



ᓄᓇᓂᓪ ᐃᓕᓕᓂᓪ ᑲᓂᓕᓂᓪ
NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

File No.: **8BC-BAF1929**

April 2, 2019

Christopher Greaves
North Warning System
Department of National Defence
National Defence Headquarters
101 Colonel By Drive
Ottawa, ON K1A 0K2

Email: Christopher.Greaves@forces.gc.ca

RE: NWB Renewal/Amendment Water Licence No. 8BC-BAF1929

Dear Mr. Greaves:

Please find attached Licence No. **8BC-BAF1929** issued to the Government of Canada, Department of National Defence 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 and the deposit of Waste are an integral part of this approval.

If the Licensee contemplates the continuing of this Undertaking after the Water Licence expires, it is the responsibility of the Licensee to apply to the NWB for a renewal water Licence. 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 renewal Water Licence. Note that if the Licence expires before the NWB issues a new one, then the use of Water and the deposit of Waste must cease, or the Licensee may be in contravention of the *Nunavut Agreement* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act (NWNSRTA)*. 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. It should be noted that 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 has not been submitted to the Nunavut Planning Commission (NPC) in accordance with 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 by CIRNAC on issues identified. This information is attached for your consideration.¹

Sincerely,

Lootie Toomasie
Nunavut Water Board,
Chair

LT/dd/rqd

Enclosure: Renewal/Amendment Licence No. **8BC-BAF1929**

Comments – CIRNAC

Cc: Distribution List – Qikiqtani

¹ Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC), February 19, 2019

TABLE OF CONTENTS

DECISION	ii
I. INTRODUCTION	iii
II. PROCEDURAL HISTORY	iii
III. GENERAL CONSIDERATIONS	iv
<i>Term of Licence</i>	iv
<i>Annual Reporting</i>	iv
<i>Water Use</i>	iv
<i>Waste Disposal</i>	v
<i>Spill Contingency Plan</i>	vi
<i>Abandonment and Restoration Plan</i>	vii
<i>Monitoring</i>	vii
RENEWAL/AMENDMENT WATER LICENCE	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	7
PART E: CONDITIONS FOR CAMPS, ACCESS INFRASTRUCTURES AND OPERATIONS	9
PART F: CONDITIONS APPLYING TO DRILLING OPERATIONS	10
PART G: CONDITIONS APPLYING TO MODIFICATIONS	10
PART H: CONDITIONS APPLYING TO SPILL CONTINGENCY PLANNING	10
PART I: CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION OR TEMPORARY CLOSING	11
PART J: CONDITIONS APPLYING TO THE MONITORING PROGRAM	12

DECISION

LICENCE NUMBER: 8BC-BAF1929

This is the decision of the Nunavut Water Board (NWB) with respect to an application dated January 28, 2019 for a renewal/amendment of a Water Licence made by:

GOVERNMENT OF CANADA, DEPARTMENT OF NATIONAL DEFENCE

to allow for the use of Water and the deposit of Waste for the BAF-3 Long Range Radar (LRR) Station and Logistics Support Site (LSS) that is part of the North Warning System (NWS) located on Brevoort Island, 250 km Northeast of Iqaluit within the Qikiqtani Region, Nunavut, generally located at the geographical coordinates as follows:

Latitude: 63° 20' 23"N Longitude: 64° 08' 45"W

DECISION

After having been satisfied that the Application is for a proposal that falls outside of an area with an approved land use plan, and, as such, a conformity determination is not required, that the project as proposed is exempt from further screening by the Nunavut Impact Review Board (NIRB),¹ and as determined by the NIRB² a review of the Project is not required in accordance with s. 92(1)(a) of *NuPPAA*, 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* (*NWNSRTA* or *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:

Replacement Licence No. 8BC-BAF1929 be issued subject to the terms and conditions contained therein. (Motion #: 2018-B1-038)

Signed this 2nd day of April, 2019 at Gjoa Haven, NU.

