



PO Box 815 Stn Main · Winnipeg Manitoba Canada · R3C 2P4
Telephone / N° de téléphone : (204) 360-3018 · Fax / N° de télécopieur : (204) 360-3136
wvpenner@hydro.mb.ca

2010 12 22

Our file #00199-07311-0005_00

Mr. S.D. Topping, P. Eng.
Executive Director
Regulatory & Operational Services
Manitoba Water Stewardship
Box 11, 200 Saulteaux Cresc.
Winnipeg MB R3J 3W3

Dear Mr. Topping:

Re: **LAKE WINNIPEG REGULATION WATER POWER ACT LICENCE**

Manitoba Hydro hereby requests a Final Licence for Lake Winnipeg Regulation under the provisions of Water Power Regulation being Manitoba Regulation 25/88R. Subsection 43(1) of this Regulation and condition 18 of the Interim Licence provides for the issuance of a Final Licence upon completion of the project and observance of the Interim Licence conditions.

The Province of Manitoba issued the Interim Licence for Lake Winnipeg Regulation (LWR) on 1970 11 18 and a Supplementary Interim Licence on 1972 08 08. Manitoba Hydro completed project construction in 1976.

Before requesting the final licence, Manitoba Hydro resolved outstanding LWR issues with First Nations, communities and resource user groups inhabiting the area along the LWR waterways through agreement, remedial works, and on-going programming and processes. These accommodations were often reached in collaboration with the federal and provincial governments in tripartite and four-party arrangements.

The Cross Lake First Nation is committed to addressing LWR issues through the four-party Northern Flood Agreement of 1976 and the NFA Implementation Action Plan process currently in effect. The Norway House Cree Nation ratified a four-party Comprehensive Implementation Agreement (CIA) in 1997. An agreement based on the CIA model was reached with the Cross Lake Community Council in 2010 and is being finalized with the Norway House Community Council. Manitoba Hydro recognizes that the effects of LWR extend beyond the Water Power Act licence area, and are cumulative to the effects of other hydro-electric developments. Accordingly, the Corporation has entered into agreements and

processes to address adverse effects with First Nations, communities and resource user groups throughout the Nelson River. In addition to adverse effects agreements, Corporate programming is

2010 12 22

Page 2

Mr. S.D. Topping, P.Eng.

implemented throughout the LWR area to address environmental, transportation safety, and cultural and heritage features including the Waterways Management Program, the Coordinated Aquatic Monitoring Program, Water Level Forecast Notices, and archaeological programming.

Manitoba Hydro has longstanding working relationships with First Nations, communities and resource user groups along LWR waterways. As part of the final licensing process, Manitoba Hydro will carry out additional public involvement with these local people, and LWR stakeholders in general.

Lake Winnipeg Regulation is integral to Manitoba Hydro generation and transmission investments as it enhances power production for all generating stations on the Nelson River. The project also provides flood reduction and low level water support for Lake Winnipeg residents and communities.

Should you have any inquires on this matter or additional process requirements, please contact me at 360-3018.

Yours truly,

Original signed by:

Wesley Penner

W.V. Penner, P.Eng.
Manager
Hydraulic Operations

HJE/ljm/00199-07311-0005_00.doc
Att.

Copies as per attached list.

DISTRIBUTION LIST

Mayor Clarence Smith & Council
Cross Lake Community Council
Box 208
Cross Lake, MB R0B 0J0

Chief Garrison Settee & Council
Cross Lake First Nation
PO Box 10
Cross Lake, MB R0B 0J0

Chief Shirley Neepin & Council
Fox Lake Cree Nation
PO Box 369
Gillam, MB R0B 0L0

Mayor Cristo Spiess & Council
Norway House Community Council
Box 5100
Norway House, MB R0B 1B0

Chief Eric Apetagon & Council
Norway House Cree Nation
PO Box 250
Norway House, MB R0B 1B0

Mayor Martha Chartrand & Council
Pikwitonei Community Council
General Delivery
Pikwitonei, MB R0B 1E0

Chief Duke Beardy & Council
Tataskweyak Cree Nation
General Delivery
Split Lake, MB R0B 1P0

Mayor Donald Pronteau & Council
Thicket Portage Community Council
Box 80
Thicket Portage, MB R0B 1R0

Mayor Reg Meade & Council
Wabowden Community Council
Box 130
Wabowden, MB R0B 1S0

Chief Betsy Kennedy & Council
War Lake First Nation
General Delivery
Ilford, MB R0B 0S0

Chief Louisa Constant & Council
York Factory First Nation
General Delivery
York Landing, MB R0B 2B0

**Request for a Final
Lake Winnipeg Regulation
Water Power Act Licence
December 2010**

Submitted To:
Regulatory and Operational Services
Water Stewardship

Manitoba Hydro hereby requests a final licence for the Lake Winnipeg Regulation project. This project provides for the regulation of outflows from Lake Winnipeg and of water levels on Playgreen, Kiskittogisu and Kiskitto Lakes. Regulation is for the benefit of water power development on the Nelson River and for flood damage reduction and low level support on Lake Winnipeg.

