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NUNAVUT WATER BOARD  
NUNAVUT IMALIRIYIN KATIMAYINGI  
OFFICE DES EAUX DU NUNAVUT

**File No.: 3BM-PEL1929**

September 18, 2019

John R. Ivey  
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Email: [salam@gov.nu.ca](mailto:salam@gov.nu.ca)

**RE: NWB Replacement Water Licence No. 3BM-PEL1929**

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Dear John R. Ivey, Shah Alam:

Please find attached Water Licence No. 3BM-PEL1929 issued to the Hamlet of Kugaaruk by the Nunavut Water Board (NWB) pursuant to its authority under Article 13 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in right of Canada (Nunavut Agreement)*. The terms and conditions of the attached Licence related to the use of Water and the deposit of Waste are an integral part of this approval.

If the Licensee contemplates the continuing of this Undertaking after the Water Licence expires, it is the responsibility of the Licensee to apply to the NWB for a renewal 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 (NWSRTA)*. However, the expiry or cancellation of a licence does not relieve the holder from any obligations imposed by the licence. The NWB recommends that an application for the renewal of this Licence be filed at least **three (3) months** prior to the Licence expiry date. It should be noted that in accordance with s. 75(1)(a) of the *Nunavut Planning and Project Assessment Act (NuPPAA)*, the Board is not allowed to issue a permit or authorization for any project proposal that has not been submitted to the Nunavut Planning Commission (NPC) in accordance with s. 76 of *NuPPAA*.

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

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

The NWB strongly recommends that the Licensee consult the comments received from Crown-Indigenous Relations and Northern Affairs (CIRNA) and Fisheries and Oceans Canada (DFO) on issues identified. This information is attached for your consideration.<sup>1</sup>

Sincerely,

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Lootie Toomasie  
Nunavut Water Board,  
Chair

LT/ak/rqd

Enclosure: Replacement Licence No. 3BM-PEL1929

Comments – CIRNAC, DFO

Cc: Distribution List – Kitikmeot

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<sup>1</sup> Crown-Indigenous and Northern Affairs Canada (CIRNAC), June 14, 2019; Fisheries and Oceans Canada (DFO), June 11, 2019.

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## DECISION

### LICENCE NUMBER: 3BM-PEL1929

This is the decision of the Nunavut Water Board (NWB) with respect to an application dated April 4, 2019 for a renewal of a Water Licence made by:

### HAMLET OF KUGAARUK

to allow for the use of Water and the deposit of Waste for a Municipal Undertaking at the Hamlet of Kugaaruk located within the Kitikmeot Region, Nunavut, generally located at the geographical coordinates as follows:

Project Extents:

Latitude: 68° 23 N

Longitude: 89° 49' W

### DECISION

After having been satisfied that the Application is for a proposal that falls outside of an area with an approved land use plan, and, as such, a conformity determination is not required, and is exempt from the requirements for screening as described within s. 12.4.3 / Schedule 12-1 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* (NWNSRTA or *Act*) and Article 13 of the *Nunavut Agreement*, public notice of the Application was given and interested persons were invited to make representations to the NWB.

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

**Replacement Licence No. 3BM-PEL1929 be issued subject to the terms and conditions contained therein. (Motion #: 2019-B1-022)**

Signed this 18<sup>th</sup> day of September, 2019 at Gjoa Haven, NU.

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Lootie Toomasie  
Nunavut Water Board,  
Chair

LT/ak/rqd

## **I. INTRODUCTION**

The Hamlet of Kugaaruk (Licensee or Hamlet) is located at latitude 68° 32' 00" N and longitude 89° 49' 00" W, on the south-eastern shore of Pelly Bay off the Gulf of Boothia on the western side of the Simpson Peninsula, in the Kitikmeot Region of Nunavut, approximately 142 km southeast of Gjoa Haven, and 960 km northwest of Iqaluit. The annual snowfall in Kugaaruk is approximately 125 cm, and the annual rainfall is approximately 11 cm. In January, the daily mean temperature reaches minus 33°C while in July the daily mean temperature increases to 6°C. Freeze-up usually occurs during the month of November but may happen as early as September or October, while spring thaw usually happens between late May and June. As per the 2016 census, the population was 933.

The community uses trucked services for both water delivery and sewage collection. The Hamlet operates water supply facility, sewage lagoon and solid waste facility.

