



## APPROVAL TO OPERATE

I-11603

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Pursuant to paragraph 5 (3) (a) of the *Air Quality Regulation - Clean Air Act*, this Approval to Operate is hereby issued to:

**Irving Pulp & Paper, Limited Les Pâtes & Papier Irving, Limitée**

**for the operation of the**

**Reversing Falls Mill**

Description of Source:

**Kraft Pulp and Tissue Mill**

Source Classification:

**Air Quality Regulation**

**Class 1A**

Parcel Identifier:

**55162416, 55232656, 55232649, 55223739,  
55233001**

Mailing Address:

**P.O. Box 3007**

**Station "B"**

**Saint John, NB E2M 3H1**

Conditions of Approval:

**See attached Schedule "A" of this Approval**

Supersedes Approval:

**I-9509**

Valid From:

**June 01, 2022**

Valid To:

**May 31, 2027**

Recommended by: \_\_\_\_\_

Issued by: \_\_\_\_\_

for the Minister of Environment and Climate Change

\_\_\_\_\_

Date

## SCHEDULE "A"

### A. DESCRIPTION AND LOCATION OF SOURCE

Irving Pulp & Paper, Limited Les Pâtes & Papier Irving, Limitée operates a Mill Complex that consists of a kraft pulp mill having a reference production rate of approximately 1000 air dry tonnes per day of bleached kraft pulp, and a tissue mill with a reference production rate of approximately 200 machine dry tonnes per day of tissue. The complex is situated in the vicinity of the Reversing Falls on the Saint John River in the City of Saint John, New Brunswick. There exist *potential* environmental impacts from the release of trace amounts of air contaminants from a variety of Mill Complex Emission Sources.

The operation of the Irving Pulp & Paper, Limited Les Pâtes & Papier Irving, Limitée Mill Complex at the property referenced by the Parcel Identifiers 55162416, **55232656**, **55232649**, **55223739**, AND **55233001** in the City of Saint John, County of Saint John, and the Province of New Brunswick is hereby approved under the *Air Quality Regulation - Clean Air Act* and is subject to the following:

### B. DEFINITIONS

1. **"Approval Holder"** means Irving Pulp and Paper, Limited.
2. **"Department"** means the New Brunswick Department of Environment and Local Government.
3. **"Minister"** means the Minister of Environment and Climate Change and includes any person designated to act on the Minister's behalf.

4. **"Inspector"** means an Inspector designated under the *Clean Air Act*, the *Clean Environment Act*, or the *Clean Water Act*.
5. **"after hours"** means the hours when the Department's offices are closed. These include statutory holidays, weekends, and the hours before 8:15 a.m. and after 4:30 p.m. from Monday to Friday.
6. **"normal business hours"** means the hours when the Department's offices are open. These include the period between 8:15 a.m. and 4:30 p.m. from Monday to Friday excluding statutory holidays.
7. **"environmental emergency"** means a situation where there has been or will be a release, discharge, or deposit of a contaminant or contaminants to the atmosphere, soil, surface water, and/or groundwater environments of such a magnitude or duration that it could cause significant harm to the environment or put the health of the public at risk.
8. **"Facility"** means the property, buildings, and equipment and all contiguous property in the title of the Approval Holder at that location.
9. **"Mill Complex Emission Sources"** means all stationary vents, stacks, and storage piles at the Facility that release or have the potential to release air contaminants to the environment. For the purposes of this Approval the primary Mill Complex Emission Sources include: Woodchip Storage Piles; Chip Impregnation Vessel (Impbin), Brownstock Washing System Vents and/or Stacks; Oxygen Delignification System Vents and/or Stacks; Bleach Plant Vents and/or Stacks; Pulp Dryer Vents and/or Stacks, Recovery Boiler (Teller Scrubber Exhaust) Stack; Smelt Dissolving Tank; Lime Kiln Exhaust Stack; #2 Power Boiler Exhaust Stack (if greater than 700 hours of operation per year); #3 Power Boiler (Biomass Boiler) Exhaust Stack; and Incinerator Exhaust Stack. The air contaminants that are or could be released from these sources in trace amounts shall be selected, as required.

