

# Environment Act Licence Loi sur l'environnement Licence

Manitoba  
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Manitoba



Licence No./Licence n° 1339 RR  
Issue Date/Date de délivrance January 26, 1990

Revised: August 28, 1997  
January 11, 1999

IN ACCORDANCE WITH THE MANITOBA ENVIRONMENT ACT (C.C.S.M. c. E125)  
THIS LICENCE IS ISSUED PURSUANT TO SECTION 11(1) TO:

## TOLKO INDUSTRIES LTD.: "the Licencee"

The following limits, terms and conditions shall be complied with in connection with the existing 400 tonne per day Kraft Pulp Mill and the proposed 500 tonne per day Bleached Kraft Mill operated by the Licencee at The Pas, Manitoba:

### A. Existing 400 Tonne Per Day Kraft Pulp Mill Operation:

1. The Licencee shall not discharge effluent from the Kraft Pulp Mill operation except at the final discharge point.
2. The Licencee shall not discharge effluent from the primary clarifier to the aerated lagoon inlet which contains total suspended solids in excess of 6.5 kilograms per air dried tonne of product, as determined by monitoring specified in Clause A4.
3. The Licencee shall not discharge effluent from the final discharge point which contains pollutants, as determined by monitoring specified in Clause A4, in excess of the following levels:
  - (a) the bio-chemical oxygen demand of the effluent is greater than 32.0 kilograms per air dried tonne of product;
  - (b) the pH of the effluent is less than 6.5 or greater than 9.5;
  - (c) the temperature of the effluent is greater than 35° Celsius; and
  - (d) the effluent is toxic to fish when tested in accordance with Schedule D of Federal Fisheries Act Regulation SOR/71/578.
4. The Licencee shall undertake monitoring of the following parameters and in the following manner:
  - (a) daily loadings in kilograms per day for bio-chemical oxygen demand at the final discharge point and for total suspended solids at the aerated lagoon inlet, based on a composite sample representative of the effluent and using standard methods;
  - (b) daily production of pulp in air dried tonnes;
  - (c) daily effluent flow rate at the final discharge point in cubic metres per day;
  - (d) pH at the final discharge point as monitored continuously; and
  - (e) temperature at the final discharge point as monitored once per day.

The results of the monitoring shall be reported to the Director on a monthly basis within thirty days of the end of the month in which the samples were taken and in a form acceptable to the Director.

5. The Licencee shall maintain existing air pollution control equipment on all sources of emissions to air, to minimize emissions to air and maintain acceptable air quality in the environs of the existing mill operation. The Director may specify actions to be taken by the Licencee in this regard.

**B. Converted 500 Tonne Per Day Bleached Kraft Mill Operation:**

1. Clause B of this Licence is based upon a nominal mill capacity of 500 tonnes per day of air dried product.
2. The Licencee shall not discharge any wastewater effluent to the Saskatchewan River except via an in-stream, multiport diffuser of a design acceptable to the Director.
3. The Licencee shall not discharge effluent from the Bleached Kraft Mill operation except at the final discharge point.
4. The Licencee shall not discharge effluent from the final discharge point which contains pollutants, as determined by monitoring specified in Clause B5, in excess of the following levels:

<u>Pollutant</u>	<u>Level</u>
Bio-Chemical Oxygen Demand	10 kilograms per air dried tonne of product
Total Suspended Solids	5 kilograms per air dried tonne of product
Adsorbable Organic Halogens	1.5 kilograms per air dried tonne of product
Dioxins (2,3,7,8 TCDD)	Non-detectable*

<u>Pollutant</u>	<u>Level</u>
Furans (2,3,7,8 TCDF)	Non-detectable*
Total Nitrogen	5 milligrams per litre
Total Phosphorus	1 milligram per litre
pH	Less than 6.5 or greater than 9.5
Sulphate	250 milligrams per litre
Sodium	60 milligrams per litre
Resin/Fatty Acids	2 milligrams per litre
Temperature	35° Celsius
Visible Solids/Foam/Oil	Not visible.

\* the detection limit will be 10 parts per quadrillion unless otherwise specified by the Director.

5. The Licencee shall conduct monitoring of the effluent quality at the final discharge point (using standard methods) and at a frequency and manner outlined in the following table:

<u>Pollutant</u>	<u>Frequency</u>	<u>Manner</u>
Biochemical Oxygen Demand	Daily	composite sample
Total Suspended Solids	Daily	composite sample
Adsorbable Organic Halogens	Three times per week	composite sample
Dioxins (2,3,7,8 TCDD)	Weekly	composite sample
Furans (2,3,7,8 TCDF)	Weekly	composite sample
Total Nitrogen	Weekly	composite sample
Total Phosphorus	Weekly	composite sample
pH	Continuous	-
Sulphate	Weekly	composite sample
Sodium	Weekly	composite sample
Resin/Fatty Acids	Monthly	composite sample
Temperature	Once per day	-

