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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

File No.: **8BC-ERK1621**

November 25, 2016

Colonel Kevin Horgan
Commander, Real Property Operations Group
Department of National Defence
Assistant Deputy Minister (Infrastructure & Environment)
101 Col By Drive
Ottawa, ON, K1A 0K2

Email: Kevin.Horgan@forces.gc.ca
Andrew.Tam@forces.gc.ca

RE: Licence No. 8BC- ERK1621, Renewal

Dear Colonel Horgan:

Please find attached Licence No. **8BC- ERK1621** issued to 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 Land Claims Agreement or NLCA)*. The terms and conditions of the attached Licence related to water use and waste disposal 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 disposal must cease, or the Licensee may be in contravention of the *Nunavut Land Claims Agreement* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*. 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.

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 Indigenous and Northern Affairs and Canada (INAC) on issues identified. This information is attached for your consideration.¹

Sincerely,

Thomas Kabloona
Nunavut Water Board
Chair

TK/sa/ri

Enclosure: Licence No. **8BC- ERK1621**
Comments – INAC

Cc: Qikiqtani Region Distribution List

¹ Indigenous and Northern Affairs Canada (INAC), April 4, 2016

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DECISION

RENEWAL Licence No.: 8BC-ERK1621

This is the decision of the Nunavut Water Board (NWB) with respect to an application submitted on September 9, 2015 for the renewal of a Water Licence made by:

DEPARTMENT OF NATIONAL DEFENCE

to allow for the disposal of waste during operation and maintenance of the Canadian Forces Station Eureka, located on Ellesmere Island within the Qikiqtani Region, Nunavut, generally located at the geographical coordinates as follows:

Latitude: 79° 59' 40"N Longitude: 85° 50' 34"W

DECISION

After having received a determination from the Nunavut Planning Commission (NPC)² on February 22, 2016, declaring that at this time the Eureka Project does not require a review by NPC or the Nunavut Impact Review Board (NIRB), 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)* and Article 13 of the *Nunavut Land Claims Agreement (NLCA)*, 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 NLCA and of the Act, waived the requirement to hold a public hearing, and determined that:

Renewal Licence Number 8BC-ERK1621 be issued subject to the terms and conditions contained therein. (Motion #: 2016-B1-017)

SIGNED this 21st day of November, 2016 at Gjoa Haven, NU.

Thomas Kabloona
Nunavut Water Board Chair

TK/sa/ri

² Letter from the NPC to the NWB, Re: NPC File # 148185 Canadian Forces Station Eureka, dated February 22, 2016

I. INTRODUCTION

The Canadian Forces Station (CFS)-Eureka is located on the shore of Slidre Fiord, west coast of Ellesmere Island, approximately 450 km northwest of the Hamlet of Grise Fiord. CFS- Eureka was first established in 1947 as a High Arctic Weather Station. The site is maintained as a military station for personnel and is the military quarters for training missions to the North.

Infrastructure at Eureka includes the accommodations buildings, a vehicle maintenance garage, aircraft refuelling apron, fuel storage tanks and bladders. Waste facilities at Eureka include a Sewage Lagoon, a Non-Hazardous and a Non-Combustible Solid Waste Landfill, Batteries Dump, Barrels Dump and a landfarm which operates at site to treat hydrocarbon contaminated soil.

In 2015, CFS Eureka was operational during the month of June and unoccupied during the remaining 11 months of the calendar year. The proponent anticipates a similar operational schedule for 2016.

II. PROCEDURAL HISTORY

On June 18, 2010 the Nunavut Water Board issued Water Licence 3BC-ERK1015 to the Department of National Defence (DND), 1 Canadian Air Division, to allow for the disposal of waste during operation and maintenance of the Canadian Forces Station, Eureka. The Licence expired on June 30, 2015.

On September 16, 2015 the NWB acknowledged receipt of DND's application (the Application) for renewal of the CFS-Eureka Water Licence. At the same time, the NWB informed the Applicant that in order to better reflect the Schedule 3 of the Regulations³, the CFS-Eureka Licence number has been changed from 3BC-ERK (where the No.3 represented a Municipal undertaking) to 8BC-ERK (where the No.8 represents an Other Undertaking).