The principal works of the project are the Two-Mile, Eight-Mile and Ominawin Bypass Channels, the Kiskitto Dam and Inlet Control Structure, the Black Duck Control Structure, the Cross Lake Weir, the Jenpeg Control Structure and associated dykes, and all necessary machinery and equipment required for controlling the flow of water for the development of water power.

The physical works of the undertaking were completed on July 16, 1976. These works are being operated for the development of water power and to provide flood relief and low level support for Lake Winnipeg. A weir known as the Cross Lake Weir was completed in October 1991 and was built to mitigate the water level effects of the project on Cross Lake.

The following is requested under the provisions of Sections 44 and 45 of the Water Power Regulation 25/88R.

a. Applicant:

Manitoba Hydro

b. Address:

360 Portage Avenue
P.O. Box 815 Stn Main
Winnipeg, Manitoba
R3C 2P4

Occupation:

Electric and Gas Utility

c. Name of undertaking:

The name of the undertaking is known as Lake Winnipeg Regulation. The project enables the regulation of outflows from Lake Winnipeg with increased outflow capability.

d. Interim and Supplementary Licence authorizing the undertaking:

The interim and supplementary licence authorizing the existing works are dated 1970 11 18 and 1972 08 08 respectively. The descriptions of these licences are INTERIM or SUPPLEMENTARY LICENSE FOR THE REGULATION OF WATER LEVELS FOR WATER POWER PURPOSES Lake Winnipeg, Playgreen, and Kiskittogisu.

e. Observance of conditions:

Manitoba Hydro submits that it has observed and fulfilled all the requirements necessary for the issuance of a Final Licence. Upon the direction of Water Stewardship, a report can be prepared to support this statement.

f. Water Quantity:

The project has increased the Lake Winnipeg outflow capability between 40 to 50 percent depending primarily on the level of Lake Winnipeg. Approximately 85% of the water from Lake Winnipeg flows into the west Nelson River. This water is regulated and is released into the Nelson River at Cross Lake. A very small percentage of this water is diverted into Kiskitto Lake and then returned to the Nelson River via the Minago River. The remaining water from Lake Winnipeg flows into the east Nelson River which is uncontrolled.

g. Place:

The Two-Mile Channel excavation connects Lake Winnipeg to Playgreen Lake near Warren Landing and is located at approximately latitude 53° 50' and longitude 98° 05'. The Eight-Mile Channel excavation connects Playgreen Lake approximately 43 kilometers northwest of Warren Landing to Kiskittogisu Lake via the Kiskittogisu River and is located at approximately latitude 54° 00' and longitude 98° 05'. The Ominawin Bypass Channel excavation of approximately three kilometers in length is located at approximately latitude 54° 25' and longitude 99° 05'. In addition, an excavation of rock at the head of Kisipachewuk Rapids which connects Kiskittogisu Lake to the Nelson River is located at latitude 54° 16' and longitude 98° 17'.

Outflow from Lake Winnipeg is regulated by a control structure at a site known as Jenpeg located just upstream of Cross Lake at approximately latitude 54° 32' and longitude 98° 02'. Intermittent dyke sections connect pieces of high ground upstream from the west abutment of the control structure to a point between Kiskittogisu Lake and Kiskitto Lake approximately 48 kilometres away. A saddle dam connects to high ground upstream of the east abutment of the control structure over a distance of approximately 1,525 metres. A small diversion channel to Kiskitto Lake provides drainage for Stan Creek upstream of the west dyke location. A small diversion channel to the Minago River plus a small stoplog control structure provide an outlet for Kiskitto Lake upstream of the west dyke location.

Cross Lake Weir is located at two of the three outlets of Cross Lake located at approximately latitude 54° 42' and longitude 97° 54'.

h. Requested Final Licence Operating Conditions:

Manitoba Hydro requests the same operating conditions as stated in the Supplementary Interim Licence.

i. Datum:

References to water surface elevations are based on Geodetic Survey of Canada (GS of C). Water surface measurements on Playgreen and Kiskittogisu lakes are based on

GS of C 1969 Local Adjustment and those on Lake Winnipeg are based on GS of C 1960 Local Adjustment (as measured at Berens River, Manitoba).

j. Principal Works:

1) Jenpeg Control Structure:

An 18.3 metre high control structure of reinforced concrete with five 12.2 metre wide gated openings across the peninsula on the left bank of the West Channel of the Nelson River just upstream of Cross Lake, with a rock fill dam on the west abutment and a river channel closure rock fill dam on the east abutment. This includes a reinforced concrete headblock situated adjacent to the control structure containing gated openings forming part of the control works.

2) Jenpeg Saddle Dams:

Four earthfill saddle dams, of up to 975 metres in length each, across low ground on the west abutment within four miles southwesterly from the Jenpeg control structure, having 7.3 metre wide crests from 219.4 to 220.1 metres (720 to 722 feet) in elevation.