10. **"Waste Derived Fuel"** means used oil that has been tested and has been determined to have: a flashpoint of 61 degrees Celsius or higher; an arsenic concentration less than 5 parts per million; a cadmium concentration less than 2 parts per million; a chromium concentration less than 10 parts per million; a lead concentration less than 100 parts per million; a zinc concentration less than 1500 parts per million; a polychlorinated biphenyls (PCBs) concentration less than 2 parts per million; and a total organic halogens (as chlorine) concentration less than 1000 parts per million.
11. **"SWIM"** means Environment Canada's Single Window Information Manager, which is a one-window secure online electronic data reporting system accessible at [www.ghgreporting.gc.ca](http://www.ghgreporting.gc.ca) ;
12. **"Receptor"** means a person or organism, including plants, subjected to chemical exposure.

## C. TERMS AND CONDITIONS

### GENERAL

13. This Facility has been classified as a **Class 1A** source, pursuant to the *Air Quality Regulation 97-133* filed under the *Clean Air Act*. The Approval Holder shall pay the appropriate fee **on or before April 1 of each year**.
14. The issuance of this Approval does not relieve the Approval Holder from compliance with other by-laws, federal or provincial acts or regulations, or any guidelines issued pursuant to regulations.
15. An Inspector, at any reasonable time, has the authority to inspect the Facility and carry out such duties as defined in the *Clean Air Act*, the *Clean Environment Act* and/or the *Clean Water Act*.

16. The terms and conditions of this Approval are severable. If any term and/or condition of this Approval is held invalid, is revoked or is modified, the remainder of the Approval shall not be affected.
17. The Approval Holder shall operate the Facility in compliance with the *Air Quality Regulation 97-133* filed under the *Clean Air Act* of the Province of New Brunswick. Violation of this Approval or any condition stated herein constitutes a violation of the *Clean Air Act* of the Province of New Brunswick.
18. The Approval Holder shall make application in writing, on a form provided by the Minister, for approval to undertake any modification to the Facility that would significantly change the current composition and/or quantity of contaminants being discharged to the environment. The Minister must receive such application **at least 240 days prior** to the planned modification commencement.
19. The Approval Holder shall immediately notify the Minister in writing of any change in its name or address.
20. In the event of Facility closure, the Approval Holder shall, in addition to any requirements under the *Environmental Impact Assessment Regulation*, prepare plans for complete site rehabilitation. The plans shall be submitted to the Department for review at least six (6) months before the planned closure date. The documentation shall include but not be limited to updated site plans as well as an engineering proposal for the site rehabilitation and closure.

## EMERGENCY REPORTING

21. Immediately following the discovery of an environmental emergency, a designate representing the Approval Holder shall notify the Department in the following manner:

During normal business hours, telephone the Department's applicable Regional Office **until personal contact is made** (i.e. no voice mail messages will be accepted) and provide all information known about the environmental emergency. The telephone number for the Regional Office is provided below:

**Saint John Regional Office (506) 658-2558**

After hours, telephone Environment and Climate Change Canada's National Environmental Emergencies Centre (NEEC) **until personal contact is made** and provide as much information that is known about the environmental emergency. The telephone number for the **NEEC is 1-800-565-1633**.

22. Within 24-hours of the time of initial notification, a copy of a **Preliminary Emergency Report** shall be filed by a designate representing the Approval Holder to the Department's Saint John Regional Office and Central Office by e-mail. The Preliminary Emergency Report shall clearly communicate as much information that is available at the time about the environmental emergency.

Within five (5) days of the time of initial notification, a copy of a **Detailed Emergency Report** shall be filed by a designate representing the Approval Holder to the Department's Saint John Regional Office and Central Office by e-mail. The Detailed Emergency Report shall include, as minimum, the following: i) a description of the problem that occurred; ii) a description of the impact that occurred; iii) a description of what was done to minimize the impact; and iv) a description of what was done to prevent recurrence of the problem.

