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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

File No: 8BC-EUR2131

July 22, 2021

Asif Mohammed
Real Property Management Division
Environment & Climate Change Canada
867 Lakeshore Rd, GROUND
Office L128
Burlington, ON L7S 1A1

Email: asif.mohammed@canada.ca

RE: NWB Amended Renewal Water Licence No: 8BC-EUR2131

Dear Asif Mohammed:

Please find attached Amended Renewal Water Licence Licence No: 8BC-EUR2131 (Renewal Licence or Licence) issued to Environment and Climate Change Canada (ECCC) by the Nunavut Water Board (NWB or Board) 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.

Sincerely,

Lootie Toomasie
Nunavut Water Board,
Chair

LT/ak/rqd

Enclosure: Licence No: 8BC-EUR2131

Cc: Distribution List – Qikiqtani

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DECISION

LICENCE NUMBER: 8BC-EUR2131

This is the decision of the Nunavut Water Board (NWB) with respect to an application dated June 18, 2021 for an amendment to Water Licence made by:

ENVIRONMENT AND CLIMATE CHANGE CANADA

to allow for the use of Water and the deposit of Waste during camp operations and activities related to the operation and routine maintenance of the federal weather and scientific station that include quarry expansion and operation, dust suppression, temporary storage of contaminated soils, runway surface repair, and construction of a new multi-purpose building at the Environment and Climate Change Canada's Eureka High Arctic Weather Station (HAWS) located on Ellesmere Island within the Qikiqtani Region, Nunavut, generally located at the geographical coordinates as follows:

Project Extents:

Latitude: 80° 0' 10.665" N	Longitude: 85° 54' 57.015" W
Latitude: 79° 59' 21.095" N	Longitude: 85° 57' 5.209" W
Latitude: 79° 57' 18.804" N	Longitude: 85° 18' 51.225" W
Latitude: 79° 56' 29.467" N	Longitude: 85° 21' 1.742" W

Camp Location(s):

Latitude: 79° 59' 29.268" N	Longitude: 85° 52' 17.112" W
Latitude: 79° 59' 21.851" N	Longitude: 85° 53' 59.853" W

DECISION

After having been satisfied that the Application is for a proposal that was previously reviewed by the Nunavut Planning Commission (NPC) and for which the conformity determinations, dated December 17, 2010, April 19, 2012, April 16, 2016, March 7, 2018, and January 22, 2021, remain applicable, as determined by the NPC¹, and as determined by the Nunavut Impact Review Board (NIRB)², 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:

¹ Nunavut Planning Commission, Conformity Determination, February 9, 2021.

² Nunavut Impact Review Board (NIRB) Screening Determination, April 21, 2021.

Licence No: 8BC-EUR1621 be amended and renewed as Licence No: 8BC-EUR2131 subject to the terms and conditions contained therein. (Motion #: 2021-B1-08)

Signed this 22nd day of July, 2021 at Gjoa Haven, NU.

Lootie Toomasie
Nunavut Water Board,
Chair

LT/ak/rqd

WATER LICENCE NO: 8BC-EUR2131

I. BACKGROUND

The water licence amendment/renewal application (Application) being considered by the Nunavut Water Board (NWB or Board) was filed by Environment and Climate Change Canada (the Applicant, Licensee or ECCC) on June 18, 2021 to seek renewal of Type “B” Water Licence No: 8BC-EUR1621 resulting in the issuance of Water Licence No: 8BC-EUR21231 (Licence) for the Eureka High Arctic Weather Station (HAWS or Eureka) Project. The Project is located 425 km north-northwest of Grise Fiord within the Qikiqtani Region of Nunavut.

Facilities at Eureka include operation of water reservoir, pump-house, water crossings, sewage lagoon, several landfills and a landfarm, power-house, fuel storage facility, electrical-plumbing-carpentry facilities shops, accommodations and other buildings, maintenance garage, warehouses, quarry operation, runway surface repair, dust suppression, incinerator.

ECCC sought to continue the above stated activities. New activities included quarry expansion and temporary storage of contaminated soils.

II. FILE PROCEDURAL HISTORY

On February 6, 2005, the Nunavut Water Board issued a type “B” Water Licence 3BC-EUR0611 to Environment Canada (EC) to allow for the use of water, the disposal of waste and handling or storage of petroleum products or hazardous materials for the Eureka Weather Station. The Licence expired on January 30, 2011.

