



ᓄᓇᓂᓪ ᐃᓕᓂᓪᓴᓪ ᑲᓂᓕᓴᓪ
NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

**File No.: 8BC-KAR1727 /
Renewal-Amendment**

April 28, 2017

Ray Alisauskas, Ph. D., Research Scientist
Dana Kellett, Wildlife Technician
Environment and Climate Change Canada
Prairie and Northern Wildlife Research Centre
115 Perimeter Road Saskatoon, SK S7N 0X4
Email: Ray.Alisauskas@canada.ca
Dana.Kellett@canada.ca

RE: NWB Renewal – Licence No. 8BC-KAR1727

Dear Dr. Alisauskas and Ms. Kellett:

Please find attached **Licence No. 8BC-KAR1727** issued to Environment and Climate Change Canada (ECCC) – Prairie and Northern Wildlife Research Centre (Applicant or Licensee) by the Nunavut Water Board (NWB) pursuant to its authority under Article 13 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada (Nunavut Agreement)*. The terms and conditions of the attached Licence related to the use of Water use and the deposit of Waste are an integral part of this approval.

If the Licensee contemplates the renewal of this Licence, it is the responsibility of the Licensee to apply to the NWB for its renewal. The past performance of the Licensee, new documentation and information, and issues raised during a public hearing, if the NWB is required to hold one, will be used to determine the terms and conditions of the Licence renewal. Note that if the Licence expires before the NWB issues a new one, then Water use and Waste deposit must cease, or the Licensee may be in contravention of the *Nunavut Agreement* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWNSTRA). However, the expiry or cancellation of a licence does not relieve the holder from any obligations imposed by the licence. The NWB recommends that an application for the renewal of this Licence be filed at least **three (3) months** prior to the Licence expiry date. In accordance with s. 75(1)(a) of the *Nunavut Planning and Project Assessment Act* (NuPPAA), the Board is not allowed to issue a permit or authorization for any project proposal that is not submitted to the Nunavut Planning Commission (NPC) as required under s. 76 of NuPPAA.

If the Licensee contemplates or requires an amendment to this licence, the NWB may decide, in the public's interest, to hold a public hearing. The Licensee should submit applications for amendment as soon as possible to give the NWB sufficient time to go through the amendment

process. The process and timing may vary depending on the scope of the amendment; however, a minimum of **sixty (60) days** is required from time of acceptance by the NWB. It is the responsibility of the Licensee to ensure that all application materials have been received and are acknowledged by the Manager of Licensing.

The NWB strongly recommends that the Licensee consult the comments received from interested persons on issues identified. This information is attached for your consideration.¹

Sincerely,

Draft

Thomas Kabloona
Nunavut Water Board
Chair

TK/sj/ri

Enclosure: **Renewal-Amendment Licence No. 8BC-KAR1727**

Comments – INAC

Cc: Distribution List – Kitikmeot

¹ Indigenous and Northern Affairs Canada (INAC), March 20, 2017

TABLE OF CONTENTS

| | | |
|--------------------------------------|--|-----|
| A. | INTRODUCTION | ii |
| B. | PROCEDURAL HISTORY | ii |
| C. | GENERAL CONSIDERATIONS | iii |
| i. | Term of the Licence..... | iii |
| ii. | Annual Report..... | iii |
| iii. | Water Use | iv |
| D. | DEPOSIT OF WASTE | iv |
| E. | MANAGEMENT PLANS..... | iv |
| F. | MONITORING | iv |
| DECISION v | | |
| WATER LICENCE RENEWAL-AMENDMENT..... | | 1 |
| PART A: | SCOPE, DEFINITIONS AND ENFORCEMENT..... | 2 |
| 1. | Scope | 2 |
| 2. | Definitions | 2 |
| 3. | Enforcement | 4 |
| PART B: | GENERAL CONDITIONS | 4 |
| PART C: | CONDITIONS APPLYING TO WATER USE..... | 6 |
| PART D: | CONDITIONS APPLYING TO WASTE DISPOSAL..... | 6 |
| PART E: | CONDITIONS FOR CAMPS, ACCESS INFRASTRUCTURES AND OPERATIONS | 7 |
| PART F: | CONDITIONS APPLYING TO DRILLING OPERATIONS | 8 |
| PART G: | CONDITIONS APPLYING TO MODIFICATIONS | 8 |
| PART H: | CONDITIONS APPLYING TO SPILL CONTINGENCY PLANNING..... | 8 |
| PART I: | CONDITIONS APPLYING TO CLOSURE AND RECLAMATION OR TEMPORARY CLOSURE | 9 |
| PART J: | CONDITIONS APPLYING TO THE MONITORING PROGRAM | 10 |

