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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

File No.: **8BC-NNF1920**

July 22, 2019

Rodney Watson, Project Manager
Department of National Defence
101 Colonel By Drive
Ottawa, ON K1A 0K2

Sarah Rahmer
Defence Construction Canada
101 Colonel By Drive
Ottawa, ON K1A 0K2

Email: Rodney.Watson@forces.gc.ca

Email: Sarah.Rahmer@dcc-cdc.gc.ca

RE: NWB Replacement Licence No. 8BC-NNF1920

Dear Mr. Watson and Ms. Rahmer:

Please find attached Licence No. **8BC-NNF1920** issued to the Department of National Defence (DND) 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 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 interested persons on issues identified. This information is attached for your consideration.¹

Sincerely,

Lootie Toomasie
Nunavut Water Board
Chair

LT/as/rqd

Enclosure: Licence No. **8BC-NNF1920**
Comments – CIRNA

Cc: Qikiqtani Distribution List

¹ Crown Indigenous Relations and Northern Affairs Canada (CIRNAC or currently CIRNA), June 28, 2019

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1. BACKGROUND

As part of an initiative to increase Canadian military presence in Arctic Waters, the Department of National Defence (DND or the Applicant or the Licensee) proposes to construct and operate a naval facility near the Hamlet of Arctic Bay, Nunavut. The Nanisivik Naval Facility (NNF or the Project) will consist of a deep-Water berthing and refuelling station that will serve the Arctic/Offshore Patrol Ships (AOPS) Project, Royal Canadian Navy and other government vessels.

The Construction Phase of the NNF Project, which was expected to last four (4) years, commenced with site preparation activities in 2014. Most of the construction activities were carried out during the period of 2015-2019 and will continue into 2020. Following commissioning, which is anticipated to occur sometime in 2020, the facility will operate seasonally between July and October, inclusively, and shut down for the remaining period in the year, during which on-site support will be provided on an as-needed basis.

2. APPLICATION HISTORY

The NWB received the original Type “B” water licence application and supporting information (Application No. 1BC-NNF---) for the project on October 27, 2008. However, an internal preliminary review conducted at the time determined the Application to be deficient. The Applicant was informed of the deficiencies and in response submitted, on February 16, 2009, revisions to some of the documents that accompanying the original application. As all of the deficiencies had not been addressed at the time, the NWB did not distribute the application publicly for comments. Further, the NWB understood that the Proponent intended to address the deficiencies once the NIRB’s decision or determination for the application was issued. On October 24, 2013, the NIRB issued a screening decision report¹ for the file that took into consideration a reduced scope of activities to that originally proposed for the Project and included in the initial Application to the Board.

On April 15, 2014, the NWB received from Defence Construction Canada (DCC), on behalf of the DND, an application (Application No. 1WLC-NNF---) for an Approval without a Licence to use Water and deposit waste in support of the Nanisivik Naval Facility Project. Following receipt and an internal review, the NWB determined that the application did not meet the requirements for this type of approval and that an application for a Type “B” licence was required for the Project.

The NWB received on June 5, 2014 a revised application and supporting information (Application No. 8BC-NNF--) from Defence Construction Canada, on behalf of the Department of National Defence, for the Nanisivik Naval Facility Construction Project. 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 (known currently as Nunavut Agreement) and of the Act, waived the requirement to hold a public hearing, and issued the Licence No. 8BC-NNF1418 on November 04, 2014.

The previous licence expired on November 03, 2018 and the NWB received, on June 12, 2019,

¹ NIRB Screen Decision Report (NIRB File No.: 09DN018), dated October 24, 2013.

the renewal application and supporting information (Application) from Defence Construction Canada, on behalf of the Department of National Defence, for the Nanisivik Naval Facility Construction Project.

