



August 5, 2016

Mr. Joshua Clark
Environmental Analyst
Northwest Territories Power Corporation
4 Capital Drive
Hay River, NT X0E 1G2

Dear Mr. Clark:

Re: N3L8-1838 – Northwest Territories Power Corporation – Remediation and Reclamation of the former Aklavik Power Plant Site, Aklavik, NWT

The Inuvialuit Water Board (IWB) is pleased to attach Water Licence N3L8-1838 granted to the Northwest Territories Power Corporation in accordance with the *Waters Act* for the period commencing August 15, 2016 and expiring December 31, 2019. Included with the attached Licence are the Terms and Conditions applying to the licence and the General Procedures for the Administration of Licences in that portion of the Inuvialuit Settlement Region located in the Northwest Territories. Please review the Licence, the Terms and Conditions and the General Procedures carefully and address any questions to the IWB.

A copy of this Licence and all documentation associated with the application for and issuance of this Licence has been filed in the Public Register. Copies are available at the IWB office and on the IWB website. All inspection reports and other documentation related to the implementation of this Licence will also be filed in the Public Register. All Public Register material will be considered if an amendment to the Licence is requested.

The IWB appreciates the cooperation of Northwest Territories Power Corporation in complying with the Terms and Conditions of the Licence. Should you have questions or concerns, please contact Mardy Semmler, Executive Director at (867) 678-2942.

Sincerely,

Roger Connelly
Chairperson

Attachments

Copied to: Philippe Thibert-Leduc, Water Resources Officer – ENR, Inuvik Region



INUVIALUIT WATER BOARD

Pursuant to the *Waters Act* and Waters Regulations the Inuvialuit Water Board, hereinafter referred to as the Board, hereby grants to

Northwest Territories Power Corporation

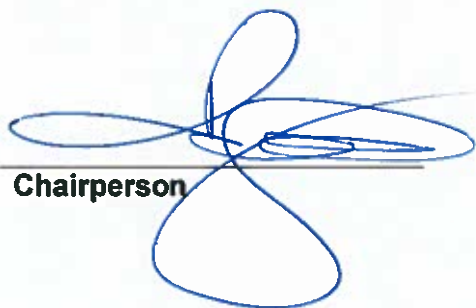
4 Capital Drive
Hay River, NT X0E 1G2
(Mailing Address)

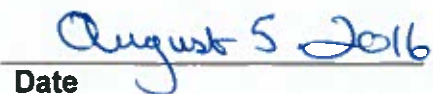
hereinafter called the Licensee, the right to deposit waste as provided for under the *Waters Act* and Waters Regulations and subject to and in accordance with the terms and conditions specified in this Licence.

Licence Number	N3L8-1838
Licence Type	"B"
Water Management Area	Northwest Territories 03
Location	68° 13' 6.24" North and 135° 0' 21.24" West Northwest Territories
Purpose	Waste Disposal
Description	Miscellaneous Undertaking
Quantity of Water Not To Be Exceeded	Not Applicable
Effective Date of Licence	August 15, 2016
Expiry Date of Licence	December 31, 2019

This Licence issued and recorded at Inuvik includes and is subject to the annexed conditions.

INUVIALUIT WATER BOARD


Chairperson


Date

PART A: SCOPE AND DEFINITIONS

1. Scope

- a) This Licence entitles the Licencee to dispose of waste associated with a miscellaneous undertaking for the remediation and reclamation of the former power plant site located in Aklavik within the Inuvialuit Settlement Region (ISR) of the Northwest Territories and with coordinates 68° 13' 6.24" North and 135° 0' 21.24" West.
- b) This Licence is issued subject to the conditions contained herein with respect to 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 deposits of such waste may enter any waters. Whenever new Regulations are made or existing Regulations are amended by the Commissioner in Executive Council 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 absolve the Licensee from responsibility for compliance with the requirements of all applicable federal, territorial and municipal legislation for which any and all applicable licences and permits shall also be obtained by Licensee.
- d) This Licence is issued subject to the conditions contained herein with respect to the deposit of waste as prescribed in Section 11 of the *Waters Act*.

