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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

File No: **3BM-NAU2126**

January 27, 2021

Kevin Tegumiar
Senior Administrative Officer (SAO)
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Rankin Inlet, Nunavut X0C 0G0

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Email: scollins@gov.nu.ca

RE: NWB Replacement Licence No: 3BM-NAU2126

Dear Mr. Tegumiar and Ms. Collins:

Please find attached Licence No: **3BM-NAU2126** (Licence) issued to Hamlet of Naujaat (Repulse Bay) 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 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: **3BM-NAU2126**
 Comments – CIRNA and ECCC

Cc: Kivalliq Distribution List

¹ Crown-Indigenous Relations and Northern Affairs (CIRNA) and Environment and Climate Change Canada (ECCC), October 21, 2020.

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DECISION

LICENCE NUMBER: 3BM-NAU2126

This is the decision of the Nunavut Water Board (NWB) with respect to a complete application received on September 16, 2020 for the replacement of an expired Water Licence made by:

HAMLET OF NAUJAAT (REPULSE BAY)

to allow for the use of water and deposit of waste during municipal activities by the Hamlet of Naujaat located within the Kivalliq Region, Nunavut, generally located at the geographical coordinates as follows:

Latitude: 66°31' N

Longitude: 86°14' W

DECISION

After having been satisfied that the application is exempt from the *Nunavut Planning and Project Assessment Act* (NUPPAA) under section 235 of that Act, and exempt from the requirement for screening by the Nunavut Impact Review Board (NIRB) under section 12.4.3 of the *Nunavut Agreement* as per Nunavut Planning Commission (NPC) July 29, 2020², the NWB decided that the application could proceed through the regulatory process. The project proposal conforms to the Keewatin Regional Land Use Plan (KRLUP) and the proponent has undertaken to comply with the requirements of Appendix C, G and H of the KRLUP. 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: 3BM- REP1520 be replaced as Licence No: 3BM-NAU2126 subject to the terms and conditions contained therein. (Motion #: 2020-B1-031)

Signed this 27th day of January, 2021 at Gjoa Haven, NU.

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

² Nunavut Planning Commission (NPC) Conformity Determination, July 29, 2020.



I. BACKGROUND

The Hamlet of Naujaat (Hamlet) is located on the northern shore of Repulse Bay, on the south shore of the Rae Isthmus in the Kivalliq Region of Nunavut.

The Hamlet is responsible for providing municipal services to its residents, including potable water supply, sewage treatment, and solid waste management, partly in the context of a water licence issued by the Nunavut Water Board (NWB or Board) to the Hamlet. The potable water source for the community is the Nuviq Luktujuq Lake.

The Hamlet infrastructure includes the following:

- The Water Supply Facility was upgraded in 2016. Water is drawn from Nuviq Luktujuq Lake and is treated in the truck-fill station before being transferred to municipal trucks that transport the water to holding tanks in all the residential and commercial buildings in the community.
- The Sewage Disposal Facility consists of a truck offload discharge area where the sewage is directed through a series of wetlands and surface water bodies before being discharged into Hudson Bay. All raw sewage generated by the community is collected using vacuum trucks and transported to the discharge area. The Hamlet plans to construct a pre-treatment lagoon northwest of the current sewage discharge area. The construction work on the sewage lagoon is scheduled for 2021-2022.
- The Solid Waste Disposal Facility (SWDF) is located approximately 2.7 kilometres north of the Hamlet. It includes a generic landfill area, a bulky metals disposal area, a hazardous waste storage area and a remediated soil storage area. The Applicant has stated that they plan on expanding or relocating the SWDF in the future and will inform the Nunavut Water Board when concrete plans are available.

