

FACILITY PROFILE

Irving Pulp & Paper Limited Les Pâtes & Papier Irving, Limitée
Reversing Falls Mill Complex
Saint John, New Brunswick

Prepared by:
Authorizations Branch
Department of Environment & local Government
November 2021

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BACKGROUND

Irving Pulp & Paper, Limited Les Pâtes & Papier Irving, Limitée operates a Kraft and Tissue Mill Complex that consists of a Kraft Pulpmill that has a production rate of approximately 1000 air dry tonnes per day of bleached kraft pulp from both hardwood and softwood furnish and a Tissue Mill that has a production rate of approximately 200 machine dry tonnes per day of tissue. The Mill Complex was commissioned in the early 1990's and is situated in the vicinity of the Reversing Falls on the Saint John River in the City of Saint John, New Brunswick.

As required under the Air Quality Regulation - Clean Air Act, Irving Pulp & Paper, Limited, Kraft and Tissue Mill Complex is considered a source and therefore, must apply for and obtain an Air Quality Approval to Operate from the Department. The facility is required to conduct its operations according to conditions outlined in the issued Air Quality Approval aimed at preventing unfavorable air quality conditions. The conditions are generally wide-ranging and may include such requirements as:

- limitations on operational parameters;
- requirements for testing and monitoring emissions from specific unit operations;
- requirements for testing and monitoring the ambient air quality surrounding the facility;
- requirements to operate air pollution control equipment;
- limits on emissions that are approved to be released to the atmosphere;
- provisions for equipment upgrade and/or maintenance;
- requirements for environmental emergency and/or compliance reporting;
- and
- other conditions aimed at minimizing the facility's impact on the environment.

The Regulation provides for approvals to be issued by the Minister of Environment & Local Government for a specified period, not to exceed five years.

The Approval to Operate the Irving Pulp & Paper, Limited Les Pâtes & Papier Irving, Limitée Kraft and Tissue Mill Complex (identified as I- 9509) issued under the Air Quality Regulation expires on May 31, 2022. This document is intended to provide: background information on the Irving Pulp & Paper, Limited Kraft and Tissue Mill Complex and the Air Quality Approvals process; a description of the Kraft and Tissue Mill Complex process, a list of the potential air quality impacts associated with the facility; and a compliance review of the Air Quality Approval to Operate.

PROCESS DESCRIPTION

The Kraft and Tissue Mill Complex consists of a number of processes within the Complex as a whole. These processes include the following:

- Woodchip Storage and Preparation
- Kraft Pulping
- Bleach Production and Bleaching
- Pulp Production
- Tissue Production
- Chemical Recovery
- Foul Condensate Steam Stripping
- Causticizing
- Lime Production
- Non-Condensable Gas Incineration System; and
- Steam Plant

WOODCHIP STORAGE AND PREPARATION

This is the area where the purchased wood chips are stored outside, and also consists of the unit operations and ancillary equipment used to prepare the woodchips for the Kraft Pulping process.

In 2016 a new chip handling process and continuous cooking digester plant was installed. The chip handling project included a new chip reclaimer, 3 new chip reclaim belt conveyors, new pulp screening equipment and conveyors and a 2000m³ screened chip storage silo.

KRAFT PULPING

This process produces kraft pulp from the woodchips. In 2016 a new chip handling process and continuous cooking digester plant was installed. This included a chip impregnation vessel (ImpBin) and a continuous digester cooking vessel.

The impregnation of the chips with cooking liquors is performed in the impregnation vessel (temperature of 100°C to 110°C) at atmospheric pressure. Chips from the storage silo enter the top of the ImpBin where they are placed in contact with a mixture of cooking liquors.

Following impregnation, the chips are discharged from the impregnation vessel to the digester via a high pressure feeder where the wood chips become pulp.

The digester cooks the chips at elevated temperature and pressure in a solution of sodium hydroxide, sodium sulphide and other pulping chemicals, often collectively referred to as "white liquor". The cooking process causes the lignin that holds the wood fibres together in the woodchip to dissolve in the liquor, thereby releasing the individual fibres.

Spent black liquor from the cooking process is sent to the evaporation plant where it is prepared for burning to recover energy and cooking chemicals for reuse in the process.

Diluted non-condensable gases (DNCG) are fully contained within the cooking process and collected from a discharge tank, a filtrate buffer tank and from the top of the ImpBin. These collected gases are diluted with fresh air and sent with other DNCG from other mill processes to the existing mill-wide DNCG system. As the ImpBin is operated with a cold top, only diluted gases are collected. There are no process vents to atmosphere in this entirely enclosed system and all DNCG's will be collected and incinerated using the mill's existing DNCG system.

BLEACH PRODUCTION AND BLEACHING

This process produces an aqueous solution of Chlorine Dioxide (ClO₂) which is used for bleaching. This area also chemically bleaches the brownstock (pulp) produced from the Kraft Pulping. In the bleaching process, the brownstock is changed from the brown to white (bleached pulp).

PULP PRODUCTION

This process cleans, thickens, dries, bales and stores the bleached pulp for shipment to markets or used to supply the Tissue Mill. Approximately, 20% of the bleached pulp from the Kraft Pulping process is sold as market pulp and about 80% is used in the Tissue Paper Production.

A pulp dryer modernization project has been ongoing at the mill since 2019. The project was registered under the EIA for project assessment and was issued a Certificate of Determination on September 30, 2016 and an Approval to Construct on May 1, 2019.

IPP is replacing the three (3) existing pulp dryers and associated equipment with one (1) new best-available technology dryer. The existing dryers remain in place and operational during the construction of the new dryer. The project comprises installing and operating a bleach stock screening system, a new pulp dryer and a new pulp baling line.

The project is expected to be completed by June, 2022 with any updates being added to the renewed Approval, as required.

Air emissions will remain similar to the current pulp dryer operations. Energy consumption will increase slightly based on a small pulp production increase of 5.2%. The pulp dryer is heated by steam, which will have minimal change to the biomass fuel consumption. There are no emission stacks associated with the pulp dryer. Overall GHG emissions will decrease due to the reduction in shunting bales

from the mill to the tissue mill and storage as the new process has the dryer closer to the tissue mill and includes a new warehouse for storage.

TISSUE PAPER PRODUCTION

This process blends and/or mixes the bleached pulp produced from the Kraft Pulping and other paper making additives. The pulp mixture enters the head box of paper machines where it is spread onto a fine mesh multiple wire screen that is suctioned to remove moisture and form a sheet. The somewhat drier pulp mixture is picked up by felt wire which goes through a press to further remove moisture on a large drum type dryer, known as the Yankee Dryer, which dries the sheet to product specifications. The product is rolled in large rolls, which are rewound and sent to the converting plant for final preparation before shipment.