2. Definitions

In this Licence: N3L8-1838

"Act" means the *Waters Act*;

"Amendment" means a change to any terms and conditions of this Licence as provided for under Section 36 (1)(b) of the *Waters Act*;

"Analyst" means an analyst designated by the minister under Section 65 (1) of the *Act*;

"Board" means the Inuvialuit Water Board continued under Section 13 (1) of the *Act*;

"Closure" means the permanent dismantlement of one or more components of the Project with the intent of making the components incapable of its intended use. This includes the removal of associated equipment and structures used in the construction or maintenance of the Project;

"Construction" means any activities undertaken to construct or build any component of, or associated with, the remediation, reclamation and closure of the Project;

"Discharge" or "Deposit" means the direct or indirect release of any waters or waste to the receiving environment;

"Engineer" means a professional engineer registered with the Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists and whose principal field of specialization is appropriate to address the components of the undertaking at hand;

"Inspector" means an inspector designated by the minister under Section 65 (1) of the *Act*;

“Licence” means this Type B Water Licence N3L8-1838 as issued by the Board in accordance with the *Act*, to the Licensee;

“Licensee” means the holder of this Licence;

“Minister” means a duly appointed member of the Executive Council who is responsible for the *Act*;

“Modification” means an alteration to a physical work that introduces a new structure or replaces or eliminates an existing structure and does not alter the purpose or function of the work, but does not include an expansion;

“Monitoring Program” means any program designed to collect data on the quality or quantity of surface water or ground water to assess impacts on the environment of the Project;

“Project” means the remediation and reclamation activities to be carried out at the former Aklavik power plant site, Aklavik NT as defined in the Water Licence Application and associated documents, which includes the Description of Undertaking;

“Receiving Environment” means, for the purpose of this Licence, the natural environment that receives any deposit or discharge of waste, including seepage or runoff, from the Project;

“Reclamation” means the process of restoring the Project area as nearly as possible to the same condition as it was prior to the commencement of the licensed activity;

“Regulations” means Waters Regulations promulgated pursuant to Section 63 of the *Act*;

“Remediation” means the removal, reduction or neutralization of substances, wastes or hazardous materials from a site so as to prevent or minimize any adverse effects on the environment now or in the future;

“Seepage” includes water or waste that drains through or escapes from any structure designed to contain, treat, withhold, divert or retain water or waste;

“Spill” means to allow or accidentally release waste from containment vessels or structures into the receiving environment;

“Surveillance Network Program (SNP)” means a monitoring program established to define environmental sampling and analysis requirements, as detailed in Annex 1 of this Licence, to collect water quality data, and to assess discharge quality, compliance with Licence Terms and Conditions and potential for Licensee activity impact on the environment;

“Unauthorized Discharge” is a discharge of any water or waste not authorized under this Licence;

“Waste” means any substance defined as waste as defined by Section 1 of the *Act*;

“Water Licence Application” means the Type B Water Licence application received on June 13, 2016 and all supplemental information submitted to the Board;

“Waters” means any waters as defined by Section 1 of the *Act*.