On June 7, 2011, the NWB issued a type “B” Water Licence 3BC-EUR1116 to EC to allow for the continued use of water and the disposal of waste for the Eureka High Arctic Weather Station (HAWS). The Licence expiry was set at June 7, 2016.

On July 14, 2015, Environment and Climate Change Canada (ECCC) sought to make amendments to the original scope of the licence and submitted an amendment application for Water Licence 3BC-EUR116. On January 20, 2016, the NWB distributed this application for a thirty (30) day review by interested parties. However, given the facts that the Licence was close to its expiration date, and the length of the time required of the review process, which is preceded by the NPC and NIRB review processes the Licensee was advised to withdraw the amendment application and submit a new, combined amendment/renewal application. On June 7, 2016 a combined amendment-renewal application (the Application) for the type “B” Water Licence 3BC-EUR116 was filed by ECCC, which was approved by the Board as licence No: 8BC-EUR1621 on August 11, 2016. On July 18, 2018, the NWB issued an amendment to the licence that authorized the use of water from additional water source (West Remus Creek) for dust suppression, construction of a haul road and water crossing over Blacktop Creek and the development of a new quarry.

On February 9, 2021, the Nunavut Planning Commission (NPC) issued a conformity determination stating that previous conformity determinations, dated December 17, 2010, April 19, 2012, April 16, 2016, March 7, 2018, and January 22, 2021, remain applicable. The NPC

deemed the Project proposal as conforming to the North Baffin Regional Use Plan. On April 21, 2021, the Nunavut Impact Review Board (NIRB) issued its screening determination that the review of the Project is not required in accordance with s. 92(1)(a) of *NuPPAA*.

On June 18, 2021, ECCC submitted an application package for a renewal and amendment of licence No: 8BC-EUR1621. The requested changes included water crossings, quarry expansion, and temporary storage of contaminated soil, as well as renewing the licence term to 2031.

III. GENERAL CONSIDERATIONS

Term of Licence

In accordance with the *Nunavut Waters and Nunavut Surface Rights Tribunal Act (NWNSTRA)* s. 45, the NWB may issue a licence for a term not exceeding twenty-five years. The Applicant requested extending the term of the Licence to August 2031. The NWB did not receive from public any objections or concerns with the requested term. Although the Board has accepted with the requested term, the Board would like to remind that the Licensee should do its best to comply with all terms and conditions of Licence. The Licensee is advised that the Renewal Licence No: 8BC-EUR2131 is to supersede the current Water Licence No: 8BC-EUR1621.

A. Scope, Definitions and Enforcement

Scope

The Licence is to allow for the use of water and the deposit of waste in support of activities related to the operation of the federal weather and scientific station that operation of water reservoir, pump-house, water crossings, sewage lagoon, several landfills and a landfarm, power-house, fuel storage facility, electrical-plumbing-carpentry facilities shops, accommodations and other buildings, maintenance garage, warehouses, quarry operation, runway surface repair, dust suppression, incinerator, construction of a new multi-purpose building, quarry expansion, and temporary storage of contaminated soils.

Enforcement

To ensure that the Licensee complies with the terms and conditions of the Licence, Inspectors designated and empowered by the Minister of Northern Affairs (Minister) may inspect or examine works, activities, and undertakings associated with the use of water and the deposit of waste for the purposes of exercising their powers in accordance with the *NWNSTRA*.³

Compliance

ECCC should note that compliance with the terms and conditions of this Licence does not necessarily absolve the Licensee from the responsibility to comply with all other applicable legislation, guidelines, and directives.

B. General Conditions

Part B of the Licence addresses the general terms and conditions that apply to the Undertaking,

³ Sections 85-88 of the *NWNSTRA*.

such as annual report submission, protocols for handling documents related to the Licence, posting of signage at sites associated with the Undertaking, and more.