CHEMICAL RECOVERY

This process recycles the spent cooking liquor (also referred to as weak black liquor) from the Brown Stock Washing process to a series of evaporators that drive off the water portion of the liquor to form strong black liquor. Vapours that are produced in the evaporation process are sent to a surface condenser where clean and foul condensate is produced. The foul condensate is directed to the Foul Condensate Steam Stripper for further processing. The strong black liquor is directed onto the Recovery Boiler to be burned. The Recovery Boiler is of low odour design and has a black liquor firing capacity of 1.8 million kilograms of dry liquor solids per day. The organic portion of the liquor burns in the boiler with heat energy released to produce steam. The inorganic portion of the liquor stream is reduced to molten solids and settles on the furnace floor where it is drained to a dissolving tank. Weak wash from the Causticizing Process is added to the solids in the dissolving tank to form Green Liquor, which is then directed to the Causticizing Process. The Recovery Boiler exhaust gas is directed to an electrostatic precipitator and crossflow scrubber unit in series, which removes the majority of the particulate matter, Total Reduced Sulphur (TRS) compounds and other sulphur compounds from the exhaust gas steam prior to discharge to the atmosphere.

The Recovery Boiler utilizes No.6 Fuel Oil as a back-up fuel source in the event the recovery cycle is interrupted. The boiler generates approximately 240,000 kilograms per hour of high pressure steam that is used for process, heating and supply energy for electrical generation.

FOUL CONDENSATE STEAM STRIPPER

This process strips the foul condensate from the evaporators, evaporator surface condenser and digester condensers. The foul condensate from these units is collected in the stripper feed tank and then pumped to the top of the steam stripper column. Steam is injected in the base of the column, and when the steam contacts

the condensate, the Total Reduced Sulphur (TRS) and Methanol components in the foul condensate are stripped out. Clean condensate exits at the bottom of the column and is used as a wash shower in the Causticizing and Brownstock operation. The Stripper Off-Gases (SOG's) from the steam stripper are directed to the No. 3 Woodwaste Boiler or Lime Kiln for incineration.

Condensates from the 5th stage of the evaporator train are processed through a Reverse Osmosis (RO) system, which produces a very clean product (Permeate) which is re-used in other parts of the mill process. The concentrated products from the RO System are burned in the No. 3 Woodwaste Boiler.

CAUSTICIZING

This process regenerates sodium hydroxide cooking chemicals used in the digesters. The Green Liquor, produced from the Recovery process, is now directed through clarifiers where impurities are removed. It is mixed with lime in the slaker and processed through a series of causticizers, to allow time for reaction, in order to convert to white liquor. In the causticizers and clarifying processes, a reaction occurs causing a precipitate of calcium carbonate, referred to as lime mud, which is removed from the clarifiers, producing clean white liquor which is reused in the digesters. The lime mud is washed and sent to the Lime Kiln.

LIME PRODUCTION

This process regenerates the lime mud generated from the Causticizing process. The lime mud slurries are processed over pre-coat filters, which produce a 75-78 % air dried product, which is burned in the Lime Kiln to produce calcium oxide. The Lime Kiln burns natural gas, stripped off-gases (SOG's) and No. 6 Fuel Oil as a backup fuel source and is equipped with an electrostatic precipitator (ESP). The Lime Kiln is equipped with continuous emission monitoring for Total Reduced Sulphur (TRS) control.

NON-CONDENSIBLE GAS INCINERATION SYSTEM

This system collects Dilute Non-Condensable and Brownstock Gases (DNCG) and Non-Condensable Gases (NCG) from the digester system in the mill and directs these gases to the No.3 Woodwaste Boiler for incineration. In the event the No. 3 Woodwaste Boiler is off-line, the NCG gases are then directed to a dedicated back-up incinerator system.

STEAM PLANT

The plant consists of the following unit operations and ancillary equipment:

- No. 2 Power Boiler, which is a back-up boiler, utilizes No. 6 Fuel Oil as the primary oil and has a steam generation rate of approximately 65,000 kilograms per hour;
- No. 3 Woodwaste Boiler utilizes purchased and self-generated woodwaste, No. 6 Fuel Oil, natural gas, and up to 25% Flakeboard woodwaste and has a steam generation rate of approximately 160,000 kilograms per hour. This boiler is the primary burn point of the Non-Condensable Gas Incineration System.

AIR POLLUTION CONTROL

There are several systems in place at the Facility to control air emissions and ensure day-to-day operations do not adversely affect the receiving environment; these controls are outlined below.

The Recovery Boiler is equipped with an electrostatic precipitator and scrubber which remove a significant amount particulate matter from the exhaust gas, as well as Total Reduced Sulphur (TRS) compounds. The scrubber exhaust stack is equipped with a continuous emission monitor for Total Reduced Sulphur (TRS) monitoring.

The No. 3 Woodwaste Boiler is equipped with an electrostatic precipitator to remove particulate matter from the exhaust gas, and an SO₂ scrubber to remove sulphur compounds. It is also the primary burn location for stripped off-gases (SOG's) from the foul condensate stripper as well as non-condensable gases (NCG) and dilute non-condensable gases (DNCG). In the event of an upset with the No. 3 Woodwaste Boiler, the non-condensable gases (NCG) will be directed to the backup incinerator.

The lime kiln is equipped with an electrostatic precipitator to remove particulate matter from the exhaust gas, as well as continuous emissions monitoring for Total Reduced Sulphur (TRS) control. It also serves as the backup burn location for the stripped off-gases (SOG's) in the event of a process upset with the No. 3 Woodwaste Boiler.

The Chlorine Dioxide Generator Tailgas scrubber is equipped with a continuous emissions monitor for Chlorine Dioxide (ClO₂) levels.

In order to monitor impact on the surrounding area of the Facility, there are three off site ambient air quality monitors in operation. These monitor ground level concentration of Total Reduced Sulphur (TRS).

POTENTIAL AIR QUALITY IMPACTS

The following list of potential air quality impacts has been identified and is the focus of present and future Air Quality compliance.

- Particulate Matter (PM), Sulphur Dioxide (SO₂), Total Reduced Sulphur (TRS), Nitrogen Oxides (NO_x), Carbon Monoxide (CO) and Carbon Dioxide (CO₂) from various point and area sources within the operation of the Steam Plant, Kraft Pulping, Chemical Recovery, and Lime Production;
- Chlorine (Cl₂), and Chlorine Dioxide (ClO₂) from point sources within the Bleach Production and Bleaching;
- Dilute Non-Condensable Gases (DNCG), Non-Condensable Gases (NCG), and Stripped Off-Gases (SOG) from Kraft Pulping Process, Chemical Recovery Process, and Foul Condensate Steam Stripper;
- Volatile Organic Compounds (VOCs) from the operation of the dryers in the Pulp Production and Tissue Paper Production; and
- Odours, Fugitive Particulate Matter, and Noise from various point and area sources that make-up the Facility.

AIR QUALITY COMPLIANCE AND ENFORCEMENT

Irving Pulp & Paper, Limited, Kraft and Tissue Mill Complex is required to comply with the Air Quality Regulation - Clean Air Act and operate under terms and conditions established in its Approval to Operate, issued pursuant to Section 3 of the Air Quality Regulation - Clean Air Act. Conditions are aimed at ensuring that the facility's environmental impact during its day-to-day operations does not adversely affect air quality in surrounding areas, as well as regionally and globally. Any violations of the conditions of Approvals may be subject to compliance and enforcement measures as described in the Department of Environment and Local Government's Compliance and Enforcement Policy.