PART B: GENERAL CONDITIONS

1. The Licensee shall file an Annual Report with the Board no later than January 31 of each year which shall contain the following information on Project related activities during the prior 12 month period January 1 to December 31:
 - a) the monthly and annual quantities in cubic metres (m³) of treated water discharged into the municipal drainage ditch;
 - b) the monthly and annual quantities in cubic metres (m³) of treated contaminated soil at the bio-treatment facility;
 - c) a summary report which includes all data and information generated under the "Surveillance Network Program (SNP)";
 - d) a list and description including location and volumes of all unauthorized discharges and spills, and summaries of all associated remediation activities and follow-up action taken;
 - e) a description of any spill and operational training carried out;
 - f) the results of any monitoring program undertaken (e.g. temperature, moisture of bio-treatment cell);
 - g) a summary of remediation, reclamation and closure activities completed;
 - h) A report complete with summary, conclusion and recommendation. The report will include analytical data and a description of any work anticipated for the next year.
2. The Licensee shall comply with the "Surveillance Network Program" annexed to this Licence, and any amendment to the said "Surveillance Network Program" as may be made from time to time, pursuant to the conditions of this Licence.
3. The "Surveillance Network Program" and compliance dates specified in the Licence may be modified at the discretion of the Board.
4. Any meters, devices or other such methods used for measuring the volumes of waste disposed and discharged shall be installed, operated and maintained by the Licensee to the satisfaction of the inspector.
5. The Licensee shall ensure a copy of this Licence is maintained at the site of operations at all times.
6. The Licensee shall, at a minimum, implement all of the policies, practices, mitigation measures, recommendations and procedures for the protection of the environment referred to in its application, Description of Undertaking and other documents submitted regarding the remediation and reclamation of the former power plant site in Aklavik. All field operations staff shall be provided with appropriate advice/training on how to implement these policies, practices, mitigation measures, recommendations and procedures.
7. The Licensee shall ensure that all contractors and sub-contractors conform to all Terms and Conditions of this Licence.
8. The Licensee shall take every reasonable precaution to protect the environment.
9. All equipment used during the Project activities shall be mechanically sound and free of leaks.
10. In a form acceptable to the Board, the Licensee shall submit two (2) copies of all reports, plans, maps and drawings in printed format accompanied by two (2) electronic copies (CD's).

PART C: CONDITIONS APPLYING TO WASTE DISPOSAL

1. The Licensee shall collect precipitation and groundwater seepage from the excavation and bio-treatment facility and pump it to the water treatment system for treatment.
2. All treated water discharged to the existing municipal drainage ditch north of the site at "Surveillance Network Program" Station Number 1838-1 shall meet the following effluent quality requirements:

Parameter	Maximum Concentration of any Grab Sample
Total suspended solids	15 mg/L
Oil and grease	5 mg/L and no visible sheen
Benzene	0.37 mg/L
Toluene	0.002 mg/L
Ethylbenzene	0.090 mg/L
Xylene	0.03 mg/L
Benzo(a)pyrene	0.000015 mg/L
Total Petroleum Hydrocarbons	5 mg/L
pH	Between 6 and 9
Total lead	When the hardness is 0 to ≤ 60 mg/L (CaCO_3), the maximum concentration is 0.001 mg/L
	At hardness >60 to ≤ 180 mg/L the maximum concentration is calculated using equation: $e^{[1.273 \ln(\text{hardness})] - 4.705}$
	At hardness >180 mg/L (CaCO_3), the maximum concentration is 0.007 mg/L. If the hardness is unknown, the maximum concentration is 0.001 mg/L

3. There should be no discharge of floating solids, garbage, grease, free oil, foam or sheen.
4. The Licensee shall inform the inspector at least five (5) days prior to initiating discharge of treated water to the municipal ditch system.
5. All analyses shall be conducted in accordance with methods prescribed in the current edition of "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, the American Waterworks Association and the Water Environmental Federation or by such other methods as may be approved by an analyst.
6. The Licensee shall contain all contaminated soil in such a manner as to minimize the potential for migration of contaminants into any waters to the satisfaction of the inspector.
7. Unless authorized by this Licence, the Licensee shall ensure that any wastes associated with this undertaking do not enter any water body.
8. Any contaminated soil that is not treated by a bio-treatment facility shall be shipped by the Licensee to a licenced disposal facility or remediated in another manner acceptable to and approved by the Board.
9. The Licensee shall dispose of all contaminated water that does not meet effluent criteria at a licenced disposal facility.