Further to that, the Applicant was informed that under the Nunavut Land Claims Agreement (NLCA), Article 11, Section 11.5.9 and s. 76 (1) of Nunavut Planning and Project Assessment Act (NuPPAA), the proponent of a project governed by NuPPAA is also required to submit a project proposal document for the NPC's determination regarding the applicable land use planning requirements and/or directions regarding whether the project is subject to screening by the Nunavut Impact Review Board. In particular, as established under Articles 11, 12 and 13 of the NLCA, NuPPAA and Part 3 of the Nunavut Waters and Nunavut Surface Rights Tribunal Act, until the project/Applicant has completed the applicable land use planning and assessment process required by the NPC and the NIRB, the NWB cannot issue a water licence.

While awaiting the NPC's determination and/or indications that the project may proceed to the licensing stage, the NWB completed an administrative and preliminary internal technical review of the Application.

³ Nunavut Waters Regulations SOR/2013-69 18th April, 2013

The following documents were submitted to the NWB in support of the renewal of Water Licence No. 8BC-ERK1015:

- Table of Contents
- Cover letter of Renewal Application;
- Application for Water Licence Renewal;
- Compliance Plan;
- Executive Summary English;
- Executive Summary Inuktitut;
- Renewal Title Page;
- Operation and Maintenance Plan (O&M Plan), CFS Eureka (ERK), Nunavut, Revised February 2015 with the following appendixes:
 - 3BC-ERK1015 Water Licence (Appendix B);
 - CFS Alert Hazardous Material Management Plan (Appendix C);
 - CFS Eureka Spill Contingency Plan, November 2010 (Appendix D);
 - Quality Assurance / Quality Control Plan, 2015 (QA/QC Plan, Appendix E);
 - Abandonment and Restoration Plan, February 2012 (Version 1.2) (Appendix F).

On May 11, 2016 the Applicant submitted the following updated Plans:

- Spill Contingency Plan Canadian Forces Station Alert (ERK), Nunavut, Revised June 2015
- Abandonment and Restoration Plan, Battery and Barrel Dumps CFS Eureka (ERK), Nunavut, Revised June 2015, version 1.3

During the Final Technical Review of the Application, the NWB noted that the following submitted plans were outdated: Spill Contingency Plan (SCP) dated November 2010 and the Abandonment and Restoration Plan (A&RP) dated February 2012. On May 11, 2016 following Board's request the Licensee submitted updated version of the Plans. This information is maintained at the NWB Public Registry and is available to interested parties, hence the importance of having updated information for public review.

On February 22, 2016 the NPC⁴ informed the NWB that because the Canadian Forces Station Eureka predates the North Baffin Regional Land Use Plan, the station has not been reviewed by the NPC to determine if it conforms to the plan, and it does not require a review at this time by NPC or the Nunavut Impact Review Board (NIRB).

Following NPC's letter, on March 2, 2016 the NWB distributed the Application to interested parties for a thirty (30) day comment and review period. On April 4, 2016, Indigenous and Northern Affairs Canada (INAC) submitted a memorandum with comments for the NWB's consideration. Comments and recommendations provided by INAC are related to measures that

⁴ Letter from the NPC to the NWB, Re: NPC File # 148185 Canadian Forces Station Eureka, dated February 22, 2016

the proponent could implement to enhance protection of the environment within the project's footprint.

III. GENERAL CONSIDERATIONS

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

A. Compliance Issues

On July 11, 2013 an INAC's Inspector visited site and highlighted a number of issues of compliance with the Licence and / or the Act; some of these issues are summarized below:

- *Unacceptable Practices of Storing Hazardous Waste:* Hazardous wastes have sat over winter at the Nanisivik deep water Port with no monitoring or security measures.
- *Unremediated Fuel Contaminated Site:* the site contaminated by Hydrocarbon spills behind the large stationary tanks remains without being remediated after four years and three inspections of the site.

In response, the licensee submitted with the Application a document entitled "*Compliance Plan - Follow Up on 2013/2015 Inspection Report*". The document outlines the main measures that have and will be taken to address and resolve the non-compliance issues.