Current Air Quality Approval to Operate Terms and Conditions and Compliance History

The main terms and conditions of the current Air Quality Approval to Operate I-9509 (issued on June 1, 2017 and expires on May 31, 2021) and compliance history over the life of the Approval are summarized in the paragraphs that follow:

#24 Operate the Facility such that the annual Sulphur Dioxide (SO₂) in tonnes released from the facility is less than 2000 tonnes;

The Facility has been in full compliance with this condition. Sulphur Dioxide (SO₂) emissions have been below the required limits. The following table shows SO₂ emissions from Irving Pulp & Paper for the 2017 to 2020 calendar years, as required in their current Air Quality Approval to Operate.

Year	IPP Reported SO ₂
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Cap	2000 tonnes
2017	1059
2018	750
2019	776
2020	575

#25 Ensure the Maximum Ground Level Concentration Limits provided in Schedule B of this Approval are at no time exceeded at any location outside the boundaries of the Facility.

The estimated concentrations of emissions from the forty-one (41) contaminants in Schedule B (using emission factors) are reported annually by IPP. In 2019 an updated ambient air model was completed that updated the limits for maximum ground level concentrations and demonstrated the ground level concentrations of forty (40) listed contaminants were well within the limits. The highest concentration of Chlorine Dioxide (ClO₂) was calculated to be 3.1 ug/m³, which occurred to the east of the facility at the facility boundary along the shore line. In general, the model predicted concentrations below the 2 ug/m³ limit beyond distances greater than 500 m from the fence line.

#26 Operate the Facility such that the Teller Scrubber, Woodwaste Boiler and Lime Kiln conform with the following limiting criteria:

Point Source	Parameter Limiting Criteria
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.
Woodwaste Boiler Exhaust Stack	Particulate Matter (PM) concentration is limited to a maximum of 500 milligrams per cubic metre of dry gas corrected to 21 degrees Celsius and 101.3 kilopascals and 12% carbon dioxide.
No. 1/No. 2 Lime Kiln Exhaust Stacks/Lime Kiln Exhaust Stack	Particulate Matter (PM) emission rate is limited to a maximum of 0.75 kilograms per unbleached air dry tone of pulp production. Total Reduced Sulphur (TRS) concentration is limited to a maximum of 20 parts per million by volume, at stack conditions for any 4 hour rolling average.

Particulate Matter: The Facility has been in full compliance with Particulate concentration limits over the life of the current Air Quality Approval to Operate. The

table that follows provides the historical results of the average Particulate Matter (PM) concentration being released from the Teller Scrubber exhaust stack, the Woodwaste Boiler exhaust stack and the Lime Kiln Exhaust Stack based on annual stack testing:

Year	IPP Reported Particulate Matter (PM)		
Point Source	Teller Scrubber (Recovery Boiler) Exhaust Stack (Concentration - mg/Dm3 @ 8% O ₂)	Woodwaste Boiler (No. 3) Boiler) Exhaust Stack (Concentration - mg/Dm3 @ 12 % CO ₂)	Lime Kiln Exhaust Stacks (Rate - kg/ubadtp)
Caps	250	250	0.50
2017	33.1	38.4	0.0637
2018	25.8	33.5	0.0327
2019	28.2	29.8	0.0602
2020	26.6	21.0	0.07
2021	36.3	7.25	0.18

Total Reduced Sulphur: The Facility remained in compliance throughout the lifetime of the Approval. The table that follows illustrates the annual average (compiled from the 4 hour rolling averages) concentration of the Total Reduced Sulphur in the Recovery Boiler exhaust gas and the Lime Kiln exhaust gas being released to the atmosphere from the Facility.

Year	IPP Reported Total Reduced Sulphur (TRS)	
Point Source	Teller Scrubber Exhaust (Recovery Boiler) Stack (Concentration - ppm)	Lime Kiln Exhaust Stacks (Concentration - ppm)
Caps	15	15
2017	1.97	1.96
2018	2.35	1.37
2019	3.16	1.43
2020	3.68	1.72

#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:

- **Teller Scrubber Exhaust Stack;**
- **Woodwaste Boiler Exhaust Stack; and**
- **Lime Kiln Exhaust Stack.**

#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 and/or the Tissue Boiler are operated for more than 700 hours total for that year, the Approval Holder shall ensure that the Power Boiler Exhaust Stack and/or the Tissue Boiler Exhaust Stack are included in the second round source testing event for that year;

(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.

Point Source	Parameter Limiting Criteria
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.
Woodwaste 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.

a) In 2019 the #2 Power Boiler was in operation for 863 hours, meeting the requirement for stack testing for this source. The #2 Power Boiler is a back-up boiler used primarily during mill-wide maintenance shutdowns and during maintenance on the Woodwaste Boiler. During the 2019 operating year, IPP had a 20-year turnaround on the Woodwaste Boiler, which lengthened the uptime on the #2 Power Boiler compared to other years. This is not expected to occur again in the foreseeable future.

The #2 Power Boiler stack is not equipped with sampling ports and it was considered a structure risk to install sample ports on this aged stack. IPP

requested an exemption to the source testing requirement and use emission factors to calculate the emissions. The request was approved.

An updated condition will be considered for managing this emission source in the renewed approval.

- b) Source testing results from the first event throughout the lifetime of the Approval permitted IPP to perform only one source testing event each year.

#39 Undertake source testing prior to August 31, 2019 to determine the Chlorine and Chlorine Dioxide concentration being released into the environment from the Bleach Plant Vents and /or Stacks.

In 2018 source testing was completed on seven (7) stacks from the bleachery unit with the following results:

Emission Rate	Cl₂	ClO₂
(kg/h)	0.420	0.297

The requirement for a source testing event on this unit once in the lifetime of the approval has been in place for several approvals.

#41 Ensure that three ambient air quality monitors capable of measuring Total Reduce Sulphur are set up surrounding the Facility.

The Facility has been in full compliance with this condition over the life of the Air Quality Approval to Operate as monitors are set up and maintained at Bridge Street, Milford and Sherbrooke Stations.

#43 Prior to March 31, 2019, the Approval Holder shall complete an air dispersion model update from the 2004 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 contaminants listed in Schedule B 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.

The air quality criteria listed in Schedule B was reviewed and updates to ground level concentration limits for 13 contaminants were suggested per the most recent version of the Ontario Air Contaminant Benchmark list.

Based on the current air dispersion study, only one contaminant was predicted to exceed the updated ground level concentration of 2 ug/m³ at the IPP fence line – Chlorine Dioxide. The predicted ground level concentration for Chlorine Dioxide was 3.1 ug/m³ which occurred to the east of the facility at the facility boundary along the shore line. In general, the model predicted concentrations below the 2 ug/m³ limit beyond distances greater than 500 m from the fence line.