3) Dykes:

Intermittent earthfill dykes with crest elevations between 219.4 to 220.1 metres (720 to 722 feet) totaling approximately 6.4 kilometres in length along the west side of Kiskittogisu Lake, the Kisipachewuk Rapids channel, and across the Kiskitto Lake outlet to high ground, having a top width 7.3 metres.

4) Saddle Dam:

A saddle dam of approximately 1,525 metres in length across low ground on the right bank of the west channel within five kilometers southeasterly from the Jenpeg control structure, having a 7.9 metre wide crest at elevation 219.4 metres (720 feet).

5) Ominawin By-pass Channel

Ominawin By-pass Channel excavation on the west side of the Ominawin Rapids channel, over a distance of approximately 3,350 metres with a total bottom width of approximately 395 metres.

6) Kisipachewuk Channel Improvements

Channel excavation at the head of Kisipachewuk Rapids over a distance of approximately 91 metres with a bottom width of approximately 61 metres.

7) Kiskitto Lake Inlet Control Structure

The Kiskitto Lake Inlet Control Structure regulates flow from the Nelson River into Kiskitto Lake. Flow is regulated with one gate mounted in a concrete structure.

8) Black Duck Control Structure and Stan Creek Diversion

An overflow stoplog weir control structure and drainage channel to drain Kiskitto Lake into Black Duck Creek and further into Drunken Lake on the Minago River.

9) Eight-Mile Channel

A channel to improve flow between Playgreen Lake and Kiskittogisu Lake having a nominal length of approximately 12,800 metres, a bottom width varying from approximately 120 to 305 metres and an invert varying from approximately elevation 208.5 to 211.8 metres (684 to 695 feet). The channel extends

approximately 1,525 metres into Playgreen Lake and approximately 610 metres into Kiskittogisu Lake with a total excavated length of approximately 14,900 metres.

10) Two-Mile Channel

A channel to improve flow between Lake Winnipeg and Playgreen Lake. The nominal length is approximately 3,660 metres, the bottom width is approximately 125 metres with its invert varying from approximately 208.6 to 208.9 metres (684.3 to 685.3 feet) in elevation. The excavation extends approximately 2,135 metres into Playgreen Lake and approximately 760 metres into Lake Winnipeg. The total length of excavation is approximately 6,550 metres.

11) Cross Lake Weir

A weir built across two of the three outlets of Cross Lake to support low water levels and reduce high water levels resulting from flows from the regulation of Lake Winnipeg. One outlet channel of the Nelson River was partially filled and another channel was enlarged.

k. Description of Lands Required:

Lands of the Province required for entering, occupation, maintenance and operation of the undertaking are broadly described as located between Lake Winnipeg and the Jenpeg site. These lands are indicated on Plan Nos. 39-2-1183 (Rev. 1) and comprise an estimated 7,222 hectares (17,846 acres) as follows:

- (i) Lands of the province not covered by water required for main diverting works, powerhouse, etc., comprise 684.7 hectares (1,692 acres).
- (ii) Lands of the province covered by water required for main diverting works, powerhouse, etc., comprise 299.5 hectares (740 acres).
- (iii) Lands of the province required only to be flooded in connection with the storage or pondage of water, comprise 6,237.8 hectares (15,414 acres).
- (iv) Lands of the province required only for transmission line right-of-ways, comprise 0 hectares (0 acres).
- (v) Lands of the province required only for other right-of-ways, comprise 0 hectares (0 acres).

The quantum of lands required for the project will be re-assessed.

l. Undertaking:

The purpose of the project is to regulate the flow of water from Lake Winnipeg for power production purposes for existing and future generating stations on Nelson River. The project increases the magnitude and reliability of outflows from Lake Winnipeg particularly in the winter months. This increase in reliable flow results in additional dependable and surplus power and energy used to satisfy the licensee's obligations under the Manitoba Hydro Act, including both those in Manitoba and in the electricity export markets. The increase in outflow capacity is also useful in reducing the number and severity of flood events on Lake Winnipeg. The ability to regulate outflows and store water in Lake Winnipeg also provides for water level support during drought conditions.

m. Land Rentals and request for adjustment:

Land rentals from the initial development to 1995 were paid pursuant to Order-In-Council 700/1979 at \$25,000 per annum. Since 1996, land rentals have been paid at \$17,846.20 per annum pursuant to Order-In-Council 597/1995.

n. Severance line:

Manitoba Hydro anticipates that the area encumbered by the severance line under the interim and supplementary interim licence can be reduced. The severance line will be determined by mutual agreement in accordance with the Water Power Regulation.

o. Term of Licence:

Manitoba Hydro requests the terms of this Final Licence to be 50 years as stated in Article 15 (j) and 15 (k) of the Interim and Supplementary Interim licences respectively and as permitted under Section 45 of the Regulation. This will result in a Final Licence expiration date of 2026 07 16.