II. PROCEDURAL HISTORY

On **September 16, 2020**, the Hamlet of Naujaat submitted a renewal Water Licence Application (Application). The following documents were submitted by the Applicant:

- Hamlet Authorization Letter (Permission to represent)
- Water Licence Renewal Application
- Inuktitut and English Summaries
- NPC Conformity Determination
- Hamlet of Naujaat 2019 Annual Report

- Naujaat Sewage Lagoon Upgrade Drawings
- Naujaat Design Update 2020-03-20
- Naujaat Map showing Hamlet infrastructure and Monitoring locations
- Plan for Compliance – 2020 FINAL

On **September 21, 2020**, the NWB concluded that the Application generally met the requirements of section 48(1) of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWNSRTA or Act) and forwarded notice of the Application to interested parties. All parties were invited to make representations to the NWB within thirty (30) days by **October 21, 2020**.

On the deadline for comments, submissions were received from Crown Indigenous Relations and Northern Affairs (CIRNA) and Environment and Climate Change Canada (ECCC). The Applicant was given until **November 05, 2020**, to respond to the interveners' comments. The NWB received responses from the Applicant on **October 28, 2020** and sent them out to the interveners.

On **November 04, 2020**, CIRNA requested further information on one of the responses from the Applicant. The Applicant requested time until **November 20, 2020** to respond. On **November 30, 2020**, CIRNA confirmed that they were satisfied by the response received from the Applicant. ECCC provided a response on **December 15, 2020**, requiring additional information. The Applicant provided a response on **December 16, 2020**. On January 11, 2021 ECCC confirmed that the Applicant's responses were acceptable.

The NWB has placed in its Public Registry copies of the Application and all comments received from interveners. This information can be accessed on the NWB's FTP site using the following link:

<ftp://ftp.nwb-oen.ca/registry/3%20MUNICIPAL/3B/3BM%20-%20Municipality/3BM-NAU2126/>

III. FILE HISTORY

According to information included on the NWB's file transfer protocol (FTP) site, two licences have been issued by the Nunavut Water Board (NWB) to the Hamlet of Naujaat (Repulse Bay) in the past for its Municipal undertaking.

- On June 11, 2004, the Board issued Water Licence NWB3REP0409 — Type "B" to the Hamlet of Naujaat for the use of 24,000 m³ of Water per year and the deposit of Waste generated by the Hamlet. Licence NWB3REP0409 expired on May 31, 2009, at which time no renewal application had been submitted;
 - On September 27, 2007, the NWB issued an amendment to Licence NWB3REP0409 to accommodate the construction of a new landfarm. Included in the amendment were new monitoring requirements to ensure that the contaminated material was remediated and monitored properly. The landfarm design capacity was for 1,890 m³. On December 5, 2014, GN-CGS provided a procedural explanation/history by email to the Board demonstrating that although a Contaminated Soil Storage Area exists on-site, no landfarm facility had ever been

constructed or was even necessary in Repulse Bay.

- Licence April 09, 2015, the Board issued Water Licence 3BM-REP1520 — Type “B” to the Hamlet of Naujaat for the use of 60,000 m³ of Water per year and the deposit of Waste generated by the Hamlet. Licence 3BM-REP1520 expired on April 08, 2020, at which time no renewal application had been submitted.

IV. GENERAL CONSIDERATIONS

The following sections provide background information relevant to the terms and conditions included in this Licence, in the context of submissions received and/or the Board’s rationale.

Term of the Licence

In accordance with s. 45 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWNSRTA or Act), the NWB may issue a licence for a term not exceeding twenty-five (25) years. In determining an appropriate term for a renewal licence, the Board generally takes into consideration several factors including interveners’ comments, the Licensee’s compliance history, as well as the rationale contained in the application.

The Licensee requested in its Application, a five (5) year term for the licence. The interveners in their submissions did not comment on the term requested for the renewal licence. The Board, in examining the compliance history of the licensee, felt that a five-year term was appropriate. The Board has therefore granted the term requested by the Licensee. In so doing, the Board believes and expects that the **five-year term** will provide the Licensee with significant opportunities to consistently abide by the terms and conditions in the Licence over time and provide ongoing compliance record prior to a need for renewal.