## **II. PROCEDURAL HISTORY**

On November 1, 1998, the Nunavut Water Board (NWB or Board) issued the water licence NWB3PEL9803 to Hamlet of Pelly Bay (as the Hamlet of Kugaaruk was previously known) for the use of 25,000 m<sup>3</sup> per year water and waste disposal activities within the Hamlet. On September 7, 2007, the licence was renewed as licence 3BM-PEL0712, with the expiry date set at January 31, 2012, allowing the Hamlet to use 35,000 m<sup>3</sup> per year of water and dispose of waste at specific facilities within the Hamlet. On May 14, 2014, the Board has approved the application for the renewal of Licence No. 3BM-PEL0712 as Licence No. 3BM-PEL1419 set to expire on May 13, 2019.

The latest application was received by NWB on April 4, 2019, and supplemental information was provided in the period of April 2019 to May 2019. In addition, on April 9, 2019, the Nunavut Planning Commission (NPC) indicated that the “project proposal is outside the area of an applicable regional land use plan, plan and is exempt from screening by the Nunavut Impact Review Board (NIRB).”<sup>1</sup>.

On May 9, 2019, the NWB distributed the Application for external review. Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC or known currently as CIRNA) and Fisheries and Oceans Canada (DFO) provided their comments in the course of the technical review<sup>2</sup>.

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<sup>1</sup> Peter Scholz (NPC) to Richard Dwyer (NWB), RE: NPC File # 149112 [Kugaaruk Hamlet Water License 3BM PEL 1419 Renewal], dated April 9, 2019.

<sup>2</sup> Crown-Indigenous and Northern Affairs Canada (CIRNAC), June 14, 2019; Fisheries and Oceans Canada (DFO), June 11, 2019.

### **III. GENERAL CONSIDERATIONS**

The Hamlet operates a water supply facility that withdraws water from the Kugajuk River, a solid waste facility that includes metal and hazardous waste storage areas, and a sewage lagoon. The sewage lagoon requires upgrades, as leakage was observed at the southeast and northern berms.

As a result of discussions with the Hamlet through its representative Government of Nunavut's Community-Government Services (GN-CGS) and on the basis of the Application, the written materials filed with the Board, and submissions of the parties, the Board has decided to issue a Type "B" Water Licence No. 3BM-PEL1929 (the Licence) subject to the terms and conditions set out below. The Licence authorizes the Hamlet of Kugaaruk's continued use of water and deposit of waste for a Municipal Undertaking as defined under Schedule 1 of the *Nunavut Waters Regulations* and also contains terms and conditions necessary to protect the freshwater environment and provide appropriate safeguards in respect of the undertaking in accordance with the Application.

#### **A. Scope, Definitions and Enforcement**

This Licence allows for the use of Water and the deposit of Waste for a Municipal Undertaking as defined under Schedule 1 of the *Nunavut Waters Regulations*. To ensure that Licensee complies with the terms and conditions of the Licence, inspectors, designated and empowered by the Minister of Crown-Indigenous Relations and Northern Affairs (CIRNA) may inspect or examine works, activities, and undertakings associated with the use of waters and/or the deposit of waste for the purposes of exercising their powers in accordance with the *NWNSRTA*.<sup>3</sup> The Licensee 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, 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. Water Use**

The Licensee is authorized to obtain water from the Kugajuk River not exceeding an annual volume of sixty thousand (60,000) cubic metres at a maximum rate of up to one hundred and sixty-five (165) cubic metres daily, whichever comes first.

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<sup>3</sup> Sections 85-88 of the *NWNSRTA*.

## **D. Waste Disposal**

The Board set Effluent quality limits for discharge from the Sewage Disposal Facilities according to the *Guidelines for the Discharge of Treated Municipal Wastewater in the Northwest Territories* (1992). The Effluent limits from the Wetland Treatment Area remain identical to the ones set in the previous licence.

The Applicant requested the removal of the requirement for acute lethality testing for Rainbow Trout (*Oncorhynchus mykiss*) and *Daphnia magna*. No comments on the request were received during the course of the Application review. The Board granted the request; however, the Board recommends that the requirement be re-instated in case the Hamlet initiates wastewater treatment via a mechanical plant.