Lootie Toomasie
Nunavut Water Board,
Chair

LT/dd/rqd

¹ Nunavut Planning Commission (NPC) File # 148957, October 17, 2018.

² Nunavut Impact Review Board (NIRB) File # 03DN120 Screening Decision, October 31, 2003.

LICENCE NUMBER: 8BC-BAF1929

I. INTRODUCTION

The BAF-3 Long Range Radar and Logistics Support Site (BAF-3) is located on the southern end of Brevoort Island, off the east coast of Baffin Island, approximately 250 km Northeast of Iqaluit and 320 km south east of Pangnirtung.

The Brevoort Island relay station was abandoned by the military in 1963. The beach and airstrip have been used as logistics support for offshore oil exploration but these were abandoned in July, 1985. In the mid 1980's, the original summit facilities were completely demolished to allow for the current BAF-3 facilities to be constructed on the same site. In 1995, the site transitioned from manned to unmanned status.

BAF-3 is unmanned and is visited by staff on scheduled quarterly preventative and corrective maintenance trips and on an as needed basis. During the months of May to September, the site may be returned to manned status due to seasonal project activity.

Relevant on-site facilities include a Landfarm Facility for the remediation of a fuel spill that occurred in 2007, site buildings, a freshwater intake, two (2) 854,000 litre water tanks, fuel storage tanks, and one incinerating toilet. Fuel is stored in horizontal double walled tanks that prevent water from entering the secondary containment. The site also has a sewage disposal facility consisting of a septic tank and outfall pipe, which discharges to a sump near the facility.

Non-hazardous solid waste that is combustible is incinerated on site and non-combustible waste is disposed of at the Iqaluit landfill. The City of Iqaluit has authorized the disposal of non-hazardous waste from the North Warning System Radar sites in the city landfill. Hazardous waste is backhauled outside of Nunavut.

II. PROCEDURAL HISTORY

The BAF-3 Site has been in operation since the 1980's. The North Warning System Office, Department of National Defence (Licensee or DND) has held Water Licences for this site continuously since 2004 (NWB6BAF0409 / 3BC-BAF0409), that was amended in 2005 and 2009, and renewed in 2009 (3BC-BAF0919).

On January 28, 2019 the NWB received an application to renew and amend the current Licence which expires on August 31, 2019. Following an internal review of the application, on February 7, 2019 the NWB acknowledged receipt and distributed the application to interested parties for a fifteen-day comment and review period. On February 19, 2019 a submission was received from Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC).

In accordance with Schedule 1 of the new *Nunavut Waters Regulations* which came into effect during the term of the current licence 3BC-BAF0919, the classification of the undertaking changed from "Municipal" to "Other". For that reason, the application was assigned the new file number 8BC-BAF.

III. GENERAL CONSIDERATIONS

The following section outlines the issues identified by the NWB and raised by interested parties. It provides the background on the terms and conditions imposed within the body of the Licence.

Term of Licence

In accordance with the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* s. 45, the NWB may issue a Licence for a term not exceeding twenty-five years. In determining an appropriate term of a water Licence, the Board considers a number of factors including, but not limited to; the results of CIRNAC site inspections and the corresponding compliance record of the Applicant, as well as intervener comments provided during the application review process.

In review of the comments received, the NWB has noted that there were no concerns expressed with respect to the requested Licence term of ten (10) years as proposed by the Applicant. In review of the information available during the renewal process, the NWB concurs with the Applicant that a Licence term of approximately ten (10) years is appropriate.

The Licence duration will allow the Licensee to properly carry out the terms and conditions of the Licence and will ensure that sufficient time is given to submit and implement the plans required under the Licence.

Annual Reporting

The NWB has imposed on the Licensee, the requirement to produce an Annual Report. These Reports are for the purpose of ensuring that the NWB has an accurate annual update of the Licensee's activities related to water use and waste disposal during a calendar year. This information is maintained on the Public Registry and is available to interested parties upon request. A "*Standardized Form for Annual Reporting*" may be used by the Licensee and is available from the NWB file transfer protocol (FTP) site under the Public Registry link at the NWB Website.