10. When transported off-site, contaminated soil or contaminated water shall be properly contained so as to prevent spillage or dispersal to the satisfaction of the inspector.
11. Where contaminated soils and/or water is to be transported to a licenced disposal facility, the Licensee shall provide to the Board, prior to shipment, copies of agreements or letters between the Licensee and the third parties where the third party has agreed to harbour, transport or dispose of such contaminated water and/or waste.
12. In the event that the surveillance station water quality exceeds the effluent standards outlined in this Licence the inspector shall be immediately notified.
13. The Licensee shall notify the Board and the inspector, in writing, at least forty-eight (48) hours prior to the shipping of any contaminated soil or contaminated water.

PART D: CONDITIONS APPLYING TO SPILL CONTINGENCY PLANNING

1. The Licensee shall submit to the Board for approval, at least five (5) days prior to mobilization, a Spill Contingency Plan in accordance with the "A Guide to the Spill Contingency Planning and Reporting Regulations, updated March 2011" found on the Government of the Northwest Territories, Department of Environment and Natural Resources website: <http://www.enr.gov.nt.ca/node/3003>.
2. The Licensee shall include in Part D, Item 1 additional information on contingency actions in the event discharge criteria are not achieved including information on the proposed storage capacity, contingency storage capacity and whether offsite disposal at an approved waste disposal location has been considered.
3. If not approved by the Board, the Spill Contingency Plan shall be revised and resubmitted within fifteen (15) days of receiving notification of the Board's decision.
4. The Licensee shall ensure that petroleum products, hazardous material and other wastes associated with the Project do not enter any waters.
5. If, during the period of this Licence, an unauthorised discharge of waste occurs, or if such a discharge is foreseeable, the Licensee shall:
 - a) report the incident immediately via the 24 Hour Spill Reporting Line (867) 920-8130;
 - b) report each spill and unauthorized discharge of waste to the inspector at (867) 678-0623 (Cell), within 24 hours; and
 - c) submit to the inspector a detailed report on each occurrence not later than thirty (30) days after initially reporting the event.
6. All spills and unauthorized discharges of water or waste shall be cleaned up and the affected area reclaimed to the satisfaction of the inspector.

PART E: CONDITIONS APPLYING TO MODIFICATIONS

1. the Licensee may, without written approval from the Board, carry out modifications to the planned undertakings 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 the inspector in writing of such proposed modifications at least five (5) 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 five (5) days following notification of the proposed modifications, informed the Licensee that review of the proposal will require more than five (5) days; and
 - d) the Board has not rejected the proposed modifications.
2. Modifications for which the conditions referred to in Part E, Item 1 have not been met may be carried out only with written approval from the Board.
 3. The Licensee shall provide to the Board as-built plans and drawings of the modifications signed and stamped by an engineer referred to in this Licence within ninety (90) days of completion of the modifications.

PART F: CONDITIONS APPLYING TO CONSTRUCTION

1. The Licensee shall ensure that construction of the bio-treatment facility and water treatment systems are supervised by an engineer.
2. The Licensee shall undertake necessary corrective measures to mitigate negative impacts on surface drainage resulting from the Licensee's activities to the satisfaction of the inspector.
3. The Licensee shall construct and operate all components of the Project designed to contain, treat, withhold, divert or retain water or waste in accordance with all applicable federal or territorial legislation and industry standards.
4. The Licensee shall provide to the Board, at least five (5) days prior to the mobilization, information for the bio-augmentation product intended to be used as part of the remediation (Bio-Reclaim) including how much of this product will be used, where will be stored, and how and when it will be applied.
5. A minimum of ten (10) days prior to commencement of construction of the bio-treatment facility and water treatment system, the Licensee shall provide written notification to the inspector.

