



Wek'èezhì
Land and Water Board

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Pursuant to the *Mackenzie Valley Resource Management Act* and Regulations, the Wek'èezhì Land and Water Board, hereinafter referred to as the Board, hereby grants to:

Dogrib Power Corporation
(Licensee)

of P.O Box 1567 100 Borden Drive Bay 25, Stanton Plaza Yellowknife, NT X1A 2P2
(Mailing Address)

Hereinafter called the Licensee, the right to alter, divert or otherwise use water subject to the restrictions and conditions contained in the *Waters Act* and Regulations made there under and subject to and in accordance with the conditions specified in this Licence.

Licence Number: W2014L4-0001 (Renewal of MV2003L4-0014)

Licence Type: A

Water Management Area: NORTHWEST TERRITORIES 01

Location: Snare Cascades, Snare River Basin, NT
63° 25.3' N and 116° 13.2' W

Purpose: STORAGE AND DIVERSION OF WATER FOR A
HYDROELECTRIC POWER UNDERTAKING AND
ASSOCIATED USES

Description: CLASS 1 HYDROPOWER GENERATION

Effective Date of Licence: SEPTEMBER 5, 2014

Expiry Date of Licence: MAY 29, 2024

This Licence issued and recorded at Yellowknife, NT includes and is subject to the annexed conditions.

Wek'èezhì Land and Water Board:


Witness – Mr. Ryan Fequet


Chair – Ms. Violet Camsell-Blondin

APPROVED BY:

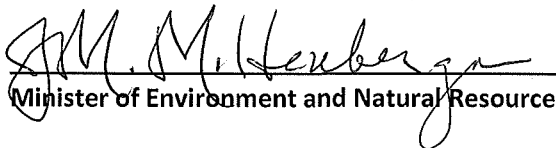

Minister of Environment and Natural Resources

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Part A: Scope and Definitions

1. Scope

- a) This Licence entitles the Dogrib Power Corporation to store and divert water for the hydroelectric power undertaking and associated uses related to the Snare Cascades Power Generation Facilities on the Snare River, Northwest Territories.
- b) This Licence is issued subject to the conditions contained herein with respect to the use of water and the depositing of Waste of any type in any waters or in any place under any conditions where such Waste or any other Waste that results from the deposit of such Waste may enter any waters. Whenever new Regulations are made or existing Regulations are amended under the *Waters Act*, or other statutes imposing more stringent conditions relating to the quantity or type of Waste that may be so deposited or under which any such Waste may be so deposited, this Licence shall be deemed, upon promulgation of such Regulations, to be automatically amended to conform with such Regulations.
- c) Compliance with the terms and conditions of this Licence does not excuse the Licensee from its obligation to comply with the requirements of any applicable Federal, Territorial, Tłıchǫ, or Municipal laws.



2. Definitions

"Act" means the *Waters Act*.

"Analyst" means an Analyst designated by the Minister under subsection 65(1) of the Act.

"Board" means the Wek'èezhii Land and Water Board established under Section 57.1 of the *Mackenzie Valley Resource Management Act*.

"Dam Safety Guidelines" means the Canadian Dam Association's (CDA) *Dam Safety Guidelines* (DSG), 2007 or subsequent editions. The scope and applicability of the DSG referred to in this Licence, is presented in Section 1 of the DSG.

"Dam Safety Review" means a comprehensive formal review carried out at regular intervals to determine whether an existing dam is safe, and if not safe, to determine required safety improvements; within the Snare Cascades Power Generation Facilities it means the spillway dam, power canal dyke and powerhouse (source: Canadian Dam Association).

"Emergency Preparedness Plan (EPP)" means a document that contains procedures for dealing with emergencies at the dam or its associated facilities; and includes communication directories and inundation maps showing upstream and downstream water levels and arrival times of floods; within the Snare Cascades Power Generation Facilities it means the spillway dam, power canal dyke and powerhouse (source: Canadian Dam Association).

"Forebay" means a portion of water that is immediately upstream from the Power Generation Facility; within the Snare Cascades Power Generation Facilities it means the portion of water between the Snare Falls Power Generation Facilities and Snare Cascades Power Generation Facilities.

"Inspector" means an Inspector designated by the Minister under subsection 65(1) of the Act.

"Licenced Undertaking" means those activities identified in the Scope of this Licence as outlined in part A;

"Licensee" means the holder of this Licence.

"Minister" means a duly appointed member of the Executive Council who is responsible for the Act or the department responsible for administering that Act;

"Modification" means an alteration to the Licensed Undertaking that introduces a new structure or eliminates an existing structure and which the alteration does not change the purpose or function of the Licensed Undertaking as certified in writing by an independent Professional Engineer, but which does not increase the size of the area flooded by the Forebay.

