



## APPROVAL TO OPERATE

**I-8900**

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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:

**J. D. IRVING, LIMITED**

for the operation of the

**Corrugated Medium Pulp and Paper Mill**

Description of Source:	<b>Neutral Sulphite Semi-Chemical Pulp Mill and Corrugating Paper Machine</b>	
Source Classification:	<b>Air Quality Regulation</b>	<b>Class 1B</b>
Parcel Identifier:	<b>15017072</b>	
Mailing Address:	<b>600 rte 785 Utopia, NB E5C 2K4</b>	

Conditions of Approval:

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

Supersedes Approval:

**I-6881**

Valid From:

**June 13, 2015**

Valid To:

**June 12, 2020**

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

Environment Division

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

for the Minister of Environment and Local Government

\_\_\_\_\_

Date

## SCHEDULE "A"

### A. DESCRIPTION AND LOCATION OF SOURCE

Lake Utopia Paper is a pulp and paper mill located 6.5 km east of the town of St. George, New Brunswick. The mill manufactures corrugating medium, comprised of a mixture of two fiber types. The primary component is virgin fiber produced by the neutral sulphite semi-chemical (NSSC) pulping process, using hardwood chips. The remainder is made from recycled cardboard. Using the NSSC pulping process, recycled cardboard and the corrugating paper machine the plant produces approximately 507 tonnes per day of finished corrugating medium.

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 Lake Utopia Paper Mill Complex at the property referenced by the Parcel Identifier 15017072 near the town of St. George, in the County of Charlotte, and the Province of New Brunswick is hereby approved under the *Air Quality Regulation - Clean Air Act*, subject to the following:

### B. DEFINITIONS

1. "**Approval Holder**" means J. D. IRVING, LIMITED.
2. "**Department**" means the New Brunswick Department of Environment and Local Government.

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 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. **"Mill Complex Emission Sources"** means all stationary vents, stacks, storage piles, and liquid effluent treatment ponds 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: Boiler No. 1 and No. 2 Common Exhaust Stack (serving Boiler No. 1 and Boiler No. 2), Boiler No. 3 Exhaust Stack, Sulphite Digester Exhaust Stack, Paper Machine Dryer Exhaust Stacks, Absorption Tower Exhaust Stack, the Liquid Effluent Treatment Ponds, and the biomass boiler exhaust stack.
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. **"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.

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. **"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 5 parts per million; and a total organic halogens (as chlorine) concentration less than 1000 parts per million.

## C. TERMS AND CONDITIONS

### GENERAL

12. This Facility has been classified as a **Class 1B** Facility, 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**.
  
13. 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.
  
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. **Prior to October 17, 2019**, the Approval Holder shall make application in writing for a renewal of this Approval on a form provided by the Minister.
17. 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.
18. In addition to any requirements under the *Environmental Impact Assessment Regulation*, the Approval Holder shall make application in writing for an Approval at least **two hundred and forty (240) days** prior to construction or modification of the source which could result in a significant change in the characteristics or increase the rate of discharge of any contaminant to the atmosphere. The Approval Holder shall make application on a form provided by the Minister.
19. 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.

#### EMERGENCY REPORTING

20. 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**.

21. Within 24 hours of the time of initial notification, a copy of a **Preliminary Emergency Report** shall be faxed, by a designate representing the Approval Holder, to the Department's applicable Regional Office *as well as* the Department's Central Office using the fax numbers provided below. The Preliminary Emergency Report shall clearly communicate all information available at the time about the environmental emergency.

Within five (5) business days of the time of initial notification, a copy of a **Detailed Emergency Report** shall be faxed, by a designate representing the Approval Holder, to the Department's applicable Regional Office *as well as* the Department's Central Office using the fax numbers provided below. The Detailed Emergency Report shall include, as a 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.