The Application consists of the following documents:

- General Water Licence Application;
- Cover Letter;
- Executive Summary English;
- Executive Summary Inuktitut;
- Nanisivik Naval Terms (March 2009);
- Overall Site Plan;
- NIRB Screening Decision 09DN018, dated October 24, 2013 and
- NPC Conformity Determination, dated May 16, 2019

The scope of the Application includes the following activities and undertakings:

- Construction of a Bulk-Liquid Storage Facility that includes a lined containment area for the following chemicals:
 - Naval distillate (approximately 7.5 million litres, to be stored in two, 22-metre diameter, vertical tanks)
 - Diesel fuel (approximately 100,000 litres to be stored in two 3-metre diameter horizontal double-walled tanks)
 - Aviation fuel (about 3,000 litres to be stored in 15 drums)
 - Oily wastewater (about 10,000 litres to be stored in 50 drums).
- Construction of a deep water, berthing and refuelling facility intended to serve the Arctic Offshore Patrol Ships (AOPS) Project, the Royal Canadian Navy, and other government vessels during the navigable or open-water period of the year (July to October)
- Construction of buildings, and installation of pipelines and relevant utilities to support the Project
- Demobilization of 50-60 person camp infrastructure once the construction phase is completed
- Minor grading of new roads and seasonal maintenance of all other roads will be conducted as required
- Use of Water for domestic purposes, concrete production, aggregate compaction, tank rinsing and dust control.

The Application was distributed for a thirty (15) day comment period on June 13, 2019 with the deadline for submission set for June 28, 2019. On or before the deadline for submission, comments were received from Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC or known currently as CIRNA). Where appropriate, the NWB has incorporated many of the recommendations provided by intervening parties under relevant terms and conditions in the licence.

All information pertaining to the Application, including the comments received have been placed on the NWB's FTP site and made available through the following link:

3. ISSUES

The following outlines some of the main issues that the Board considered in its decision to issue Licence 8BC-NNF1920 (Licence) to the Nanisivik Naval Facility Project:

Licence Term

The Applicant requested a renewal of eighteen (18) months term for the licence. The requested term is expected to cover the Construction and Commissioning Phases of the Project. While the NWB is aware that a longer term licence will be required to cover a more extensive period of the Operations Phase, the Board has granted the requested term under the expectation that the Licensee will eventually apply if required to amend or renew the Licence to include a longer period for the Operations Phase of the Project.

Annual reports

The NWB has reviewed the annual reports for the years 2017 and 2018 which were submitted by the Applicant. The review determined that the Applicant exceeded their allowed quantity of water for Industrial Use in the year 2018. The NWB recommends that the Licensee consider increasing the quantity of water allowed under the Licence through an amendment application if exceedances are likely to occur in the future. It was also noted that the 2017 and 2018 submissions did not include a report showing volumes of water used for different activities as was submitted in previous years. The Licensee is strongly recommended to provide the annual reporting information as required under Part B, Item of the Licence.

Potable Water Supply

The Applicant has requested the use of 1200 cubic metres of Water, which may be obtained from Twin Lakes Creek, for industrial (concrete production, compaction, dust control and tank rinsing) purposes during the Construction Phase of the Project:

In addition, the Applicant indicated that 11.4 cubic metres *per* day of water for domestic uses may also be supplied by the Hamlet of Arctic Bay using trucks. The Board considers the Water quantity requested as reasonable and has set conditions, under Part C, Item 1 of the Licence to govern the use of Water for domestic and industrial purposes during the Construction and Operations Phases of the Project.

The Applicant has provided a letter of authorization confirming the Hamlet's intent to supply potable water and acceptance of Waste from the project.

It should be noted that no Water use has been requested by the Applicant and is allowed for any purposes under this Licence, during the Operations Phase of the Project, which is not governed under this Licence.

Camp Infrastructure

To support the Project, the Licensee has established a 50 - 60 person camp infrastructure, on a concrete slab southeast of the existing Coast Guard fenced marshalling area, until August 2020. The Licensee stated that decommissioning of the camp, at the end of the construction phase, will entail complete removal of all camp structures and facilities, with the exception of the existing DND trailers, which will remain on-site to support personnel during NNF operations.

