15th of each month for the preceding fiscal month.  A fiscal month is normally 35 days for the first month, and 28 days for the second and third months of a given calendar quarter.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
<b>OPERATIONAL REQUIREMENTS</b>	hdr
Comply with Fugitive Emission Control Plan: The Permittee shall follow the actions and recordkeeping 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.	Minn. Stat. Section 116.07, subd. 4a; Minn. R. 7007.0100; Minn. R. 7007.0800, subp. 2; Minn. R. 7009.0020; Minn. R. 7011.0150
The Permittee shall comply and upon written request demonstrate compliance, with National Primary and Secondary Ambient Air Quality Standards, 40 CFR pt. 50, and the Minnesota Ambient Air Quality Standards, Minn. R. 7009.0010 to 7009.0080.	40 CFR pt. 50; Minn. Stat. Section 116.07, subds. 4a & 9; Minn. R. 7007.0100, subps. 7A, 7L, & 7M; Minn. R. 7007.0800, subps. 1, 2 & 4; Minn. R. 7009.0100 - 7009.0080
Circumvention: Do not install or use a device or means that conceals or dilutes emissions, which would otherwise violate a federal or state air pollution control rule, without reducing the total amount of pollutant emitted.	Minn. R. 7011.0020
Air Pollution Control Equipment: Operate all pollution control equipment whenever the corresponding process equipment and emission units are operated, unless otherwise noted in Table A.	Minn. R. 7007.0800, subps. 2 & 16(J)
Operation and Maintenance Plan: Retain at the stationary source an operation and maintenance plan for all air pollution control equipment. At a minimum, the O&M plan shall identify all air pollution control equipment and control practices and shall include a preventative maintenance program for the equipment and practices, a description of (the minimum but not necessarily the only) corrective actions to be taken to restore the equipment and practices to proper operation to meet applicable permit conditions, a description of the employee training program for proper operation and maintenance of the control equipment and practices, and the records kept to demonstrate plan implementation.	Minn. R. 7007.0800, subps. 14 & 16(J)
Operation Changes: In any shutdown, breakdown, or deviation the Permittee shall immediately take all practical steps to modify operations to reduce the emission of any regulated air pollutant. The Commissioner may require feasible and practical modifications in the operation to reduce emissions of air pollutants. No emissions units that have an unreasonable shutdown or breakdown frequency of process or control equipment shall be permitted to operate.	Minn. R. 7019.1000, subp. 4
Fugitive Emissions: Do not cause or permit the handling, use, transporting, or storage of any material in a manner which may allow avoidable amounts of particulate matter to become airborne. Comply with all other requirements listed in Minn. R. 7011.0150.	Minn. R. 7011.0150
Noise: The Permittee shall comply with the noise standards set forth in Minn. R. 7030.0010 to 7030.0080 at all times during the operation of any emission units. This is a state only requirement and is not enforceable by the EPA Administrator or citizens under the Clean Air Act.	Minn. R. 7030.0010 - 7030.0080
Inspections: The Permittee shall comply with the inspection procedures and requirements as found in Minn. R. 7007.0800, subp. 9(A).	Minn. R. 7007.0800, subp. 9(A)
The Permittee shall comply with the General Conditions listed in Minn. R. 7007.0800, subp. 16.	Minn. R. 7007.0800, subp. 16
<b>PERFORMANCE TESTING</b>	hdr

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

03/11/08

Facility Name: Louisiana-Pacific Corp - Two Harbors

Permit Number: 07500019 - 006

Performance Testing: Conduct all performance tests in accordance with Minn. R. ch. 7017.	Minn. R. ch. 7017
Performance Test Notifications and Submittals:  Performance Tests are due as outlined in Table A of the permit.  Performance Test Notification (written): due 30 days before each Performance Test Performance Test Plan: due 30 days before each Performance Test Performance Test Pre-test Meeting: due 7 days before each Performance Test Performance Test Report: due 45 days after each Performance Test Performance Test Report - CD Copy: due 105 days after each Performance Test  The Notification, Test Plan, and Test Report may be submitted in alternative format as allowed by Minn. R. 7017.2018.	Minn. R. 7017.2018; Minn. R. 7017.2030, subps. 1-4; Minn. R. 7017.2035, subps. 1-2
Limits set as a result of a performance test (conducted before or after permit issuance) apply until superseded as stated in the MPCA's Notice of Compliance letter granting preliminary approval. Preliminary approval is based on formal review of a subsequent performance test on the same unit as specified by Minn. R. 7017.2025, subp. 3. The limit is final upon issuance of a permit amendment incorporating the change.	Minn. R. 7017.2025
<b>MONITORING REQUIREMENTS</b>	hdr
Monitoring Equipment Calibration: Annually calibrate all required monitoring equipment (any requirements applying to continuous emission monitors are listed separately in this permit).	Minn. R. 7007.0800, subp. 4(D)
Operation of Monitoring Equipment: Unless otherwise noted in Tables A, and/or B, monitoring a process or control equipment connected to that process is not necessary during periods when the process is shutdown, or during checks of the monitoring systems, such as calibration checks and zero and span adjustments. If monitoring records are required, they should reflect any such periods of process shutdown or checks of the monitoring system.	Minn. R. 7007.0800, subp. 4(D)
<b>RECORDKEEPING</b>	hdr
Recordkeeping: Retain all records at the stationary source for a period of five (5) years from the date of monitoring, sample, measurement, or report. Records which must be retained at this location include all calibration and maintenance records, all original recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Records must conform to the requirements listed in Minn. R. 7007.0800, subp. 5(A).	Minn. R. 7007.0800, subp. 5(C)
Recordkeeping: Maintain records describing any insignificant modifications (as required by Minn. R. 7007.1250, subp. 3) or changes contravening permit terms (as required by Minn. R. 7007.1350 subp. 2), including records of the emissions resulting from those changes.	Minn. R. 7007.0800, subp. 5(B)
If the Permittee determines that no permit amendment or notification is required prior to making a change, the Permittee must retain records of all calculations required under Minn. R. 7007.1200. These records shall be kept for a period of five years from the date the change was made or until permit reissuance, whichever is longer. The records shall be kept at the stationary source for the current calendar year of operation and may be kept at the office of the stationary source for all other years. The records may be maintained in either electronic or paper format.	Minn. R. 7007.1200, subp. 4
Beginning September, 2007, calculate total facility single HAP emissions and total facility total HAP emissions by the 15th of each month for the previous month.  Actual emissions shall follow the methods and procedures in Minn. R. 7019.3030 - 7019.3100, including use of the most current version of AP-42 factors where stack emission test results are not available. For those sources where HAP emission testing has been performed, SV 001, SV 005, and SV 006, the results of stack emission testing shall be used. The factors to be used are the higher of the average of all tested emission factors that reflect current operations and permitted operating limits or the most recent test result.	Title I Condition: To avoid major source classification under 40 CFR Part 63
<b>REPORTING/SUBMITTALS</b>	hdr
Shutdown Notifications: Notify the Commissioner at least 24 hours in advance of a planned shutdown of any control equipment or process equipment if the shutdown would cause any increase in the emissions of any regulated air pollutant. If the owner or operator does not have advance knowledge of the shutdown, notification shall be made to the Commissioner as soon as possible after the shutdown. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 3.  At the time of notification, the owner or operator shall inform the Commissioner of the cause of the shutdown and the estimated duration. The owner or operator shall notify the Commissioner when the shutdown is over.	Minn. R. 7019.1000, subp. 3