Most of the air contaminants were predicted to be less than 50% of the applicable ground level concentration criteria and are not considered contaminants of concern at this mill.

- #52 Provide Monthly Air Emission Report that provides a summary on: any air quality incidents for that month; results of the continuous emission monitoring results for Total Reduced Sulphur (TRS) in the Recovery Boiler and Lime Kiln exhaust stacks for that month showing hourly and 4 hour average trends; any source testing results for source testing conducted at the Facility for that month; any operating problems related to continuous emissions monitors or ambient air monitors for that month; a summary of any DNCG, NCG, or SOG venting incidents for the month; and volume of used oil used and analysis for that month.**

The Facility has been in full compliance with this condition over the life of the Air Quality Approval to Operate.

- #53 Provide an Annual Report that provides: the amount of fuel burned for the year and its sulphur content, and a calculation of the annual emission of sulphur dioxide, particulate matter, nitrogen oxides in tonnes from all combustion sources and process sources at the facility; a calculation of the annual emission in tonnes of sulphur Dioxide produced from the incineration of DNCGs, NCGs and SOGs; the annual inventory of air contaminants identified through Schedule B and the mill complex survey which started in 2004.**

The Facility has been in full compliance with this condition over the life of the Air Quality Approval to Operate.

The following table shows the annual emissions of SO₂, PM and NO_x from the facility in the lifetime of the Approval:

Year	SO₂ (Tonnes)	PM Total (Tonnes)	NO_x (Tonnes)
2017	1059	161	948

2018	750	94	933
2019	776	128	988
2020	575	132	1041

Enforcement

Enforcement options used by the Department of Environment and Local Government are outlined in the Department's *Compliance and Enforcement Policy*. These may include but are not limited to: schedules of compliance, verbal and written warnings, orders, and prosecutions. Although not specifically outlined in the Policy, it is also possible to amend approvals with more stringent conditions, both during its valid period or at the time of renewal, to address specific compliance issues or to improve the environmental impact of the facility. Most recently, a new Regulation under the Clean Air Act allows for the issuance of "administrative penalties" for minor violations as an alternative to traditionally used enforcement options.

During the life of the current Approval, Irving Pulp & Paper, Limited, Kraft and Tissue Mill Complex has had no warnings or orders issued, nor have there been any prosecutions initiated by this agency during this period, related to air quality.

COMPLAINTS & OCCURRENCES

Complaints

Irving Pulp & Paper receives calls related to air quality, noise and other issues in Saint John. The table below shows the number of calls received by the mill in the last five years related to air quality. The Department has on occasion received complaints but typically the complaints are made directly to the mill staff.

Concern calls received directly by the mill

Year	Odour	Noise	Light	Ash Fallout	Plume Colour	Sawdust	Total
2017	7	13	0	13	0	0	33
2018	10	1	0	2	1	1	15
2019	2	8	2	2	0	1	15
2020	5	6	0	3	0	0	14
2021*	6	12	0	2	5	1	20

*Including January - September 2021

Occurrences

Irving Pulp & Paper is required to send notifications to the Department in the case of an occurrence that may change the normal operations and air emissions at the mill. The table below shows the number of occurrences related to air quality in the last 5 years.

Occurrences at the mill

Year	NCG Venting	Teller Scrubber Bypassing	Teller Scrubber Analyzer Failure	SOG Rupture/ Venting	Ambient Monitor Outage	Bark Pile / Fire	Other Venting	Total
2017	0	10	0	2	0	3	3	18
2018	1	5	2	1	1	3	0	13
2019	0	6	1	2	0	2	1	12
2020	0	8	2	5	0	2	2	19
2021	3	10	3	6	1	0	1	24

*Including January – September 2021

In general, the complaints and occurrences related to air quality at the mill are considered a nuisance event as opposed to an environmental issue. Standard Operating Procedures related to Ash Pile Management and Fugitive Dust Control are in place to help mitigate ash and dust around the site.

PUBLIC OUTREACH

Irving Pulp & Paper, Limited indicates that its position on public outreach is to foster positive community relations by maintaining an open-door policy, whereby any member of the public or interested party wishing to obtain further information about the operation may contact Irving Pulp & Paper Inc. during regular business hours. The facility may also make arrangements for tours of the facility or other community interaction.

Facility staff members are on call 24 hours a day to respond to any complaints directed from the public. The company also makes efforts to notify the public in instances where environmental events may have an impact on nearby residents.

CONTACT INFORMATION

For further information on the operation of Irving Pulp & Paper, Limited, Kraft and Tissue Mill Complex please contact:

Helen Tanfara

Environmental Coordinator
Irving Pulp & Paper, Limited
Mill Street
P.O. Box 3007
Saint John, NB, E2M 3H1
Telephone: (506) 635-6824
Fax: (506) 633-5598
Email: tanfara.helen@irvingpulp.com

Sheryl Johnstone, P. Eng.

Senior Approvals Engineer
Authorizations Branch
Department of Environment and Local Government
P.O. Box 6000, Marysville Place
Fredericton, NB E3B 5H1
Telephone: (506) 453-7945
Fax: (506) 453-2390
Email: sheryl.johnstone@gnb.ca

DELG Region 4:

Patrick Stull, Regional Director

Region 4 – Saint John
Department of Environment and Local Government
8 Castle Street, P.O. Box 5001
Saint John, New Brunswick E2L 4Y9
Telephone: (506) 658-2558
Fax: (506) 658-3046
E-mail: Patrick.Stull@gnb.ca



APPROVAL TO OPERATE

I-9509

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, 00036673**

Mailing Address: **P.O. Box 3007
Station "B"
Saint John, NB E2M 3H1**

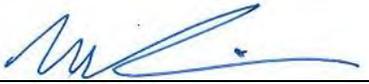
Conditions of Approval: **See attached Schedule (s)"A" and "B" of this Approval**

Supersedes Approval: **I-7850**

Valid From: **June 01, 2017**

Valid To: **May 31, 2022**

Recommended by: 

Issued by:  June 1, 2017
for the Minister of Environment and Local Government 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 00036673 and 55162416 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.
3. **"Minister"** means the Minister of Environment and Local Government and includes any person designated to act on the Minister's behalf.
4. **"Director"** means the Director of the Impact Management Branch of the Department of Environment and includes any person designated to act on the Director's behalf.
5. **"Inspector"** means an Inspector designated under the *Clean Air Act*, the *Clean Environment Act*, or the *Clean Water Act*.
6. **"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.
7. **"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.