Camp structures and facilities will be transported off site for reuse or disposal. If water use volumes or waste types generated by the project are anticipated to increase, the Licensee is required to submit an amendment application to the NWB.

Access Roads

Information included in the Application indicates that existing roads were upgraded, and new roads have been constructed to provide access to the various components of the Nanisivik Naval Facility. Modifications were required for pipeline crossings and associated culverts, and pipeline guard rails were included as required to protect against potential vehicle impacts.

All roads have been constructed of compacted fill and incorporated corrugated steel culverts a minimum of 1 m below the road surface, where required. One sleeved crossing for the Cargo Staging Road was constructed for the pipeline. The sleeved crossing consists of a precast concrete box culvert installed below the road and covered with 1.0 m thickness of aggregate. Minor grading and seasonal maintenance of the roads will be conducted in 2019 and as required.

The primary access roads related to the Project include the Main Access Road, Landing Beach Access Road, Cargo Staging Road, Bulk Liquids Storage Facility access roads (two roads), and the Helicopter Landing Area Access Road.

The NWB has included terms and conditions in the Licence, under Part E, requiring the submission of for-construction and as-built design drawings for Water crossing(s) associated with new and upgraded roads.

Wharf

Information contained in the Application indicates that the existing wharf structure will be used for the Project; however, some minor upgrades will be required to improve functionality and address applicable codes and standards. Work to be undertaken in or near water does not include dredging or pile driving. Conditions have been included under Part D, Item 6 of the Licence to prevent, in the event of any dredging, the resultant material from being deposited onto land or into or near the freshwater environment. The Licensee has stated that design details for the new upgrades will be communicated to the NWB once they have been finalized.

Cargo Staging and Marshalling Area

The Licensee has indicated that an area, approximately 8000 m², located southwest of the wharf, has been graded to establish the Cargo and Marshalling area. Conditions have been included under Part C, Item 7 of the Licence requiring the Licensee to adequately manage sediments associated with the activity so as to prevent or minimize potential impact to the freshwater receiving environment.

Hydrostatic Testing

Information provided in the Application indicates that the Applicant intends to conduct hydrostatic testing of pipelines in advance of commissioning the relevant facilities associated with the Project. The Applicant has confirmed its intention to use seawater to conduct the tests and fresh water from Twin Lakes Creek to rinse the tanks.

The Licensee indicated that any Water discharged from hydrostatic testing will meet CCME water quality guidelines prior to being released into the receiving environment. Conditions

have been included under Part D, Item 12 of the Licence to govern the release onto land or in freshwater of wastewater generated from hydrostatic testing including requirements to notify the NWB and the Inspector prior to discharge.

Domestic Wastewater (Sewage)

Information contained in the Application indicates that domestic wastewater generated by the Project during the Construction Phase will be backhauled to facilities within the Hamlet of Arctic Bay for treatment or be treated on-site at a facultative sewage lagoon system that may be constructed west of the cargo storage and marshalling areas. If the sewage lagoon is constructed, effluent from the facility meeting criteria will be discharged at an approved location as required under Part D, Item 10 on the Licence.

No onsite treatment and/or disposal of domestic wastewater generated during the Operations Phase of the Project. In terms of backhauling waste to the Hamlet of Arctic Bay, in a recent submission to the NWB, the Applicant provided a letter of authorization confirming the Hamlet's intent to accept waste generated by the project.

Solid Waste Management

The Licensee indicated that its intent to use the 3R – approach (reduce, reuse, and recycle) to manage the solid waste generated by the Project. Combustible solid waste generated during the Construction Phase of the Project will be incinerated on-site in accordance with GN Guidelines; however, solid waste that cannot be incinerated will be compacted and shipped to facilities in southern Canada for disposal. Environment Canada (EC or known currently as ECCC) stated in its 2014 original submission that equipment capable of achieving CCME Canada-Wide Standard for Dioxins and Furan should be used and that the advice contained in EC's *Technical Document on Batch Waste Incineration* should be followed when undertaking incineration. This recommendation is still applicable.