C. Conditions Applying to Water Use

The Licensee shall obtain all fresh water in amounts and from the sources described in Table 1 in Part C, Item 1. The volume of water for all purposes under this Licence shall not exceed ten thousand (10,000) cubic metres per year and two hundred and ninety-nine (299) cubic metres per day. The Eureka HAWS water reservoir is also the source of water for the Department of National Defense (DND)'s Canadian Force Station (CFS) Eureka. Water from the Eureka HAWS reservoir is trucked to the DND CFS-Eureka station and discharged into a cistern system. While there have been two new water sources authorized under this Licence, the total authorized withdrawal annual and daily rates remain the same.

D. Conditions Applying to Waste Disposal

Waste facilities at Eureka include a sewage lagoon, at least four solid waste disposal sites (landfills/dumps), a landfarm, and a temporary contaminated soil storage area. The sewage lagoon at the Eureka HAWS is a single cell, engineered retention lagoon and is located to the south of the complex in the immediate vicinity of the Fjord. The Licensee plans to construct a wastewater treatment plant in the future.

The wastewater is collected in a storage tank where the wastewater is pumped to the lagoon where solids are allowed to settle and limited decomposition takes place. The sewage lagoon is usually discharged twice a year, once at the beginning of July as capacity has been reached and again at the end of August in order to provide sufficient capacity to hold wastewater over the following winter months. The decanting process normally takes about 48 hours. Wastewater samples are collected at the discharge pipe. Samples are analyzed for biochemical oxygen demand (BOD₅), total suspended solids (TSS), ammonia, fecal coliforms, pH, conductivity, metals, major cations, sulphates, oil and grease and total phenol.

East Landfill is used to contain non-organic/non-hazardous waste that cannot be incinerated and is located at the east end of the landing strip (79° 59.484'N and 85° 46.335'W). Non-hazardous ash from the incinerator is disposed of at this landfill. Drum Crushing site is located south of the runway (79° 59.374'N and 85° 55.586'W) and west of the East Landfill. This is a lined area used for crushing of drums prior to disposal. Previous records indicate that other landfills exist: Ash Landfill used to receive ash from the incineration of kitchen wastes (although since 2000 there has been no ash deposited at this site, which has been diverted to the East Landfill); Asbestos Landfill that received asbestos removed from buildings on site; and West Landfill that contained kitchen waste and buried fuel drums. The Licensee noted that other historic landfills could exist, but locating historical plans and drawings of these landfills proved unsuccessful.

In 2020, during runway repair, the Licensee discovered petroleum hydrocarbon-impacted soils while excavating the main apron area. Approximately 3,200 m³ of contaminated soil were placed in a lined, bermed area. The stockpile area was constructed to the south of the airstrip, near an existing landfarm. The base liner was constructed from high-density polyethylene. Berms were constructed from native soil in the stockpile area. The Licensee did not receive the Board's

approval for the construction of this Temporary Contaminated Soil Storage. An as-built drawing was submitted with the Application. The Licensee stated that it retained “a consultant working on preparing a remedial options analysis and remedial action plan which tentatively includes a sampling plan to characterize the stockpile” in summer 2020. Thus, the Board included a provision for the Licensee to submit a remedial options analysis and remedial action plan with the 2021 Annual Report. The Board also included Effluent limits for any discharges from the Temporary Contaminated Soil Storage under Part D, Item 11.

Previously set limits for Effluent discharge from the Landfarm and Landfills remain unchanged in this Licence.

It should be noted that ECCC included the request for open burning of untreated wood. The Board granted the request and set a number of conditions for the Licensee to adhere during open burning of acceptable wood products.

E. Conditions Applying for Camps, Access Infrastructures and Operations

The Licensee shall implement the Plan entitled *Revised Quarry Operations Plan West Remus Creek, Eureka, Nunavut* prepared by Nuna East Ltd. and dated May 2021 as approved by the Board with the issuance of this Licence. In addition, the Board has approved the *Summary of Operations and Maintenance Procedures for Drinking Water, Sewage, Solid Waste Disposal and Waste Treatment Facilities* prepared by Public Services and Procurement Canada (PSPC) and dated June 2021.

F. Conditions Applying to Modifications

The Applicant is required to obtain permission from the NWB for modifications that do not meet the criteria of Part F, Item 1 of the Licence. As per Part F, Item 2, without written approval from the NWB, the Licensee shall not carry out these modifications. Changes that do not meet the definition of a Modification under the Licence or the requirements of Part F may be considered amendments to the Licence.