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

03/11/08

Facility Name: Louisiana-Pacific Corp - Two Harbors

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Breakdown Notifications: Notify the Commissioner within 24 hours of a breakdown of more than one hour duration of any control equipment or process equipment if the breakdown causes any increase in the emissions of any regulated air pollutant. The 24-hour time period starts when the breakdown was discovered or reasonably should have been discovered by the owner or operator. However, notification is not required in the circumstances outlined in Items A, B and C of Minn. R. 7019.1000, subp. 2.  At the time of notification or as soon as possible thereafter, the owner or operator shall inform the Commissioner of the cause of the breakdown and the estimated duration. The owner or operator shall notify the Commissioner when the breakdown is over.	Minn. R. 7019.1000, subp. 2
Notification of Deviations Endangering Human Health or the Environment: As soon as possible after discovery, notify the Commissioner or the state duty officer, either orally or by facsimile, of any deviation from permit conditions which could endanger human health or the environment.	Minn. R. 7019.1000, subp. 1
Notification of Deviations Endangering Human Health or the Environment Report: Within 2 working days of discovery, notify the Commissioner in writing of any deviation from permit conditions which could endanger human health or the environment. Include the following information in this written description: 1. The cause of the deviation; 2. The exact dates of the period of the deviation, if the deviation has been corrected; 3. Whether or not the deviation has been corrected; 4. The anticipated time by which the deviation is expected to be corrected, if not yet corrected; and 5. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the deviation.	Minn. R. 7019.1000, subp. 1
Application for Permit Amendment: If a permit amendment is needed, submit an application in accordance with the requirements of Minn. R. 7007.1150-7007.1500. Submittal dates vary, depending on the type of amendment needed.	Minn. R. 7007.1150 - 7007.1500
Extension Requests: The Permittee may apply for an Administrative Amendment to extend a deadline in a permit by no more than 120 days, provided the proposed deadline extension meets the requirements of Minn. R. 7007.1400, subp. 1(H).	Minn. R. 7007.1400, subp. 1(H)
Emission Inventory Report: due on or before April 1 of each calendar year following permit issuance. To be submitted on a form approved by the Commissioner.	Minn. R. 7019.3000 - 7019.3100
Emission Fees: due 60 days after receipt of an MPCA bill.	Minn. R. 7002.0005 - 7002.0095

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

03/11/08

Facility Name: Louisiana-Pacific Corp - Two Harbors

Permit Number: 07500019 - 006

**Subject Item:** GP 001 Rotary Wood Wafer Dryer

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

CE 002 Direct Flame Afterburner w/Heat Exchanger

EU 001 Rotary Wood Wafer Dryer

EU 004 Board Press

SV 001 Rotary Wafer Dryer/RTO

SV 002 ESP Bypass

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 9.75 lbs/hour	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Particulate Matter < 10 micron: less than or equal to 9.75 lbs/hour	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
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)
Carbon Monoxide: less than or equal to 30.5 lbs/hour	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Volatile Organic Compounds: less than or equal to 9.04 lbs/hour	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
OPERATING CONDITIONS	hdr
Fuels Allowed: The Permittee shall only burn wood waste (may include board trim), natural gas, or propane in EU 001.	Minn. R. 7007.0800, subp. 2
Vent all emissions to a thermal oxidizer with a VOC and HAP control efficiency of 99% or greater.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and 40 CFR Part 63
Vent all emissions to an electrostatic precipitator with a PM/PM10 collection efficiency of 86% or greater.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
HAP CALCULATIONS	hdr
HAP Calculations: Total and Single HAPs shall be calculated by multiplying production rate by an approved emission factor. The emission factors shall be from approved performance tests for acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde. If emission factors available from testing are not available, and for all other HAPs, AP-42 emission factors shall be used. The Permittee may use other emission factors upon MPCA approval.	Title I Condition: To avoid major source classification under 40 CFR Part 63
Daily Recordkeeping. On each day of operation, the Permittee shall calculate, record, and maintain the total quantity of tons of finished product. This shall be based on written records.	Title I Condition: To avoid major source classification under 40 CFR Part 63; Minn. R. 7007.0800, subps. 4 & 5
POLLUTION CONTROL EQUIPMENT OPERATION AND MAINTENANCE	hdr
Pollution Control Equipment Operation, Monitoring and Recordkeeping: The Permittee shall maintain operation of the wet electrostatic precipitator (CE 001) and the regenerative thermal oxidizer (CE 002) associated with GP 001 whenever the dryer or board press are in operation. Once each day, while in operation, the Permittee shall monitor and record whether CE 001 is energized (electric current is being applied to the two T-R sets) and monitor and record the combustion chamber temperature of CE 002 as an hourly average. If CE 001 is not energized or if the combustion chamber temperature of CE 002 is less than the specified limit, take the corrective actions outlined in the O&M plan. Record all corrective actions taken upon completion of the action.	Minn. R. 7007.0800, subps. 4, 5, & 14 and 40 CFR Part 64
Temperature: greater than or equal to 1510 degrees F using 1-Hour Average at the Combustion Chamber unless a new minimum temperature is required set pursuant to Minn. R. 7017.2025, subp. 3. If a new minimum temperature is required to be set, it will be based on the average temperature recorded during the most recent MPCA approved performance test where compliance for VOC emissions was demonstrated. If the one hour average temperature drops below the minimum temperature limit, the VOC used during that time shall be considered uncontrolled until the minimum temperature limit is once again achieved. This shall be reported as a deviation.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and 40 CFR Part 64