Solid waste generated during the Operations Phase will be backhauled and not be incinerated on site. A waste storage shelter will be constructed on site for the storage of waste until it can be removed.

Bulk Liquids Storage Facility

Information included in the Application indicates that the following chemicals will be stored on site: naval distillate (approximately 7.5 million litres,); diesel fuel (approximately 100,000 litres); aviation fuel (about 3,000); and oily wastewater (about 10,000 litres).

The Licensee indicated that the perimeter of each storage tank is expected to include a separate containment berm, lined with arctic-grade, geo-membrane. The diesel tanks, however, will have a common containment area. Conditions have been included under part D, Item 11 of the Licence requiring the Licensee to analyze any contact Water that have accumulated within the containment area prior to discharge into the receiving environment.

Design Specifications and Design Drawings

Consistent with the requirements for similar type undertakings and activities, the Licensee is required, under respective terms and conditions in Part E of the licence, to submit to the Board for review, where applicable, copies of the design specifications including for-construction and as-built design drawings for water crossings, Sewage Treatment Facility, Bulk Liquids Storage Facility, and any other facility designed and constructed to store, withhold, or divert Water or

Waste.

Management Plans and Related Information

The Applicant has submitted a Spill Contingency Plan, included within a revised Environmental Protection Plan, with the Application. A Surface and Wastewater Management Plan, dated February 25, 2016, was also submitted by the Applicant. These plans are being approved with the issuance of this Licence.

The Board also notes that on April 6, 2016, the Licensee submitted a document entitled: Abandonment and Restoration Plan for Temporary Facilities that went through a public review stage, and comments were provided by Indigenous and Northern Affairs Canada (INAC or known currently as CIRNA). However, the Licensee did not address comments or provide an updated document. Therefore, the Licensee will be required to submit at least sixty (60) days prior construction of the temporary camp infrastructure an updated Abandonment and Restoration Plan for Temporary Facilities, taking into account CIRNA's comments.

In addition, the following plans have been identified as outstanding submissions from the previous Licence. These plans listed below were required under the previous Licence, however, the Board doesn't have any records about their submission:

- Operations and Decommissioning Plan for the Construction Camp and related Temporary Infrastructure;
- Quarry Development, Abandonment and Restoration Plan;
- Operations and Maintenance Plan for the Bulk Liquids Storage Facility; and
- Operations and Maintenance Plan for the Sewage Treatment Facility.

DECISION

LICENCE NUMBER: 8BC-NNF1920

This is the decision of the Nunavut Water Board (NWB or Board) with respect to an application dated June 12, 2019 for a Water Licence Renewal made by:

DEPARTMENT OF NATIONAL DEFENCE

to allow for the use of Water and deposit of Waste during camp operations and activities related to the construction, operation and closure of the Nanisivik Naval Facility Project, located near the Hamlet of Arctic Bay, within the Qikiqtani Region, Nunavut, at the following general geographical coordinates:

Project Extent

Latitude: 73° 3' 45.72" N	Longitude: 84° 32' 20.40" W
Latitude: 73° 3' 44.39" N	Longitude: 84° 33' 51.12" W
Latitude: 73° 4' 05.83" N	Longitude: 84° 34' 01.23" W
Latitude: 73° 3' 58.32" N	Longitude: 84° 32' 16.44" W

Camp location

Latitude: 73° 4' 01.09" N	Longitude: 84° 32' 49.9" W
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DECISION

After having been satisfied that the application was in conformity with the North Baffin Regional Land Use Plan² as determined by the Nunavut Planning Commission (NPC) and exempt from the requirement for screening as described within Schedule 12-1 by the Nunavut Impact Review Board³ in accordance with Article 12 of the *Nunavut Agreement*, the NWB decided that the application could proceed through the regulatory process. In accordance with s.55.1 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act (Act)* and Article 13 of the *Nunavut Agreement*, public notice of the application was given and interested persons were invited to make representations to the NWB.