B. Term of Licence

The Water Licence 3BC-ERK1015 expired on June 30, 2015, and as such the Board wishes to remind the Licensee that the *Nunavut Waters and Nunavut Surface Rights Tribunal Act (Act)* Section 46 states:

The expiry or cancellation of a Licence does not relieve the holder from any obligations imposed by the Licence.

With regard to the Licence's term, the Licensee has requested a period of five (5) years. In accordance with the Nunavut Waters and Nunavut Surface Right 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 Indigenous and Northern Affairs Canada (INAC) site inspections and the corresponding compliance record of the Applicant, as well as intervener comments provided during the application review process. INAC commented on the licence term and recommended a term of five years in duration, declaring:

"A five-year licence term is preferable to a longer licence term as it should ensure the proponent's progress in terms of addressing compliance issues and contaminated site remediation is re-evaluated on a shorter term basis".

The Board agrees with INAC's comments regarding the licence term, and determined appropriate to grant a five (5) year term. The Licence duration allows the Licensee to properly carry out the terms and conditions of the Licence and ensures that sufficient time is given to resolve compliance issues.

C. Annual Reporting

The NWB has imposed on the Licensee, the requirement to produce an Annual Report. These Reports, as a requirement under sec.14 of the Regulations, ensure that the NWB has an accurate annual update of the Licensee's activities related to the use of water and the deposit of waste during a calendar year. This information is maintained on the NWB Public Registry and is available to interested parties upon request. A "Standardized Form for Annual Reporting" is to 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. Additional information is to be provided based on the activities, requirements and requests of the NWB.

Website Public Registry:

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

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.

D. Water Use

Water use at CFS-Eureka is regulated under Licence 3BC-EUR1116. CFS-Eureka obtains all of its fresh water from the Environment Canada (EC) Eureka High Arctic Weather Station (HAWS) reservoir, which is adjacent to the site. Water is trucked to CFS-Eureka, and placed into a cistern's system.

Consistent with the expired water licence, 3BC-ERK1015, the renewal licence 8BC-ERK1621 does not include conditions related to the use of water. As it is informed in the Application, CFS-Eureka will continue to obtain its required water from the Eureka HAWS site, therefore no change is required with respect to the Water use. In the event that DND requires water from a different source, an amendment of this Licence will be necessary.

E. Waste Facilities

Waste facilities at Eureka include a Sewage Lagoon, the following three landfills/dumps (landfill, Battery Dump and Barrel Dump) and a landfarm.

Operation and Maintenance (O & M) Manual for CFS Eureka Waste Facilities:

The Licensee was required upon issuance of water licence 3BC-ERK1015 to develop an Operation and Maintenance (O & M) Manual for CFS Eureka Waste Facilities prepared where appropriate, in accordance with the "Guidelines for the Preparation of an Operation and Maintenance Manual for Sewage and Solid Waste Disposal Facilities in the Northwest Territories; 1996". On November 30, 2010 the Licensee submitted the Manual to the NWB and on December 10, 2010 the Board acknowledged receipt of the Manual, inviting interested

parties to review the submission and make representations to the NWB. On or before January 10, 2011 Environment Canada (EC) and Indian and Northern Affairs Canada (INAC) provided comments on the submission. Afterwards, the Licensee was expected to address the comments and submit a revised version of the Manual. However, a revised Manual incorporating those comments had not been submitted until 2015, when a revised version of the 2010 Operation and Maintenance Manual was submitted with the Application.

Reviewer's comments during the 2011 review of the Manual can be found at the ftp site:
<ftp://ftp.nwb-oen.ca/registry/8%20MISCELLANEOUS/8B/8BC%20-%20Camp/8BC-ERK1015%20DND%20Eureka/2%20ADMIN/3%20SUBMISSIONS/2015%20Renewal/>

Comments provided by INAC during the 2016 Application Review period were regarding sewage sludge management and the landfarm management plan; which are further developed in the next sections.

Following this, under Part H Item 1 of the Renewal Licence the Board has approved the O&M Manual revision 2015, and under Part H Item 2 of the Licence, the Board has included a condition to be addressed through a revision to the Plan as part of the annual reporting requirements under Part B, Item 1 of the Licence.