G. Conditions Applying to Spill Contingency Planning

The Board has approved the *Emergency Plan for Petroleum and Allied Petroleum Products* dated April 2021 that was submitted as additional information with the Application.

H. Conditions Applying to Closure and Reclamation or Temporary Closure

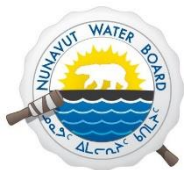
The Board has approved the *Interim Abandonment & Restoration Plan* prepared by Public Services and Procurement Canada (PSPC) and dated June 2021 that was submitted as additional information with the Application. At least one (1) year prior to final abandonment, the Licensee shall submit to the Board for approval in writing, a Final Abandonment and Restoration Plan. The Plan shall include, in addition to the content of the Interim Plan, the following:

- a. A description of contaminated soils identified at the site through a completed Phase III Environmental Assessment and the procedures to mitigate the

- contamination;
- b. A summary of existing data for background levels of metals in the area, and identification of needs for verification of data;
- c. A description of restoration activities outlined in the Interim Abandonment and Restoration Plan;
- d. An implementation schedule for the completion of restoration; and
- e. A detailed monitoring program.

I. Conditions Applying to the Monitoring Program

The requirement to submit for review of the Board, within ninety (90) days of issuance of this Licence, a revised Quality Assurance / Quality Control (QA/QC) Plan was transferred from the previous Licence. The Licensee committed to comply with the requirement. The QA/QC Plan shall include up to date sampling methods to all applicable standards, acceptable to an accredited laboratory as required by Part I, Item 8. The Plan shall include a cover letter from an accredited laboratory confirming acceptance of the Plan for analyses to be performed under this Licence. Any modifications to the Monitoring Program may be made only upon written approval from the Board. Requests for changes to the Monitoring Program should be forwarded to the NWB in writing, and shall include justification and appropriate evidence to support the change.



NUNAVUT WATER BOARD RENEWAL WATER LICENCE

Licence No: 8BC-EUR2131

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

ENVIRONMENT AND CLIMATE CHANGE CANADA

(Licensee)

867 LAKESHORE RD, GROUND, OFFICE L128, BURLINGTON, ON, L7S 1A1

(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-EUR2131 / TYPE "B"**

Water Management Area: **NANSEN AND EUREKA SOUNDS WATERSHED (59)**

Location: **EUREKA HIGH ARCTIC WEATHER STATION (HAWs)
QIKIQTANI REGION, NUNAVUT**

Classification: **8. OTHER UNDERTAKING**

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

Quantity of Water use not to Exceed: **TEN THOUSAND (10,000) CUBIC METRES PER ANNUM
AT A MAXIMUM RATE OF TWO HUNDRED AND
NINETY-NINE (299) CUBIC METRES PER DAY**

Date of Licence Issuance: **JULY 22, 2021**

Expiry of Licence: **JULY 21, 2031**

This Renewal Licence, 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 an undertaking classified “Other” as per Schedule 1 of the *Regulations* at the Eureka High Arctic Weather Station (HAWS) Project, located approximately 425 km north-northwest of Grise Fiord 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*;

“**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*;

“Fuel Storage and Transfer Area” means the bulk fuel storage and the area around the connection point between a delivery truck, railcar, or vessel and bulk fuel as described in the *Emergency Plan for Storage Tank Systems of Petroleum and Allied Petroleum Products at Eureka High Arctic Weather Station (HAWS)* dated April 2021 and submitted with the application dated June 18, 2021;

“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 for the petroleum hydrocarbon contaminated soil treatment situated adjacent to the main complex area as referenced in application dated June 18, 2021;

“Landfill” means the facility designed to contain non-hazardous solid waste as described in the application dated June 18, 2021;

“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;

“Quarry or Quarries” means the area of surface excavation for extracting rock material for use as construction materials in the development of infrastructure and facilities for the project as described in the application dated June 18, 2021;

“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 oillet Wastes and greywater;

“Sewage Treatment Facility” means the sewage lagoon as described in the application dated June 18, 2021;

“Solid Waste Disposal Facilities” means the structures and associated area designed to contain solid waste as described in the application dated June 18, 2021;

“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;

“Temporary Contaminated Soil Storage” means the lined, bermed area for temporary storage of petroleum hydrocarbon contaminated soil (estimated quantity of 3,200 m³) excavated from the main apron area of the airport in June 2020 as described in the application dated June 18, 2021;

“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, Temporary Contaminated Soil Storage, and Landfarm facilities;

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

“Water Supply Facility” means the area and associated intake infrastructure at Station Creek, West Remus Creek, and Blacktop Creek, the reservoir, storage tanks and piping as described in the application dated June 18, 2021.