A. INTRODUCTION

The Nunavut Water Board (NWB or Board) received from Environment and Climate Change Canada (ECCC) – Prairie and Northern Wildlife Research Centre an application to renew and amend Type “B” Water Licence No. 3BC-KAR1316, issued for the Karrak Lake Project. The Applicant requested a ten (10) year term for the licence renewal and changes to aspect of the waste management practices for the project.

The Karrak Lake Project is a long-term research project conducted at the Queen Maud Gulf Migratory Bird Sanctuary. The project, which commenced in 1991, is aimed at studying population, nutritional, and breeding ecology of Lesser Snow, Ross’s, Cackling, and Greater White-front Geese, King Eiders, Long-Tail Ducks and Arctic Fox and the impact of habitat alteration by Lesser Snow and Ross’s Geese on vegetation, small mammals and avian communities. The research is also focused on estimating the annual adult survival and productivity of each species in addition to factors affecting these vital rates.

The field component of the project, which is conducted annually by approximately 8 – 15 researchers, supported by two primary field sites, which include the Karrak Lake and the Perry River sites and a secondary site called the North Karrak Lake site.

B. PROCEDURAL HISTORY

The above-mentioned application and supporting information (Renewal-Amendment Application) was received on March 24, 2016; however, due to changes in the Board’s electronic filing system coupled with delays in receipt of information requested from the applicant, the overall timeframe for processing the application was somewhat extended. The Renewal-Amendment Application included the following documents:

- NPC Conformity dated February 3, 2016;
- Screening Decision Report dated May 6, 2005;
- March 21, 2016 Annual Report;
- Application for Water Licence Amendment;
- Application Signature Page;
- December 2015 Annual Report (English);
- December 2015 Annual Report (Inuktitut);
- December 2015 Annual Report (Inuinnaqtun);
- Request for Additional Information;
- December 13, 2016 Annual Report;
- Arctic Ecosystem Research in the Queen Maud Gulf Migratory Bird Sanctuary Annual Report – December 2016;
- Spill Contingency Plan for Karrak Lake Project Area; and
- Abandonment and Restoration Plan for Karrak Lake Research Station – January 2015.

Following an internal review of the Renewal-Amendment Application and receipt of additional information, the NWB distributed the application on February 20, 2017 for a thirty (30) day public review and comment period with the deadline for submission set for March 20, 2017.

On or before the comment deadline period ended, submissions were received from Indigenous and Northern Affairs Canada (INAC). INAC in its submission provided recommendations on several topics including waste management, spill contingency planning, monitoring, and issues identified in INAC's Inspection Report.

With respect to pre-licensing issues, the Nunavut Planning Commission (NPC) issued its determination for the application on February 3, 2016, indicating that the project proposal falls outside of the areas with applicable regional land use plans in place and that the activities associated with the licence do not require further screening by the Nunavut Impact Review Board (NIRB) as the May 6, 2005 screening decision remains applicable¹

Previous Licences Issue to the Project

In term of previous licences issued, the NWB has issued two licences and one amendment to the project in the past, which are summarized below:

- Licence No. 3BC-KAR0812 was issued to the project on June 14, 2008 and expired on August 31, 2012. The Licence allowed for the use of five (5) cubic metres of Water per day and the deposit of Waste in support of scientific research at the Karrak Lake Project;
- Amendment No. 1 to Licence No. 3BC-KAK0812 was issued on September 12, 2010 to allow for changes to the project extents and Water sources used by the project.
- Renewal Licence No. 3BC-KAR1316 was issued to the project on July 15, 2013 and expired on July 14, 2016. The licence allowed for the use of five (5) cubic metres of Water per day and the deposit of Waste in support of scientific research at the Karrak Lake Project.