Website Public Registry:

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

This form provides the basis for annual reporting and format, however individual Licences with project specific reporting requirements will need to provide information in addition to that of the standard form. The NWB notes that the format of the 2018 Annual Report submitted by the Licensee is acceptable.

Water Use

Raw (untreated) water is stored in two 854 m³ (854,000 L) raw water storage tanks. To allow for the quick refilling of water tanks, the NWB has imposed an annual limit of water use. However, since this Licence is a Type "B", the daily Water withdrawal limit cannot exceed two-hundred and ninety-nine (299) cubic meters per day, and the Licensee must ensure that the source water body is not drawn down, and if so, provide the information in accordance with Part C, item 3.

Under the renewed Licence, the Licensee shall not exceed one thousand seven hundred and fifty (1750) m³ of water per year, which is the combined volume for the two water storage tanks including a small contingency, and the daily water use shall not exceed 299 m³. All water shall come from Freshwater Lake. Renewed standard conditions for water use are detailed under Part C.

Waste Disposal

Sewage Waste

Previously, the Licensee was authorized to dispose of Toilet Wastes using Incinolet incineration toilets. While Toilet Wastes are disposed in this manner, Greywater was to be directed to a sump located no closer than thirty one (31) metres from the nearest water body. The NWB understands that the Incinolet toilets have a limited capacity, which is exceeded during some periods of onsite activity. To address the capacity issue, Part D, Item 9 of this Licence allows all Sewage, which includes Toilet Wastes and Greywater, to be directed to a Sewage Disposal Facility.

The Licensee has requested that under Part I, Item 3 of the previous Licence, sampling at point BAF-2 (Final discharge point of Sewage outfall) be discontinued and that the sampling will be replaced with sampling of effluent from the outfall sump if required to ensure proper operation of the sump or to perform maintenance on the outfall sump. The Board agrees with this principle and has reworded the Licence condition to require sampling only when discharge occurs from the sump to the environment.

Wording in this Licence has been updated so the Monitoring Station BAF-2 refers to the final discharge point from the Sewage Sump. Effluent monitoring parameters for Monitoring Station BAF-2 are detailed under Part J, Item 4. Specific Effluent monitoring parameters have been included in the renewal for consistency with other similar Licenses approved by the NWB.

Fuel Berm Containment Discharge Removed

DND requested that discharge criteria from the fuel storage area be removed from the Licence because the vertical tanks in berms that were in place under the previous Licence have been replaced with horizontal double walled tanks. The design of these horizontal double walled tanks prevents water from entering the secondary containment. All berms were breached and the old vertical tanks removed. The NWB acknowledges that the horizontal double walled fuel storage tanks, provide secondary containment that prevents any water from entering. As such, the Discharge Criterial for the Bulk Fuel Storage Area have been removed from this Licence.

Solid waste

The proponent indicated in the renewal application that non-hazardous waste is disposed of in the Iqaluit landfill. The Licensee is directed to condition Part D, item 6 under this Licence, which requires that the Licensee provide to the Board documented authorization from all communities receiving wastes from the project prior to any backhauling of wastes to those communities.

A historical landfill exists at this site that is no longer in use. The Licensee previously provided

to the Board an *Operation and Maintenance (O&M) Plan for the Landfill and Handling of Solid Wastes at BAF-3*, dated January 28, 2010. As stated by the Licensee, the Landfill was built in the 80's and no as-built drawing exist for it. The Licensee is reminded that the use of the Landfill is not permitted under this Licence.