**Saint John Regional Office Fax No: (506) 658-3046**

**Central Office Fax No: (506) 457-7805**

## LIMITS

22. The Approval Holder shall ensure that the operation of the facility does not contribute to any exceedence of the maximum ground level concentration limits provided in Schedule B of the *Air Quality Regulation - Clean Air Act*.
23. The Approval Holder shall limit the combined emission of Sulphur Dioxide (SO<sub>2</sub>) from all sources at the Facility to a maximum of 500 tonnes for any calendar year.
24. The Approval Holder shall limit the combined emission of Particulate Matter (PM) from all sources at the Facility to a maximum of 150 tonnes for any calendar year.
25. The Approval Holder shall ensure that the emissions of Nitrogen Oxides (NO<sub>x</sub>) from all applicable Mill Emission Sources at the Facility do not exceed 300 tonnes per year for any calendar year.
26. The Approval Holder shall ensure that the Particulate Matter concentration in the exhaust gas emitted from each Boiler Exhaust Stack, including the Common Exhaust Stack that services Boiler No. 1 and No. 2, the Boiler No. 3 Exhaust Stack, and the exhaust stack for the biomass boiler, is less than 200 milligrams per cubic metre (mg/m<sup>3</sup>) at dry standard conditions.
27. The Approval Holder shall ensure that odour, noise, and/or fugitive particulate matter emissions being emitted from the Facility do 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 will be required to 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.



## FACILITY MANAGEMENT

28. **Prior to June 15, 2016**, the Approval Holder shall submit to the Department an interim Odour Control Plan. This plan shall, at a minimum, investigate new measures to reduce odours at the Facility.
  
29. **Prior to December 31, 2017**, the Approval Holder shall submit a final Odour Control Plan to the Department. This plan shall outline the course of action to be undertaken regarding the reduction of Odours from the Facility and a detailed implementation schedule.
  
30. The Approval Holder shall keep an updated Odour Evaluation and Control Plan describing steps to be taken to better understand the level of odours emitted from the facility, and actions to reduce odour emissions, as required. This plan shall include, but is not limited to, a detailed description of a process to understand the significant odour sources at the facility and their potential impacts on the surrounding areas, as well as a protocol for complaint response. It shall also include a schedule for completing the evaluation, developing action items based on its results and implementing the proposed actions. The plan shall be updated on an annual basis, with changes being made as required to ensure the plan remains current. It shall be implemented as described, once approved by the Department.
  
31. The Approval Holder shall ensure that the pre-acidification tank off-gas collection and distribution system to the aeration pond, used to promote further oxidation of the off-gas, is maintained and operated on a continuous basis unless otherwise specified by the Department.

32. The Approval Holder shall maintain a spare functioning off-gas blower on-site at all times (except when a change out has just occurred and the broken blower is being repaired) to ensure that hydrogen sulphide gas is continually transferred from the Anaerobic Treatment Plant to the Activated Sludge Treatment (AST) Pond, should the primary off-gas blower malfunction. Both off-gas blowers shall have a manufactures rating of at least 1850 cubic feet per minute (CFM). Continuous monitoring of off-gas blower amps will determine the need to replace the blower.
  
33. The Approval Holder shall ensure that all air pollution control equipment on each boiler is fully functional and operating at all times when the boiler is in operation.
  
34. The Approval Holder is permitted to use Waste Derived Fuel as a fuel subject to the following restrictions:
  - a) the Waste Derived Fuel can be used in Boiler No.1, No.2, and No.3 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 (°C)		61

35. The Approval Holder is permitted to burn Flakeboard Company Limited (FCL) woodwaste in the Biomass Boiler. The FCL woodwaste must be blended with the Approval Holders existing woodwaste mixtures, which would then not contain greater than 50% 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.
  
36. The Approval Holder shall submit a proposal, for review and approval by the Department, for a method to ensure the blended woodwaste mixtures do not exceed 50% FCL woodwaste.

RECORD KEEPING

37. The Approval Holder shall maintain all individual records generated from the operation of the opacity monitors, for a minimum period of two years after the date in which the individual records were generated. The Approval Holder shall make these records available to an Inspector on request.
  
38. The Approval Holder shall ensure that all test results for Waste Derived Fuel testing are maintained for a period not less than 2-years, and shall be made available for review by an Inspector within two weeks of receiving a written request.