C. GENERAL CONSIDERATIONS

The following sections provide an overview of the rationale for some of the terms and conditions included in the Licence:

i. Term of the Licence

In accordance with s. 45 of the *Act*, the NWB may issue a licence for a term not exceeding twenty-five (25) years. The Applicant requested a ten (10) year term for the licence renewal and amendment, which the Board considers appropriate given the history and overall long-term activities planned for the undertaking.

ii. Annual Report

As a requirement of section 14(1) of the Nunavut Waters Regulation and similar to the terms and conditions generally included in all licences issued by the Board, the NWB has included under Part B, Item 1 of this Licence, requirements for the Licensee to submit to the Board, for review, prior to the 31st of March, annually, a report detailing Water use and/or Waste deposit activities for the undertaking for the preceding year in which the report is filed. The Board provides public access to the information submitted in annual reports through its ftp site as well as upon request from interested parties.

¹ Nunavut Planning Commission (NPC) Determination, February 3, 2016.

The NWB has included on its website a standardized form for annual reporting that licensees can use to submit annual reporting information, supplemented by other relevant details. A copy of the NWB's generic Annual Report Form can be obtained from the NWB upon request or electronically from the NWB's FTP site using the following link:

<ftp://ftp.nwb-oen.ca/other%20documents/Standardized%20Forms/>

iii. Water Use

The Applicant did not request any changes to the freshwater requirement for the undertaking; consequently, the Board has authorized the continued use of up to five (5) cubic metres of Water per day for the undertaking.

D. DEPOSIT OF WASTE

The Applicant identified the following Waste types as being generated by the undertaking: food wastes, sewage, greywater, solid waste, hazardous waste, waste oil, and bulky items/scrap metal.

Based on past waste management practices for the undertaking, the Applicant typically backhauled waste oil and bulky/scrap metal while provided for onsite management of sewage, greywater, and solid waste including food waste generated by the project.

Due to cost as well as the physical properties of sewage and food waste, the Licensee has requested that any renewed licence issued to the project be amended to allow for food waste and sewage to be disposed of to sump(s), which the Board has granted under Part D of the Renewed – Amended licence.

E. MANAGEMENT PLANS

The Applicant provided the following management plans for the Board's consideration, as part of its application:

- *Spill Contingency Plan for Karrak Lake Project Area, Nunavut*, updated December 2016; and
- *Abandonment and Restoration Plan for Karrak Lake Research Station, F-14 Satellite Camp (Karrak River Camp), and Perry River Camp, Nunavut*, dated January 2015.

Although previous iterations of the above-mentioned plans were approved or accepted under previous licences, the Board has decided to approve the iterations submitted under the Renewal-Amendment Application to ensure that the most recent versions of plans have been approved.

F. MONITORING

Standard requirements have been included in the Licence for monitoring; however, if there are indications that the activities associated with the undertaking may be significantly impacting the receiving environment, the Licensee may be required to conduct site – specific monitoring. Further, an Inspector may, at any time, require the Licensee to conduct additional monitoring.

DECISION

LICENCE NUMBER: 8BC-KAR1727

This is the decision of the Nunavut Water Board (NWB) with respect to an application dated March 24, 2016 for the renewal and amendment of a Water Licence made by:

**ENVIRONMENT AND CLIMATE CHANGE CANADA
PRAIRIE AND NORTHERN WILDLIFE RESEARCH CENTRE**

to allow for the use of Water and the deposit of Waste during camp operations and activities in support of the Karrak Lake Project, a wildlife research project located at the Queen Maud Gulf Migratory Bird Sanctuary, in the Kitikmeot Region, Nunavut, at the following geographical coordinates:

| | |
|----------------------|---|
| Latitude: 67.23592 | Longitude: 100.26234 |
| Latitude: 67.23803 | Longitude: 100.26234 |
| Latitude: 67.23803 | Longitude: 100.25596 |
| Latitude: 67.23592 | Longitude: 100.25596 (Karrak Lake Camp) |
| Latitude: 67.35075 | Longitude: 100.35313 |
| Latitude: 67.35203 | Longitude: 100.35313 |
| Latitude: 67.35203 | Longitude: 100.35021 |
| Latitude: 67.35075 | Longitude: 100.35021 (North Karrak Lake Camp) |
| Latitude: 67.69437 N | Longitude: 102.19329 |
| Latitude: 67.69642 N | Longitude: 102.19329 |
| Latitude: 67.69642 N | Longitude: 102.19003 |
| Latitude: 67.69437 N | Longitude: 102.19003 W (Perry River Camp) |

DECISION

After having been satisfied that the Application is for a proposal that falls outside of an area with an approved land use plan in place and that the Nunavut Impact Review Board's (NIRB) May 6, 2005 screening decision remains applicable as determined by the Nunavut Planning Commission (NPC)², the NWB decided that the application could proceed through the regulatory process. In accordance with s. 55.1 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (Act) and Article 13 of the *Nunavut Agreement*, public notice of the Application was given and interested persons were invited to make representations to the NWB.

After reviewing the submission of the Applicant and considering the representations made by interested persons, the NWB, having given due regard to the facts and circumstances, the merits of the submissions made to it and to the purpose, scope and intent of the *Nunavut Agreement* and of the Act, waived the requirement to hold a public hearing, and determined that:

² Nunavut Planning Commission (NPC) determination, February 3, 2016.

Licence No. 3BC-KAR1316 be renewed and amended as Licence No. 8BC-KAR1727, subject to the terms and conditions contained therein. (Motion #: 2017-B1-002)

Signed this 27th day of April, 2017 at Gjoa Haven, NU.

DRAFT

Thomas Kabloona
Nunavut Water Board
Chair

TK/sj/ri



NUNAVUT WATER BOARD WATER LICENCE RENEWAL-AMENDMENT

Licence No. 8BC-KAR1727

Pursuant to the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada*, the Nunavut Water Board, hereinafter referred to as the Board, hereby grants to

ENVIRONMENT AND CLIMATE CHANGE CANADA PRAIRIE AND NORTHERN WILDLIFE RESEARCH CENTRE

-(Licensee)

115 PERIMETER ROAD, SASKATOON, SK S7N 0X4

(Mailing Address)

hereinafter called the Licensee, the right to alter, divert or otherwise use Water or dispose of Waste for a period subject to restrictions and conditions contained within this Licence renewal-Amendment:

Licence Number/Type: **8BC KAR1727 / TYPE "B"**

Water Management Area: **QUEEN MAUD GULF WATERSHED (30)**

Project / Location: **KARRAK LAKE PROJECT / KITIKMEOT REGION, NUNAVUT**

Classification: **OTHER UNDERTAKING**

Purpose: **DIRECT USE OF WATER AND DEPOSIT OF WASTE**

Quantity of Water use not to Exceed: **FIVE (5) CUBIC METRES PER DAY**

Date of Licence Issuance: **APRIL 28, 2017**

Expiry of Licence: **APRIL 27, 2027**

This Licence renewal - amendment, issued and recorded at Gjoa Haven, Nunavut, includes and is subject to the annexed conditions.

Draft:

Thomas Kabloona,
Nunavut Water Board, Chair

PART A: SCOPE, DEFINITIONS AND ENFORCEMENT

1. Scope

This Licence allows for the use of Water and the deposit of Waste for an undertaking classified as other as per Schedule 1 of the *Regulations* at the Karrak Lake Project, located within the Queen Maud Migratory Bird Sanctuary, approximately 280 kilometres southeast of Cambridge Bay and 250 Kilometres southwest of Gjoa Haven, in the Kitikmeot Region, Nunavut.