8. **"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.
9. **"Facility"** means the property, buildings, and equipment and all contiguous property in the title of the Approval Holder at that location.
10. **"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, Teller Scrubber Exhaust Stack; Smelt Dissolving Tank; Lime Kiln Exhaust Stack; Power Boiler Exhaust Stack (if greater than 700 hours of operation per year); Woodwaste Boiler Exhaust Stack; Tissue Boiler Exhaust Stack (if greater than 700 hours of operation per year); and Incinerator Exhaust Stack. The air contaminants that are or could be released from these sources in trace amounts are provided in the attached Schedule B document.
11. **"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.
12. **"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 ;

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 the Canadian Coast Guard **until personal contact is made** and provide all information known about the environmental emergency. The telephone number for the **Canadian Coast Guard 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
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 (SO₂) 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, as a result of the operation of the Mill Complex alone, the Maximum Ground Level Concentration Limits provided in Schedule B of this Approval are at no time exceeded at any location outside the boundaries of the Facility.
26. The Approval Holder shall ensure that the Teller Scrubber, Woodwaste Boiler, and Lime Kiln are operated such that they conform, at all times, with the following limiting criteria:

Point Source	Parameter Limiting Criteria
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.

Woodwaste 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.
Lime Kiln Exhaust Stack	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.

FACILITY MANAGEMENT

- 27. The Approval Holder is permitted to burn up to three tractor trailer loads of Flakeboard Company Limited (FCL) woodwaste per day in the Woodwaste Boiler. The FCL woodwaste must be blended with the Approval Holders existing woodwaste 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.
- 28. 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 Woodwaste 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

- 29. The Approval Holder shall burn the following items in the Woodwaste 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 woodwaste stream that feeds the Woodwaste Boiler and are not exposed to rain.

30. 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.
31. 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.
32. The Approval Holder shall ensure that the 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.
33. The Approval Holder shall ensure that the Dilute Non-Condensable Gases (DNCG), including Brown Stock exhaust gas are collected and directed to the #3 Power Boiler for incineration and then to the SO₂ Scrubber for treatment prior to being released to the environment, at all times other than; (1) times of general maintenance on the DNCGs and/or 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.

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:
 - Teller Scrubber Exhaust Stack;
 - Woodwaste 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 and/or the Tissue Boiler are operated for more than 700 hours total for that year, the Approval Holder shall ensure that the Power Boiler Exhaust Stack and/or the Tissue Boiler Exhaust Stack are included in the second round source testing event for that year;
 - (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.

Point Source	Parameter Limiting Criteria
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.
Woodwaste 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, 2019**, 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 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 ensure that three ambient air quality monitors are set up surrounding the Facility. The monitors shall be capable of providing an indication of the 1-hour and 24-hour rolling average ground level concentration of Total Reduced Sulphur (TRS) in parts per million by volume at the monitoring locations. The monitors shall be located, maintained, and operated in a manner and on a schedule that is acceptable to the Department.

42. 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 (ClO₂) 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.
43. **Prior to March 31, 2019**, the Approval Holder shall complete an air dispersion model update from the 2004 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 contaminants listed in Schedule B 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.

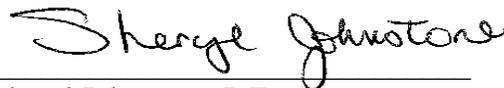
REPORTING

44. 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 facsimile or electronic mail to the Department's applicable Regional Office within one business day of receiving the complaint.
45. 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 facsimile or 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.
46. **By July 15 of each year**, the Approval Holder shall ensure that a Pre-test Plan pertaining to the first source testing event, as required in item 36 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.
47. **By December 15 of each year**, the Approval Holder shall ensure that a Pre-test Plan pertaining to the source testing as required in item 37 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.
48. **By August 31 of each year**, the Approval Holder shall ensure that a Final Report on the source testing as required in item 36 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 January 31 of each year**, where applicable, the Approval Holder shall ensure that a Final Report on the source testing as required in item 37 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 September 30, 2019**, 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 July 31, 2019**, 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 Approvals Branch in Fredericton and the Regional Office in Saint John, a Monthly Air Quality Report for the previous month. The report can be submitted either by e-mail, fax or mail provided that the submitted copies are signed. The report 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 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 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 table, in a format approved by the Department, showing the 1-hour average of Total Reduced Sulphur (TRS) and 24-hour rolling average for ambient Total Reduced Sulphur (TRS) measured at the three monitoring stations and a graph showing the 1-hour and 24-hour rolling average;
 - (f) a summary of the monthly waste derived fuel volume and analysis;

- (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; and,
- (h) a detailed statement from the Approval Holder indicating compliance with Condition 27 of this Approval.
53. **By March 01 of each year**, the Approval Holder shall submit to the Approvals Branch in Fredericton an Annual Air Contaminant Emission Report 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 all the air contaminants listed in Schedule B of this Approval 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. Beginning in 2017, the Approval Holder shall prepare and submit an Annual Greenhouse Gas Progress Report to the Department by July 1st 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 March 31, 2019**, the Approval Holder shall submit to the Department the Ambient Air Dispersion Model required in Condition 43 of the Approval.

Prepared by:

Sheryl Johnstone, P.Eng.
Senior Approvals Engineer, Impact Management

SCHEDULE "B"**AIR CONTAMINANTS (MAXIMUM GROUND LEVEL CONCENTRATION LIMITS)**

Air Contaminant	Maximum Ground Level Concentration (ug/m³) 24-hour average unless otherwise specified	Limiting Effect	Irving Pulp and Paper Ltd. - Mill Complex Emission Sources
*Acetaldehyde	500	Health	Noncondensable Gas (NCG) and Stripper Off-gas Vents and/or Stacks; Brown Stock Washing System Vents and/or Stacks; Oxygen Delignification System Vents and or Stacks; Bleach Plant Vents and/or Stacks; Pulp Dryer Vent and/or Stacks; Teller Scrubber Exhaust Stack; Smelt Dissolving Tank Vent; and Lime Kiln Exhaust Stack.
*Acetone	48000	Odour	Noncondensable Gas (NCG) and Stripper Off-gas Vents and/or Stacks; Brown Stock Washing System Vents and/or Stacks; Oxygen Delignification System Vents and or Stacks; Bleach Plant Vents and/or Stacks; Pulp Dryer Vent and/or Stacks; Teller Scrubber Exhaust Stack; Smelt Dissolving Tank Vent; and Lime Kiln Exhaust Stack.
*Ammonia	100	Odour	Smelt Dissolving Tank Vent.
*Antimony	25	Health	Lime Kiln Exhaust Stack; Power Boiler Exhaust Stack; Woodwaste Boiler Exhaust Stack; Tissue Boiler Exhaust Stack; and Incinerator Exhaust Stack.
*Arsenic	0.3	Health	Lime Kiln Exhaust Stack; Power Boiler Exhaust Stack; Woodwaste Boiler Exhaust Stack; Tissue Boiler Exhaust Stack; and Incinerator Exhaust Stack.
*Barium	10	Health	Lime Kiln Exhaust Stack; Power Boiler Exhaust Stack; Woodwaste Boiler Exhaust Stack; Tissue Boiler Exhaust Stack; and Incinerator Exhaust Stack.
Benzene	-	-	Lime Kiln Exhaust Stack; Power Boiler Exhaust Stack; Woodwaste Boiler Exhaust Stack; Tissue Boiler Exhaust Stack; and Incinerator Exhaust Stack.
*Beryllium	0.01	Health	Lime Kiln Exhaust Stack; Power Boiler Exhaust Stack; Woodwaste Boiler Exhaust Stack; Tissue Boiler Exhaust Stack; and -