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

03/11/08

Facility Name: Louisiana-Pacific Corp - Two Harbors

Permit Number: 07500019 - 006

The Permittee shall maintain a continuous hard copy readout or electronic file of the temperature readings and calculated hourly averages.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and 40 CFR Part 64
Quarterly Inspections: At least once per calendar quarter, the Permittee shall inspect the control equipment internal and external system components, including but not limited to the refractory, heat exchanger, and electrical systems. The Permittee shall maintain a written record of the inspection and any corrective actions taken resulting from the inspection.	Minn. R. 7007.0800, subps. 4, 5, & 14
Annual Calibration: The Permittee shall calibrate the temperature monitor at least annually and shall maintain a written record of the calibration and any action resulting from the calibration. Calibration can include verifying the accuracy through another thermocouple, and may result in replacement of the thermocouple.	Minn. R. 7007.0800, subps. 4, 5, & 14
PERFORMANCE TESTING	hdr
Performance Test: due before end of each 60 months starting 12/05/2005 for PM and PM10 emissions, and for Opacity.	Title I Condition: Minn. R. 7017.2020, subp. 1 and 40 CFR Part 64
Performance Test: due before end of each 60 months starting 12/05/2005 to measure NOx emissions.	Title I Condition: Minn. R. 7017.2020, subp. 1 and 40 CFR Part 64
Performance Test: due before end of each 60 months starting 12/05/2005 to measure CO emissions.	Title I Condition: Minn. R. 7017.2020, subp. 1 and 40 CFR Part 64
Performance Test: due before end of each 60 months starting 12/05/2005 to measure VOC emissions.	Title I Condition: Minn. R. 7017.2020, subp. 1 and 40 CFR Part 64
Performance Test: due before end of each calendar 36 months starting 04/26/2004 for HAP emissions. The specific HAPs to be tested are those defined in 40 CFR Section 63.2292 which are acetaldehyde, acrolein, formaldehyde, methanol, phenol and propionaldehyde.	Title I Condition: To avoid major source classification under 40 CFR Part 63

**TABLE A: LIMITS AND OTHER REQUIREMENTS****A-6**

03/11/08

Facility Name: Louisiana-Pacific Corp - Two Harbors

Permit Number: 07500019 - 006

**Subject Item: GP 002 Spray Coating/Drying Oven Operations****Associated Items:** CE 008 Panel Filter

CE 010 Panel Filter

EU 010 Coating Drying Oven, Lap &amp; Trim

EU 011 Coating Drying Oven, Lap &amp; Trim

EU 012 Coating Drying Oven, Lap &amp; Trim

EU 013 Coating Drying Oven, Lap &amp; Trim

EU 014 Coating Drying Oven, Lap &amp; Trim

EU 015 Coating Drying Oven, Lap &amp; Trim

EU 016 Coating Drying Oven, Lap &amp; Trim

EU 017 Coating Drying Oven, Lap &amp; Trim

EU 018 Coating Drying Oven, Lap &amp; Trim

EU 019 Coating Drying Oven, Lap &amp; Trim

EU 020 Coating Drying Oven, Lap &amp; Trim

EU 021 Coating Drying Oven, Lap &amp; Trim

EU 022 Coating Drying Oven, Lap &amp; Trim

EU 023 Coating Drying Oven, Lap &amp; Trim

EU 024 Coating Drying Oven, Lap &amp; Trim

EU 025 Coating Drying Oven, Lap &amp; Trim

EU 026 Coating Drying Oven, Lap &amp; Trim

EU 027 Coating Drying Oven, Lap &amp; Trim

EU 028 Coating Drying Oven, Lap &amp; Trim

EU 029 Coating Drying Oven, Narrow Trim

EU 034 Unit Spray Booth

EU 036 In-Line Spray Booth

SV 001 Rotary Wafer Dryer/RTO

SV 010 Lap Line Ovens Bypass

SV 011 Narrow Trim Line Oven Bypass

SV 016 Unit Spray Booth (vents indoors)

SV 018 In-Line Spray Booth (vents indoors)

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.30 grains/dry standard cubic foot of exhaust gas unless required to further reduce emissions to comply with the less stringent limit of either Minn. R. 7011.0730 or Minn. 7011.0735.	Minn. R. 7011.0715, subp. 1(A)
Total Particulate Matter: less than or equal to 20 tons/year using 12-month Rolling Sum	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Particulate Matter < 10 micron: less than or equal to 20 tons/year using 12-month Rolling Sum	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Opacity: less than or equal to 20 percent opacity	Minn. R. 7011.0715, subp. 1(B)
Volatile Organic Compounds: less than or equal to 100 tons/year using 12-month Rolling Sum	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
OPERATING LIMITS	hdr

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

03/11/08

Facility Name: Louisiana-Pacific Corp - Two Harbors

Permit Number: 07500019 - 006

Vent all emissions from the spray booths through panel filters with a capture efficiency of 80% and control efficiency of captured emissions of 92% efficiency. All panel filters shall vent indoors.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
POLLUTION CONTROL EQUIPMENT	hdr
Weekly Inspections: Once each week, the Permittee shall visually inspect the condition of each panel filter with respect to alignment, saturation, tears, holes and any other condition that may affect the filter's performance. The Permittee shall maintain a weekly written record of filter inspections.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and 40 CFR Part 64
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subps. 4, 5, & 14 and 40 CFR Part 64
Corrective Actions: If the filters or any of their components are found during the inspections to need repair, the Permittee shall take corrective action as soon as possible. Corrective actions shall include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O&M Plan for the filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter.	Minn. R. 7007.0800, subps. 4, 5, & 14 and 40 CFR Part 64
Operation and Maintenance of Filters: The Permittee shall operate and maintain each filter in accordance with the O&M Plan. The Permittee shall keep copies of the O&M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14 and 40 CFR Part 64
RECORDKEEPING	hdr
Recordkeeping: The Permittee shall maintain records of VOCs and TSP/PM-10 emitted on a monthly 12-month rolling sum basis. These records shall be kept every day. Specific records to be kept are the gallons of paint used per day, the VOC content of the paint, the solids content of the paint, and tons per year on a 12-month rolling sum basis of VOC and TSP/PM-10 emitted.  Emissions for the Edge Seal Spray Booths shall be calculated each month by the 15th of the month according to the following equations:  $E = 0.029 * ESG * \text{Density} * \text{Solids}$ $\text{Evoc} = \text{ESG} * \text{VOC}$ where; E = PM/PM10 emissions in pounds. Divide by 2000 to obtain emission in tons. Evoc = VOC emissions in pounds. Divide by 2000 to obtain emissions in tons. ESG = Edge Seal Gallons used during the previous month. VOC = lb VOC per gallon in the Edge Seal Density = density of the edge seal paint (lb/gal) Solids = the fraction of solids in the paint	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and 40 CFR Part 64
Material Content: VOC, HAPs, and Solids (PM and PM<10 microns) contents shall be determined by the Material Safety Data Sheet (MSDS) provided by the supplier or the product data specification sheet provided by the supplier for each material used. If a material content range is given on the MSDS or data sheet, the highest number in the range shall be used in all compliance calculations. Other alternative methods approved by the MPCA may be used to determine the VOC, HAPs, and solids contents. The Commissioner reserves the right to require the Permittee to determine the VOC, HAP, and solids contents of any material, according to EPA or ASTM reference methods. If an EPA or ASTM reference method is used for material content determination, the data obtained shall supersede the MSDS.	Minn. R. 7007.0800, subps. 4 & 5
OPERATIONAL FLEXIBILITY	hdr
The permittee is not required to vent emissions from the paint spraying and drying operations to CE 002.	Minn. R. 7007.0800, subp. 2

TABLE A: LIMITS AND OTHER REQUIREMENTS

Facility Name: Louisiana-Pacific Corp - Two Harbors  
Permit Number: 07500019 - 006