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

Licence No. 8BC-NNF1920 be issued subject to the terms and conditions contained therein. (Motion #: 2019-B1-016)

² Nunavut Planning Commission (NPC) Conformity Determination, May 16, 2019, June 27, 2014 and March 12, 2009.

³ Nunavut Impact Review Board (NIRB) Screen Determination, October 24, 2013.

Signed this 22nd day of July 2019 at Gjoa Haven, NU.

Lootie Toomasie
Nunavut Water Board, Chair
LT/as/rqd



NUNAVUT WATER BOARD WATER LICENCE

Licence No. 8BC-NNF1920

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 COLONEL BY DRIVE, OTTAWA, ON K1A 0K2

(Mailing Address)

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

Licence Number/Type: **8BC-NNF1920 TYPE "B"**

Water Management Area: **ADMIRALTY INLET WATERSHED (47)**

Location: **NANISIVIK NAVAL FACILITY PROJECT
QIKIQTANI REGION, NUNAVUT**

Classification: **OTHER UNDERTAKING**

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

Quantity of Water use not to Exceed: **1,200 CUBIC METRES PER YEAR or 299 CUBIC METRES PER DAY**

Date of Licence Issuance: **JULY 22, 2019**

Expiry of Licence: **NOVEMBER 30, 2020**

This 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 as Other as per Schedule 1 of the *Regulations*, at the Nanisivik Naval Facility Project, located near the Hamlet of Arctic Bay, 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*;

“**Bulk Liquids Storage Facility**” means the facility and associated infrastructure, designed and constructed to store naval distillate, diesel and POL (Petroleum, Oil, & Lubricants) as described in the original Application to the NWB dated June 5, 2014, and supporting documents;

“Construction Phase” means any activities undertaken for the purposes of establishing or constructing components, infrastructure, and facilities required for the development of the Nanisivik Naval Facility Project as described in the original Application to the NWB dated June 5, 2014;

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

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

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

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

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

“Licensee” means the holder of this Licence;

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

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

“Operation Phase” means the set of activities and undertakings associated with the overall running of the Nanisivik Naval Facility once constructed and commissioned as described in the original Application to the NWB dated June 5, 2014;

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

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

containment. This structure shall also provide containment and control of hoses and nozzles;

“Sewage” means all toilet wastes and greywater;

“Sewage Treatment Facility” means the proposed facultative sewage lagoon and appurtenances that may be designed and constructed to treat domestic wastewater generated by the Project and as described in the original Application dated June 5, 2014;

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

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

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

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

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

3. **Enforcement**

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

PART B: GENERAL CONDITIONS

1. The Licensee shall file an Annual Report on the Appurtenant Undertaking with the

Board no later than March 31 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. Daily and Annual volume of Water obtained from NNF-1 and NNF-1b;
 - c. A list of unauthorized discharges and a summary of follow-up actions taken;
 - d. Any revisions to the Spill Contingency Plan, Abandonment and Restoration and any other Plans associated with this Licence, as required by Part B, Item 7, submitted in the form of an Addendum;
 - e. A description of all progressive and or final reclamation work undertaken, including photographic records of site conditions before, during and after completion of operations;
 - f. A summary of all information requested and results of the Monitoring Program; and
 - g. Any other details on Water use or waste disposal 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 the Project at least thirty (30) days prior to any such change.
3. The Licensee shall install flow meters or other such devices, or implement suitable methods required for the measuring of Water volumes as required under Part J, Item 2.
4. The Licensee shall, for all Plans submitted under this Licence, include a proposed timetable for implementation. Plans submitted, cannot be undertaken without subsequent written Board approval and direction. The Board may alter or modify a Plan if necessary to achieve the legislative objectives and will notify the Licensee in writing of acceptance, rejection or alteration of the Plan.
5. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.
6. The Licensee shall review the Plans referred to in this Licence, as required by changes in operation and/or technology, and modify the Plan accordingly. Revisions to the Plans shall be submitted in the form of an Addendum to be included with the Annual Report.
7. 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 shall 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, CIRNA (known previously as CIRNAC)
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 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*.