- a. This Licence is issued subject to the conditions contained herein with respect to the taking 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 deposits of such Waste may enter any Waters. Whenever new Regulations are made or existing *Regulations* are amended by the Governor in Council under the *Nunavut Waters and Nunavut Surface Rights Tribunal 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 subject to such requirements; and
- b. 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.

2. Definitions

“**Act**” means the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*;

“**Addendum**” means the supplemental text that is added to a full plan or report usually included at the end of the document and is not intended to require a full resubmission of the revised report.

“**Amendment**” means a change to original terms and conditions of this Licence requiring correction, addition or deletion of specific terms and conditions of the Licence; modifications inconsistent with the terms of the set terms and conditions of the Licence;

“**Applicant**” means the Licensee;

“**Appurtenant Undertaking**” means an undertaking in relation to which a use of Water or a deposit of Waste is permitted by a licence issued by the Board;

“**Board**” means the Nunavut Water Board established under the *Nunavut Agreement* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*;

“**Effluent**” means treated or untreated liquid Waste material that is discharged into the environment from a structure such as a settling pond, landfarm or a treatment plant;

“**Engineer**” means a professional engineer registered to practice in Nunavut in accordance with the *Consolidation of Engineers and Geoscientists Act S. Nu 2008, c.2* and the *Engineering and Geoscience Professions Act S.N.W.T. 2006, c.16 Amended by S.N.W.T. 2009, c.12*;

“**Greywater**” means all liquid Wastes from showers, baths, sinks, kitchens and domestic washing facilities, but does not include toilet Wastes;

“**High Water Mark**” means the usual or average level to which a body of Water rises at its highest point and remains for sufficient time so as to change the characteristics of the land (ref. Department of Fisheries and Oceans Canada, Operational Statement: Mineral Exploration Activities);

“**Inspector**” means an Inspector designated by the Minister under Section 85 (1) of the *Act*;

“**Licensee**” means the holder of this Licence;

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

“**Nunavut Agreement**” means the “*Agreement Between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada*”, including its preamble and schedules, and any amendments to that agreement made pursuant to it;

“**Regulations**” means the *Nunavut Waters Regulations* SOR/2013-69 18th April, 2013;

“**Secondary Containment**” means an impermeable structure, external to and separate from primary containment, which prevents unplanned spills of hazardous materials and provides a minimum capacity of 110% of the original vessel. Where multiple vessels are stored within the containment, it must provide a minimum capacity equal to the sum of the largest vessel and 10% of the aggregate volume of all other vessels located in the containment. This structure shall also provide containment and control of hoses and nozzles

“**Sewage**” means all toilet wastes and greywater;

“**Spill Contingency Plan**” means a Plan developed to deal with unforeseen petroleum and hazardous materials events that may occur during the operations conducted under the Licence;

“**Sump or Sumps**” A structure or depression that collects, controls, and filters liquid waste before it is released to the environment. This structure should be designed to prevent erosion while allowing percolation of liquid waste.;

“**Toilet Wastes**” means all human excreta and associated products, but does not include greywater;

“Waste” means, as defined in s. 4 of the *Act*, any substance that, by itself or in combination with other substances found in Water, would have the effect of altering the quality of any Water to which the substance is added to an extent that is detrimental to its use by people or by any animal, fish or plant, or any Water that would have that effect because of the quantity or concentration of the substances contained in it or because it has been treated or changed, by heat or other means.

“Water” or “Waters” means Waters as defined in section 4 of the *Act*.

3. **Enforcement**

- a. Failure to comply with this Licence will be a violation of the *Act*, subjecting the Licensee to the enforcement measures and the penalties provided for in the *Act*;
- b. All inspection and enforcement services regarding this Licence will be provided by Inspectors appointed under the *Act*; and
- c. For the purpose of enforcing this Licence and with respect to the use of Water and deposit or discharge of Waste by the Licensee, Inspectors appointed under the *Act*, hold all powers, privileges and protections that are conferred upon them by the *Act* or by other applicable law.