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 all sources for the reporting period;
 - c. Quantity of Waste disposed of on on-site Waste Disposal Facilities;
 - d. Quantity of Waste backhauled to an approved facility for disposal;
 - e. A list of unauthorized discharges and a summary of follow-up actions taken;
 - f. Any revisions to the management plans, as required by Part B, Item 6, 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;
 - i. A list of seeps originating from quarry activities, water quality monitoring results, and measures taken to prevent the flow of seep into nearby water bodies;
 - j. GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) for the locations of all temporary camps established in support of the project if the actual coordinates differ from that provided in the Application;
 - k. A summary, including photographic records before, during and after any relevant construction activities or Modifications and/or major maintenance work carried out on facilities under this Licence and an outline of any work anticipated for the next year;
 - l. Detailed discussion on the performance, installation, and evaluation, including the use of photographic record, of the primary and secondary containment functions used in fuel storage to safeguard impacts to freshwaters;
 - m. A summary of public consultation/participation, describing consultation with local organizations and residents of the nearby communities, if any were conducted;
 - n. Any other details on Water use or Waste disposal requested by the Board by the 1st November of the year being reported.
2. The Licensee shall notify the NWB of any changes in operating plans or conditions associated with this Project at least thirty (30) days prior to any such change.

3. The Licensee shall install flow meters or other such devices, or implement suitable methods required for the measuring of Water volumes as required under Part J, Item 1.
4. The Licensee shall, for all Plans submitted under this Licence, include a proposed timetable for implementation. Plans submitted, cannot be undertaken without subsequent written Board approval and direction. The Board may alter or modify a Plan if necessary to achieve the legislative objectives and will notify the Licensee in writing of acceptance, rejection or alteration of the Plan.
5. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.
6. The Licensee shall review the Plans referred to in this Licence, as required by changes in operation and/or technology, and modify the Plan accordingly. Revisions to the Plans shall be submitted in the form of an Addendum to be included with the Annual Report.
7. Every Plan to be carried out pursuant to the terms and conditions of this Licence shall become a part of this Licence, and any additional terms and conditions imposed upon approval of a Plan by the Board become part of this Licence. All terms and conditions of the Licence should be contemplated in the development of a Plan where appropriate.
8. The Licensee shall ensure a copy of this Licence is maintained at the site of operations at all times. Any communication with respect to this Licence shall be made in writing to the attention of:
 - (a) **Manager of Licensing:**
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0
Telephone: (867) 360-6338
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Email: licensing@nwb-oen.ca
 - (b) **Inspector Contact:**
Manager of Field Operations, CIRNA
Nunavut District, Nunavut Region
P.O. Box 100
Iqaluit, NU X0A 0H0
Telephone: (867) 975-4284
Fax: (867) 979-6445
9. 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.

10. 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.
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 Licensee shall obtain all fresh Water in amounts and from the sources described in Table 1. The volume of Water used for all purposes under this Licence shall not exceed ten thousand (10,000) cubic metres per year and two hundred and ninety-nine (299) cubic metres per day.

Table 1: Water Use Authorized for all Purposes

Source	Volume (m ³ /year)	Purpose
Station Creek	8,775	Domestic camp and other use
West Remus Creek	800	Dust suppression
Blacktop Creek	425	Dust suppression
Annual Total	10,000 m³	
Daily total	299 m³	

2. A freeboard of 1.0 metre, or as recommended by a qualified geotechnical Engineer and as approved by the Board, shall be maintained at all dykes and earth-fill structures associated with the Water Supply Facilities.
3. The Licensee shall submit to the Board for approval in writing, the following information at least thirty (30) days prior to the use of Water of a sufficient volume that the source water body may be drawn down: volume required, hydrological overview of the water body, details of impacts, and proposed mitigation measures.
4. The Licensee shall equip all water intake hoses with a screen of an appropriate mesh size to ensure that fish are not entrained and shall withdraw Water at a rate such that fish do not become impinged on the screen.
5. The Licensee shall not conduct any work below the ordinary High Water Mark of any water body unless approved by the Board in writing.
6. The Licensee shall not cause erosion to the banks of any water body and shall provide necessary controls to prevent such erosion.
7. Sediment and erosion control measures shall be implemented prior to and maintained during the undertaking to prevent entry of sediment into Water.