PART C: CONDITIONS APPLYING TO WATER USE

1. The Licensee shall obtain all Water for domestic and industrial (concrete production, compaction, dust control and tank rinsing) purposes from East Twin Lake and/or Twin Lakes Creek during the Construction Phase of the Project. Total daily volume of water for all purposes under this licence shall not exceed 299 cubic metres. Total volume of water for all purposes under this licence shall not exceed 1200 cubic metres *per* year.
2. The use of Water from streams or any Water bodies not identified in Part C, Items 1 is prohibited unless authorized and approved by the Board in writing.
3. The Licensee shall submit to the Board for approval in writing, at least thirty (30) days prior to the use of Water of a sufficient volume that the source Water body may be drawn down, the following information: volume required, an 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 remove any material from below the ordinary High Water Mark of any Water body unless authorized.
6. The Licensee shall not cause erosion to the banks of any body of Water and shall provide necessary controls to prevent such erosion.
7. The Licensee shall implement sediment and erosion control measures prior to and maintain those measures during the undertaking to prevent entry of sediment into Water.
8. The Licensee shall implement the Surface and Wastewater Management Plan dated February 25, 2016 as approved by the Board.

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 not practice on-site landfilling of domestic waste, unless otherwise approved by the Board in writing.
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 adhere to the Government of Nunavut's *Environment Guideline for the Burning and Incineration of Solid Waste* (2012), Environment Canada's *Technical Document for Batch Waste Incineration* (2010) as well as all applicable regulations when incinerating waste generated by the Project.
5. The Licensee shall not open-burn plastics, wood treated with preservatives, electric wire, Styrofoam, asbestos or painted wood to prevent the deposition of waste materials of incomplete combustion and/or leachate from contaminated ash residual, from impacting any surrounding Waters, unless otherwise approved by the Board in writing.
6. The Licensee shall not dispose of any dredged material generated by Project on to land, in freshwater or within thirty one (31) metres from the ordinary High Water Mark of any Water body.
7. The Licensee shall direct all Sewage generated to the Sewage Treatment Facility or backhaul such waste to the Hamlet of Arctic Bay for treatment.
8. The Licensee is allowed to deposit, if required during the initial site preparation activities, Sewage into a Sump or storage facility, located at least thirty-one (31) metres from the ordinary High Water Mark of any Water body, at a site where direct flow into a

Water body is not possible and no additional impacts created, unless authorized and approved by the Board in writing.

9. The Licensee shall provide at least ten (10) days' notice to an Inspector and the Board prior to the discharge of Effluent from any waste management facilities associated with the scope of this licence.
10. All Wastewater Effluent discharged from the Sewage Treatment Facility at Monitoring Station NNF-2 into the receiving environment on land or into Water, shall not exceed the following Effluent quality criteria:

Parameter	Maximum Concentration of Any Grab Sample
BOD ₅	120 mg/L
Total Suspended Solids	180 mg/L
Faecal Coliforms	10,000 CFU/100 mL
pH	6.0 to 9.0
Oil and Grease	No visible sheen

11. All Effluent discharged from Monitoring Station NNF-3 into receiving environment on land or into Water, Water shall not exceed the following Effluent quality criteria:

Parameter	Maximum Concentration of Any Grab Sample
pH	Between 6.0 and 9.0
Total Suspended Solids	35 mg/L
Oil and Grease	15 mg/L and no sheen
Total Lead	0.001 mg/L
Benzene	0.370 mg/L
Toluene	0.002 mg/L
Ethyl-benzene	0.090 mg/L

12. All Effluent discharged from Monitoring Station NNF-4 into receiving environment on land or into Water shall not exceed the Effluent quality criteria set out in Part D, Item 11.
13. The Licensee shall backhaul on an annual or seasonal basis, where possible, all hazardous wastes, waste oil, and non-combustible waste generated by the undertaking for disposal at an approved facility and so as to avoid the excessive accumulation of waste on site.
14. 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.