## TESTING AND MONITORING

39. 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.
40. The Approval Holder shall ensure that each Boiler Exhaust Stack, including the Common Exhaust Stack that services Boiler No.1 and No.2, the Boiler No.3 Exhaust Stack, and the exhaust stack for the biomass boiler, are equipped with continuous emission monitors. The monitors shall be capable of providing continuous readings of the opacity levels of 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. The Approval Holder shall ensure that the monitors are equipped with a hard copy or electronic recording device, and an alarm system in accordance with the Environment Canada publication EPS 1-AP-75-2, "Standard Reference Methods for Source Testing: Measurement of Opacity of Emission from Stationary Sources". The Approval Holder shall also ensure that such monitors undergo manual calibration and cleaning at least once per calendar month.
41. **By September 30 of each year**, the Approval Holder shall conduct source testing on the Common Exhaust Stack if Boiler No.1 or No.2 exceeds 700 hours of operation on No.6 Fuel Oil and on the Boiler No. 3 Exhaust Stack if Boiler No.3 consumes more than 134,000 MMBTU (approx. 3993 m<sup>3</sup>) of No. 6 Fuel Oil, during the previous calendar year. The source testing shall determine the concentration in milligrams per cubic metre (mg/m<sup>3</sup>) or emission rate in grams per second (g/s) of Sulphur Dioxide (SO<sub>2</sub>), Carbon Monoxide (CO), Nitrogen Oxides (NO<sub>x</sub>), and Particulate Matter (PM) being released the exhaust stack. The testing is to be done while the subject Boiler is firing No.6 Fuel Oil.
42. **By September 30 of each year**, the Approval Holder shall conduct source testing on the biomass boiler exhaust stack. The source testing shall determine the concentration in milligrams per cubic metre (mg/m<sup>3</sup>) and emission rate in grams per second (g/s) of Sulphur Dioxide (SO<sub>2</sub>), Carbon Monoxide (CO), Nitrogen Oxides (NO<sub>x</sub>), and Particulate Matter (PM) being released the exhaust stack.

43. The Approval Holder shall ensure that where source testing for Particulate Matter is required, a Particle Size Distribution (PSD) Study is also undertaken to determine the concentration in milligrams per cubic meter and emission rate in grams per second of Total Particulate Matter, PM<sub>10</sub> and PM<sub>2.5</sub> released to the environment from each source.
44. **Prior to September 30, 2016**, the Approval Holder shall conduct source testing on the Sulphite Digester Exhaust Stack to determine the concentration in milligrams per cubic metre (mg/m<sup>3</sup>) or emission rate in grams per second (g/s) of Total Reduced Sulphur (TRS) Compounds and Volatile Organic Compounds (VOCs) being released under normal operating conditions.
45. The Approval Holder shall operate an Ambient Air Quality Monitoring Station for Sulphur Dioxide (SO<sub>2</sub>) in the predominant summer downwind direction of the Mill, at a location approved by the Department. The Ambient Air Quality Monitoring Station shall be capable of providing an indication of the 1-hour and 24-hour rolling average ground level concentration of Sulphur Dioxide (SO<sub>2</sub>) in parts per billion at the monitoring location. The monitor shall be maintained and operated in a manner and on a schedule that is acceptable to the Department.
46. **Prior to June 28, 2017**, the Approval Holder shall purchase and install new data acquisition system loggers, as approved by the Department, for the Facility operated monitoring site. The Approval Holder shall ensure that the data at these monitoring sites are available on a continuous and real-time basis to the Department.
47. **Prior to June 28, 2017**, the Approval Holder shall complete a Total Reduced Sulphur Ambient Monitoring Network Study to evaluate the effectiveness of an ambient Total Reduced Sulphur monitoring station located around the Facility. The study should be conducted in accordance with generally accepted guidance for siting air quality monitors and as a minimum include a determination of the annual wind direction profile around the mill and how the current monitoring coverage around the mill compares to the annual wind direction profile in terms of percent of time the wind direction influences the monitors. Prior to commencement of the study the Approval Holder shall submit to the Director the terms of reference for the study for review and approval.