Subject Item: GP 004 Baghouse testing requirements

Associated Items: EU 005 Wood Waste Handling Operations 1  
EU 006 Wood Waste Handling Operations 2  
EU 007 Wood Waste Handling Operations 3  
EU 035 Wood Waste Handling Operations 4

What to do	Why to do it
Performance Test: due before end of each calendar 60 months starting 04/17/2007 for Particulate Matter, Particulate Matter less than 10 microns, and Opacity. Two baghouses, from EU 005, 006, 007 and 035, shall be tested every 5 years. The baghouses tested shall be the two baghouses not tested in the previous 5 years.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and 40 CFR Part 64

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

03/11/08

Facility Name: Louisiana-Pacific Corp - Two Harbors

Permit Number: 07500019 - 006

**Subject Item:** GP 005 HAP limits**Associated Items:** EU 001 Rotary Wood Wafer Dryer

EU 002 Thermal Oil Heater #1 (31 MMBtu/hr)

EU 004 Board Press

What to do	Why to do it
HAPs - Total: less than or equal to 22.5 tons/year using 12-month Rolling Sum to be calculated by the 15th day of each month for the previous 12-month period as described later in this permit.	Title I Condition: To avoid major source classification under 40 CFR Part 63
<p>Total HAPs Calculations:</p> <p>By the 15th of the month, the Permittee shall calculate and record the 12 month rolling sum Total HAP emissions for the previous 12 month period by summing the monthly Total HAP emissions data for the previous 12 months. The Total HAP emissions shall be calculated by adding Total HAPs from EU 001, EU 002, EU 004 (as described in GP 001, EU 002 and EU 004 in this permit).</p> <p>The limit for the first twelve months shall be calculated as follows:</p> <p>Total HAPs = <math>3.38 + [(22.5 - 3.38) / 12] * (n - 1)</math></p> <p>where: n = number of months</p>	Title I Condition: To avoid major source classification under 40 CFR Part 63
HAP-Single: less than or equal to 9 tons/year using 12-month Rolling Sum to be calculated by the 15th day of each month for the previous 12-month period as described later in this permit.	Title I Condition: To avoid major source classification under 40 CFR Part 63
<p>Single HAPs Calculations:</p> <p>By the 15th of the month, the Permittee shall calculate and record the 12 month rolling sum Single HAP emissions for the previous 12 month period by summing the monthly Single HAP emissions data for the previous 12 months. The Single HAP emissions shall be calculated by adding Single HAPs from EU 001, EU 002, EU 004 (as described in GP 001, EU 002 and EU 004 in this permit).</p> <p>The limit for the first twelve months shall be calculated as follows:</p> <p>Single HAPs = <math>1.35 + [(9 - 1.35) / 12] * (n - 1)</math></p> <p>where: n = number of months</p>	Title I Condition: To avoid major source classification under 40 CFR Part 63

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

03/11/08

Facility Name: Louisiana-Pacific Corp - Two Harbors

Permit Number: 07500019 - 006

**Subject Item:** EU 002 Thermal Oil Heater #1 (31 MMBtu/hr)**Associated Items:** CE 004 Fabric Filter - High Temperature, i.e., T>250 Degrees F

CE 011 Centrifugal Collector - High Efficiency

GP 005 HAP limits

SV 003 Thermal Oil Heater #1

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 0.4 lbs/million Btu heat input	Minn. R. 7011.0515, subp. 1
Opacity: less than or equal to 20 percent opacity except for one six-minute period per hour of not more than 60 percent opacity.	Minn. R. 7011.0515, subp. 2
OPERATING LIMITS	hdr
Fuel Usage: less than or equal to 3270 lbs/hour using 12-hour Average (block average) of Fuels Allowed as described in the following requirement. Divide total weight by total operating time in each twelve-hour block. Downtime of 15 or more minutes is not to be included as operating time.	Minn. R. 7017.2025, subp. 3
Fuels Allowed: The Permittee shall only combust the following fuels in EU 002: wood waste (which may include material from the blending system, solids from the drying system removed by CE 001, board trim, and wood fiber from press plate cleaning), on-site generated waste (which may include waste latex paint, used oil, cardboard and paper waste, soiled rags, and combustible absorbent materials from oil, anti-freeze, water-based paint, and water or soy based ink spills). Incremental addition of on-site generated waste fuels shall be done such that combustion conditions are not upset.	Minn. R. 7007.0800, subp. 2
Vent all emissions to a baghouse with a collection efficiency of 99% of PM and PM10. The Permittee shall operate and maintain the fabric filter at all times that any emission unit controlled by the fabric filter is in operation. The Permittee shall document periods of non-operation of the control equipment.	Minn. R. 7007.0800, subps. 2 & 14
HAP CALCULATIONS	hdr
HAP Calculations: Total and Single HAPs shall be calculated by multiplying production rate by an approved emission factor. AP-42 emission factors shall be used. The Permittee may use other emission factors upon MPCA approval.	Title I Condition: To avoid major source classification under 40 CFR Part 63
Daily Recordkeeping. On each day of operation, the Permittee shall calculate, record, and maintain the total quantity of fuel combusted. This shall be based on written records.	Title I Condition: To avoid major source classification under 40 CFR Part 63; Minn. R. 7007.0800, subps. 4 & 5
POLLUTION CONTROL EQUIPMENT	hdr
Maintain pressure drop across the baghouse between 1 and 13 inches of water column, unless a new range is required to be set pursuant to Minn. R. 7017.2025, subp. 3. If a new range is required to be set, it will be based on the values recorded during the most recent MPCA approved performance test where compliance was demonstrated. The Permittee shall record the pressure drop once every 24 hours when in operation.	Minn. R. 7007.0800, subp. 2
Recordkeeping of Pressure Drop. The Permittee shall record the time and date of each pressure drop reading and whether or not the recorded pressure drop was within the range specified in this permit.	Minn. R. 7007.0800, subp. 4
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur:  - Visible emissions are observed; - The recorded pressure drop is outside the required operating range; or - The fabric filter or any of its components are found during the inspections to need repair.  Corrective actions shall return the pressure drop to within the permitted range, eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O&M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter.	Minn. R. 7007.0800, subps. 4, 5, & 14

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

03/11/08

Facility Name: Louisiana-Pacific Corp - Two Harbors

Permit Number: 07500019 - 006

Monitoring Equipment: The Permittee shall install and maintain the necessary monitoring equipment for measuring and recording pressure drop as required by this permit. The monitoring equipment must be installed, in use, and properly maintained when the monitored fabric filter is in operation.	Minn. R. 7007.0800, subp. 4
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subps. 4, 5, & 14
The Permittee shall operate and maintain the fabric filter in accordance with the O&M Plan. The Permittee shall keep copies of the O&M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14
RECORDKEEPING AND REPORTING	hdr
Recordkeeping: The Permittee shall keep records of the type and quantity of fuel combusted in EU 002 based on a 12-hour block average.  Divide total weight by total operating time in each twelve-hour block. Downtime of 15 or more minutes is not to be included as operating time.	Minn. R. 7007.0800, subp. 5
PERFORMANCE TESTING	hdr
Performance Test: due before end of each calendar 60 months starting 03/02/2004 to measure Total Particulate Matter and Opacity emissions.	Minn. R. 7017.2020. subp. 1