			Incinerator Exhaust Stack.
*Cadmium	2	Health	Lime Kiln Exhaust Stack; Power Boiler Exhaust Stack; Woodwaste Boiler Exhaust Stack; Tissue Boiler Exhaust Stack; and Incinerator Exhaust Stack.
+Carbon Monoxide	15000 (8-hour average)	Health	Lime Kiln Exhaust Stack; Power Boiler Exhaust Stack; Woodwaste Boiler Exhaust Stack; Tissue Boiler Exhaust Stack; and - Incinerator Exhaust Stack.
*Chlorine Dioxide	30	Health	Bleach Plant Vents and/or Stacks
*Chlorine	150	Health	Bleach Plant Vents and/or Stacks
*Chromium	1.5	Health	Lime Kiln Exhaust Stack; Power Boiler Exhaust Stack; Woodwaste Boiler Exhaust Stack; Tissue Boiler Exhaust Stack; and Incinerator Exhaust Stack.
*Cobalt	0.1	Health	Lime Kiln Exhaust Stack; Power Boiler Exhaust Stack; Woodwaste Boiler Exhaust Stack; Tissue Boiler Exhaust Stack; and Incinerator Exhaust Stack.
*Copper	50	Health	Lime Kiln Exhaust Stack; Power Boiler Exhaust Stack; Woodwaste Boiler Exhaust Stack; Tissue Boiler Exhaust Stack; and Incinerator Exhaust Stack.
*Cresols	75	Health	Oxygen Delignification System Vents and or Stacks;
*Dimethyl Sulphide	30 (1-hour average)	Odour	Noncondensable Gas (NCG) and Stripper Off-gas Vents and/or Stacks; Brown Stock 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 Teller Scrubber Exhaust Stack; Smelt Dissolving Tank Vent; and Lime Kiln Exhaust Stack.
*Dimethyl Disulphide	40 (1-hour average)	Odour	Noncondensable Gas (NCG) and Stripper Off-gas Vents and/or Stacks; Brown Stock Washing System Vents and/or Stacks; Oxygen Delignification System Vents and or Stacks; Bleach Plant Vents and/or Stacks; Pulp Dryer Stacks and or Vents; Teller Scrubber Exhaust Stack; Smelt Dissolving Tank Vent; and Lime Kiln Exhaust Stack.

*Ethylbenzene	4000 (1-hour average)	Odour	Lime Kiln Exhaust Stack; Power Boiler Exhaust Stack; Woodwaste Boiler Exhaust Stack; Tissue Boiler Exhaust Stack; and Incinerator Exhaust Stack.
*Fluorides	0.86	Vegetation	Lime Kiln Exhaust Stack; Power Boiler Exhaust Stack; Woodwaste Boiler Exhaust Stack; Tissue Boiler Exhaust Stack; and Incinerator Exhaust Stack.
*Formaldehyde	65	Odour	Oxygen Delignification System Vents and or Stacks; Brown Stock Washing System Vents and/or Stacks; Bleach Plant Vents and/or Stacks; Pulp Dryer Vents and/or Stacks; Teller Scrubber Exhaust Stack; Smelt Dissolving Tank Vent; and Lime Kiln Exhaust Stack.
Hydrogen Sulphide	5	Odour	Noncondensable Gas (NCG) and Stripper Off-gas Vents and/or Stacks; Brown Stock 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; Teller Scrubber Exhaust Stack; Smelt Dissolving Tank Vent; and Lime Kiln Exhaust Stack.
*Lead	2	Health	Lime Kiln Exhaust Stack; Power Boiler Exhaust Stack; Woodwaste Boiler Exhaust Stack; Tissue Boiler Exhaust Stack; and Incinerator Exhaust Stack.
*Methanol	4000	Health	Noncondensable Gas (NCG) and Stripper Off-gas Vents and/or Stacks; Brown Stock 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; Teller Scrubber Exhaust Stack; Smelt Dissolving Tank Vent; and Lime Kiln Exhaust Stack.
*Methyl Ethyl Ketone	1000	Health	Noncondensable Gas (NCG) and Stripper Off-gas Vents and/or Stacks; Brown Stock 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; Teller Scrubber Exhaust Stack; Smelt Dissolving Tank Vent; and Lime Kiln Exhaust Stack.

*Methyl Mercaptan	20 (1-hour average)	Odour	Noncondensable Gas (NCG) and Stripper Off-gas Vents and/or Stacks; Brown Stock 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; Teller Scrubber Exhaust Stack; Smelt Dissolving Tank Vent; and Lime Kiln Exhaust Stack.
*Mercury	2	Health	Lime Kiln Exhaust Stack; Power Boiler Exhaust Stack; Woodwaste Boiler Exhaust Stack; Tissue Boiler Exhaust Stack; and Incinerator Exhaust Stack.
*Molybdenum	120	Health	Lime Kiln Exhaust Stack; Power Boiler Exhaust Stack; Woodwaste Boiler Exhaust Stack; Tissue Boiler Exhaust Stack; and Incinerator Exhaust Stack.
*Naphthalene	22.5	Odour	Lime Kiln Exhaust Stack; Power Boiler Exhaust Stack; Woodwaste Boiler Exhaust Stack; Tissue Boiler Exhaust Stack; and Incinerator Exhaust Stack.
*Nickel	2	Vegetation	Lime Kiln Exhaust Stack; Power Boiler Exhaust Stack; Woodwaste Boiler Exhaust Stack; Tissue Boiler Exhaust Stack; and Incinerator Exhaust Stack.
+Nitrogen Oxides	200	Health	Tellers Scrubber Exhaust Stack Lime Kiln Exhaust Stack; Power Boiler Exhaust Stack; Woodwaste Boiler Exhaust Stack; Tissue Boiler Exhaust Stack; and Incinerator Exhaust Stack.
+Particulate Matter	120	Health	Tellers Scrubber Exhaust Stack Lime Kiln Exhaust Stacks; Power Boiler Exhaust Stack; Woodwaste Boiler Exhaust Stack; Tissue Boiler Exhaust Stack; and Incinerator Exhaust Stack.
Particulate Matter \leq 10 microns in aerodynamic diameter.	-	-	Lime Kiln Exhaust Stack; Power Boiler Exhaust Stack; Woodwaste Boiler Exhaust Stack; Tissue Boiler Exhaust Stack; and Incinerator Exhaust Stack.
Particulate Matter \leq 2.5 microns in aerodynamic diameter.	-	-	Lime Kiln Exhaust Stack; Power Boiler Exhaust Stack; Woodwaste Boiler Exhaust Stack; Tissue Boiler Exhaust Stack; and Incinerator Exhaust Stack.
*Phenol	100	Health	Teller Scrubber Exhaust Stack.