In its June 14, 2019 submission, CIRNA noted the following:

*(t)his contrasts with run-off samples from the solid waste facility (n=8), which show consistently high concentrations of iron and zinc, respectively 4-19 times and 3-8 times the guidelines. Manganese concentrations are also high, although there is no CWQG-PAL for this element.*

*(a)t present the only water management measure referred to in the solid waste facility O&M manual is a bermed area used to store hazardous waste at the solid waste facility. Water quality of water flowing through the solid waste facility is being degraded, which suggests water management measures are insufficient.*

In the August 27, 2019 response, the Applicant explained that

*(d)ue to very shallow ponding area, and late summer in August-September (when flow water very negligible), the grab sampling sometimes are not taken perfectly and dissolved metal substrates on ground are added which and thus increase the iron and zinc parameters. Since these samples represents solid waste and metal dump leachate run-off, high concentration of Total dissolve metals can be found normally at the close area near to these facilities, but the values decreased expectedly to the Final discharge point at the downstream though the presence of oxygen, sunlight, vegetation and dilution.*

The Board requires that the Applicant to investigate the issue of water contamination and present its findings in the 2019 Annual Report. The Board notes this issue emphasizes the need for a proper Quality Assurance/Quality Control (QA/QC) Plan, as discussed later.

## **E. Modifications and Construction**

The Licensee is required to obtain permission from the NWB for modifications that do not meet the definition of modifications or requirement of Part E, Item 2 of the Licence. Without written consent from the NWB, the Licensee is not permitted to carry out any modifications. Changes that do not meet the definition of modification under the Licence or the requirements of Part E may be considered amendments to the Licence.

The Licensee shall submit to the Board for approval in writing, for construction design drawings stamped by a qualified Engineer, sixty (60) days prior to the construction of any dams, dykes or structures intended to contain, withhold, divert or retain Water or Waste. The Board notes that the Applicant initiated upgrades to the sewage lagoon during summer 2019 without fulfilling the conditions of Water Licence 3BM-PEL1419 for proper notification.

#### **F. Operation and Maintenance**

In Part F of the Licence, the Board requires the Hamlet to submit an update to the *Hamlet of Kugaaruk, NU Sewage Treatment Facility Operation and Maintenance Manual* dated October 27, 2010 within sixty (60) days of the completion of the upgrades to the Sewage Disposal Facilities. The updated Manual shall include the information on the upgrades for the sewage lagoon scheduled to be completed in 2020. The Manual shall also address sludge management, spill response, and any applicable requirements of this Licence.

With issuance of this Licence, the Board has approved the Manual entitled “*Operation and Maintenance manual (O&M) - Kugaaruk Solid Waste Facility*” dated August 20, 2019 and the Manual entitled “*Kugaaruk Water Treatment Plant Technical Manual - Water Supply Upgrades*” dated November 2014. Both documents were submitted as additional information with the Application. It should be noted that “*Kugaaruk Water Treatment Plant Technical Manual - Water Supply Upgrades*” requires the inclusion of the procedure for a spill response at the water treatment plant. The Licensee is to submit the update with the 2019 Annual Report.

#### **G. Spill Contingency Planning**

The Board has approved the Plan entitled “*Spills Contingency Plan - Kugaaruk Solid Waste Facility*” dated August 20, 2019 that was submitted as additional information with the Application.

#### **H. Abandonment and Restoration**

The Board requires the Licensee to submit to the Board for approval an Abandonment, Restoration and Closure Plan at least six (6) months prior to abandoning any facilities or upon submission of the final design drawings for the construction of new facilities to replace existing ones.

The Board had previously directed the Licensee to submit to the Board for approval an Abandonment and Restoration Plan for the existing pump-house to be replaced with a new pump-house. In its May 9, 2019 correspondence, the Applicant informed that “(t)he existing intake pump house has been re-purposed as storage room and backup generator room as integral to the



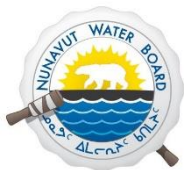
new intake pumphouse and water treatment plant”. Therefore, the Board agrees with the Applicant’s suggestion that an Abandonment and Restoration Plan is not required in this case.

## **I. Monitoring Program**

In Part I, the Board reiterates its previous requirement for the Licensee to submit to the Board for acceptance a Quality Assurance/Quality Control (QA/QC) Plan. While the Board understands that the Licensee addressed some of the QA/QC aspects in its operations and maintenance manuals, the Board would like to emphasize the importance of having a standalone QA/QC Plan to ensure proper sampling and laboratory analyses. The QA/QC Plan is to be accompanied by an acceptance letter from a laboratory accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA).