PART G: CONDITIONS APPLYING TO RECLAMATION, CLOSURE AND MONITORING PLAN

1. The Licensee shall, at least five (5) days prior to mobilization, submit a Remediation and Reclamation Action Plan for the Project to the Board for approval.
2. A minimum of six (6) months prior to the expiry of the Licence, the Licensee shall provide to the Board a compilation report containing analytical data and effectiveness of the remediation and reclamation undertaken and water treatment system with summary, conclusion and recommendations.

INUVIALUIT WATER BOARD



Chairperson

August 5, 2016

Date

ANNEX 1: SURVEILLANCE NETWORK PROGRAM

LICENSEE: Northwest Territories Power Corporation
LICENCE NUMBER: N3L8-1838
EFFECTIVE DATE OF LICENCE: August 15, 2016
EFFECTIVE DATE OF SURVEILLANCE NETWORK PROGRAM: August 15, 2016

A. Sampling Stations

Station Number	Description of Sampling Stations
1838-1	Prior to discharge of treated water from storage container to municipal drainage ditch north of the site

B. Sampling and Analysis Requirements

1. Effluent at "Surveillance Network Program" shall be sampled and analyzed prior to discharge for the following parameters:

Station Number and description	Parameters
1838-1: Prior to discharge of treated water from storage container to municipal drainage ditch north of the site	Total suspended solids, Oil and Grease, Benzene, Toluene, Ethylbenzene, Xylene, Benzo(a)pyrene, Total Petroleum Hydrocarbon, Hardness, Chloride, Sulphate, pH, Total Cadmium (Cd), Total Chromium (Cr), Total Copper (Cu), Total Iron (Fe), Total Lead (Pb), Total Mercury (Hg), Total Molybdenum (Mo), Total Nickel (Ni), Total Zinc (Zn)

2. Sample collection requirements such as sampling location, frequency and parameters in accordance of the Surveillance Network Program may be modified by the inspector.
3. All sampling, preservation, and analyses shall be conducted in accordance with methods prescribed in the current edition of "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, the American Waterworks Association and the Water Environmental Federation or by such other methods as approved by an analyst.
4. All analysis shall be performed in a laboratory as approved by an analyst.
5. The Licensee shall, within ten (10) days of Licence issuance, submit to an analyst for approval a Quality Assurance/Quality Control Plan, a copy of the approved plan shall be submitted to the Board.
6. The Quality Assurance/Quality Control Plan shall be implemented as approved by an analyst.

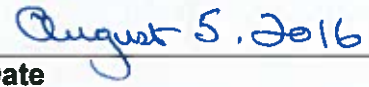
C. Flow and Volume Measurement Requirements

1. The Licensee shall measure and record in cubic metres (m³) the daily, monthly and annual quantities of treated water discharged to the municipal drainage ditch.

D. Reports

1. The Licensee shall submit the following information in electronic and printed formats as part of the **Annual Report** required in Part B, Item 1 of the Licence:
 - a) all laboratory results and analysis of all data collected during each SNP sampling period for the previous year;
 - b) tabular summaries of all data and information generated under Part B and C of the SNP;
 - c) rationale where samples were not collected from the SNP site;
 - d) Quality Assurance/Quality Control results and interpretations, in accordance with the approved Quality Assurance/Quality Control Plan;
 - e) any interpretive comments and calculations; and
 - f) identification of any anomalies and trends.