**Electronic Mail Addresses:**

Saint John Regional Office at [elg.egl-region4@gnb.ca](mailto:elg.egl-region4@gnb.ca)

Central Office in Fredericton to the assigned approvals engineer

LIMITS

- 23. The Approval Holder shall ensure that odour, dust or noise being released from the Facility does not cause adverse impacts to any off-site receptor. In the event impacts are suspected by the Department to be adversely impacting any off-site receptor, the Approval Holder may be required to investigate the degree of impact and/or develop, submit, and implement a Prevention and Control Plan in accordance with a timetable established by the Department. The plan shall be submitted in writing to the Department for review and approval prior to implementation.
  
- 24. The Approval Holder shall ensure that the emissions of Sulphur Dioxide (SO<sub>2</sub>) from all applicable Mill Complex Emission Sources at the Facility do not exceed 2000 tonnes per year for any calendar year.
  
- 25. The Approval Holder shall ensure that the Recovery Boiler (Teller Scrubber), #3 Power Boiler (Biomass Boiler), and Lime Kiln are operated such that they conform, at all times, with the following limiting criteria:

Point Source	Parameter Limiting Criteria
Recovery Boiler (Teller Scrubber) Exhaust Stack	Particulate Matter (PM) concentration is limited to a maximum of 250 milligrams per cubic metre of dry gas corrected to 21 degrees Celsius and 101.3 kilopascals. Total Reduced Sulphur (TRS) concentration is limited to a maximum of 15 parts per million by volume, at stack conditions for any 4 hour rolling average.
# 3 Power Boiler (Biomass Boiler) Exhaust Stack	Particulate Matter (PM) concentration is limited to a maximum of 250 milligrams per cubic metre of dry gas corrected to 21 degrees Celsius and 101.3 kilopascals and 12% carbon dioxide.



<p>Lime Kiln Exhaust Stack</p>	<p>Particulate Matter (PM) emission rate is limited to a maximum of 0.50 kilograms per unbleached air dry tonne of pulp production. Total Reduced Sulphur (TRS) concentration is limited to a maximum of 15 parts per million by volume, at stack conditions for any 4 hour rolling average.</p>
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FACILITY MANAGEMENT

- 26. The Approval Holder is permitted to burn up to three tractor trailer loads of Flakeboard Company Limited (FCL) woodwaste per day in the Biomass Boiler. The FCL woodwaste must be blended with the Approval Holders existing biomass mixtures, which would then not contain greater than 25% of the FCL woodwaste. FCL woodwaste consists of reject medium density fiberboard material that has been tub-ground to a consistent two inch minus fiber size and has a moisture content of approximately 10% at the time of generation.
  
- 27. The Approval Holder is permitted to use Waste Derived Fuel as a fuel source subject to the following restrictions:
  - (a) the Waste Derived Fuel can be used in the Recovery Boiler, Lime Kiln, the #3 Power Boiler (Biomass Boiler) and the #2 Power Boiler at the Facility; and
  - (b) the Waste Derived Fuel is only permitted to be received and used as a fuel if the supplier can provide a copy of test results that demonstrates that the Waste Derived Fuel being supplied has been sampled and analysed and meets the concentration limits for each parameter listed below:

Parameter&Unit	Maximum	Minimum
PCB (ppm)	2	
Organic Halogen, Total (ppm)	1000	

Arsenic (ppm)	5	
Cadmium (ppm)	2	
Chromium (ppm)	10	
Lead (ppm)	100	
Zinc (ppm)	1500	
Sulphur (%)	1	
Flash Point (oC)		61

28. The Approval Holder shall burn the following items in the #3 Power Boiler (Biomass Boiler); small quantities of oily waste, spilled oil, oily rags, bark or sawdust used to absorb spilled oil, and other materials including commercial absorbents approved by the Director, all of which originate from regular maintenance work or the cleanup of small spills. These materials shall be added directly to the biomass stream that feeds the #3 Power Boiler (Biomass Boiler) and are not exposed to rain.
  