*Selenium	10	Health	Lime Kiln Exhaust Stack; Power Boiler Exhaust Stack; Woodwaste Boiler Exhaust Stack; Tissue Boiler Exhaust Stack; and Incinerator Exhaust Stack.
+Sulphur dioxide	150	Health	Tellers Scrubber Exhaust Stack; Lime Kiln Exhaust Stacks; Power Boiler Exhaust Stack; Woodwaste Boiler Exhaust Stack; Tissue Boiler Exhaust Stack; and Incinerator Exhaust Stack.
*Sulphuric acid	35	Corrosion	Teller Scrubber Exhaust Stack
*Toluene	2000	Odour	Lime Kiln Exhaust Stack; Power Boiler Exhaust Stack; Woodwaste Boiler Exhaust Stack; Tissue Boiler Exhaust Stack; and Incinerator Exhaust Stack.
*Vanadium	2	Health	Lime Kiln Exhaust Stack; Power Boiler Exhaust Stack; Woodwaste Boiler Exhaust Stack; Tissue Boiler Exhaust Stack; and Incinerator Exhaust Stack.
*Zinc	120	Health	Lime Kiln Exhaust Stack; Power Boiler Exhaust Stack; Woodwaste Boiler Exhaust Stack; Tissue Boiler Exhaust Stack; and Incinerator Exhaust Stack.

**Summary of Point of Impingement Standards, Point of Impingement Guidelines, and Ambient Air Quality Criteria (AACQs), Standards Development Branch, Ontario Ministry of Environment, September 2001.*

+New Brunswick Air Quality Regulation filed under the Clean Air Act of New Brunswick, Schedule B and Schedule C.



APPROVAL TO OPERATE

I-11495

Pursuant to paragraph 8(1) of the *Water Quality Regulation - Clean Environment 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 Pulpmill and Tissue Paper Mill**

Source Classification: **Fees for Industrial Approvals** **Class 1A**
Regulation - Clean Water Act

Parcel Identifier: **55162416, 55232656, 55232649, 55223739, 55233001**

Mailing Address: **P.O. Box 5777**
300 Union Street
Saint John, NB E2L 4M3

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

Supersedes Approval: **I-11284**

Valid From: **October 29, 2021**

Valid To: **April 30, 2024**

Recommended by: _____

Issued by: _____

for the Minister of Environment and Climate Change

October 29, 2021

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 pulpmill 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. The Mill Complex is situated in the vicinity of the Reversing Falls on the St. John River in the City of Saint John.

There exist *potential environmental impacts* to the soil, surface water and groundwater from i) the accidental spill and/or improper handling, treatment and disposal of the wastewater and ii) the accidental spill, leakage and/or improper storage and handling of petroleum products or chemicals.

The operation of Irving Pulp & Paper, Limited Les Pâtes & Papier Irving, Limitée, at the properties referenced by the Parcel Identifiers 55162416, 55232656, 55232649, 55223739 and 55233001 in the City of Saint John, County of St. John, and the Province of New Brunswick, is hereby approved subject to the following:

B. DEFINITIONS

1. **"Approval Holder"** means Irving Pulp & Paper, Limited Les Pâtes & Papier Irving, Limitée .
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. **"Director"** means the Director of the Authorizations Branch of the Department of Environment and Local Government and includes any person designated to act on the Director's behalf.
5. **"Inspector"** means an Inspector designated under the *Clean Air Act*, the *Clean Environment Act*, or the *Clean Water Act*.
6. **"Facility"** means the property, buildings, and equipment as identified in the Description of Source above, and all contiguous property in the title of the Approval Holder at that location.
7. **"wastewater"** means any liquid that exists or that is generated from any unit operation or ancillary equipment at the Facility and is being discharged to the environment.

8. **"wastewater stream"** means any stream of wastewater generated at the Facility and discharged to the environment. Wastewater streams include, but are not limited to, the Main Mill and Cooling Water Outfalls.
9. **"RPR"** means the reference production rate, which is the highest value of the 90th percentiles of the daily production of finished product at the mill in tonnes for any of the previous three years.
10. **"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.
11. **"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.
12. **"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.
13. **"hazardous waste"** means any waste material intended for disposal or recycling, that is identified as a hazardous waste by the federal *Cross-border Movement of Hazardous Waste and Hazardous Recyclable Material Regulation*, and/or is included in Class 1 and/or Class 7 of the federal *Transportation of Dangerous Goods Regulations*. This definition excludes any waste(s) for which the Director has issued a written exemption.
14. **"Hazardous Waste Receiver"** means an approved or acceptable business that receives hazardous waste from a Hazardous Waste Collection and Transportation Network for transfer, treatment, storage, or disposal.
15. **"Approved Material"** means, for the purposes of this Approval, the following types of hazardous wastes and hazardous recyclable materials that are approved to be generated, stored, transferred and/or treated by the Approval Holder: Black Liquor, R.O. (Reverse Osmosis) Concentrate, used CED (cupriethylenediamine) solution for lab tests, used C.O.D. (Chemical Oxygen Demand) Vials, Asbestos, Nuclear Devices (for use in level indicators), and untreated Dregs. Other waste materials that are deemed hazardous by the Approval Holder must be approved by the Director.

C. TERMS AND CONDITIONS

GENERAL

16. This Facility has been classified as a **Class 1A** source pursuant to the *Fees for Industrial Approvals Regulation 93-201* under the *Clean Water Act*.

17. **By April 01 of each year**, the Approval Holder shall pay the appropriate annual fee for a **Class 1A** source, pursuant to the *Fees for Industrial Approvals Regulation 93-201* filed under the *Clean Water Act*.
18. The Approval Holder shall maintain throughout the period of this Approval, Environmental Liability Insurance with coverage of at least one million dollars (\$1,000,000.00) for the operation of the Facility.
19. If in the opinion of the Minister the environmental impact of the Facility is unacceptable, the Minister reserves the right to cancel this Approval and issue a new Approval as deemed necessary.
20. 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.
21. 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*.
22. 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.
23. The Approval Holder shall operate the Facility in compliance with the *Water Quality Regulation 82-126* filed under the *Clean Environment Act* of the Province of New Brunswick. Violation of this Approval or any condition stated herein constitutes a violation of the *Clean Environment Act* of the Province of New Brunswick.
24. The Approval Holder shall immediately notify the Minister in writing of any change in its name or address.
25. The Approval Holder shall notify the Minister in writing of any plans to modify the operation of the Facility that would result in a significant change in the characteristics or increased rate of discharge of any contaminant to the environment **at least ninety (90) days prior** to the modification.
26. The Approval Holder shall be identified by the following provincial identification generator number whenever hazardous waste is shipped from the Facility:

NB005055
27. The Approval Holder shall be identified by the following provincial identification receiver number whenever hazardous waste is received at the Facility:

NBR000213

EMERGENCY REPORTING

28. 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 NEEC is provided below:

NEEC (Phone) at 1-800-565-1633

29. 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
Central Office in Fredericton to the assigned approvals engineer

LIMITS

30. The Approval Holder shall ensure that all the wastewater streams are non-acutely lethal to rainbow trout.
31. The Approval Holder shall ensure that the combined Biochemical Oxygen Demand (BOD) loading in all the wastewater streams does not exceed the following limits:

Daily Maximum: 12.5 x RPR (kg over any 24-hour period)
Monthly Average: 7.5 x RPR (kg per day)

32. The Approval Holder shall ensure that the combined Total Suspended Solids (TSS) loading of all the wastewater streams does not exceed the following limits:

Daily Maximum: 18.75 x RPR (kg over any 24-hour period)
Monthly Average: 11.25 x RPR (kg per day)

33. The Approval Holder shall ensure that each wastewater stream has a pH between 6.0 and 9.5, as determined by the 24-hour composite value. In no case is the pH of any wastewater stream to be above 11.5 or below 2.5 at any point, as determined by a 15- minute average.