In addition, basing on the CIRNA Inspector’s recommendations, the Applicant’s request, and CIRNA’s recommendations:

- Monitoring Program Stations PEL-7, PEL-8-1, PEL-8-2, PEL-9-1, PEL-10-1, and PEL-10-2 were removed;
- Sampling frequency at Monitoring Program Stations PEL-3-1 and PEL-3-2 was set to “prior to decanting”; and
- Monitoring Program Station PEL-9-2 was converted from a groundwater well to sampling of runoff from the Solid Waste Facility’s metal dump area.



## **NUNAVUT WATER BOARD REPLACEMENT WATER LICENCE**

**Licence No. 3BM-PEL1929**

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

### **HAMLET OF KUGAARUK**

(Licensee)

**P.O. BOX 205, KUGAARUK, NU X0B 1K0**

(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 Replacement:

Licence Number/Type: **3BM-PEL1929 / TYPE "B"**

Water Management Area: **GULF OF BOOTHIA WATERSHED (34)**

Location: **KITIKMEOT REGION, NUNAVUT**

Classification: **MUNICIPAL UNDERTAKING**

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

Quantity of Water use not to Exceed: **60,000 CUBIC METRES PER ANNUM AT MAXIMUM RATE OF 165 CUBIC METRES PER DAY**

Date of Licence Issuance: **SEPTEMBER 18, 2019**

Expiry of Licence: **SEPTEMBER 17, 2029**

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

**Lootie Toomasie**  
**Nunavut Water Board, Chair**

## **PART A: SCOPE, DEFINITIONS AND ENFORCEMENT**

### **1. Scope**

This Licence allows for the use of Water and the deposit of Waste for a Municipal undertaking classified as per Schedule 1 of the *Regulations* at the Hamlet of Kugaaruk, located within the Kitikmeot 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*;

“**Chief Administrative Officer**” means the Executive Director of the Nunavut Water Board;

“**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*;

**“Final Discharge Point”** means the point at which the Licensee no longer exerts care and/or control over the quality and/or quantity of the effluent from a treatment process;

**“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;

**“Minister”** means the Minister of Crown-Indigenous Relations and Northern Affairs;

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

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

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

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

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

**“Sewage Disposal Facilities”** comprises the area and engineered lagoon, decant structures and wetland area designed to contain and treat sewage as described in the Application for Water Licence renewal and associated documents filed by the Applicant

on February 5, 2013 and February 17, 2014, and illustrated in Drawings # 101, 102 and 103; Pr. # 05-4755-3000;

**“Solid Waste Disposal Facilities”** comprises the area and associated structures designed to contain solid waste (landfill site) as described in the Application for Water Licence renewal and associated documents filed by the Applicant on February 5, 2013 and February 17, 2014, and illustrated in Drawings # 200 and 201; Pr. # 05-4755-3000;

**“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*;

**“Waste Disposal Facilities”** means all facilities designated for the disposal of waste, and includes the Sewage Disposal Facilities and Solid Waste Disposal Facilities (including Hazardous Waste management area), as described in the Application for Water Licence renewal filed by the Applicant on October 9, 2003 and August 18, 2013, and illustrated in Drawing # 99-6790;

**“Water Supply Facilities”** comprises the area and associated intake infrastructure at Kusugak River Water Supply, as described in the Application for Water Licence renewal filed by the Applicant on February 5, 2013 and February 17, 2014, and illustrated in Drawing # 202; Pr. # 05-4755-3000.

### 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<sup>st</sup> 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 per month and per year) obtained from all sources;
  - c. Quantity of Waste disposed of at the Waste disposal facilities;
  - d. Quantity of Waste backhauled to approved facility for disposal;
  - e. A list of unauthorized discharges and a summary of follow-up actions taken;
  - f. A summary of any studies, reports and plans (e.g., Operation and Maintenance, Abandonment and Restoration, QA/QC) requested by the Board that relate to waste disposal, water use or reclamation, and a brief description of any future studies planned, including any revisions to the management plans submitted in the form of an Addendum;
  - g. A summary of all information requested and results of the Monitoring Program;
  - h. 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;
  - i. An update on the Compliance Plan and progress made on specific requirements therein; and
  - j. Any other details on Water use or Waste disposal requested by the Board by the 1<sup>st</sup> 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 comply with the Monitoring Program described in this Licence, and any amendments to the Monitoring Program as may be made from time to time, pursuant to the conditions of this Licence.
4. The Monitoring Program and compliance dates specified in the Licence may be modified at the discretion of the Board.
5. 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 I, Item 2.
6. The Licensee shall post the necessary signs, where possible, to identify the stations of the Monitoring Program. All signage postings shall be in the Official Languages of Nunavut, and shall be located and maintained to the satisfaction of an Inspector.