"NWTPC Datum" means a relative elevation of 204.52 metres (671.0 feet) above sea level with an absolute elevation of 208.74 metres above sea level, which is assigned to the top of the steel pin (Pin No. 5) embedded in concrete in the north end of the Snare Falls headgate deck.



“Operation, Maintenance, and Surveillance Manual (OMS Manual)” means a document outlining the procedures for safe operation, maintenance, and surveillance of a dam; within the Snare Cascades Power Generation Facilities it means the spillway dam, power canal dyke and powerhouse (source: Canadian Dam Association).

"Power Generation Facilities" means the Forebay, power canal dyke, spillway dam, tailrace, intake and powerhouse as indicated on Drawing Number MEK 9529-6, dated March 6, 1994.

"Professional Engineer” means a person who is registered with the Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists in accordance with the *Engineering and Geoscience Professions Act*. S.N.W.T. 2006, V.16, or subsequent editions, as a Professional Engineer, and whose principal field of specialization is the design and construction of earthworks in a permafrost environment.

"Regulations" are those Regulations promulgated pursuant to section 63 of the Act.

“Reservoir” means a body of water which is impounded by one or more dams, inclusive of its shores and banks, and any facility or installation necessary for its operations; within the Snare Cascades Power Generation Facilities it means the Big Spruce Reservoir.

"Waste" means any substance defined as Waste by section 1 of the Act.



Part B: General Conditions

1. The Licensee shall file an **Annual Report** with the Board no later than March 31 of the year following the calendar year reported which shall contain the information set out in Schedule 1, Item 1.
2. Meters, devices, or other such methods used for measuring water levels and volumes of water used shall be installed, operated, and maintained by the Licensee to the satisfaction of an Inspector.
3. The Licensee shall comply with the Surveillance Network Program, which is annexed to and forms part of this Licence, and any amendment to the Surveillance Network Program as may be made from time to time by the Board.
4. The Licensee shall ensure a copy of this Licence is maintained at the site of operation at all times.
5. The Schedules, the Surveillance Network Program, and any compliance dates specified in this Licence may be amended at the discretion of the Board.
6. The Licensee shall operate in accordance with any plans approved pursuant to the conditions of this Licence and with any revisions to such plans, as may be made from time to time pursuant to the conditions of this Licence and as approved by the Board. If any plan is not approved by the Board, the Licensee shall revise the Plan according to the Board's direction and re-submit it to the Board for approval.
7. The Licensee shall comply with the Schedules, which are annexed to and form part of this Licence, and any amendments to the Schedules as may be made from time to time by the Board.
8. Within 90 days following the effective date of this Licence, the Licensee shall submit to the Board for approval, an **Engagement Plan**. The Plan shall be completed in accordance with the Mackenzie Valley Land and Water Board's *Engagement Guidelines for Applicants and Holders of Water Licences and Land Use Permits*, June 2013, or subsequent editions.
9. Within 60 days following the effective date of the Licence, the Licensee shall submit to the Board for approval a **Waste Management Plan**. The Plan must be in accordance with the Mackenzie Valley Land and Water Board's *Guidelines for Developing a Waste Management Plan*, March 2011, or subsequent editions.
10. The Licensee shall annually review the Plans referred to in Part B, Item 8 (the Engagement Plan) and Item 9 (the Waste Management Plan), and shall submit updates to this Plan to the Board for approval at the following times:
 - a) a minimum of 60 days prior to any proposed changes to the approved Plan; and
 - b) upon the request of the Board.



Part C: Conditions Applying to Operation

1. The Licensee may store and divert water to generate electrical power from the Power Generating Facilities as illustrated on Drawing Number MEK 9529-6 or as Modified by Part D, Item 1.
2. The Licensee shall operate the Power Generation Facilities in a manner such that:
 - a) The Forebay water levels do not exceed 184.5 metres (NWTPC Datum) or fall below 181.88 metres (NWTPC Datum). Exceptions to the minimum water level of 181.88 metres (NWTPC Datum) can be made only after a written request is submitted to the Board by the Licensee and approved by the Board.
 - b) The overflow dam, its abutments, and the power canal dyke are maintained to the satisfaction of an Inspector.
3. The Licensee shall submit new stage-discharge curves for the main Forebay spillway each time the Power Generation Facilities and/or the spillway are Modified in accordance with Part D, Item 1.
4. The Licensee shall implement the approved Operation, Maintenance, and Surveillance Manual. Future updates to the manual must be submitted to the Board for approval. The manual must be in accordance with the Canadian Dam Association Guidelines, and include provisions for routine inspections.
5. The Licensee shall keep on record **Six (6)-Month Reservoir Operation Plans** for the periods of January 1 to June 30 and July 1 to December 31 of each year. These Plans will show forecasted monthly average river inflow and outflow in cubic metres per second and reservoir levels for the following six (6) month period. The Board and the Inspector can request to view these plans at any time.
6. The Licensee shall conduct **Dam Safety Reviews** of all Power Generation Facilities by a qualified geotechnical engineer registered in the Northwest Territories. This inspection shall be undertaken by December 1, 2016, when the annual water levels in the Big Spruce Reservoir are high and the Snare River is under normal operating conditions, and every five (5) years thereafter or unless otherwise approved by the Board. The Dam Safety Review inspections and dam safety inspections will be conducted during the year at the discretion of a Geotechnical Engineer or other qualified engineers.
7. The engineer's report shall be submitted to the Board no later than sixty (60) days after the inspection, and include a covering letter from the Licensee outlining an **Implementation Plan** to respond to the engineer's recommendations. The Licensee shall incorporate the report recommendations in the appropriate and revised Emergency Preparedness Plan, Water Management and Reservoir Operation Plan, and the respective Six-Month Reservoir Operation Plans. The Licensee shall provide documentation and rationale, supported by a Professional Engineer, of any decisions that deviate from the engineer's Dam Safety Review recommendations.