Landfarm

Two large fuel spills, and as many as 21 uncontrolled releases (spill) have been identified at this site since 2007. On January 13, 2007, a Spill Report (07-011) was filed describing the unauthorized release of 150,000 litres of aviation fuel and 40,000 litres of water. On March 19, 2015, a Spill Report (15-104) was filed describing the unauthorized release of 50,000 litres of aviation fuel. In the Water Licence Inspection Form dated July 19, 2016, the Inspector noted that contaminated soils were documented and the Licensee was scheduled to have a contractor attend the site to examine the piles to ensure the impacted soils were now free of contamination and could be used for fill on site. The results of this testing are still outstanding. In addition, the Inspector noted wastes created from cleaning up the spill (waste liner, plastics, portable containment berms, etc.) remained on site and should be containerized and hauled off site or stored properly. In their report dated August 24, 2017, the Inspector noted that the Licensee is currently conducting clean up on a spill from 2015 near the main camp and that no concerns were noted at the time of the inspection. The spill contingency plan submitted with the Application indicates that remote monitoring of fuel tanks is in place as recommended by the Inspector. The Licensee is strongly recommended to address all issues identified by the Inspector.

As part of the previous renewal application, the Licensee submitted a document entitled "Final Report, Water License Application – Supplementary Information for Hydrocarbon – Impacted Soil Storage and Landfarm Treatment Facilities" dated September 25, 2008. The NWB noted that the previous Licence did not include consideration of an on-site Landfarm Facility designed to remediate contaminated soils there was no amendment on file to indicate that the Landfarm Facility design and soil quality remediation objectives were approved by the NWB. On October 14, 2008, the Licensee provided as built drawing of the and a *Site Monitoring Plan* for the Landfarm Facility. However, the NWB re-imposed that the Licensee submit an Operation and Maintenance (O&M) Plan pursuant to Part D, item 12 for review and approval. This condition was previously supported by Environment Canada (EC or ECCC currently) who expressed concerns with the Landfarm Facility. The Licensee is encouraged to review the comments provided by EC on August 28, 2009, and incorporate them into the O&M Plan.

For the purposes of compliance monitoring and environmental protection, the NWB has included Effluent discharge parameters for the Landfarm Facility that are consistent with other operating Landfarms in Nunavut. Effluent quality limits are provided in Part D, item 14 and soil quality remediation objectives must, at a minimum, meet the Government of Nunavut's Environmental Guideline for Site Remediation, January 2002.

Spill Contingency Plan

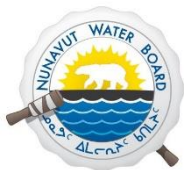
The Board approves the Spill Contingency Plan submitted with the Application.

Abandonment and Restoration Plan

The NWB has re-imposed the condition from the preceding Licence that the Licensee submit for Board approval, at least six (6) months prior to the Abandonment of the project, an Abandonment and Restoration Plan. The requirement for this submission is detailed under Part H, Item 1.

Monitoring

To ensure consistency with other similar projects licensed in Nunavut, the Board requires that the Licensee establish, implement and report on the Monitoring Program outlined in Part J of the licence.



NUNAVUT WATER BOARD RENEWAL/AMENDMENT WATER LICENCE

Licence No. 8BC-BAF1929

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

GOVERNMENT OF CANADA, DEPARTMENT OF NATIONAL DEFENCE

(Licensee)

101 COLONEL BY DRIVE, OTTAWA, ON K1A 0K2

(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-BAF1929 / TYPE "B"**

Water Management Area: **SOUTH CUMBERLAND SOUND WATERSHED (52)**

Location: **BREVOORT ISLAND, QIKIQTANI REGION, NUNAVUT**

Classification: **OTHER UNDERTAKING**

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

Quantity of Water use not to Exceed: **ONE THOUSAND SEVEN HUNDRED AND FIFTY (1750) CUBIC METRES PER ANNUM AND LESS THAN THREE HUNDRED (300) CUBIC METRES PER DAY**

Effective Date : **SEPTEMBER 1, 2019**

Expiry of Licence: **AUGUST 31, 2029**

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

Lootie Toomasie
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 a Mining undertaking classified as per Schedule 1 of the *Regulations* at the BAF-3 Long Range Radar Station and Logistics Support Site, located on the southern end of Brevoort Island, approximately 250 km Northeast of Iqaluit within the Qikiqtani Region, Nunavut.