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

03/11/08

Facility Name: Louisiana-Pacific Corp - Two Harbors

Permit Number: 07500019 - 006

**Subject Item:** EU 003 Thermal Oil Heater #2 (25 MMBtu/hr)**Associated Items:** SV 004 Thermal Oil Heater #2

What to do	Why to do it
Fuels Allowed: The Permittee shall only combust natural gas in EU 003.	Minn. R. 7007.0800, subp. 2
Recordkeeping: The Permittee shall maintain records of the amount of natural gas combusted in EU 003 each month the unit is operated.	40 CFR Section 60.48c(g)



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

03/11/08

Facility Name: Louisiana-Pacific Corp - Two Harbors

Permit Number: 07500019 - 006

**Subject Item: EU 004 Board Press****Associated Items:** GP 001 Rotary Wood Wafer Dryer

GP 005 HAP limits

MR 007 Large Fan Amp Meter

MR 008 Small Fan Amp Meter

SV 001 Rotary Wafer Dryer/RTO

SV 005 Board Press

SV 006 Board Press

What to do	Why to do it
<b>EMISSION LIMITS</b>	hdr
Total Particulate Matter: less than or equal to 7.03 lbs/hour	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Particulate Matter < 10 micron: less than or equal to 7.03 lbs/hour	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000
Total Particulate Matter: less than or equal to 0.30 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)
<b>OPERATING CONDITIONS</b>	hdr
Maintain the vented platens system, consisting of equipment to capture gases generated by the board press and routing gases captured by the press platens and fume hood to the wafer dryer for emissions control.  A correlation shall be developed between the power meter for the two vented platen fans while press emissions are vented to the wafer dryer by measuring the flow rate to the wafer dryer from the platens and fume hood, along with HAP emissions from SV 005 and SV 006 during the test. Following the performance testing an application for a major amendment to the permit will be submitted that specifies fan power, and a compliance demonstration method for the power monitoring and measurement.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and 40 CFR Part 63
<b>HAP CALCULATIONS</b>	hdr
HAP Calculations: Total and Single HAPs shall be calculated by multiplying production rate by an approved emission factor. The emission factors shall be from the approved performance tests for acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde. If emission factors from testing are not available, and for all other HAPs, AP-42 emission factors shall be used. The Permittee may use other emission factors upon MPCA approval.	Title I Condition: To avoid major source classification under 40 CFR Part 63
Daily Recordkeeping: On each day of operation, the Permittee shall calculate, record, and maintain the total quantity of tons of finished product from the press. This shall be based on written records.	Title I Condition: To avoid major source classification under 40 CFR Part 63; Minn. R. 7007.0800, subps. 4 & 5
<b>MONITORING</b>	hdr
Monitor power rate from the vented platen fan by motor amperage meters and monitor hours of operation for the board press.  As stated above, submit a compliance demonstration plan as a major permit amendment following the performance testing specified below.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and 40 CFR Part 63; 40 CFR Part 64
<b>PERFORMANCE TESTING</b>	hdr
Performance Test: due before end of each calendar 36 months starting 04/19/2007 for HAP emissions. Specific HAPs to be tested are those defined in 40 CFR Section 63.2292, which are acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000 and 40 CFR Part 63; Minn. R. 7017.2020. subp. 1
Performance Test: due before end of each 60 months starting 12/05/2005 for Particulate Matter, Particulate Matter less than 10 microns, and Opacity.	Title I Condition: To avoid major source classification under 40 CFR Section 52.21 and Minn. R. 7007.3000; Minn. R. 7017.2020. subp. 1

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

03/11/08

Facility Name: Louisiana-Pacific Corp - Two Harbors

Permit Number: 07500019 - 006

**Subject Item:** EU 005 Wood Waste Handling Operations 1**Associated Items:** CE 005 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

GP 004 Baghouse testing requirements

SV 007 Wood Waste Handling 1

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 4.80 lbs/hour	Title I Condition: 40 CFR Section 52.21 to remain a non-major source
Particulate Matter < 10 micron: less than or equal to 4.80 lbs/hour	Title I Condition: 40 CFR Section 52.21 to remain a non-major source
Total Particulate Matter: less than or equal to 0.30 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)
POLLUTION CONTROL EQUIPMENT	hdr
Pollution Control Equipment Requirements: The Permittee shall vent all emissions to a fabric filter with a control efficiency of 99% for PM and PM10.	Title I Condition: To avoid major source status under 40 CFR Section 52.21 and Minn. R. 7007.3000
MONITORING AND RECORDKEEPING	hdr
Visible Emissions: The Permittee shall check the fabric filter stack for any visible emissions once each day of operation during daylight hours. During inclement weather, the Permittee shall read and record the pressure drop across the fabric filter once each day of operation to verify that it is within manufacturer's specifications. The observer is not required to be Method 9 certified.	Title I Condition: To avoid major source status under 40 CFR Section 52.21 and Minn. R. 7007.3000; 40 CFR Part 64
Recordkeeping of Visible Emissions: The Permittee shall record the time and date of each visible emission inspection, and whether or not any visible emissions were observed.	Minn. R. 7007.0800, subp. 4 and 40 CFR Part 64
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur:  - Visible emissions are observed; or - The fabric filter or any of its components are found during the inspections to need repair.  Corrective actions shall eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O&M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter.	Minn. R. 7007.0800, subps. 4, 5, & 14
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subps. 4, 5, & 14 and 40 CFR Part 64
The Permittee shall operate and maintain the fabric filter in accordance with the O&M Plan. The Permittee shall keep copies of the O&M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14 and 40 CFR Part 64

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

03/11/08

Facility Name: Louisiana-Pacific Corp - Two Harbors

Permit Number: 07500019 - 006

**Subject Item:** EU 006 Wood Waste Handling Operations 2**Associated Items:** CE 006 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