The Dam Safety Review shall:

- a) be in accordance with the Canadian Dam Association Guidelines and subject to any updated and approved Guidelines;
- b) be completed by a qualified engineer registered in the Northwest Territories; and
- c) be completed at a minimum five (5) year intervals, or unless otherwise approved by the Board.

In addition to conforming to the Guidelines, the Review shall include, but not be limited to the following:

- a) a classification of each dam;
- b) Dam Safety Review site inspections and dam safety inspections frequency;
- c) an operating procedures review;
- d) testing of discharge facilities;
- e) testing of stand-by equipment (including generators);
- f) a review of maintenance equipment;
- g) a review of surveillance and monitoring methods and frequency;
- h) a review of emergency preparedness; and
- i) a review of compliance with previous reports.



PART D: Conditions Applying to Modifications

1. The Licensee may, without written approval from the Board, carry our Modifications to the Power Generation Facilities provided that such Modifications are consistent with the terms of this Licence and the following requirements are met:
 - a) The Licensee has notified the Board and Inspector in writing of such proposed Modifications at least 60 days prior to beginning the Modifications;
 - b) Such Modifications do not place the Licensee in contravention of either the Licence or the Act;
 - c) The Board has not, during the 60 days following the notification of the proposed Modifications, informed the Licensee that further information is required or that the review of the proposal will require more than 60 days;
 - d) An Inspector has authorized the proposed Modifications and provided a letter of notification to the Board; and,
 - e) The Board has not rejected the proposed Modifications.
2. Modifications for which all of the conditions referred to in Part D, Item 1 have not been met may be carried out only with written approval from the Board.
3. The Licensee shall submit to the Board, prior to carrying out any Modifications, relevant design drawings stamped by a professional engineer, construction schedules and any other data requested by the Board for any Modifications requiring Board approval as per Part D, Item 2.
4. The Licensee shall submit to the Board within 90 days of completing any Modifications that result in a change to the area flooded by the Forebay, an updated contour plan of the flooded areas of the Forebay and an updated Forebay area capacity curve.
5. The Licensee shall provide to the Board as-built plans and drawings stamped by a Professional Engineer of the Modifications referred to in this Licence within 90 days following the completion of the Modifications.



Part E: Conditions Applying to Contingency Plans

1. The Licensee shall implement the approved **Emergency Preparedness Plan** and notify the Inspector immediately should a failure of any of the structures associated with the Power Generation Facilities occur, or seem likely to occur, which would result in an uncontrollable release of water.
2. The Licensee shall provide the Board with detailed written reports of each event referred to in part E, Item 1. These reports shall be submitted to the Board no later than 30 days following the occurrence of the event.
3. Within 90 days following the effective date of this Licence, the Licensee shall submit to the Board for approval a **Spill Contingency Plan**. The Plan must be in accordance with Indian and Northern Affairs Canada's *Guidelines for Spill Contingency Planning, 2007*, or subsequent editions. In addition to conforming to these Guidelines, the Plan shall include a description of notification and communication procedures to advise any downstream user.
4. The Licensee shall annually review the Plans referred to in Part E, Item 1 (Emergency Preparedness Plan) and Part E, Item 3 (Spill Contingency Plan), and shall submit updates to these Plans to the Board for approval at the following times:
 - a) a minimum of 60 days prior to any proposed changes to the requirements in the approved Plan; and,
 - b) upon the request of the Board.
5. If, during the period of this License, a spill or an unauthorized discharge of waste occurs, or if such a discharge is foreseeable, the Licensee shall:
 - a) employ the relevant components of the Spill Contingency Plan;
 - b) report the incident immediately via the 24 Hour Spill Reporting Line (867) 920-8130 in accordance with the instructions contained in the Spill Report from NTW 1752/0593 or subsequent editions;
 - c) report each spill and Unauthorized Discharge to an Inspector within 24 hours; and,
 - d) submit to the Inspector a detailed report on each occurrence not later than 30 days after initially reporting the event.