- a. This Licence is issued subject to the conditions contained herein with respect to the taking of Water and the deposit 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*;

“**Bulk Fuel Storage Facility**” means the fuel storage facility as described in the Application and supporting documents submitted January 28, 2019;

“Discharge” means the release of any water or waste to the receiving environment;

“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*;

“Landfarm Facility” means the facility designed to treat hydrocarbon contaminated soil referred to in the renewal application dated January 28, 2019;

“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;

“Sewage Disposal Facility” means the disposal system as described in the water licence application filed by the applicant on January 28, 2019;

“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*;

“Water Supply Facility” means the intake, piping, storage tanks, and distribution network designed to provide water for the site.

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 March 31st 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 Crown Lands reporting period;
 - c. Quantity of Waste backhauled to approved facility for disposal;
 - d. A list of unauthorized discharges and a summary of follow-up actions taken;
 - e. Any revisions to the Spill Contingency Plan as required by Part B, Item 6, submitted in the form of an Addendum;
 - f. A description of all progressive and or final reclamation work undertaken, including photographic records of site conditions before, during and after completion of operations;
 - g. A summary of all information requested and results of the Monitoring Program;
 - h. A summary of public consultation/participation, describing consultation with local organizations and residents of the nearby communities, if any were conducted;
 - i. 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 2.
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. The Board has approved the following Plans for implementation under the relevant sections in the Licence:
 - a. *Spill Contingency Plan for the North Warning System* (March 29, 2018)
 - b. *Sewage Disposal Update: Sumps for Sewage Outfalls at CAM-3, FOX-3, DYE-M, and BAF-3* (July 13, 2018)
8. 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.

9. 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, CIRNAC
Nunavut District, Nunavut Region
P.O. Box 100
Iqaluit, NU X0A 0H0
Telephone: (867) 975-4295
Fax: (867) 979-6445
10. The Licensee shall submit an 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 Inuktitut ~~and Inuinnaqtun~~.
11. The Licensee shall ensure that all documents or correspondence submitted by the Licensee to the NWB are received and acknowledged by the Manager of Licensing.
12. This Licence is assignable as provided for in Section 44 of the *Act*.
13. The expiry or cancellation of this Licence does not relieve the Licensee from any obligation imposed by the Licence, or any other regulatory requirement.

PART C: CONDITIONS APPLYING TO WATER USE

1. The Licensee shall obtain all water from Water Supply Lake. Total Water use shall not exceed two-hundred and ninety-nine (299) cubic metres per day. The volume of Water for all purposes under this Licence shall not exceed one thousand seven hundred and fifty (1750) cubic metres per year
2. The use of Water from streams or any Water bodies not identified in Part C, Item 1, is prohibited unless authorized and approved by the Board in writing.
3. The withdrawal of Water from any stream shall not exceed ten (10) per cent of the low flow of that stream unless approved by the Board in writing.

4. Where the use of Water is of a sufficient volume that the source Water body may be drawn down, the Licensee shall submit, for approval of the Board in writing, the following information: the volume required, a hydrological overview of the water body, details of impacts, and proposed mitigation measures.
5. 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 water body may be drawn down: volume required, hydrological overview of the water body, details of impacts, and proposed mitigation measures.
6. 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.
7. The Licensee shall not conduct any work below the ordinary High Water Mark of any water body unless approved by the Board in writing.
8. The Licensee shall not cause erosion to the banks of any body of Water and shall provide necessary controls to prevent such erosion.
9. 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 implement the Plan entitled “*Sewage Disposal Update: Sumps for Sewage Outfalls at CAM-3, FOX-3, DYE-M, and BAF-3*”, dated July 13, 2018.
2. 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 water body such that the quality, quantity or flow of Water is not impaired, unless otherwise approved by the Board in writing.
3. The Licensee shall not practice on-site land filling of domestic Waste, unless otherwise approved by the Board in writing.
4. The Licensee is authorized to dispose of all acceptable food Waste, paper Waste and untreated wood products in an incinerator.
5. 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.
6. The Licensee shall provide to the Board documented authorization from all communities in Nunavut receiving Wastes from the Project prior to any backhauling and disposal of

Wastes to those communities.