7. The Licensee shall immediately report to the NWT-NU 24-Hour Spill Report Line at (867) 920-8130, any spills of Waste, which are reported to, or observed by the Licensee, within the municipal boundaries or in the areas of the Water Supply or Waste Disposal Facilities.
8. 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.
9. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.
10. 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.
11. 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.
12. 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](mailto: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) 975-4295  
Fax: (867) 979-6445
13. 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.

14. 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.
15. This Licence is assignable as provided for in Section 44 of the *Act*.
16. The expiry or cancellation of this Licence does not relieve the Licensee from any obligation imposed by the Licence, or any other regulatory requirement.

**PART C: CONDITIONS APPLYING TO WATER USE**

1. The Licensee shall obtain all Water from the Kugajuk River using the Water Supply Facilities or as otherwise approved by the Board in writing.
2. The annual quantity of Water use for all purposes under this Licence shall not exceed sixty thousand (60,000) cubic metres per year and one hundred sixty-five (165) cubic metres per day.
3. The Licensee shall maintain the Water Supply Facilities to the satisfaction of the Inspector.
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 approved by the Board in writing.
6. The Licensee shall not cause erosion to the banks of any body of Water and shall provide necessary controls to prevent such erosion.
7. Sediment and erosion control measures shall be implemented prior to and maintained during the undertaking to prevent entry of sediment into Water.

**PART D: CONDITIONS APPLYING TO WASTE DISPOSAL**

1. The Licensee shall direct all Sewage to the Sewage Disposal Facilities or as otherwise approved by the Board.
2. The Licensee shall provide notice to an Inspector at least ten (10) days prior to initiating any decant of the Sewage Disposal Facilities
3. All Effluent discharged from the Sewage Disposal Facilities at Monitoring Program Station PEL-3-2 shall meet the following effluent quality standards:



Parameter Concentration	Maximum Average Concentration
Faecal Coliforms	$1 \times 10^4$ CFU/100mL
BOD <sub>5</sub>	80 mg/L
Total Suspended Solids	100 mg/L
Oil and grease	No visible sheen
pH	Between 6 and 9

4. A Freeboard limit of at least 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, or structures intended to contain, withhold, divert or retain water or wastes.
5. The Sewage Disposal Facility shall be maintained and operated, to the satisfaction of an Inspector in such a manner as to prevent structural failure.
6. All effluent discharged from the Wetland Treatment Area at its Final Discharge Point, Monitoring Program Station PEL-4 shall meet the following effluent quality standards:

Parameter	Maximum Concentration of any Grab
Faecal Coliforms	$1 \times 10^4$ CFU/dl
BOD <sub>5</sub>	45 mg/L
Total Suspended Solids	45 mg/L
Oil and grease	No visible sheen
PH	Between 6 and 9

7. The Licensee shall dispose of and permanently contain all Solid Wastes at the Solid Waste Disposal Facility or as otherwise approved by the Board in writing.
8. The Licensee shall segregate and store all hazardous materials and/or hazardous waste within the Solid Waste Disposal Facility in a manner as to prevent the deposit of deleterious substances into any water until such a time as proper disposal arrangements are made.
9. The Licensee shall implement measures to prevent hazardous materials and/or leachate from the Solid Waste Disposal Facilities from entering water.
10. 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.
11. The Licensee shall investigate the issue of potential water contamination from the runoff from the Solid Waste Disposal Facilities and present its findings in the 2019 Annual Report.

**PART E: CONDITIONS APPLYING TO MODIFICATIONS AND CONSTRUCTION**

1. The Licensee shall submit to the Board for approval in writing, for construction design drawings stamped by a qualified Engineer, sixty (60) days prior to the construction of any dams, dykes or structures intended to contain, withhold, divert or retain Water or Waste.
2. 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.
3. Modifications for which all of the conditions referred to in Part E, Item 2 have not been met can be carried out only with written approval from the Board.
4. 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.
5. All activities shall be conducted in such a way as to minimize impacts on surface drainage and the Licensee shall immediately undertake any corrective measures in the event of any impacts on surface drainage.
6. The Licensee shall implement and maintain sediment and erosion control measures prior to and during activities carried out under this Part, to prevent the release of sediment and minimize erosion.
7. With respect to 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.
8. The construction or disturbance of any stream/lake bed or banks of any definable water course are not permitted, unless authorized by the Board in writing.
9. The Licensee shall use fill material for construction, operation and maintenance only from approved sources that have been demonstrated, by appropriate geochemical analyses, to

not produce acid rock drainage and to be non-metal leaching, and free of contaminants.