GP 004 Baghouse testing requirements

SV 008 Wood Waste Handling 2

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 3.08 lbs/hour	Title I Condition: 40 CFR Section 52.21 to remain a non-major source
Particulate Matter < 10 micron: less than or equal to 3.08 lbs/hour	Title I Condition: 40 CFR Section 52.21 to remain a non-major source
Total Particulate Matter: less than or equal to 0.30 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)
POLLUTION CONTROL EQUIPMENT	hdr
Pollution Control Equipment Requirements: The Permittee shall vent all emissions to a fabric filter with a control efficiency of 99% for PM and PM10.	Title I Condition: To avoid major source status under 40 CFR Section 52.21 and Minn. R. 7007.3000
MONITORING AND RECORDKEEPING	hdr
Visible Emissions: The Permittee shall check the fabric filter stack for any visible emissions once each day of operation during daylight hours. During inclement weather, the Permittee shall read and record the pressure drop across the fabric filter once each day of operation to verify that it is within manufacturer's specifications. The observer is not required to be Method 9 certified.	Title I Condition: To avoid major source status under 40 CFR Section 52.21 and Minn. R. 7007.3000; 40 CFR Part 64
Recordkeeping of Visible Emissions: The Permittee shall record the time and date of each visible emission inspection, and whether or not any visible emissions were observed.	Minn. R. 7007.0800, subp. 4 and 40 CFR Part 64
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur:  - Visible emissions are observed; or - The fabric filter or any of its components are found during the inspections to need repair.  Corrective actions shall eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O&M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter.	Minn. R. 7007.0800, subps. 4, 5, & 14
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subps. 4, 5, & 14 and 40 CFR Part 64
The Permittee shall operate and maintain the fabric filter in accordance with the O&M Plan. The Permittee shall keep copies of the O&M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14 and 40 CFR Part 64

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

03/11/08

Facility Name: Louisiana-Pacific Corp - Two Harbors

Permit Number: 07500019 - 006

**Subject Item:** EU 007 Wood Waste Handling Operations 3**Associated Items:** CE 009 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

GP 004 Baghouse testing requirements

SV 009 Wood Waste Handling 3

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 6.86 lbs/hour	Title I Condition: 40 CFR Section 52.21 to remain a non-major source
Particulate Matter < 10 micron: less than or equal to 6.86 lbs/hour	Title I Condition: 40 CFR Section 52.21 to remain a non-major source
Total Particulate Matter: less than or equal to 0.30 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)
POLLUTION CONTROL EQUIPMENT	hdr
Pollution Control Equipment Requirements: The Permittee shall vent all emissions to a fabric filter with a control efficiency of 99% for PM and PM10.	Title I Condition: To avoid major source status under 40 CFR Section 52.21 and Minn. R. 7007.3000
MONITORING AND RECORDKEEPING	hdr
Visible Emissions: The Permittee shall check the fabric filter stack for any visible emissions once each day of operation during daylight hours. During inclement weather, the Permittee shall read and record the pressure drop across the fabric filter once each day of operation to verify that it is within manufacturer's specifications. The observer is not required to be Method 9 certified.	Title I Condition: To avoid major source status under 40 CFR Section 52.21 and Minn. R. 7007.3000; 40 CFR Part 64
Recordkeeping of Visible Emissions: The Permittee shall record the time and date of each visible emission inspection, and whether or not any visible emissions were observed.	Minn. R. 7007.0800, subp. 4 and 40 CFR Part 64
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur:  - Visible emissions are observed; or - The fabric filter or any of its components are found during the inspections to need repair.  Corrective actions shall eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O&M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter.	Minn. R. 7007.0800, subps. 4, 5, & 14
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subps. 4, 5, & 14 and 40 CFR Part 64
The Permittee shall operate and maintain the fabric filter in accordance with the O&M Plan. The Permittee shall keep copies of the O&M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14 and 40 CFR Part 64

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

03/11/08

Facility Name: Louisiana-Pacific Corp - Two Harbors

Permit Number: 07500019 - 006

**Subject Item:** EU 035 Wood Waste Handling Operations 4**Associated Items:** CE 007 Fabric Filter - Low Temperature, i.e., T<180 Degrees F

GP 004 Baghouse testing requirements

SV 017 Wood Waste Handling 4

What to do	Why to do it
EMISSION LIMITS	hdr
Total Particulate Matter: less than or equal to 3.9 lbs/hour	Title I Condition: 40 CFR Section 52.21 to remain a non-major source
Particulate Matter < 10 micron: less than or equal to 3.9 lbs/hour	Title I Condition: 40 CFR Section 52.21 to remain a non-major source
Total Particulate Matter: less than or equal to 0.30 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)
POLLUTION CONTROL EQUIPMENT	hdr
Pollution Control Equipment Requirements: The Permittee shall vent all emissions to a fabric filter with a control efficiency of 99% for PM and PM10.	Title I Condition: To avoid major source status under 40 CFR Section 52.21 and Minn. R. 7007.3000
MONITORING AND RECORDKEEPING	hdr
Visible Emissions: The Permittee shall check the fabric filter stack for any visible emissions once each day of operation during daylight hours. During inclement weather, the Permittee shall read and record the pressure drop across the fabric filter once each day of operation to verify that it is within manufacturer's specifications. The observer is not required to be Method 9 certified.	Title I Condition: To avoid major source status under 40 CFR Section 52.21 and Minn. R. 7007.3000; 40 CFR Part 64
Recordkeeping of Visible Emissions: The Permittee shall record the time and date of each visible emission inspection, and whether or not any visible emissions were observed.	Minn. R. 7007.0800, subp. 4 and 40 CFR Part 64
Corrective Actions: The Permittee shall take corrective action as soon as possible if any of the following occur:  - Visible emissions are observed; or - The fabric filter or any of its components are found during the inspections to need repair.  Corrective actions shall eliminate visible emissions, and/or include completion of necessary repairs identified during the inspection, as applicable. Corrective actions include, but are not limited to, those outlined in the O&M Plan for the fabric filter. The Permittee shall keep a record of the type and date of any corrective action taken for each filter.	Minn. R. 7007.0800, subps. 4, 5, & 14
Periodic Inspections: At least once per calendar quarter, or more frequently as required by the manufacturing specifications, the Permittee shall inspect the control equipment components. The Permittee shall maintain a written record of these inspections.	Minn. R. 7007.0800, subps. 4, 5, & 14 and 40 CFR Part 64
The Permittee shall operate and maintain the fabric filter in accordance with the O&M Plan. The Permittee shall keep copies of the O&M Plan available onsite for use by staff and MPCA staff.	Minn. R. 7007.0800, subp. 14 and 40 CFR Part 64

## TABLE B: SUBMITTALS

B-1 03/11/08

Facility Name: Louisiana-Pacific Corp - Two Harbors  
Permit Number: 07500019 - 006

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.