PART B: GENERAL CONDITIONS

1. The Licensee shall file an Annual Report on the Appurtenant Undertaking with the Board no later than the 31st March of the year following the calendar year being reported, containing the following information:
 - a. A summary report of Water use and Waste disposal activities;
 - b. Quantity of Water (in cubic metres/day) obtained for domestic and other purposes from sources on, in or flowing through Inuit-owned land, for the reporting period;
 - c. Quantity of Water (in cubic metres/day) obtained for domestic and other purposes from sources on, in or flowing through Crown Land, for the reporting period;
 - d. Quantity of Waste disposed of at an on-site waste disposal facility;
 - e. Quantity of Waste backhauled to any approved facility for disposal;
 - f. A list of unauthorized discharges and a summary of follow-up actions taken;
 - g. Any revisions to the Spill Contingency Plan, Closure and Reclamation Plan, as required by Part B, Item 6, submitted in the form of an Addendum;
 - h. A description of all progressive and or final reclamation work undertaken, including photographic records of site conditions before, during and after completion of operations;
 - i. A summary of all information requested and results of any Monitoring Program;
 - j. A summary of public consultation/participation, describing consultation with local organizations and residents of the nearby communities, if any were

- conducted; and
- k. Any other details on Water use or Waste disposal requested by the Board by the 1st November of the year being reported.
2. The Licensee shall notify the NWB of any changes in operating plans or conditions associated with this project at least thirty (30) days prior to any such change.
 3. The Licensee shall install flow meters or other such devices, or implement suitable methods required for the measuring of Water volumes as required under Part J, Item 1.
 4. The Licensee shall, for all Plans submitted under this Licence, include a proposed timetable for implementation. Plans submitted, cannot be undertaken without subsequent written Board approval and direction. The Board may alter or modify a Plan if necessary to achieve the legislative objectives and will notify the Licensee in writing of acceptance, rejection, or alteration of the Plan.
 5. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.
 6. The Licensee shall review the Plans referred to in this Licence, as required by changes in operation and/or technology, and modify the Plan accordingly. Revisions to the Plans shall be submitted in the form of an Addendum to be included with the Annual Report.
 7. Every Plan to be carried out pursuant to the terms and conditions of this Licence shall become a part of this Licence, and any additional terms and conditions imposed upon approval of a Plan by the Board become part of this Licence. All terms and conditions of the Licence should be contemplated in the development of a Plan where appropriate.
 8. The Licensee shall ensure a copy of this Licence is maintained at the site of operations at all times. Any communication with respect to this Licence shall be made in writing to the attention of:

(a) **Manager of Licensing:**
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0
Telephone: (867) 360-6338
Fax: (867) 360-6369
Email: licensing@nwb-oen.ca

(b) **Inspector Contact:**
Manager of Field Operations, INAC
Nunavut District, Nunavut Region
P.O. Box 100
Iqaluit, NU X0A 0H0
Telephone: (867) 975-4295
Fax: (867) 979-6445

9. The Licensee shall submit one (1) paper copy and one (1) electronic copy of all reports, studies, and plans to the Board. Reports or studies submitted to the Board by the Licensee shall include a detailed executive summary in English, Inuktitut, and Inuinnaqtun.
10. The Licensee shall ensure that any document(s) or correspondence submitted by the Licensee to the NWB is received and acknowledged by the Manager of Licensing.
11. This Licence is assignable as provided for in section 44 of the *Act*.

PART C: CONDITIONS APPLYING TO WATER USE

1. The Licensee is allowed to obtain all Water for domestic camp use from the Karrak Lake, Perry River and/or the North Karrak River. Total Water use for all camps, shall not exceed a combined total of five (5) cubic metres per day
2. The use of Water from streams or any waterbodies not identified in Part C, Item 1, is prohibited unless authorized and approved by the Board in writing.
3. The Licensee shall submit to the Board for approval in writing, the following information at least thirty (30) days prior to the use of Water of a sufficient volume that the source waterbody may be drawn down: volume required, hydrological overview of the waterbody, details of impacts, and proposed mitigation measures.
4. The Licensee shall equip all water intake hoses with a screen of an appropriate mesh size to ensure that fish are not entrained and shall withdraw Water at a rate such that fish do not become impinged on the screen.
5. The Licensee shall not remove any material from below the ordinary High Water Mark of any waterbody unless otherwise approved by the Board in writing.
6. The Licensee shall not cause erosion to the banks of any body of Water and shall provide necessary controls to prevent such erosion.
7. Sediment and erosion control measures shall be implemented prior to and maintained during the undertaking to prevent entry of sediment into Water.