29. The Approval Holder shall ensure that the Dissolving Tank exhaust gas is collected and directed to the Teller Scrubber for treatment prior to being released to the environment, at all times other than times of general maintenance on the Dissolving Tank exhaust gas distribution system.
  
30. The Approval Holder shall ensure that the Recovery Boiler exhaust gas is collected and directed, during normal operation, to the Teller Scrubber for treatment prior to being released to the environment.
  
31. The Approval Holder shall ensure that the Dilute Non-Condensable Gases (DNCG), Non-Condensable Gases (NCG), and Stripped Off-Gases (SOG) generated at the Facility are collected and directed to an Incineration System for incineration during normal operation. During an operational upset or maintenance, the NCGs shall be directed to the designated back-up incinerator system and the SOGs shall be directed to the Lime Kiln.

32. The Approval Holder shall ensure that the Brown Stock exhaust gas is collected and directed to #3 Power Boiler (equipped with the SO<sub>2</sub> Scrubber) for treatment prior to being released to the environment, at all times other than; (1) times of general maintenance on the Brown Stock exhaust gas distribution system, or (2) times of general maintenance or planned outages of the #3 Power Boiler, or (3) other unforeseen short-term outages.
33. **Prior to August 31<sup>st</sup>, 2022**, the Approval Holder shall develop and implement a TRS Response Plan, approved by the Department, to prevent and mitigate exceedances of the maximum permissible ground-level concentrations of Total Reduced Sulphur (TRS) at the Milford, Sherbrooke, Bridge Street and Westside/Hillcrest ambient monitoring stations.

#### TESTING AND MONITORING

34. The Approval Holder shall ensure that all source testing events undertaken by the Approval Holder, or on behalf of the Approval Holder, are completed in accordance with the requirements embodied in the Department's Guidance Document for Source Testing.
35. Each year the Approval Holder shall undertake two source testing events to determine the Particulate Matter concentration in milligrams per cubic metre and emission rate in grams per second released to the environment from the following Mill Complex Emission Sources:
- Recovery Boiler (Teller Scrubber) Exhaust Stack;
  - #3 Power Boiler (Biomass Boiler) Exhaust Stack; and
  - Lime Kiln Exhaust Stack.
36. **By July 31 of each year**, the Approval Holder shall ensure that the first source testing event, as required in item 35 under the Terms and Conditions section of this Approval, is completed.

37. **By December 31 of each year**, the Approval Holder shall ensure that the second source testing event, as required in item 35 under the Terms and Conditions section of this Approval, is completed.
38. The source testing events as required in item 35 under the Terms and Conditions section of this Approval shall be subject to the following additional requirements and exemptions:
- (a) In any given year, if the #2 Power Boiler is operated for more than 700 hours total for that year, the Approval Holder shall notify the Department and provide additional information on emission characteristics;
  - (b) Should the results of the first source testing event of a given year be accepted by the Department, the Approval Holder will be exempt from completing the second source testing event if the results of the first source testing event are equal to or less than the limiting criterion shown in the table below.

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Point Source	Parameter Limiting Criteria
Recovery Boiler (Teller Scrubber) Exhaust Stack	Particulate Matter (PM) concentration is limited to a maximum of 100 milligrams per cubic metre of dry gas corrected to 21 degrees Celsius and 101.3 kilopascals.
#3 Power Boiler (Biomass Boiler) Exhaust Stack	Particulate Matter (PM) concentration is limited to a maximum of 100 milligrams per cubic metre of dry gas corrected to 21 degrees Celsius and 101.3 kilopascals and 12% carbon dioxide.
Lime Kiln Exhaust Stack	Particulate Matter (PM) emission rate is limited to a maximum of 0.30 kilograms per unbleached air dry tonne of pulp production.