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 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 any application for a permit or permit amendment to:

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

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

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

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

TABLE B: ONE TIME SUBMITTALS OR NOTIFICATIONS

Facility Name: Louisiana-Pacific Corp - Two Harbors  
Permit Number: 07500019 - 006

What to send	When to send	Portion of Facility Affected
Application for Permit Reissuance	due 180 days before expiration of Existing Permit	Total Facility

**TABLE B: RECURRENT SUBMITTALS****B-3** 03/11/08

Facility Name: Louisiana-Pacific Corp - Two Harbors

Permit Number: 07500019 - 006

What to send	When to send	Portion of Facility Affected
Semiannual Deviations Report	due 30 days after end of each calendar half-year starting 06/05/2007. The first semiannual report submitted by the Permittee shall cover the calendar half-year in which the permit is issued. The first report of each calendar year covers January 1 - June 30. The second report of each calendar year covers July 1 - December 31. If no deviations have occurred, the Permittee shall submit the report stating no deviations.	Total Facility
Compliance Certification	due 30 days after end of each calendar year starting 06/05/2007 (for the previous calendar year). To be submitted on a form approved by the Commissioner, both to the Commissioner and to the US EPA regional office in Chicago. This report covers all deviations experienced during the calendar year.	Total Facility



**APPENDIX A****Insignificant Activities Required to be Listed**

Facility Name: Louisiana-Pacific Corp – Two Harbors

Permit Number: 07500019-006

<b>Emission Unit</b>	<b>Insignificant Applicability</b>	<b>Applicable Performance Standard</b>
Natural gas space heaters (2)	Minn. R. 7007.1300(3)(A)	Minn. R. 7011.0510-.0515
Laboratory activities	Minn. R. 7007.1300(3)(G)	
Brazing, soldering, and welding equipment	Minn. R. 7007.1300(3)(H)(3)	Minn. R. 7011.0610
Equipment used for melting wax	Minn. R. 7007.1300(3)(H)(5)	Minn. R. 7011.0610
Fugitive emissions from roads and parking lots	Minn. R. 7007.1300(3)(J)	Minn. R. 7011.0150
Debarking operation	Minn. R. 7007.1300(4)	Minn. R. 7011.0715
Bark Pile	Minn. R. 7007.1300(4)	Minn. R. 7011.0150
Wafer Pile	Minn. R. 7007.1300(4)	Minn. R. 7011.0150
Ash handling, storage and disposal	Minn. R. 7007.1300(4)	Minn. R. 7011.0150
Parts cleaning stations	Minn. R. 7007.1300(4)	
Use of cleaning solvents	Minn. R. 7007.1300(4)	
Organic liquid storage tanks (resin, wax emulsion, low VOC paint, thermal oil)	Minn. R. 7007.1300(4)	
Dry fuel preparation system	Minn. R. 7007.1300(4)	Minn. R. 7011.0150
Emergency diesel pump	Minn. R. 7007.1300(4)	Minn. R. 7011.2300
Steam cleaner, gas fired	Minn. R. 7007.1300(4)	Minn. R. 7011.0510-.0515
Steam cleaner, oil fired	Minn. R. 7007.1300(4)	Minn. R. 7011.0510-.0515
Fines Storage Silo Bin Vent	Minn. R. 7007.1300 (3)(I)(2)	Minn. R. 7011.0715
Fines Metering Bin Vent	Minn. R. 7007.1300 (3)(I)(2)	Minn. R. 7011.0715

**TECHNICAL SUPPORT DOCUMENT**  
**For**  
**AIR EMISSION PERMIT NO. 07500019-006**

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

**1. General Information**

**1.1 Applicant and Stationary Source Location:**

Applicant/Address	Stationary Source/Address (SIC Code: <b>2493</b> )
Louisiana-Pacific Corporation, Two Harbor 711 25 <sup>th</sup> Avenue, P.O. Box P Two Harbors, MN 55616	711 25th Avenue Two Harbors Lake County
Contact: Ms. Barbara Hamilton	Phone: 218-834-5652

**1.2 Description of the Facility**

The Louisiana-Pacific facility in Two Harbors, Minnesota is an oriented strand board manufacturing facility that produces structural panels used in various construction applications. This facility is situated on approximately 80 acres located in the Two Harbors Industrial Park and is identified by the Standard Industrial Classification Code 2493.

On May 18, 1984, the plant was issued its initial air emission facility permit to install and operate. In 1996 the total facility permit was revised to account for the addition of a Regenerative Thermal Oxidizer (RTO). U.S. Environmental Protection Agency (EPA) issued a Consent Decree to Louisiana-Pacific Corporation that required the Two Harbors oriented strand board plant to install an RTO. The Title V Air Permit Application was submitted March 1995.

The air emission units that exist at this plant consist of a rotary wood wafer dryer, two thermal oil heaters, one board press, twenty-two natural gas-fired paint drying ovens, painting operations, and wood waste handling operations.

The rotary wood wafer dryer exhaust is controlled by a Wet Electrostatic Precipitator (WESP) and the RTO. One thermal oil heater is controlled by a cyclone and a fabric filter. The second thermal oil heater, which is the back-up unit, is fueled by natural gas only and is not equipped with any control equipment. The board press emissions are partially captured and controlled through the wafer dryer, the WESP and the RTO. Emissions generated by the paint drying ovens are either controlled by the RTO or are uncontrolled. Particulate emissions from wood waste handling are controlled by fabric filters.

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

This permit action is a major amendment to allow the Louisiana-Pacific Corporation to add a new in-line spray booth (EU 036) to the existing spray coating/drying operations (GP 002). This new unit will be controlled by a panel filter (CE 010), which will vent indoors (SV 018). The new booth will be used for the same edge coating as currently being performed by the Unit Spray Booth (EU 034). Therefore, this modification will not increase the throughput rate of the existing finishing line. The potential to emit from the spray coating operations is currently limited to less than 20 tons per year for PM/PM<sub>10</sub> and less than 100 tons per year for VOC, which were established as Title I Conditions to avoid PSD major source classification under 40 CFR §52.21. The VOC and PM/PM<sub>10</sub> emission limits for the spray coating operations, including booths EU 034 and EU 036, will remain unchanged after this modification. Therefore, the potential to emit from the entire facility remains the same. This permit action also incorporates the monitoring scenario as required by EU 004 of their permit.

In addition, Louisiana-Pacific also requested the following changes be made to the current Part 70 permit:

- (a) Revise the VOC emission limit for the spray coating operations from a 365-day rolling sum to a 12-month rolling sum.
- (b) Include a building control collection efficiency of 80% in the equation for calculating PM/PM<sub>10</sub> emissions specified in the permit for the captured emissions which vent to filters. The Permittee stated that both the existing booth EU 034 and the new booth EU 036 vent indoors.
- (c) Revise the recordkeeping requirements in GP 002 of the permit to specify Calculation of "Edge Seal" Spray Booth Emissions.
- (d) Incorporate the changes allowed in the letters from MPCA to the Permittee dated April 20, 2007 and followed up with on June 20, 2007. These changes include:
  - (1) Removing the airflow rate limit on GP 001's RTO (CE 002).
  - (2) Correcting the maximum capacity of the wafer dryer (EU 001) from 17.04 tons of finished product/hour to a line feed rate of 38 feet/minute of 7/16" product.
  - (3) Correcting the maximum capacities of the Board Press (EU 004) and Wood Handling Units (EU 005 – EU 007) from 600 feet/minute to 17.04 tons finished product per hour.
- (e) Replacement of control equipment based on a notification submitted Aug 2007. The new multi-Cyclone dust collector is CE 011.