PART D: CONDITIONS APPLYING TO WASTE DISPOSAL

1. The Licensee shall locate areas designated for waste disposal at a minimum distance of thirty-one (31) metres from the ordinary High Water Mark of any waterbody such that the quality, quantity or flow of Water is not impaired, unless otherwise approved by the Board in writing.
2. The Licensee is authorized to dispose of all acceptable food waste, paper waste and untreated wood products in an incinerator.

3. The Licensee shall not open-burn plastics, wood treated with preservatives, electric wire, Styrofoam, asbestos or painted wood to prevent the deposition of waste materials of incomplete combustion and/or leachate from contaminated ash residual, from impacting any surrounding Waters, unless otherwise approved by the Board in writing.
4. The Licensee shall provide to the Board documented authorization from all communities in Nunavut receiving Wastes from the Karrak Lake Project prior to the backhauling and disposal of Wastes to those communities.
5. The Licensee shall backhaul and dispose of all hazardous wastes, waste oil, and non-combustible waste generated through the course of the operation at an approved waste disposal site.
6. The Licensee shall maintain records of all Waste backhauled and records of confirmation of proper disposal of backhauled Waste. These records shall be made available to an Inspector upon request.
7. The Licensee is authorized to dispose of food waste and greywater to Sump(s) located at least thirty-one (31) metres above the ordinary High Water Mark of any waterbody, at a site where direct flow into a water body is not possible and no additional impacts are created, unless otherwise approved by the Board in writing.
8. The Licensee shall contain all toilet wastes in latrine pits or use incineration, chemical, portable or composting toilets. Latrine pits shall be located at least thirty-one (31) metres above the ordinary High Water Mark of any waterbody, treated with lime and covered with native material to achieve the pre-existing natural contours of the land prior to abandonment.

PART E: CONDITIONS FOR CAMPS, ACCESS INFRASTRUCTURES AND OPERATIONS

1. The Licensee shall not erect camps or store material on the surface of frozen streams or lakes including the immediate banks except what is for immediate use. Camps shall be located such as to minimize impacts on surface drainage.
2. The Licensee shall conduct all activities in such a way as to minimize impacts on surface drainage and the Licensee shall immediately undertake corrective measures in the event of any impacts on surface drainage.
3. The Licensee shall construct all winter lake and stream crossings, including ice bridges, entirely of Water, ice or snow. The Licensee shall minimize disturbance by locating ice bridges in an area that requires the minimum approach grading and the shortest crossing route. Stream crossings shall be removed or the ice notched prior to spring break-up.
4. With respect to access road, pad construction or other earthworks, the deposition of debris or sediment into or onto any waterbody is prohibited. These materials shall be disposed a distance of at least thirty-one (31) metres from the ordinary High Water

Mark in such a fashion that they do not enter the Water.

5. The Licensee shall not mobilize heavy equipment or vehicles unless the ground surface is capable of fully supporting the equipment or vehicles without rutting or gouging. Overland travel of equipment or vehicles shall be suspended if rutting occurs.

PART F: CONDITIONS APPLYING TO DRILLING OPERATIONS

1. The Licensee is not authorized to drill under the provisions of this Licence.

PART G: CONDITIONS APPLYING TO MODIFICATIONS

1. The Licensee may, without written consent from the Board, carry out Modifications to the Water and Waste management facilities or structures 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 in writing of such proposed Modifications at least sixty (60) days prior to beginning the Modifications;
 - b. such Modifications do not place the Licensee in contravention of the Licence or the *Act*;
 - c. such Modifications are consistent with the NIRB Screening Decision;
 - d. the Board has not, during the sixty (60) days following notification of the proposed Modifications, informed the Licensee that review of the proposal will require more than sixty (60) days; and
 - e. the Board has not rejected the proposed Modifications.
2. Modifications for which all of the conditions referred to in Part G, Item 1 have not been met can be carried out only with written approval from the Board.
3. The Licensee shall provide as-built plans and drawings of the Modifications referred to in this Licence within ninety (90) days of completion of the Modification. These plans and drawings shall be stamped by an Engineer.