## REPORTING

48. 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 email to the Department's applicable Regional Office and the Central Office in Fredericton at **(506) 457-7805**. 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.
49. In the event the Approval Holder receives a complaint from the public regarding unfavorable environmental impacts associated with the Facility, the Approval Holder is to report this complaint by facsimile or email, to the Department's applicable Regional Office within one business day of receiving the complaint.
50. In the event of a small spill or leak of liquid materials, the Approval Holder shall act first to contain, and then to clean up the spilled or leaked material and mitigate any resulting impacts as soon as the spill or leak is detected. If the spill or leak results in an "environmental emergency" as defined in this Approval, the Approval Holder shall report the event in accordance with the Emergency Reporting section of this Approval. If the spill or leak is not an "environmental emergency", the Approval Holder shall report this event to the Department's applicable Regional Office by facsimile or email, within one business day, identifying the material spilled, the approximate amount of liquid spilled, the location of the spill and the method(s) used to clean up the liquid.
51. **Thirty (30) days prior** to any source testing events, the Approval Holder shall ensure that a Pre-Test Plan is completed in accordance with the requirements embodied in the Department's Code of Practice for Source Testing and that such Pre-Test Plan is filed with the Department for review and approval.
52. **Forty five (45) days following** any source testing events, the Approval Holder shall ensure that a Final Report is completed in accordance with the requirements embodied in the Department's Code of Practice for Source Testing and that such Final Report is filed with the Department for review.

53. **By the end of each month**, the Approval Holder shall submit to the Department in Fredericton and the Department 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 summary of any operating problems related to the opacity monitors;
  - (c) a summary of all public complaints received for the month, including the nature of each complaint, the time and date each was received, and a description of any actions taken in response;
  - (d) a summary of any operating problems related to the continuous emission monitors and/or ambient air quality monitors;
  - (e) a Fuel Consumption Inventory report for Boiler #1, #2, #3 and the Biomass Boiler. The report shall include, as a minimum, the amount of each type of fuel burned and percentage of sulphur content of each type, where applicable;
  - (f) an estimate of the monthly emissions of Sulphur Dioxide, Particulate Matter, Nitrogen Oxide, Carbon Monoxide and Carbon Dioxide in tonnes from Boiler #1, #2, #3 and the Biomass Boiler exhaust stacks. The estimates are to be determined using the information in the Fuel Consumption Inventory report and the most current applicable AP-42 Emission Factor equations or equivalent;
  - (g) a summary of the monthly waste derived fuel volume and analysis;
  - (h) a detailed statement from the Approval Holder indicating compliance with Condition 34 of this Approval.
  - (i) a table, in a format approved by the Department, showing the quality assured 1-hour and 24-hour rolling average ambient concentrations for Sulphur Dioxide (SO<sub>2</sub>) in parts per billion measured at the Ambient Air Quality Monitoring Station and a graph showing the 1-hour and 24-hour rolling average concentrations.

- (j) a table in a format approved by the Department, showing: i) the number of times and the number of minutes for each day when the Opacity is greater than 20% but less than 40% for more than 4 minutes per half hour; ii) the number of times and the number of minutes for each day when the Opacity is greater than 40% but less than 60% for more than 3 minutes per quarter hour; and iii) the number of times and number of minutes for each day when the Opacity is greater than 60% in the associated exhaust gas stack for the Common Exhaust Stack and the Boiler No. 3 Exhaust Stack and for Boiler No. 3 Exhaust Stack and the biomass boiler exhaust stack once the Biomass Boiler Project is completed;
  - (k) a table showing the number of hours that Boiler No. 1 and Boiler No. 2 were operating on No. 6 fuel oil and on natural gas for the month, and the cumulative total for the calendar year; and
  - (l) a table showing the amount of No. 6 fuel oil used by Boiler No. 3, for the month and the cumulative total for the calendar year (in MMBTU heat input and m<sup>3</sup>).
54. **By February 15 of each year**, the Approval Holder shall submit to the Department an annual air quality report for the previous year. The report shall be submitted electronically, and shall contain the following information:
- (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
  - (b) an itemized list of Sulphur Dioxide emissions from process sources at the facility in tonnes per year; and
  - (c) the total Sulphur Dioxide emissions in tonnes per year from the Mill Complex Emission Sources.



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

Fiona Bragdon, P.Eng.

Approval Engineer, Industrial Processes