6. The Licencee shall monitor:
- the volume of effluent being discharged from the final discharge point on a continuous basis; and
  - daily production of pulp in air dried tonnes;
- in a manner acceptable to the Director.
7. The Licencee shall twice every month, and in a manner acceptable to the Director:
- determine the toxicity of the effluent discharged at the final discharge point using Rainbow Trout, 100% effluent concentration, and a 96 hour static test; and
  - at the end of the 96 hour static test analyze the exposed fish to determine the level of ethoxyresorufindiethylglase in their livers.
8. The Licencee shall not discharge effluent from the final discharge point which is mortal to any fish when tested in accordance with Clause B7(a) of this Licence.
9. The Licencee shall submit a report to the Director on a monthly basis within thirty days of the end of the month in which the samples were taken, which outlines a summary of all monitoring results conducted in accordance with Clauses B5, B6, and B7 of this Licence. The form of reporting the data shall be acceptable to the Director.
10. The Director shall review the frequency of monitoring required once trends are established and determine if the frequency can be relaxed or if the frequency should be increased. This review shall take place no later than three months after startup of the converted mill.

11. The Licencee shall not discharge total particulate matter from:
  - (a) the recovery boiler in excess of 0.23 grams per dry standard cubic metre, calculated at 25° Celsius and 760 millimetres of mercury and corrected to 8% oxygen by volume;
  - (b) the lime kiln in excess of 0.46 grams per dry standard cubic metre, calculated at 25° Celsius and 760 millimetres of mercury and corrected to 10% oxygen by volume;
  - (c) the power boilers in excess of 0.57 grams per dry standard cubic metre, calculated at 25° Celsius and 760 millimetres of mercury and corrected to 12% carbon dioxide by volume; and
  - (d) the smelt dissolving tank in excess of 0.12 grams per kilogram of black liquor solids.
  
12. The Licencee shall not discharge total reduced sulphur from:
  - (a) the recovery boiler in excess of 20 parts per million calculated as hydrogen sulphide on a dry gas basis and corrected to 8% oxygen by volume;
  - (b) the lime kiln in excess of 40 parts per million calculated as hydrogen sulphide on a dry gas basis and corrected to 10% oxygen by volume; and
  - (c) the smelt dissolving tank in excess of 0.016 grams per kilogram of black liquor solids.
  
13. The Licencee shall not discharge sulphur dioxide from the pulp mill operation in excess of 1.6 kilotonnes per calendar year.
  
14. The Licencee shall not discharge chlorine from the chlorine scrubber stack in excess of 0.016 kilograms per air dried tonne of product.
  
15. The Licencee shall not discharge chlorine dioxide from the chlorine dioxide scrubber stack in excess of 0.056 kilograms per air dried tonne of product.
  
16. The Licencee shall limit the emission of the following pollutants from the Bleached Kraft Mill operation to such an extent that ground level concentrations outside the property line of the operation do not exceed the following levels:

<u>Pollutant</u>	<u>Time Period of Measurement</u>	<u>Concentration (Per cubic metre of air)</u>
Total Suspended Particulates	24 hour	120 micrograms
Total Reduced Sulphur (Hydrogen Sulphide)	1 hour	15 micrograms
	24 hour	5 micrograms
Sulphur Dioxide	1 hour	900 micrograms
	24 hour	300 micrograms
Chlorine Dioxide	1 hour	75 micrograms
	24 hour	30 micrograms
Chlorine	1 hour	270 micrograms
	24 hour	150 micrograms

<u>Pollutant</u>	<u>Time Period of Measurement</u>	<u>Concentration (Per cubic metre of air)</u>
Total Chlorinated Dioxins and Furans	1 hour	$\frac{x}{450} + \frac{y}{22500} = 0.89^*$
	24 hour	$\frac{x}{30} + \frac{y}{1500} = 1.0^*$

\* **x = total chlorinated dioxins in picograms per cubic metre**

**y = total chlorinated furans in picograms per cubic metre**

17. The Licencee shall, on a continuous basis and in a manner acceptable to the Director, monitor the concentration of total reduced sulphur and opacity in the recovery boiler stack.
18. The Licencee shall, on a continuous basis and in a manner acceptable to the Director, monitor the concentration of total reduced sulphur in the lime kiln stack.
19. The Licencee shall, on a continuous basis and in a manner acceptable to the Director, monitor opacity in the power boiler stacks.
20. The Licencee shall, twice every calendar year, conduct detailed stack sampling to determine the level of pollutants as outlined in Clauses B11, B12, B13, B14 and B15 of this Licence. The stack sampling shall be conducted in a manner as specified by the Director and shall be completed prior to October 1 of each year. Results of the stack sampling shall be submitted to the Director by December 1 of the same year.
21. The Licencee shall, at locations and in a manner acceptable to the Director, install and operate ambient air monitors to continuously monitor the ambient air for sulphur dioxide, total reduced sulphur (hydrogen sulphide), wind speed and direction. The monitors shall be in place and operating prior to June 1, 1990.
22. The Licencee shall, at locations, frequency and in a manner acceptable to the Director, conduct ambient air monitoring for total suspended particulates, chlorine dioxide, chlorine, and total chlorinated dioxins and furans.
23. The Licencee shall submit a report to the Director on a monthly basis, within thirty days of the end of the month in which the samples were taken, which outlines a summary of monitoring results conducted in accordance with Clauses B17, B18, B19, B21, and B22 of this Licence. The form of reporting the data shall be acceptable to the Director.