7. The Licensee shall backhaul and dispose of all hazardous Wastes, Waste oil and non-combustible Waste generated through the course of the operation at a licensed Waste disposal site.
8. 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.
9. The Licensee shall dispose of Greywater through the Sewage Disposal Facility Sump. All Effluent shall be disposed to a Sump located at a distance of at least thirty one (31) metres above the ordinary high water mark of any water body, 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
10. The Licensee may manage Toilet Wastes through the use of incineration toilets, and dispose of all resulting ash in the off-site Landfill. In the event that the on-site population exceeds the capacity of the incineration toilet, the Licensee shall direct Toilet Wastes to the Sewage Disposal Facility Sump.
11. The Licensee shall submit to the Board for approval sixty (60) following the issuance of this Licence, a Landfarm Operation and Maintenance Plan for the Landfarm Facility.
12. All soil placed in the Landfarm Facility must to be treated to meet the appropriate post-treatment, land-use criteria outlined in the Canadian Council of Ministers of the Environment's (CCME) Canada-Wide Standards for Petroleum Hydrocarbons (PHC) in Soil (2008) and the Government of Nunavut – Department of Environment's Guidelines for Contaminated Site Remediation (Revised 2009).
13. All discharge of Effluent at Monitoring Station BAF-3 (Landfarm Facility) shall not exceed the following Effluent quality limits:

Parameter	Maximum Concentration of any Grab Sample (µg/L)
pH	6 to 9 (units)
Oil and Grease	5000
Arsenic (total)	100
Cadmium (dissolved)	10
Chromium (dissolved)	100
Cobalt (dissolved)	50
Copper (dissolved)	200
Lead (dissolved)	50
Mercury (total)	0.6
Nickel (dissolved)	200
PCB (total)	1000
Phenols	20

Zinc (total)	500
Benzene	370
Toluene	2
Ethylbenzene	90

14. The Licensee shall treat, as required, the Effluent generated by the Landfarm Facility such that the Effluent discharged shall not exceed the Effluent quality limits established under Part D, Item 13, prior to Discharge into the receiving environment.
15. The Licensee shall confirm compliance with respective Effluent quality limits in Part D, Item 13, prior to Discharge.
16. The Licensee shall provide at least ten (10) days notice to the Inspector prior to any planned Discharges from any facilities. The notice shall include an estimated volume proposed for Discharge and the receiving location.
17. The Licensee shall implement measures to ensure leachate from the Landfill does not enter water.

PART E: CONDITIONS FOR CAMPS, ACCESS INFRASTRUCTURES AND OPERATIONS

1. The Licensee shall not store material on the surface of frozen streams or lakes including the immediate banks except what is for immediate use.
2. 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.
3. 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.
4. 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.
5. Stream crossing shall be a minimum of five hundred (500) meters from spawning areas.
6. With respect to access road, pad construction or other earthworks, the deposition of debris or sediment into or onto any water body 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.
7. 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 authorized to drill only for the purpose of installing additional groundwater monitoring wells as required at the Landfarm Facility.
2. The Licensee shall not conduct any land based drilling within thirty one (31) metres of the ordinary high water mark of any water body, unless otherwise approved by the Board in writing.
3. The Licensee shall ensure that all drill waste, including water, chips, muds and salts (CaCl₂) in any quantity or concentration, from land-based drilling, shall be disposed of in a properly constructed sump or an appropriate natural depression located at a distance of at least thirty one (31) metres from the ordinary high water mark of any adjacent water body, where direct flow into a water body is not possible and no additional impacts are created.