Sewage Effluent

Camp sewage is digested and then piped to the sewage lagoon where the effluent undergoes final treatment. The two-cell lagoon is located on the south side of the main station. The controlled discharge of the treated sewage effluent from the lagoon is received by the water body of Slidre Fiord.

In 2009 an upgrade to the lagoon walls was completed extending the height of walls to approximately 2.5 to 3.0 m. Also, a pipe was installed connecting the two cells to allow the transfer of effluent from the first cell to the second lagoon's cell.

The following comments related to the sewage effluent treatment were provided during the review period by INAC:

- The O&M Manual does not include a section related to the sludge management, as required under Part H Item 1 b of the 3BC-ERK1015;
- According to the 2015 Annual Report the effluent from the sewage lagoon was sampled on June 27th, 2015, prior to the release of effluent. The analytical results show that the concentrations from this sample were within the license conditions for all parameters except Total Suspended Solids, where an exceedance was reported.

Following these, INAC recommended a submission of sewage sludge management plan and the modification of sewage facility operating procedures to ensure that effluent discharge from the sewage lagoon meets criteria established in the licence. The Board agrees with INAC's

comments and specifically regarding the sludge management has included a Licence condition requiring the licensee to submit a sludge management plan.

Solid Waste

In general nonhazardous and non-combustible solid waste is disposed of in three different landfills, the so called *East Airstrip Landfill*, *Barrel Dump* and *Battery Dump*. Combustible garbage is taken to the incinerator building and incinerated as required. Ashes are shipped to 8 Wing Trenton and disposed of at a licensed waste disposal facility. Hazardous materials generated at the station, such as batteries, are collected and stored in HazMat overpacks and shipped to 8 Wing Trenton for management and disposal.

Landfill (East Airstrip Landfill)

This landfill is situated in a ravine and has been in operation since the inception of EC's Weather Station in 1947. Historically both, hazardous and non-hazardous materials were deposited here. Currently the landfill is still active and is used to dump non-combustible solid waste. Garbage is collected daily in sealed containers or plastic bags. The landfill is covered as time/equipment is available.

Barrel Dump

The Barrel Dump contains empty crushed burned barrels, capped with thin layers of clean fill. Barrels are primarily aviation fuel drums.

Battery Dump

The Battery Dump was completely backfilled and is no longer in use. Used batteries, vehicles and other equipment onsite were previously disposed of in this location. As reported, presently there is no visual evidence of the dump; however, a sign is posted identifying the Department of National Defence Battery Disposal Area.

The 3BC-ERK1520 licence has conditions requiring as-built engineered drawings for the existing landfill facility to be submitted for Board's review and approval. These drawings have not been provided and the licensee has indicated that it will not submit these drawings as the facility precedes the current licence. Regarding this issue, INAC's reviewer recommended the proponent provide further rationale as to why these drawings cannot be provided and provide an alternative method to show that the landfill facility is of sound design.

Hazardous Waste

The licensee has submitted with the Application, the CFS Alert Hazardous Material Management Plan included as an Appendix of the O&M Manual. As its name indicates, the Plan applies to the Alert Station. The Board considers that a proper management of hazardous waste requires a specific plan for the site. Therefore, has included a condition under Part H, Item 2b requesting the Licensee to update the O&M Plan with the inclusion of the CFS Eureka Hazardous Waste Management Plan.

Landfarm

The CFS-Eureka's Landfarm was constructed with the purpose of remediating soil contaminated with petroleum hydrocarbons. It is located approximately 90m south of the airstrip, and it is approximately 18 m x 3 m in size with a capacity of approximately 44m³. Since the Landfarm facility was constructed prior to licence conditions, as-built drawings are not available.

The 'Landfarm Management Plan' included within the submitted 2015 Operations and Management Plan reports that no water is discharged outside of the Landfarm and that

"any water accumulated within the berm is reapplied to hydrate the contaminated soil"

Noticing that the Water Licence's Monitoring Program includes a monitoring station at the final discharge point of the Landfarm Facility (ERK-2) and that condition in Part D Item 11 of the Licence authorizes effluent discharge from the Landfarm Facility as long as the effluent quality is in compliance with respect to the established effluent quality limits, INAC's reviewer recommended that the Licensee revise the Operation and Maintenance Plan to be consistent with the terms of the licence.