PART H: CONDITIONS APPLYING TO SPILL CONTINGENCY PLANNING

1. The Board has approved the Plan entitled *Spill Contingency Plan for Karrak Lake Project Area, Nunavut*, updated December 2016, and submitted as additional information with the Application.
2. The Licensee shall prevent any chemicals, petroleum products or Wastes associated with the project from entering Water. All Sumps and fuel caches shall be located at a distance of at least thirty-one (31) metres from the ordinary High Water Mark of any adjacent waterbody and inspected on a regular basis.

3. The Licensee shall conduct any equipment maintenance and servicing in designated areas and shall implement special procedures (such as the use of drip pans) to manage motor fluids and other waste and contain potential spills.
4. If during the term of this Licence, an unauthorized discharge of Waste occurs, or if such a discharge is foreseeable, the Licensee shall:
 - a. Employ the approved Spill Contingency Plan;
 - b. Report the spill immediately to the 24-Hour Spill Line at (867) 920-8130 and to the Inspector at (867) 975-4295; and
 - c. For each spill occurrence, submit to the Inspector, no later than thirty (30) days after initially reporting the event, a detailed report that will include the amount and type of spilled product, the GPS location of the spill, and the measures taken to contain and clean-up the spill site.
5. The Licensee shall, in addition to Part H, Item 4, regardless of the quantity of releases of harmful substances, report to the NWT/NU Spill Line if the release is near or into a Waterbody.

PART I: CONDITIONS APPLYING TO CLOSURE AND RECLAMATION OR TEMPORARY CLOSURE

1. The Licensee Board has approved the Plan entitled *Abandonment and Restoration Plan for Karrak Lake Research Station, F-14 Satellite Camp (Karrok River Camp), and Perry River Camp, Nunavut*, dated 2015 and submitted as additional information with the Application.
2. The Licensee shall complete all restoration work prior to the expiry of this Licence.
3. The Licensee shall carry out progressive reclamation of any components of the project no longer required for the Licensee's operations.
4. The Licensee shall backfill and restore all Sumps to the pre-existing natural contours of the land.
5. The Licensee shall remove from the site, all infrastructure and site materials, including all fuel caches, drums, barrels, buildings and contents, docks, water pumps and lines, material and equipment prior to the expiry of this Licence.
6. All roads and airstrip, if any, shall be re-graded to match natural contour to reduce erosion.
7. The Licensee shall remove any culverts and restore the drainage to match the natural channel. Measures shall be implemented to minimize erosion and sedimentation.

8. In order to promote growth of vegetation and the needed microclimate for seed deposition, all disturbed surfaces shall be prepared by ripping, grading, or scarifying the surface to conform to the natural topography.
9. Areas that have been contaminated by hydrocarbons from normal fuel transfer procedures shall be reclaimed to meet objectives as outlined in the Government of Nunavut's *Environmental Guideline for Site Remediation* (Revised 2009). The use of reclaimed soils for the purpose of backfill or general site grading may be carried out only upon consultation and approval by the Government of Nunavut – Department of Environment, and an Inspector.
10. The Licensee shall contour and stabilize all disturbed areas to a pre-disturbed state upon completion of work.

PART J: CONDITIONS APPLYING TO THE MONITORING PROGRAM

1. The Licensee shall measure and record, in cubic metres, the daily quantities of Water utilized for camp and other purposes.
2. The Licensee shall provide the GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where sources of Water are utilized for all purposes.
3. The Licensee shall determine the GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where Wastes associated with camp operations are deposited.
4. The Licensee shall include in the Annual Report required under Part B, Item 1 all data, monitoring results, and information required by this Part.