PART G: CONDITIONS APPLYING TO MODIFICATIONS

1. The Licensee may, without written consent from the Board, carry out Modifications to the Water Supply Facilities and Waste Disposal 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 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 F, 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 Licensee shall implement the Plan entitled “*Spill Contingency Plan for the North*

Warning System” dated March 29, 2018 that was 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 water body 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. The Licensee shall maintain secondary containment for hazardous waste and fuel storage area.
5. 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 and the NWB, 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.
6. The Licensee shall, in addition to Part G, 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 Water body.

PART I: CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION OR TEMPORARY CLOSING

1. The Licensee shall submit to the Board for approval, six (6) months prior to the abandonment of the BAF-3 Station, an Abandonment and Restoration Plan. The Plan shall include the following where appropriate:
 - a. Water intake facilities;
 - b. Water treatment and waste disposal sites and facilities;
 - c. Petroleum and chemical storage areas;
 - d. Any site affected by waste spills;
 - e. Leachate prevention;
 - f. An implementation schedule;
 - g. Maps delineating all disturbed areas, and site facilities;
 - h. Consideration of altered drainage patterns;
 - i. Type and source of cover materials;

- j. Future area use;
 - k. Hazardous wastes; and
 - l. A proposal identifying measures by which restoration costs will be financed by the Licensee upon abandonment.
2. The Licensee shall complete the restoration work within the time schedule specified in the Plan mentioned under Part H Item 1, or as subsequently revised and approved by the Board.
 3. 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 back fill or general site grading may be carried out only upon consultation and approval by the Government of Nunavut, Department of Environment and an Inspector.

PART J: CONDITIONS APPLYING TO THE MONITORING PROGRAM

1. The Licensee shall maintain the following Monitoring Program Stations:

Monitoring Program Station Number	Description	Status
BAF-1	Raw water supply prior to deposit in water tanks	Active (Volume cubic metres)
BAF-2	Final discharge point from the Sewage Disposal Facility Sump	Active (Quality)
BAF-3	Final Discharge Point from the Landfarm Facility	Active (Quality)
BAF-4	Final Discharge Point of the Bulk Fuel Storage Facility	Discontinued
BAF-5	Groundwater monitoring wells at the Soil Remediation Facility	Active (Quality)

2. The Licensee shall measure and record, in cubic metres, the daily quantities of water pumped from Monitoring Program Station BAF-1 for all purposes.
3. The Licensee shall sample at Monitoring Program Station BAF-2, prior to Effluent discharge from the Sewage Disposal Facility Sump. Samples shall be analyzed for the parameters listed:

Biological Oxygen Demand
Total Suspended Solids
Oil and Grease (and visual)

Faecal Coliforms
pH

4. The Licensee shall, prior to release of effluent from the Landfarm Facility, sample at Monitoring Program Station BAF-3 for the parameters listed in Part D Item 13.
5. The Licensee shall monitor groundwater using the monitoring wells at the Soil Remediation Facility at BAF-5 for the parameters listed under Part D, Item 13.
6. The Licensee shall determine the GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where Wastes are deposited.
7. 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.
8. All sampling, sample 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*, or by such other methods approved by the Board in writing.
9. All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.
10. The Licensee shall within ninety (90) days following issuance of the Licence, submit to the Board for review a Quality Assurance/Quality Control (QA/QC) Plan for the monitoring program. The Plan shall include up to date field sampling methods to all applicable standards, acceptable to an accredited laboratory as required by Part J, Item 8 and Part J, Item 9. The Plan shall include a covering letter from the accredited laboratory confirming acceptance of the Plan for analyses to be performed under this Licence.
11. The Licensee shall annually review the QA/QC plan submitted under Part J, Item 10 and modify it as necessary. Revised plans shall be submitted to the NWB with an approval letter from an accredited lab that meets standards set in Part J, Item 8 and Part J, Item 9.
12. The Licensee shall include in the Annual Report required under Part B, Item 1 all data, monitoring results and information required by this Part.