The Board's agrees with this recommendation and has included under Part H, Item 2c a condition requesting to update the O&M Plan addressing this issue.

The Board also notes that under condition established in Part H, Item 1 of the expired Licence No. 3BC-ERK1015, the Licensee is required to include in the O&M Plan the Landfarm practices for water, snow and runoff management. Such practices are not detailed in the submitted O&M Plan, therefore the NWB, includes in the renewal licence, a condition under Part H, Item 2c regarding this issue.

Finally, in accordance with Part F, Item 3, the Licensee was required to submit stamped as-built engineered drawings for review and approval so that the NWB has on record, engineered drawings for the Waste Disposal Facilities. With respect to this condition, the Licensee has indicated that it will not submit these drawings as the facility precedes the current/expired licence.

F. Spill Contingency Planning

As part of the Application submission, the Licensee at first submitted to the Board the "Spill Contingency Plan - CFS Eureka" issued November 2010 and then on May11, 2016 at Board's request, the June 2015 revised version 3.1 of the SCP was submitted. The latest version of the Spill Contingency Plan (SCP) is a revised version of the 2009 SCP which was approved under the 3BC-ERK1015.

G. Abandonment and Restoration (A&R)

As part of the Application submission, the licensee submitted to the Board Revision No.1.2 of the A&R Plan, dated February 2012.

In April 2011, in order to comply with the condition under Part I, Item 1 of expired Licence No. 3BC-ERK1015, the Licensee submitted an Abandonment and Restoration Plan (A&R Plan) for Board's review and approval. After review by stakeholders, the A&R Plan was approved by the Board in January 2012. Further to that, in January 2012 the Licensee issued A&R Plan Revision 1.1, in order to modify Sections 3.1 and 2.4.2.2 of the Plan; these modifications were done as per Board's request⁵. In February 2012, the DND issued Revision No. 1.2 of the A&R Plan which included an additional figure (Figure 2) to the Plan. In May 2016, the Licensee submitted the June 2015 version 1.3 of the A&R Plan, which has been approved with the issuance of this Licence.

⁵ NWB Letter to A. Tam Re: Water Licence 2BC-ERK1015 Part I, Item 1: Abandonment and Restoration Plan Battery and Barrel Dumps, CFS Eureka (ERK), Nunavut, dated January 11, 2012



NUNAVUT WATER BOARD WATER LICENCE RENEWAL

Licence No. 8BC- ERK1621

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

DEPARTMENT OF NATIONAL DEFENCE

(Licensee)

101 COL BY DRIVE, OTTAWA, ON, K1A 0K2

(Mailing Address)

Herein after 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:

Licence Number/Type: 8BC- ERK1621 / TYPE "B"

Water Management Area: NANSEN AND EUREKA SOUNDS WATERSHED No.59

Location: QIKIQTANI REGION, NUNAVUT

Classification: OTHER UNDERTAKING

Purpose: DEPOSIT OF WASTE

Quantity of Water use not
to Exceed: NO WATER USE IS AUTHORIZED

Date of Licence Issuance: November 25, 2016

Expiry of Licence: November 24, 2021

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

Thomas Kabloona,
Nunavut Water Board, Chair

Licence No. 8BC-ERK1621

PART A: SCOPE, DEFINITIONS AND ENFORCEMENT

1. Scope

This Licence allows for the disposal of waste for an activity classified as per Schedule 3 of the Regulations, as an “Other Undertaking” at the Canadian Forces Station Eureka, located on the western shore of Ellesmere Island 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 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;

“**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 Land Claims Agreement* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*;

“**Fuel Storage Facility**” means the facility consisting of four (4) 30,000 L double-walled storage tanks as described in the water licence application dated November 16, 2009;

“**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);

“**ICP Scan**” means the laboratory method for determining trace metals in water through Emission Spectroscopy using inductively coupled plasma (including from approximately 22 to 32 elements, depending on the laboratory performing the analysis);

“**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 as describe in the water licence application dated November 16, 2009;

“**Landfill**” means the facility designed to contain non-hazardous solid waste as described in the application dated November 16, 2009;