Part F: Conditions Applying to Closure and Reclamation

1. The Licensee shall annually review the approved Interim Closure and Reclamation Plan and revise it to reflect any changes in operation, technology, and schedule, or revise the Plan at the request of the Board. Any proposed revisions shall be in accordance with the Canadian Dam Association Guidelines and shall be submitted to the Board for approval.
2. The Licensee shall submit a revised **Closure and Reclamation Plan** upon request of the Board.
3. The Licensee shall implement the approved Interim Closure and Reclamation Plan as approved by the Board in accordance with the schedules and procedures specified in the Plan and endeavor to carry out progressive reclamation of project areas which are abandoned prior to closure of operations.
4. The Licensee shall submit to the Board for approval a Final Closure and Reclamation Plan in accordance with the Canadian Dam Association Guidelines at least four years prior to the closure of the Snare Cascades operation. The Final Closure and Reclamation Plan shall be implemented as and when approved by the Board.
5. Compliance with the Closure and Reclamation Plans specified in this Licence shall not limit the legal liability of the Licensee, other than liability arising from provisions of the Act and corresponding Regulations.



Part G: Conditions Applying to Security and Water Use Fees

1. The Licensee shall maintain a security deposit in an amount which is in accordance with Schedule 2.
2. Upon request of the Board, the Licensee shall submit an updated liability estimate.
3. The amount of the security deposit required by Part G, Item 1 and Schedule 2 may be revised by the Board based on estimates of the current liability referred to in Part G, Item 2 of this Licence or based on such other information as may become available to the Board.
4. If the amount of the security deposit is revised by the Board as described under Part G, Item 3, the Licensee shall post the revised amount with the Minister within 90 days of the Board giving notice of the revised amount.
5. The water use fees shall be paid by the Licensee annually in advance of any water use.



Schedule 1
Part B: General Conditions

1. The Annual Report referred to in Part B, Item 1 shall include, but not be limited to, the following information:
 - a) A detailed record of Modifications and major maintenance work carried out on the Power Generation Facilities;
 - b) A list of any non-compliance events, and for each event, a brief explanation and a description of measures to prevent future non-compliance;
 - c) A summary of revisions to the Emergency Preparedness Plan (Part E, Item 1), OMS Manual (Part C, Item 4), Spill Contingency Plan (Part E, Item 3), and the Closure and Reclamation Plan (Part F, Item 2) that were approved during the year being reported;
 - d) A record of any geotechnical or maintenance work conducted as a result of inspections completed according to the OMS Manual referred to in Part C, Item 4 and the Dam Safety Reviews referred to in Part C, Item 6;
 - e) A status update on any outstanding issues that remain in the Implementation Plan resulting from the Dam Safety Reviews referred to in Part C, Item 6;
 - f) A summary of the progress of any studies or environmental effects monitoring being carried out;
 - g) An outline of any communications and spill training exercises carried out;
 - h) A list of all unauthorized discharges; and,
 - i) Any other details on water use, operating procedures, Modifications, maintenance work, or other topics, requested by the Board on or before November 1 of the year being reported.



Schedule 2
Part G: Conditions Applying to Security

1. Pursuant to subsection 35(1) of the Act and section 11 of the Waters Regulations, the Licensee shall maintain a security deposit of \$68,000.



Surveillance Network Program
Annex A to Water Licence W2014L4-0001

Part A – Location of Surveillance Stations

SNP Station #	Description
SC-1	Snare Cascades Forebay
SC-2	Snare Cascades Flow and Power Production
SC-3	Snare Cascades Spillway

Part B – Flow and Volume Measurement Requirements

1. Daily minimum, maximum, and mean forebay water levels shall be measured and recorded in metres at Surveillance Network Program Station Number SC-1.
2. Daily minimum, maximum, and mean water flow rates shall be measured and recorded in cubic metres per second through the powerhouse located at Surveillance Network Program Station Number SC-2.
3. Daily and monthly mean power production shall be recorded in Kilowatts at the powerhouse located at Surveillance Network Program Station Number SC-2.
4. Daily minimum, maximum, and mean water flow rates shall be measured and recorded in cubic metres per second over the spillway located at Surveillance Network Program Station Number SC-3.

Part C. Other Monitoring Requirements

1. The Surveillance Network Program (SNP) is effective on the effective date of the Licence.
2. The Licensee shall within thirty (30) days of the end of each quarter being reported, submit to the Board a Quarterly Report (January to March, April to June, July to September, and October to December inclusive). These reports shall contain all required data and information in an electronic and printed format acceptable to the Board, required by Part B, Items 1, 2, 3, and 4 of the "Surveillance Network Program". The reports shall highlight any non-compliance events.