39. **Prior to August 31, 2024**, the Approval Holder shall undertake a source testing event to determine the Chlorine and Chlorine Dioxide concentration in micrograms per cubic metre and emission rate in grams per second released to the environment from the Bleach Plant Vents and/or Stacks.
40. The Approval Holder shall ensure that the Recovery Boiler Teller Scrubber Exhaust Stack, and the Lime Kiln Exhaust Stack are equipped with continuous emission monitors. The monitors shall be capable of providing continuous readings of the Total Reduced Sulphur (TRS) concentration in parts per million by volume in the exhaust gas in the stacks. The monitors shall be located, maintained, and operated in a manner and on a schedule that is acceptable to the Department.
41. The Approval Holder shall maintain and operate three ambient air quality monitoring stations surrounding the Facility (Milford, Sherbrooke and Bridge Street) with the following requirements:
- Operate instruments to continuously measure the ground level concentration of Total Reduced Sulphur (TRS) at the three ambient air quality monitoring stations;
  - Ensure that ground level TRS data and associated instrument metadata generated by the ambient air quality monitoring stations is automatically electronically transmitted to the facility every five minutes;
  - Ensure that the ambient air quality monitoring stations and associated infrastructure are designed, constructed, operated, and maintained in compliance with the *New Brunswick Guidance Manual for Industry-Operated Ambient Air Quality Monitoring Networks*, Rev. 1.00, dated November 1, 2021, and as amended from time-to-time.
42. The Approval Holder shall access 5-minute average TRS data collected at the Department's Westside/Hillcrest monitoring station every 5 minutes, when available.

43. The Approval Holder shall ensure that the Chlorine Dioxide Generator Tailgas Scrubber is equipped with a continuous emission monitor. The monitor shall be capable of providing continuous readings of the Chlorine Dioxide (ClO<sub>2</sub>) concentration in parts per million by volume and kg/hr being released to the environment. The monitor shall be located, maintained, and operated in a manner and on a schedule that is acceptable to the Department.
  
44. **Prior to May 31, 2026**, the Approval Holder shall complete an air dispersion model update from the 2018 study to include any modifications and additions to the emissions of the Facility. The Air Dispersion Model will use historical source emissions data and calculated concentrations of selected contaminants to provide an estimate of the ambient air concentrations for each of these contaminants. The Study shall include a review of the limits for each of the contaminants of concern for comparison. Prior to the commencement of the study the Approval Holder shall submit to the Director the terms of reference for the study for review and approval.
  
45. **Prior to May 31, 2024**, the Approval Holder shall further assess the Chlorine Dioxide emissions with respect to the ambient air concentrations predicted from the 2018 Air Dispersion Model. The assessment will provide a better understanding of the potential ambient air impacts and may include an assessment of operations, maintenance and/or additional pollution control equipment to reduce Chlorine Dioxide emissions.

## REPORTING

46. In the event the Approval Holder receives a complaint from the public regarding unfavourable environmental impacts associated with the Facility, the Approval Holder is to report this complaint by electronic mail to the Department's applicable Regional Office within one business day of receiving the complaint.

47. In the event the Approval Holder violates any Term and Condition of this Approval or the *Air Quality Regulation*, the Approval Holder is to immediately report this violation by electronic mail to the Department's applicable Regional Office and the Central Office in Fredericton. In the event the violation may cause the health or safety of the general public to be at risk and/or significant harm to the environment could or has resulted, the Approval Holder shall follow the Emergency Reporting procedures contained in this Approval.
48. **By July 15 and December 15 of each year**, the Approval Holder shall ensure that a Pre-test Plans pertaining to the source testing events, as required in items 36 & 37 (as required) under the Terms and Conditions section of this Approval, is completed in accordance with the Department's Guidance Document for Source Testing and filed with the Department for review.
49. **By August 31 and January 31 of each year**, the Approval Holder shall ensure that Final Reports on the source testing as required in item 36 and 37 (as required) under the Terms and Conditions section of this Approval, is completed in accordance with the Department's Guidance Document for Source Testing and filed with the Department for review.
50. **Prior to October 31, 2024**, the Approval Holder shall ensure that a Final Report on the source testing as required in item 39 under the Terms and Conditions section of this Approval, is completed in accordance with the Department's Guidance Document for Source Testing and filed with the Department for review.
51. **Prior to August 21, 2024**, the Approval Holder shall ensure that a Pre-test Plan pertaining to the source testing event, as required in item 39 under the Terms and Conditions section of this Approval, is completed in accordance with the Department's Guidance Document for Source Testing and filed with the Department for review.
52. **By the end of each month**, the Approval Holder shall submit to the Department, a Monthly Air Quality Report for the previous month. The report to be submitted by email or mail, shall contain the following information:

- (a) copies of any reports related to the Emergency Response section of this Approval;
  - (b) a table, in a format approved by the Department, showing the 1-hour average of Total Reduced Sulphur (TRS) concentration in the Recovery Boiler Teller Scrubber Exhaust Stack and Lime Kiln Exhaust Stack, in parts per million, and a graph showing the 4-hour rolling average, and including a summary of the number of valid hours of data and the number of hours when the 4-hour rolling average is greater than 15 parts per million for the Recovery Boiler Teller Scrubber Exhaust Stack and 15 parts per million for the Lime Kiln Exhaust Stack;
  - (c) a table, in a format approved by the Department, showing the number of Dilute Non-Condensable Gases (DNCG), Non-Condensable Gases (NCG), and Stripped Off-Gases (SOG) venting incidents and their duration and including a running total for the year to date;
  - (d) a summary of any operating problems related to the continuous emission monitors and/or ambient air quality monitors;
  - (e) a list of any TRS exceedances at any of the three ambient monitoring stations operated by the Approval Holder as well as the Westside station with details of the response and mitigation taken.
  - (f) a summary of the monthly waste derived fuel volume and analysis and Flakeboard waste board volume; and
  - (g) a table, in a format approved by the Department, showing the chlorine dioxide emissions measured by the Chlorine Dioxide Generator Tailgas Scrubber continuous emission monitor in units of parts per million and kg/hr.
53. **By March 01 of each year**, the Approval Holder shall submit to the Department an Annual Air Contaminant Emission Report, by e-mail or mail, including:



- (a) an itemized list of all fuel-fired sources;
  - (b) for each fuel-fired source, the amount of each type of fuel burned including used oil, and the % sulphur content of each type;
  - (c) a calculation of the annual emission in tonnes of Sulphur Dioxide, Particulate Matter, Nitrogen Oxides from fuel burning for each fuel-fired source; and
  - (d) a calculation of the annual emission in tonnes of Sulphur Dioxide produced from the incineration of Dilute Noncondensable Gases (DNCGs), Non-Condensable Gases (NCGs), and Stripped Off-gases (SOGs).
  - (e) the annual inventory data in tonnes per year for selected contaminants as result of the Mill Complex operation.
54. **By June 01 of each year**, the Approval Holder shall submit a greenhouse gas emissions report, for the previous calendar year, to the Department by means of the SWIM system. Reporting shall be consistent with Environment Canada's Greenhouse Gas Emissions Reporting Program (GHGRP). Reporting requirements are published annually in the Canada Gazette, Part 1 under the authority of subsection 46(1) of the *Canadian Environmental Protection Act, 1999* (CEPA 1999).
55. The Approval Holder shall prepare and submit an Annual Greenhouse Gas Progress Report to the Department by July 1<sup>st</sup> of each year, for the previous calendar year, in accordance with the Guidelines for Greenhouse Gas Management for Industrial Emitters in New Brunswick.
56. **Prior to June 30, 2026**, the Approval Holder shall submit to the Department the Ambient Air Dispersion Assessment required in Condition 44 of the Approval.

57. **Prior to June 30, 2024**, the Approval Holder shall submit to the Department the Chlorine Dioxide Further Assessment required in Condition 45 of the Approval.

Prepared by: \_\_\_\_\_

Sheryl Johnstone, P.Eng.

Senior Approvals Engineer, Authorizations