“**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 Land Claims Agreement (NLCA)**” 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;

“**Waste Disposal Facilities**” means the Sewage Treatment Facility, Landfill and Landfarm;

“**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 March 31st of the year following the calendar year being reported, containing the following information:
 - a. a summary report of waste disposal activities;
 - b. quantity of waste backhauled to approved facility for disposal;
 - c. the amount of excess fuel burned in the year reported;
 - d. a list of unauthorized discharges and a summary of follow-up actions taken;
 - e. The location of waste deposition in accordance with Part J, Item 2;
 - f. any revisions to the Spill Contingency Plan, Abandonment and Restoration Plan, and any other Plans as required by Part B, Item 7, submitted in the form of an Addendum;
 - g. a description of all progressive and or final reclamation work undertaken, including photographic records of site conditions before, during and after completion of operations;
 - h. a summary of all information requested and results of the Monitoring Program; and
 - i. any other details on the use of water or deposit of waste as required by sec. 14 of the Regulations or as requested by the Board by November 1 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 Effluent volumes as required under Part H, Item 6.
4. 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, AANDC
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 paper copy and one 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.
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*.
12. 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 use of Water is not authorized under this Licence.

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 water body 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 deposit all nonhazardous, non-combustible waste in the onsite Landfill.
3. The Licensee is authorized to dispose of all acceptable food waste, paper waste and untreated wood products in an incinerator.
4. 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.
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 a licensed waste disposal site.
6. The Licensee shall backhaul and dispose of incinerator ash generated through the course of the operation in a licensed waste disposal facility, unless otherwise approved by the Board in writing.
7. 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.
8. The Licensee shall provide at least ten (10) days notification to an Inspector, prior to initiating any Effluent discharge from the Sewage Treatment Facility or Landfarm.
9. The Licensee shall direct all Sewage to the Sewage Treatment Facility.
10. Effluent discharged from the Sewage Treatment Facility at monitoring station ERK-1 shall not exceed the following Effluent quality limits:

Parameter	Maximum Concentration of any Grab Sample
BOD5	80 mg/L
Total Suspended Solids	70 mg/L
Fecal Coliforms	1 x 10 ⁶ CFU/100 mL
Oil and grease	No visible sheen
pH	between 6 and 9

11. Effluent discharge from the Landfarm Facility at monitoring station ERK-2 shall not exceed the following Effluent quality limits:

Parameter	Maximum Concentration of any Grab Sample
Benzene	370 (µg/L)
Toluene	2 (µg/L)
Ethylbenzene	90 (µg/L)
Lead	1(µg/L)
Oil and Grease	15 (mg/L) and no visible sheen
Phenols	20 (µg /L)

12. If Effluent does not meet the Effluent quality limits of Part D, Item 11, it shall be considered hazardous waste and disposed off-site at an approved facility.

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 adjacent 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. 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.
4. The Licensee shall not mobilize heavy equipment or vehicles for trenching or other activities 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 MODIFICATIONS AND CONSTRUCTION

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 G: CONDITIONS APPLYING TO SPILL CONTINGENCY PLANNING

1. The Board has approved the Plan entitled “Spill Contingency Plan, Canadian Forces Station Alert Eureka (ERK), Nunavut”, Revision 3.1, dated June 2015, that was submitted as additional information with the Application.
2. The Licensee shall submit, within thirty (30) days of issuance of the Licence, an Addendum to the Plan referred to in Part G, Item 1, addressing the following issues:
 - a. Revision to the cover page replacing “Alert” with “Eureka”;
 - b. Include direct contact information for Sec. 1.2, 8 Wing Trenton Environmental Management;
 - c. Recommend to include a ‘Plan of Action’ type flowchart for easy referral for response; and
 - d. Replace the contact information for the Kitikmeot Inuit Association with the contact information for the Qikiktani Inuit Association, 1-800-667-2741 and/or 867-975-8400
3. 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.
4. 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.