PART D: CONDITIONS APPLYING TO WASTE DISPOSAL

1. The Licensee shall locate areas designated for Waste disposal at a minimum distance of thirty-one (31) metres from the ordinary High Water Mark of any 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 shall dispose of and contain all non-combustible solid wastes at the appropriate landfill of the Solid Waste Disposal Facilities or as otherwise approved by the Board.
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 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.
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 is authorized to open burn untreated wood as per following conditions:
 - a. The Licensee shall follow the *Government of Nunavut Department of Environment, Environmental Guideline for the Burning and Incineration of Solid Waste* (January 2012) and shall not allow the open burning of plastics, wood treated with preservatives, electrical wire, Styrofoam, asbestos or painted wood;
 - b. Solid waste that is conditionally suitable for open burning is untreated wood wastes only;
 - c. Wood and other acceptable products will be kept as dry as possible before and during burning;
 - d. The size of the burn pile will be minimized, and a “**hot burn**” maintained to create an efficient burn using consistent/constant feed rates to avoid over-feeding and damping the fire;
 - e. Burning will only be undertaken during favorable weather conditions (i.e. will not be undertaken during periods of extreme wind or during wet rain conditions);
 - f. Fires will be completely extinguished to ensure that any smoldering of material does not persist;
 - g. The burn pits are to be located on appropriate surfaces (bedrock, gravel or sand) and in areas such that impacts to surface water and groundwater drainage do not occur;
 - h. The burn pits are constructed, operated and maintained so that any materials to be disposed of are contained during the process, including ashes;
 - i. Any residual waste and ashes be collected and disposed of in an appropriate, approved facility; and

- j. Surface water runoff from the burn pit areas shall be managed to prevent any direct or indirect flow into a water body and that no additional impacts to water, including groundwater, are created.
7. The Licensee shall provide to the Board documented authorization from all communities in Nunavut receiving Wastes from HAWS Project prior to any backhauling and disposal of Wastes to those communities.
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 direct all Sewage to the Sewage Treatment Facility or as otherwise approved by the Board in writing.
10. Effluent discharged from the Sewage Treatment Facility at monitoring station EUR-3 shall not exceed the following Effluent quality limits:

Parameter	Maximum Concentration of any Grab Sample
Biochemical Oxygen Demand BOD ₅	100 mg/L
Total Suspended Solids	120 mg/L
Fecal Coliforms	1 x 10 ⁶ CFU/100 mL
pH	between 6.0 and 9.0
Oil and grease	No visible sheen

11. Effluent discharge from the Landfarm Facility at Monitoring Program Station EUR-4 and Temporary Contaminated Soil Storage at Monitoring Program Station EUR-6 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)
Phenols	20 (µg /L)
Oil and Grease	15 (mg/L) and no visible sheen
pH	Between 6.0 and 9.0

12. If Effluent does not meet the Effluent quality limits of Part D, Items 10 and 11, it shall be considered hazardous waste and disposed of off-site at an approved facility.
13. A freeboard of 1.0 metre, or as recommended by a qualified geotechnical Engineer and as approved by the Board in writing, shall be maintained at all dams, dykes and earth-fill structures associated with the Sewage Treatment Facility, Temporary Contaminated Soil Storage or Landfarm Facility.

14. The Licensee shall provide at least ten (10) days written notification to an Inspector, prior to initiating any Effluent discharge from the Sewage Treatment Facility, Temporary Contaminated Soil Storage and Landfarm Facility.
15. The Licensee shall maintain the Waste Disposal Facilities to the satisfaction of the Inspector and operate in such a manner as to prevent structural failure.
16. The Licensee shall, prior to the removal of any treated soil for future use, confirm with the Government of Nunavut, Environmental Protection Service that the soils have been treated to meet all legislatively-required treatment objectives.
17. The Licensee shall not mix or blend soils for the expressed purpose of attaining the specific limits of the relevant quality criteria.
18. The Licensee shall submit a remedial options analysis and remedial action plan for Board approval for the Temporary Contaminated Soil Storage within the 2021 Annual Report.