MPCA has determined that the above requested changes are acceptable and the permit will be revised as requested. Since there is only one type of coating (edge seal, water based) used in both booths EU 034 and EU 036, monthly recordkeeping and 12-month rolling sum is sufficient to demonstrate compliance with the VOC emission limit. In order to include the 80% building collection efficiency in the equation for PM/PM<sub>10</sub> emission calculations, a new operating condition will be added to require venting the exhausts from booths EU 034 and EU 036 indoors. The stacks for the booths are also labeled as venting indoors for inspection purposes. Changes to the maximum capacity for the existing units EU 001, EU 004 – EU 007 were made based on the letter from MPCA to the facility dated June 20, 2007.

## 1.4 Facility Emissions:

### Non-Title I Emissions Increase Summary

There are no emission increases allowed by this permit issuance.

**Table 1. Total Facility Potential to Emit Summary (tpy)**

	PM	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC	Single HAP	All HAPs
Total Facility Limited Potential Emissions	231	231	4.71	146	237	146	5.94	22.5
Total Facility Actual Emissions (2004)	14.5	8.75	1.17	38.2	76.4	8.90	HAPs not reported in emission inventory	

**Table 2. Facility Classification**

Classification	Major/Affected Source	Synthetic Minor	Minor
PSD		X	
Part 70 Permit Program	X		
Part 63 NESHAP		X	

## 2. Regulatory and/or Statutory Basis

### New Source Review

None of the changes proposed are subject to new source review.

### Part 70 Permit Program

The facility is a major source under the Part 70 Permitting Program.

### New Source Performance Standards (NSPS)

None of the changes proposed are subject to new source performance standards.

### National Emission Standards for Hazardous Air Pollutants (NESHAP)

The HAP emissions from this existing facility are limited to be less than 10 tons per year for a single HAP and less than 25 tons per year for total HAPs. Therefore, this facility is a synthetic minor source for HAPs. This facility will comply with the same HAP emission limits after this modification.

### Minnesota State Rules

The new spray booth (EU 036) is subject to the following Minnesota Standards of Performance:

- Minn. R. 7011.0715 Standards of Performance for Post-1969 Industrial Process Equipment

### CAM Requirements

The new spray booth EU 036 is subject to CAM requirements because the potential emissions for this unit are greater than the Part 70 major source threshold and the source will use control equipment to meet the emission limits. However, since the new spray booth EU 036 is not considered a large pollutant specific emission unit, the Permittee will submit the CAM plan for this unit when applying for reissuance of their existing Part 70 permit (40 CFR § 64.5(b)).

### 3. Technical Information

#### 3.1 Calculations of Potential to Emit

The emission calculations for the entire facility, including the new spray booth EU 036, are attached as Attachment 2. The emission calculations for the existing booth EU 034 has been revised based on the new water based paint used at this booth and the updated equation for calculating the PM/PM<sub>10</sub> emissions that has been included in the permit as part of this amendment. The PTE of the entire facility remains the same since the existing PM/PM<sub>10</sub> and VOC emission limits for the spray coating operations will apply to the new booth EU 036 as well.

An error found in the calculations done for the reissuance was corrected. The true limited potential for total HAPs at the facility is 23.9 tpy, the facility will keep records of their HAP calculations to show they stay under their limit of 22.5 tpy.

The formula that was used to calculate PM/PM<sub>10</sub> emissions for the Spray Booths found in GP 002 was corrected to include the building collection efficiency for the exhausts from the filters.

Old Equation:

$$E = ESG * [10.2 * 0.53 * (1 - 0.45) * (0.8) * (1 - 0.92)] + ESG * [10.2 * 0.53 * (1 - 0.45) * (0.2)] * [1 - 0.80]$$

Where:

E = PM/PM<sub>10</sub> emissions (lbs)  
ESG = Edge Seal Gallons used in the previous month  
10.2 = density of the edge seal paint (lb/gal)  
0.53 = fraction of solids in the paint  
0.45 = transfer efficiency of the spray equipment  
0.8 = capture efficiency of the booth  
0.92 = collection efficiency of the filter  
0.80 = building collection efficiency

The corrected equation is shown below. It was then simplified and put back into the permit. The density and solids content of the paint were changed to variables in the equation to allow for differing paint contents.

Corrected Equation:

$$\begin{aligned} E &= [ESG * 10.2 * 0.53 * (1 - 0.45) * (0.8) * (1 - 0.92) + ESG * 10.2 * 0.53 * (1 - 0.45) * (0.2)] * [1 - 0.80] \\ &= ESG * \text{Density} * \text{Solids} * (1 - 0.45) * [1 - 0.80] * (0.2 + 0.8 * (1 - 0.92)) \\ &= 0.029 * ESG * \text{Density} * \text{Solids} \end{aligned}$$

#### 3.2 Periodic Monitoring

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

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

- The likelihood of violating the applicable requirements;
- Whether add-on controls are necessary to meet the emission limits;
- The variability of emissions over time;

- The type of monitoring, process, maintenance, or control equipment data already available for the emission unit;
- The technical and economic feasibility of possible periodic monitoring methods; and
- The kind of monitoring found on similar units elsewhere.

Table 3 summarizes the periodic monitoring requirements for the new spray booth EU 036 for which the monitoring required by the applicable requirement is nonexistent or inadequate.

**Table 3. Periodic Monitoring**

EU/GP	Requirement	Additional Monitoring	Discussion
EU 004	HAPs Calculation	Hourly average fan amperage	HAP emissions to be calculated
EU 036	PM $\leq$ 0.30 gr/dscf, Opacity $\leq$ 20% Minn. R. 7011.0715	Operation and maintenance of control equipment	
EU 036	Total PM, PM10 and VOC from EU 034 and EU 036 $\leq$ 20, 20, and 100 tons/yr, respectively. Title I Condition to avoid major source classification under 40 CFR § 52.21	Operation and maintenance of control equipment, monthly recordkeeping of material usage and calculation of annual emissions monthly	Only one water based paint (edge seal) is used in spray booths EU 034 and EU 036. 12 month rolling limits are reasonable for these booths.

### **3.3 Permit Organization**

In general, the permit meets the MPCA Delta Guidance for ordering and grouping of requirements. No changes were made to the permit organization.

### **3.4 Comments Received**

Public Notice Period: January 26, 2008 – February 25, 2008

EPA 45-day Review Period: January 26, 2008 – March 10, 2008

## **4. Conclusion**

Based on the information provided by Louisiana-Pacific Corporation, Two Harbor, the MPCA has reasonable assurance that the operation of the emission facility, as described in the Air Emission Permit No. 07500019-006, and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Trevor Shearen (permit writer/engineer)  
ERG/Yu-Lien Chu (MPCA contractor/permit writer)  
Bob Beresford (enforcement)  
Andy Place (stack testing)  
Marshall Cole (peer reviewer)

AQ File No. 1995; DQ 1627

Attachments: 1. Facility Description and CD-01 Forms (in Delta)  
2. Calculation Spreadsheets (in Delta)