PART E: CONDITIONS APPLYING TO CONSTRUCTION AND OPERATIONS

1. The Licensee shall not erect camps or store material on the surface of frozen streams or lakes including the immediate banks except what is for immediate use. Camps shall be located in such manner as to minimize impacts on surface drainage.
2. The Licensee shall submit to the Board for review at least sixty (60) days prior to commencing construction of any of the following facilities:
 - a. Design specifications including for-construction drawings, signed and stamped by an Engineer, for the Bulk Liquids Storage Facility;
 - b. Design specification including for-construction design drawings, signed and stamped by an Engineer, for any Sewage Treatment Facility associated with the Project;
 - c. Design specification including for-construction design drawings, signed and stamped by an Engineer, for any new water crossings or upgrades to existing water crossings for roads associated with the Project;
 - d. Design specifications including for-construction design drawings, signed and stamped by an Engineer, for any facilities designed to store, withhold or divert Water or waste, not referred to in Part E, Items 2.
3. The Licensee shall, within ninety (90) days of completion of construction of any facilities, submit to the Board for review, a Construction Summary Report including as-built plans and drawings signed and stamped by Engineer, and detailed explanation reflecting any deviations from construction drawings taking into account construction and field decisions and how they may affect the performance of engineered facilities.
4. The Licensee shall submit to the Board for approval, at least ninety (90) days prior to commissioning, a copy of the Operations and Maintenance Plan for the Bulk Liquids Storage Facility. As-built drawings, signed and stamped by an Engineer, should be included as an appendix to the Plan, and the Plan shall take into consideration relevant requirements in CCME's *Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Petroleum Products* (2003) and *National Fire Code of Canada* (2010).
5. The Licensee shall submit to the Board for approval, at least sixty (60) days prior to commissioning, an Operation and Maintenance Manual for any Sewage Treatment Facility constructed for the Project. As-built drawings signed and stamped by an Engineer, should be included as an appendix to the Plan.
6. The Licensee shall submit to the Board for review, at least sixty (60) days prior to initiating quarrying activities, a Quarry Development and Abandonment and Restoration Plan that takes into consideration applicable information or requirements contained in

INAC's *Northern Land Use Guidelines – Pits and Quarries* (2010).

7. The Licensee shall use aggregates for construction from approved sources that are free of contaminants and that do not possess acid-generating and metal leaching properties.
8. The Licensee shall adhere to, where applicable, the recommendations contained in INAC's *Northern Land Use Guidelines, Access: Roads and Trails* (2010).
9. The Licensee shall conduct all activities in such a manner as to minimize impacts on surface drainage and shall immediately undertake corrective measures in the event of any impacts on surface drainage.
10. 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.
11. 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 of at 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.
12. 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.
13. The Licensee shall adhere to the recommendations in DFO's *Guidelines for the Use of Explosives in or Near Canadian Fisheries Waters* (Wright and Hopky, 1998) when using any explosives or conducting blasting activities in or near Water to minimize harm to fish and fish habitat.

PART F: CONDITIONS APPLYING TO DRILLING OPERATIONS

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

PART G: CONDITIONS APPLYING TO MODIFICATIONS

1. The Licensee may, without written consent from the Board, carry out Modifications to the Water 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 G, Item 1 have not been met can be carried out only with written approval from the Board.
 3. The Licensee shall provide as-built plans and drawings of the Modifications referred to in this Licence within ninety (90) days of completion of the Modification. These plans and drawings shall be stamped by an Engineer.