PART E: CONDITIONS FOR CAMPS, ACCESS INFRASTRUCTURES AND OPERATIONS

1. The Licensee shall implement the *Revised Quarry Operations Plan West Remus Creek, Eureka, Nunavut Nuna East Ltd.* dated May 2021 as approved by the Board with the issuance of this Licence.
2. The Licensee shall implement the *Summary of Operations and Maintenance Procedures for Drinking Water, Sewage, Solid Waste Disposal and Waste Treatment Facilities* dated June 2021 as approved by the Board with the issuance of this Licence.
3. 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.
4. All surface runoff and/or discharge from drainage management systems, during the construction of any facilities and infrastructure associated with this Project, including from quarry development at Monitoring Program Station EUR-5, referred to in Part I, Item 1, shall not exceed the following Effluent quality limits:

Parameter	Maximum Concentration of any Grab Sample
Total Suspended Solids	50 mg/L
Oil and Grease	15 mg/L and no visible sheen
pH	Between 6.0 and 9.5

5. The Licensee shall only use aggregate for construction of infrastructure or facilities under this Licence that is demonstrated to be not potentially acid generating, non-metal leaching and free of contaminants by, carrying out appropriate analyses and retaining the results

and reports for reference for submission on request by the NWB or an Inspector, or have the results submitted with the Annual Report.

6. 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.
7. The Licensee shall not conduct any land-based activity within thirty-one (31) metres of the ordinary High Water Mark of any water body, unless otherwise approved by the Board.
8. Stream crossing shall be a minimum of five hundred (500) meters from spawning areas.
9. The Licensee shall locate stream crossings to minimize approach grades. Approaches shall be stabilized during construction and upon completion of the project, to control runoff, erosion and subsequent siltation to any water body.
10. The Licensee shall limit any in-stream activity to low water periods. In-stream activity is prohibited during fish migration.
11. The Licensee shall not cut any stream bank or remove any material from below the ordinary High Water Mark of any water body.
12. 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.
13. 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.
14. The Licensee shall, during periods of flow and following a major precipitation event, conduct water quality testing on a monthly basis, of any significant water seeps in contact with the roads, earthworks and any flows originating from quarries for criteria listed under Part E, Item 4.
15. The Licensee shall maintain a minimum of thirty-one (31) metres undisturbed buffer zone between the periphery of quarry sites and the ordinary High Water Mark of any water body unless otherwise approved by the Board in writing.
16. The Licensee shall not excavate and/or remove material from the quarry beyond a depth of one (1) metre above the ordinary High Water Mark or above the groundwater table, to prevent the potential contamination of groundwater.

17. A Geotechnical inspection of all engineered facilities related to the management of Water and Waste shall be carried out upon request of an Inspector. 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 each of the Engineer's recommendations.
18. The Licensee shall perform more frequent inspections of the engineered facilities at the request of an Inspector.

PART F: CONDITIONS APPLYING TO MODIFICATIONS

1. The Licensee may, without written consent from the Board, carry out Modifications to the Water Supply Facility 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 Licensee shall implement the *Emergency Plan for Petroleum and Allied Petroleum Products* dated April 2021 as approved by the Board with the issuance of this Licence.
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. 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 NWT/NU 24-Hour Spill Line at (867) 920-8130 and to the Inspector at (867) 975-4295; and
 - c. For each spill occurrence, submit to the Inspector, no later than thirty (30) days after initially reporting the event, a detailed report that will include the amount and type of spilled product, the GPS location of the spill, and the measures taken to contain and clean up the spill site.
5. The Licensee shall, in addition to Part G, Item 4, regardless of the quantity of releases of harmful substances, report to the NWT/NU 24-Hour Spill Line, if the release is near or into a water body.