**PART F:      CONDITIONS APPLYING TO OPERATIONS AND MAINTENANCE**

1. The Licensee shall submit for Board approval, within sixty (60) days of the completion of the upgrades to the Sewage Disposal Facilities, an update to the *Hamlet of Kugaaruk, NU Sewage Treatment Facility Operation and Maintenance Manual* dated October 27, 2010 that includes the information on the upgrades and addresses sludge management, spill response, and requirements of this Licence.
2. The Board has approved the Manual entitled “*Operation and Maintenance Manual (O&M) - Kugaaruk Solid Waste Facility*” dated August 20, 2019 that was submitted as additional information with the Application.
3. The Board has approved the Manual entitled “*Kugaaruk Water Treatment Plant Technical Manual - Water Supply Upgrades*” dated November 2014 that was submitted as additional information with the Application.
4. The Licensee shall provide to the Board with the 2019 Annual Report an update to the Plan referred to in Part F, Item 3 that includes a procedure for spill response.
5. An inspection of all engineered facilities related to the management of water and waste shall be carried out by an Engineer (Civil, Municipal or Geotechnical) annually and before commissioning any facility. The Engineer’s report shall be submitted to the Board within sixty (60) days of the inspection, including a Cover Letter from the Licensee outlining an implementation plan addressing each of the Engineer’s recommendations.
6. The Licensee shall perform a visual operations inspection of all engineered facilities related to the management of water and waste on a weekly basis or more frequently as requested by an Inspector, to assess the general operating conditions and integrity of the containment structures. The records of these inspections are to be maintained and made available to an Inspector upon request during the Licence term.
7. The Licensee shall conduct all activities in such a way as to minimize impacts on surface drainage and the Licensee shall immediately undertake corrective measures in the event of any impacts on surface drainage.

**PART G:      CONDITIONS APPLYING TO SPILL CONTINGENCY PLANNING**

1. The Board has approved the Plan entitled “*Spills Contingency Plan - Kugaaruk Solid Waste Facility*” dated August 20, 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 24-Hour 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 Spill Line if the release is near or into a Water body.

#### **PART H: CONDITIONS APPLYING TO ABANDONMENT AND RESTORATION**

1. The Licensee shall submit to the Board for approval, an Abandonment and Restoration Plan at least six (6) months prior to abandoning any facilities or the construction of new facilities to replace existing ones. Where applicable, the Plan shall include information on the following:
  - a. water intake facilities;
  - b. the water treatment and waste disposal sites and facilities;
  - c. abandoned water and waste facilities;
  - d. petroleum and chemical storage areas;
  - e. any site affected by waste spills;
  - f. leachate prevention;
  - g. an implementation schedule;
  - h. maps delineating all disturbed areas, and site facilities;
  - i. consideration of altered drainage patterns;
  - j. type and source of cover materials;
  - k. future area use;
  - l. hazardous wastes; and
  - m. a proposal identifying measures by which restoration costs will be financed by the licensee upon abandonment.
2. Licensee shall implement the Plan(s) specified in Part H, Item 1, following approval in writing by the Board.
3. If the Plan referred to in Part H, Item 1 is not approved the Licensee shall make the

necessary revisions and resubmit the Plan within thirty (30) days following notification from the Board.

4. Licensee shall complete all restoration work within the time schedule specified in the Plan, or as subsequently revised and approved by the Board.
5. Areas that have been contaminated by hydrocarbons from normal fuel transfer procedures shall be reclaimed to meet objectives as outlined in the Government of Nunavut's *Environmental Guideline for Site Remediation*, 2010. The use of reclaimed soils for the purpose of back fill or general site grading may be carried out only upon consultation and approval by the Government of Nunavut, Department of Environment and an Inspector.
6. The Licensee shall submit to the Board or approval, an Abandonment and Restoration Plan for all facilities created during the performance of upgrades to the Sewage Disposal Facilities as described in the Applicant's correspondence dated August 27, 2019.