PART H: CONDITIONS APPLYING TO SPILL CONTINGENCY PLANNING

1. The Board has approved the Spill Plan included within the document entitled *Environmental Protection Plan Revision 8*, dated May 28, 2019, that was submitted as additional information with the Application.
2. The Licensee shall prevent any chemicals, petroleum products or wastes associated with the Project from entering Water. All Sumps and fuel caches shall be located at a distance of at least thirty one (31) metres from the ordinary High Water Mark of any adjacent Water body and inspected on a regular basis.
3. The Licensee shall conduct any equipment maintenance and servicing in designated areas and shall implement special procedures (such as the use of drip pans) to manage motor fluids and other waste and contain potential spills.
4. 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 H, Item 5, 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 I: CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION OR TEMPORARY CLOSING

1. The Licensee shall submit to the Board for approval in writing, at least sixty (60) days prior construction of the temporary camp infrastructure and related facilities in support of the Construction Phase of the Project, a revised Abandonment and Restoration Plan, specifically for the temporary components of the project. The Plan shall be prepared in accordance with applicable sections of the *Guidelines for Abandonment and Restoration Planning for Mines in the Northwest Territories* (1990), taking into account technical review comments.
2. The Licensee shall complete all restoration work prior to the expiry of this Licence.
3. The Licensee shall carry out progressive reclamation of any components of the Project no longer required for the Licensee's operations.
4. The Licensee shall backfill and restore all Sumps to the pre-existing natural contours of the land.
5. The Licensee shall remove from the site, all infrastructure and site materials, including all fuel caches, drums, barrels, buildings and contents, docks, Water pumps and lines, material and equipment prior to the expiry of this Licence.
6. All roads and airstrip, if any, shall be re-graded to match natural contour to reduce erosion.
7. The Licensee shall remove any culverts and restore the drainage to match the natural channel. Measures shall be implemented to minimize erosion and sedimentation.
8. In order to promote growth of vegetation and the needed microclimate for seed deposition, all disturbed surfaces shall be prepared by ripping, grading, or scarifying the surface to conform to the natural topography.
9. Areas that have been contaminated by hydrocarbons from normal fuel transfer procedures shall be reclaimed to meet objectives as outlined in the Government of Nunavut's *Environmental Guideline for Contaminated Site Remediation* (2010). The use of reclaimed soils for the purpose of backfill or general site grading may be carried out only upon consultation and approval by the Government of Nunavut, Department of Environment and an Inspector.
10. The Licensee shall contour and stabilize all disturbed areas to a pre-disturbed state upon completion of work.

PART J: CONDITIONS APPLYING TO THE MONITORING PROGRAM

1. The Licensee shall establish and maintain, at a minimum, the following monitoring program stations as required during the relevant phase(s) of the Project:

Monitoring Program Station ID	Description	Status
NNF-1	Raw Water Supply Intake at East Twin Lake	Active (Volume)
NNF-1b	Raw Water Supply Intake at Twin Lakes Creek	Active (Volume)
NNF-2	Final Discharge Point from the Sewage Treatment Facility	Inactive until facility is constructed and commissioned (Volume & Quality)
NNF-3	Final Discharge Point for Effluent from the Bulk Liquids Storage Facility	Inactive until facility is constructed and commissioned (Volume & Quality)
NNF-4	Final Discharge Point for Effluent from Hydrostatic testing	Inactive until activity is conducted (Volume & Quality)

2. The Licensee shall measure and record, in cubic metres, the daily quantities of Water utilized for camp and other purposes.
3. The Licensee shall provide the GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where sources of Water are utilized for all purposes.
4. The Licensee shall determine the GPS co-ordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where wastes associated with camp operations are deposited.
5. 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.
6. All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.
7. The Licensee shall include in the Annual Report required under Part B, Item 1 all data, monitoring results, and information required by this Part.