The pH limits apply to all outfalls at all times, with the exception that for those periods of time when, at the main mill outfall, flow is less than 500 m³/hr and when the cooling water outfall flowrate flow is less than 40% of the nominal flowrate, such as occurs during shutdown periods.

FACILITY MANAGEMENT

34. The Approval Holder shall ensure that the Hog and Press Outfall is sealed and that no liquid is released to the environment from that outfall. If, at any time, the Approval Holder wishes to re-open the Hog and Press Outfall, the Approval Holder shall first apply for and receive approval from the Department.
35. The Reverse Osmosis (RO) Concentrate shall not be discharged directly to the environment. The RO Concentrate must be handled and disposed of in a manner agreeable to the Department.
36. The Approval Holder shall maintain a Hazardous Waste Contingency Plan, describing the measures that will be taken by the Facility in the event of an environmental emergency. The Approval Holder shall respond to all environmental emergencies in accordance with the Hazardous Waste Contingency Plan. Where there are differences between the requirements of this Approval and the Hazardous Waste Contingency Plan, this Approval will take precedence.
37. The Approval Holder shall ensure that the Facility is equipped with, or has access to, all emergency clean-up material required to implement the procedures described in the Contingency Plan, including but not limited to: a recovery drum, absorbent material, rags, and a shovel.
38. The Approval Holder shall ensure that all Hazardous Waste generated at the Facility is collected and transported by a Hazardous Waste Collection and Transportation Network, as defined in this Approval.

39. The Approval Holder shall ensure that all Hazardous Waste at the Facility is stored in a dedicated Hazardous Waste Storage System. The system shall be set-up to ensure that all Hazardous Waste is:
- a) secured in sealed and chemically resistant containers;
 - b) away from high traffic areas and protected from vehicle impacts;
 - c) away from electrical panels;
 - d) in a containment area that has secondary containment adequate to contain 110 % of the nominal volume of the largest container in the containment area;
 - e) in a containment area that is designed to prevent contact between incompatible materials; and
 - f) in a containment area designed to prevent the release or discharge of Hazardous Waste to the environment as a result of a spill.

TESTING AND MONITORING

40. The Approval Holder shall ensure that all outdoor aboveground petroleum and chemical storage systems that are in service are visually inspected for leaks once per month.
41. The Approval Holder shall ensure that the volumetric flowrate (to determine the daily flow in cubic metres) of each wastewater stream is metered on a continuous basis.
42. The Approval Holder shall ensure that all the wastewater streams are equipped with a monitoring and sampling station that is operating and maintained on a continual basis, unless otherwise specified by the Minister in writing.
43. The Approval Holder shall ensure that all the wastewater monitoring and sampling stations are capable of collecting 24-hour composite samples and grab samples of wastewater.
44. The Approval Holder shall ensure that on alternate days, at least three times per week, a 24-hour composite sample of each wastewater stream is collected and sent to a laboratory for determination of BOD using the Determination of Biochemical Oxygen Demand, Method H-2, published by the Pulp and Paper Technical Association of Canada (PAPTAC) or the Standard Methods for the Examination of Water and Wastewater.
45. The Approval Holder shall ensure that a 24-hour composite samples of each wastewater stream is collected and sent to a laboratory for determination of TSS using the Determination of Solids Content of Pulp and Paper Effluents, Method H-1, published by the Pulp and Paper Technical Association of Canada (PAPTAC) or the Standard Methods for the Examination of Water and Wastewater.
46. The Approval Holder shall ensure that at least once per month a grab sample of each wastewater stream is collected and sent to a Standards Council of Canada (SCC) accredited or equivalent laboratory to determine the Acute Lethality Toxicity using the Reference Method for Determining the Acute Lethality of Effluent to Rainbow Trout, EPS 1/RM/13.

47. The Approval Holder shall ensure all 24-hour composite samples of wastewater streams are collected and tested to determine the pH of the respective sample.

RECORD KEEPING

48. The Approval Holder shall keep an electronic record, or alternate format approved by the Director, of all Hazardous Waste generated, received and distributed.

REPORTING

49. 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, including details on the date, time, nature of the complaint and action taken to verify the complaint and mitigate impacts, by electronic mail to the **Saint John Regional Office** at **elg.egl-region4@gnb.ca** within one business day of receiving the complaint.
50. In the event the Approval Holder violates any Term and Condition of this Approval or the *Water Quality Regulation*, the Approval Holder is to immediately report this violation by electronic mail to the Department's

Saint John Regional Office (elg.egl-region4@gnb.ca)
and the
Central Office (assigned Approvals Engineer)

51. **By the end of the following month**, the Approval Holder shall ensure that a Monthly Water Quality Report is submitted to the Department's Central Office and the Regional Office in Saint John. The report shall contain as a minimum:
- a) a summary of any operating and equipment problems resulting in an exceedance of the limits or violation of any condition of this Approval;
 - b) a summary of the results of the petroleum and chemical storage systems' monthly visual inspection;
 - c) the results of BOD testing and the calculated monthly average BOD loading, in kilograms per day;
 - d) the results of daily TSS testing results and the calculated monthly average TSS loading, in kilograms per day;
 - e) the results of monthly rainbow trout toxicity testing, reported as lethal or non-lethal;
 - f) the results of daily pH monitoring, including the 24 hour average, the minimum and maximum values for that period, based on the 15 minute averages, and the number of 15 minute periods that the pH was outside of the 6.0 to 9.5 range for the main mill outfall, for each 24 hour period.
 - g) the daily volumetric flowrate of the wastewater streams, in cubic metres per day;
 - h) the daily total and calculated monthly average mill production of finished products, in tonnes per day; and

- i) a copy of all records required under Record Keeping.
52. **By January 31 of each year**, the Approval Holder shall ensure that the RPR value being used for that year is provided to the Department in writing.
53. **By January 31 of each year**, the Approval Holder shall prepare and submit to the Department for review an annual contingency plan that is designed to provide the notification and reporting procedure during upset conditions and the action plan that is intended to be followed for experienced upset conditions. The Hazardous Waste Contingency Plan required under Hazardous Waste Management may be included in this plan.
54. **By July 15 of each year**, the Approval Holder shall submit to the Department proof of Environmental Insurance coverage, as required under General.

Prepared by: 
Sheryl Johnstone, P.Eng.
Senior Approvals Engineer, Authorizations