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, 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 5, 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 H: CONDITIONS APPLYING TO OPERATIONS AND MAINTENANCE

1. The Board has approved the Plan entitled “Operation and Maintenance Plan CFS Eureka (ERK), Nunavut, Nunavut” Revised February 2015 that was submitted as additional information with the Application.
2. The Licensee shall submit with the 2016 Annual Report, an Addendum to the Plan referred to in Part H, Item 1, addressing comments received by parties during the 2011 Plan’s review period, the 2016 Licence Renewal Period and also to include the following:
 - a. Sewage Sludge Management Plan;
 - b. CFS Eureka Hazardous Waste Management Plan;
 - c. a revised Landfarm Management Plan addressing landfarm effluent monitoring and practices regarding water, snow and runoff management.
3. The Licensee shall conduct an inspection of all engineered facilities related to the management of water and waste, annually during site activity by an Engineer. The Engineer’s report shall be submitted to the Board within sixty (60) days of the inspection, including a covering letter from the Licensee outlining an implementation plan addressing the Engineer’s recommendations.
4. An inspection of the Waste Facilities by a Geotechnical Engineer may be requested by an Inspector

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

1. The Board has approved the Plan entitled “Abandonment and Restoration Plan, Battery and Barrel Dumps, CFS Eureka (ERK), Nunavut”, Version 1.3, dated [June 23, 2016] that was submitted as additional information with the Application.
2. The Licensee shall submit to the Board for approval in writing, six (6) months prior to the abandonment of the CFS-Eureka site, a Final Closure and Reclamation Plan using as reference and in accordance with the principles of the Mine Site Reclamation Guidelines for the Northwest Territories (INAC 2007), the Abandoned Military Site Remediation Protocol (INAC 2008) and other relevant policies.
3. The Licensee shall complete the restoration work within the time schedule specified in the Plan, or as subsequently revised and approved by the Board in writing.
4. The Licensee shall carry out progressive reclamation of any components of the project no longer required for the Licensee’s operations.
5. 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, 2010. 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 Monitoring Stations at the following locations:

Monitoring Program Station Number	Description	Status
ERK-1	Final Discharge Point of the Sewage Treatment Facility	Active (Quality)
ERK-2	Final Discharge Point of the Landfarm Facility	Active (Quality)
ERK-3	Runoff and leachate from the Landfill	Active (Quality)
ERK-4	Runoff and leachate from the Battery Dump	Active (Quality)

ERK-5	Runoff and leachate from the Barrel Dump	Active (Quality)
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2. The Licensee shall determine, in consultation with the Inspector, the GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where wastes associated with operations and maintenance are deposited and have been deposited. Locations shall be reported in the Annual Report.
3. The Licensee shall analyze samples, prior to the release of Effluent from the Sewage Treatment Facility at ERK-1 and ERK-2, for the purpose of demonstrating compliance with the parameters listed under Part D, Items 10 and 11.
4. The Licensee shall analyze samples, prior to the release of effluent from the Landfarm Facility at ERK-2 for the purpose of demonstrating compliance with the parameters listed under Part D, Item 11.
5. The Licensee shall sample at Monitoring Program Station ERK-3, 4 and 5 monthly during periods of runoff or seepage. Samples shall be analyzed for the following parameters:

TPH (Total Petroleum Hydrocarbons)	
PAH (Polycyclic Aromatic Hydrocarbons)	
BTEX (Benzene, Toluene, Ethylbenzene, Xylene)	
BOD ₅	Fecal Coliforms
pH	Conductivity Total
Suspended Solids	Oil and Grease
Nitrate-Nitrite	Ammonia Nitrogen
Total Phenols	Total
Alkalinity Total Hardness	Calcium
Magnesium	Potassium
Sodium	Sulphate
Total Arsenic	Total Cadmium
Total Copper	Total Chromium
Total Iron	Total Lead
Total Mercury	Total Nickel

6. The Licensee shall measure and record, in cubic metres, the daily quantities of effluent released from monitoring Station ERK-1.
7. 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.

8. All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.
9. The Licensee shall annually review the Quality Assurance /Quality Control plan and modify accordingly as required by changes in operation and/or technology. Revisions to the Plans are to be submitted to the NWB in the form of an Addendum, complete with an approval letter from an accredited lab that meets standards set in Part J, Item 7 and, Item 8, to be included with the Annual Report.
10. The Licensee shall include in the Annual Report required under Part B, Item 1 all data, monitoring results and information required by this Part.