## **PART I: CONDITIONS APPLYING TO THE MONITORING PROGRAM**

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

<b>Monitoring Program Station Number</b>	<b>Description</b>	<b>Frequency</b>	<b>Status</b>
PEL-1	Raw Water Supply intake at the Kugajuk River	Daily	Active (Volume)
PEL-2	Raw Sewage from pump-out truck	Daily	Active (Volume)
PEL-3-1	Effluent Discharge from Lagoon to settlement pond	Prior to decanting	Active (Quality)
PEL-3-2	Effluent Discharge from settlement pond to wetland area	Prior to decanting	Active (Quality)
PEL-4	Effluent Final Discharge Point from wetland to Ocean	Monthly (June/July to August/September)	Active (Quality)
PEL-6	Run-off from the Solid Waste Disposal Facilities	During periods of run-off or seepage	Active (Quality)
PEL-7	Monitoring well located up gradient of the Solid Waste Disposal Facility (Metal Dump)	Once during ground thaw	Removed (Quality)
PEL-8-1	Monitoring well located up gradient of the Solid Waste Disposal Facilities	Once during ground thaw	Removed (Quality)
PEL-8-2	Monitoring well located down gradient of the	Once during ground thaw	Removed (Quality)

	Solid Waste Disposal Facilities		
PEL-9-1	Monitoring well located down gradient of the Solid Waste Disposal Facilities (Metal Dump)	Once during ground thaw	Removed (Quality)
PEL-9-2	Run-off from the Solid Waste Disposal Facilities (Metal Dump)	During periods of run-off or seepage	Active (Quality)
PEL-10-1	Monitoring well (optional) located down gradient of the Solid Waste Disposal Facilities	Once during ground thaw	Removed (Quality)
PEL-10-2	Monitoring well (optional) located down gradient of the Solid Waste Disposal Facilities	Once during ground thaw	Removed (Quality)

- The Licensee shall measure and record, in cubic metres, the daily, monthly and annual quantities of water extracted for all purposes at Monitoring Program Station PEL-1.
- The Licensee shall measure and record in cubic metres the daily, monthly and annual quantities of raw sewage offloaded from trucks at Monitoring Program Station PEL-2 for all purposes.
- The Licensee shall sample at Monitoring Program Stations PEL-3-1, PEL-3-2 and PEL-4 once at the beginning, middle and near the end of discharge. Samples shall be analyzed for the following parameters:

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

- The Licensee shall sample at Monitoring Program Station PEL-6 and PEL-9-2 for the following parameters:

pH  
Total Suspended Solids  
Nitrate-Nitrite  
Total Phenols  
Total Hardness  
Magnesium  
Sodium  
Total Arsenic  
Total Copper  
Total Iron  
Total Mercury

Conductivity  
Oil and Grease (visual)  
Ammonia Nitrogen  
Total Alkalinity  
Calcium  
Potassium  
Sulphate  
Total Cadmium  
Total Chromium  
Total Lead  
Total Nickel

TPH (Total Petroleum Hydrocarbons)  
PAH (Polycyclic Aromatic Hydrocarbons)  
BTEX (Benzene, Toluene, Ethylbenzene, Xylene)

6. Additional monitoring stations, sampling and analysis may be requested by an Inspector.
7. All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the current edition of *Standard Methods for the Examination of Water and Wastewater*, or by such other methods approved by the Board in writing.
8. All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.
9. The Licensee shall submit to the Board for acceptance, within ninety (90) days of issuance of the Licence, a Quality Assurance/Quality Control Plan that conforms to the guidance document *Quality Assurance (QA) and Quality Control (QC) Guidelines For Use by Class "B" Licensees in Collecting Representative Water Samples in the Field and for Submission of a QAQC Plan* INAC (1996). The Plan shall be acceptable to an accredited laboratory and include a covering letter from the accredited laboratory confirming acceptance of the Plan for analyses to be performed under the Licence.
10. The Licensee shall measure and record the annual quantities of sewage sludge removed from the Sewage Disposal Facilities.
11. The Licensee shall include all of the data and information required by the Monitoring Program in the Licensee's Annual Report, as required per Part B, Item 1 or as otherwise requested by an Inspector.
12. Modifications to the Monitoring Program including the Monitoring Program Stations and parameters may be made only upon written approval of the Board.