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

1. The Board has approved the *Interim Abandonment & Restoration Plan* dated June 2021 that was submitted as additional information with the Application.
2. At least one (1) year prior to final abandonment, the Licensee shall submit to the Board for approval in writing, a Final Abandonment and Restoration Plan. The Plan shall include, in addition to the content of the Interim Plan, the following:
 - f. A description of contaminated soils identified at the site through a completed Phase III Environmental Assessment and the procedures to mitigate the contamination;
 - g. A summary of existing data for background levels of metals in the area, and identification of needs for verification of data;
 - h. A description of restoration activities outlined in the Interim Abandonment and Restoration Plan;
 - i. An implementation schedule for the completion of restoration; and
 - j. A detailed monitoring program.
3. The Licensee shall implement the Final Abandonment and Restoration Plan as approved by the Board.
4. 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.
5. The Licensee shall carry out progressive reclamation of any components of the project no longer required for the Licensee's operations.
6. 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.

7. All disturbed areas shall be contoured and stabilized upon completion of work and restored to a pre-disturbed state.

PART I: CONDITIONS APPLYING TO THE MONITORING PROGRAM

1. The Licensee shall maintain Monitoring Stations at the following locations:

Monitoring Program Station ID	Description	Status
EUR-1	Raw water supply prior to treatment at Station Creek	Active (Volume)
EUR-2	Runoff from the Solid Waste Disposal Facilities	Active (Quality)
EUR-3	Effluent discharge from the Sewage Lagoon to the ocean	Active (Quality, Volume)
	Quantity in cubic metres of sludge removed from the Sewage Lagoon	
EUR-4	Effluent Discharge from the Landfarm	Active (Quality)
EUR-5	Runoff from the quarry development at the exit point of ditches designed to collect and hold runoff water prior to release.	Active (Quality)
EUR-6	Effluent Discharge from the Temporary Contaminated Soil Storage	Active (Quality)
EUR-7	Raw water supply at West Remus Creek	Active (Volume)
EUR-8	Raw water supply at Blacktop Creek	Active (Volume)

2. The Licensee shall measure and record in cubic metres, the daily, monthly and annual quantities of water pumped from Station Creek during the annual recharge of the Eureka water reservoir at Monitoring Program Station EUR-1, from West Remus Creek during dust suppression at Monitoring Program Station EUR-7, and from Blacktop Creek during dust suppression at Monitoring Program Station EUR-8.

3. The Licensee shall measure and record in cubic metres the monthly quantities of water utilized for facility operations, for all purposes.
4. The Licensee shall measure and record in cubic metres the daily quantities of effluent pumped from the Sewage Treatment Facility during release to the environment.
5. The Licensee shall analyze samples prior to the release of Effluent from the Sewage Treatment Facility at EUR-3, for the purpose of demonstrating compliance with the parameters listed under Part D, Item 10.
6. The Licensee shall sample monthly at Monitoring Program Stations EUR-2, EUR-3, EUR-4 and EUR-6 during periods of observed flow and annual discharges. Samples shall be analyzed for the following parameters:

BOD ₅	Fecal Coliforms
Total Suspended Solids	pH
Conductivity	Nitrate-Nitrite
Oil and Grease (visual)	Ammonia Nitrogen
Total Phenols	Total Alkalinity
Total Hardness	Calcium
Magnesium	Potassium
Sodium	Sulphate
Chloride	Total Organic Carbon (TOC)
Total Cadmium	Total Zinc
Total Cobalt	Total Iron
Total Chromium	Total Manganese
Total Copper	Total Nickel
Total Aluminum	Total Lead
Total Mercury	Total Arsenic

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. Licensee shall submit for review of the Board, within ninety (90) days of issuance of this Licence, a revised Quality Assurance / Quality Control (QA/QC) Plan that includes field and laboratory procedures for sampling and analysis. The Plan shall include up to date sampling methods to all applicable standards, acceptable to an accredited laboratory as required by Part I, Item 8. The Plan submission shall include a cover letter from an accredited laboratory confirming acceptance of the Plan for analyses to be performed under this Licence.
10. The Licensee shall annually review the QA/QC Plan submitted under Part I, Item 9 and modify it as required by changes in operations and technology. Revised Plan shall be

submitted to the NWB for review, with an approval letter from an accredited lab confirming adherence to standards set in Part I, Items 7 and 8.

11. Modifications to the Monitoring Program may be made only upon written approval from the Board. Requests for changes to the Monitoring Program should be forwarded to the NWB in writing, and shall include justification and appropriate evidence to support the change.
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.