**C. General Environmental Conditions:**

1. The Licencee shall construct and operate a solid waste disposal site in accordance with MR 98/88R under The Environment Act. The waste disposal site shall be operational by August 1, 1990.
2. The Licencee shall, by March 1, 1990, submit plans for operation and maintenance of a domestic drinking water supply in accordance with MR 330/88R and 331/88R under The Public Health Act. The plans shall include handling and disposal of backwash effluent from the treatment plant.
3. The Licencee shall handle and store gasoline and associated products in accordance with MR 97/88R under The Environment Act.
4. The Licencee shall dispose of:
  - (a) dewatered sludge from the wastewater treatment clarifier and aerated lagoon;
  - (b) water treatment plant backwash water; and
  - (c) waste oils and lubricating fluids;in a manner acceptable to the Director.
5. The Licencee shall handle, store and dispense any dangerous goods in accordance with The Dangerous Goods Handling and Transportation Act and applicable regulations.
6. The Licencee shall ensure that, at all times, the mill and related equipment and the wastewater and air pollution control equipment and treatment systems which are installed or used to achieve compliance with this Licence are properly operated and maintained and that staff involved in these processes are adequately trained and that training is regularly upgraded.
7. The Licencee shall prepare a contingency plan to provide emergency response to potential environmental accidents at its facilities, in consultation with local government officials in The Pas and the public, for approval by the Director. A draft plan shall be submitted by August 1, 1990.
8. The Licencee shall conduct ongoing staff training to ensure the contingency plan can be effectively implemented under emergency conditions, shall make available and maintain appropriate equipment and shall implement process controls to regulate the accidental release of contaminants, to the extent practical. The Director may specify such controls from time to time.
9. The Licencee shall cooperate fully with a Citizen Advisory Group to be established by the Director pursuant to the recommendation of the Manitoba Clean Environment Commission in its Report on Hearings of November, 1989. The Licencee shall fund reasonable expenses of this group at a level to be specified by the Director in consultation with the Licencee.

10. The Licencee shall conduct baseline monitoring, commencing no later than June 1, 1990, and to be completed prior to the startup of the converted Bleached Kraft Pulp Mill, to determine the level of dioxins and furans in sediments, bottom organisms and fish in the area of the mill discharge as well as any other parameters as specified by the Director. The monitoring of the receiving watercourse shall continue after the startup of the converted Bleached Kraft Pulp Mill in a manner and frequency as specified by the Director.
11. The Licencee shall undertake a study to verify the model predictions presented in its project Environmental Impact Assessment, of mixing zone area, pollutant levels and fish tainting in the Saskatchewan River according to a schedule specified by the Director, after startup of the converted Bleached Kraft Pulp Mill.
12. The Licencee shall conduct monthly testing for fish tainting in situ, using caged Rainbow Trout in the mixing zone until trends are established as determined by the Director. The testing shall commence after startup of the Bleached Kraft Mill operation.
13. The Licencee shall develop a contingency plan for the avoidance of thermal shock loading to the Saskatchewan River in the event of plant malfunction or shutdown during Winter operations. The plan shall be submitted to the Director on or before August 1, 1990.
14. The Licencee shall sample and analyze any wastewater or air emission stream at such a location, and in such a manner, and for such pollutants and characteristics, and at such frequency and for such duration of time as may be specified by the Director.
15. The Licencee shall, at the request of the Director, from time to time, investigate specific areas of concern regarding any aspects of the wastewater treatment and disposal system of the operation, and provide the Director with such engineering studies, drawings, specifications, analyses of wastewater streams, flow rates, and such other information as is so requested.
16. In this Licence:
  - (a) "air dried tonne of product" means product as weighed in accordance with standard industry practice, for purpose of inventory control and billing and normally containing no more than 10% moisture;
  - (b) "composite sample" means a quantity of effluent consisting of a minimum of three equal volumes of effluent collected at approximately equal time intervals over a sampling period of not less than 7 hours and not more than 24 hours, or consisting of effluent collected continuously at an equal rate over a sampling period of not less than 7 hours and not more than 24 hours;
  - (c) "final discharge point" is the monitoring station located in the discharge ditch to the west of the aerated lagoon unless otherwise designated by the Director; and

- (d) "standard methods" means:
- (i) a procedure published by Manitoba Environment as either a standard method or the equivalent standard method;
  - (ii) a procedure set out in 'Standard Methods for the Examination of Water and Wastewater', published jointly by the American Public Health Association, the American Water Works Association, and the Water Pollution Control Federation, 16th Edition (1985), current at the date of testing; or
  - (iii) a procedure approved by the Director.

**Original Signed by**

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Larry Strachan, P. Eng.  
Director  
Environment Act

Client File No.: 3023.00