INUVIALUIT WATER BOARD

Chairperson

Date

SUPPLEMENTAL INFORMATION TO BE SUBMITTED BY LICENSEE AS REQUIRED THROUGH LICENCE CONDITIONS

Licence Condition	Report/Others	Timeline for Submission	Required Board Action/Others
Part B, Item 1	Annual Report	Not later than January 31 of each year	Acceptance
Part C, Item 4	Notice of initiating discharge of treated water	At least five (5) days prior to initiating discharge	Inform the inspector
Part C, Item 12	Notice of shipment of any contaminated soil or contaminated water	At least forty-eight (48) hours prior to the shipping	Notify the Board and the inspector in writing
Part D, Item 1	Spill Contingency Plan	At least five (5) days prior to mobilization	Submit to the Board for approval
Part E, Item 1a)	Notice of modification	At least five (5) days prior to beginning the modification	Notify the Board and the inspector
Part E, Item 3	Submission of as-built plans and drawings of the modifications	Within ninety (90) days of completion of the modification	Provide to the Board for acceptance
Part F, Item 4	MSDS of bio-augmentation product	At least five (5) days prior to mobilization	Provide to the Board for acceptance
Part F, Item 5	Notification of construction of the bio-treatment facility and water treatment system	A minimum of ten (10) days prior to commencement	Provide written notification to the inspector
Part G, Item 1	Submission of Remediation and Reclamation Action Plan for the Project	At least five (5) days prior to mobilization	Submit to the Board for approval
Part G, Item 2	Submission of a compilation report	A minimum of six (6) months prior to the expiry of the Licence	Submit to the Board for acceptance
Annex 1: SNP Part B, Item 5	A Quality Assurance/Quality Control	Within ten (10) days of Licence issuance	Submit to an analyst for approval and submit approved plan to the Board

**GENERAL PROCEDURES FOR THE ADMINISTRATION OF LICENCES
ISSUED UNDER THE *WATERS ACT* IN THAT PORTION OF THE INUVIALUIT
SETTLEMENT REGION LOCATED IN THE NORTHWEST TERRITORIES**

1. At the time of issuance, a copy of the Licence is placed in the Public Register at the Inuvialuit Water Board (IWB) Office in Inuvik and on the IWB website.
2. To enforce the terms and conditions of the Licence, the Minister of Environment and Natural Resources has appointed Inspectors in accordance with Section 65(1) of the *Waters Act*. The Inspectors coordinate their activities with officials of the Water Resources Division of the Department of Environment and Natural Resources. The Inspector responsible for the Licence is located in the Department of Environment and Natural Resources Office in Inuvik.
3. To keep the IWB and members of the public informed of the Licensee's conformity to Licence Terms and Conditions, the Inspectors prepare reports which detail observations on how each requirement of the Licence has been met. These reports are forwarded to the Licensee with a covering letter indicating what action, if any, should be taken. The inspection reports and covering letters are placed in the Public Register, as are any responses received from the Licensee pertaining to the inspection reports. Licensees must respond to all areas of concern outlined in the inspection reports.
4. If renewal of the Licence is contemplated it is the responsibility of the Licensee to apply to the IWB for renewal of the Licence. The past performance of the Licensee, new documentation and information, and points raised during a public hearing, if required, will be used to determine the terms and conditions of any Licence renewal. Please note that if the Licence expires and another has not been issued, then water and waste disposal must cease, or the Licensee, will be in contravention of the *Waters Act*. It is suggested that an application for renewal of the Licence be made at least eight months in advance of the Licence expiry date.
5. If, for some reason the Licence requires an amendment, a public hearing may be required. You are reminded that applications for amendments should be submitted as soon as possible to provide the IWB with ample time to go through the amendment process. The process may take up to six (6) months or more depending on the scope of the amendment requested.

6. Specific clauses of your Licence make reference to the IWB, Analyst or Inspector. The contact person, address, phone and fax number of each is:

BOARD: Executive Director
Inuvialuit Water Board
P.O. Box 2531
INUVIK, NT X0E 0T0

Phone No: (867) 678-2942
Fax No: (867) 678-2943

ANALYST: Analyst
Taiga Environmental Laboratory
Environment and Natural Resources
Government of the NWT
P.O. Box 1320
YELLOWKNIFE, NT X1A 2L9

Phone No: (867) 765-6644
Fax No: (867) 920-8740

INSPECTOR: Inspector
Environment and Natural Resources
Government of the Northwest Territories
P.O. Box 2749
INUVIK, NT X0E 0T0

Phone No: (867) 678-6676
Fax No: (867) 678-6699