Annual Reports

Under Part B, Item 1 of the Licence, the Licensee is required to submit Annual Reports for the purpose of ensuring that the NWB has an accurate annual update of municipal activities related to Water use and deposit of Waste during each calendar year. This information is maintained on the Public Registry and is available to interested parties upon request. A “Standardized Form for Annual Reporting” is to be used by the Licensee and is available from the NWB FTP site under the Public Registry link at the NWB Website:

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

Water Supply Facility

The Hamlet obtains its freshwater from the Nuviq Luktujuk Lake. The new water treatment plant (WTP) has been in operation since it was completed in December 2016. Potable water is withdrawn from the Nuviq Luktujuk Lake through the intake pump of the new intake pump house (IPH). It is then chlorinated before being delivered to the residents by water trucks operated by the Hamlet.

Sewage Disposal Facility

The Sewage Disposal Facility (SDF) consists of a truck offload discharge area where the sewage is discharged and directed through a series of wetlands and surface water bodies before being discharged into Hudson Bay. All raw sewage generated by the community is collected using vacuum trucks and transported to the discharge area. The Hamlet plans to construct a pre-treatment lagoon northwest of the current sewage discharge area. The construction work on the sewage lagoon is scheduled to begin in 2021-2022.

The Applicant submitted the document “*Naujaat Sewage Lagoon Upgrade*” after requests from CIRNA and ECCC. Key updates and design recommendations from the document are as follows:

- The sewage lagoon will be designed for 20 years and be able to serve a projected population of 1,886 residents;
- The sewage lagoon will have a working volume of 74,640 m³;
- The sewage lagoon will provide over-winter storage of sewage, accumulated sludge and reduction of solids, organic, grease and oil loadings to the wetland;
- It is estimated that a total of 10,440 m³ of sludge will accumulate over the 20-year planning period of this project;
- The wetland assessment has determined that phytoremediation is taking place; however, there are currently indications of overloading. This assessment recommends that a lagoon be provided to reduce contaminant loads to the wetland;
- It is anticipated that the proposed sewage treatment system made up of a lagoon combined with the natural wetland will provide an Effluent quality that is well within the discharge criteria;
- The geotechnical investigation has recommended that an impermeable liner be used, based upon local soil characteristics; and
- The geothermal assessment has determined that a frozen core within the berms is not a feasible approach for the containment of lagoon seepage. The alternatives of keying into sound rock or installation of thermosyphons are suggested.

Environment and Climate Change Canada (ECCC) recommended the following:

- Submit an O&M Manual for the Sewage Disposal Facility;
 - Applicant informed they will request their consultant for the completion O&M Manual

- Complete a comparison of recent sewage influent quality versus quality at the end of the wetland to confirm assumptions about treatment capacity of the existing natural wetland system;
 - Applicant provided the “2020 Design Update Report” to answer the comment
- The current Effluent quality criteria for cBOD and TSS be retained as they are regularly being met;
 - Applicant provided the “2020 Design Update Report” to answer the comment
- ECCC expressed support for the inclusion of additional monitoring stations to characterize influent quality from the truck discharge as well as Effluent quality at lagoon discharge point.

Crown Indigenous Relations and Northern Affairs (CIRNA) had the following recommendations:

- CIRNA recommended the NWB include a condition for recording sewage lagoon outflow volumes using a meter, in the replacement licence;
 - Applicant agreed with this recommendation
- CIRNA requested clarification whether a geothermal analysis for future sewage lagoon was conducted and asked the Applicant to submit a report for review;
 - Applicant stated that a geothermal study was completed as part of the 2013 lagoon design and updated in 2020. Further, GN-CGS are engaged in a third party review of the Naujaat lagoon design and will submit it by January 30, 2021
- CIRNA requested clarification on construction mitigation techniques planned to implement during the construction of the sewage lagoon;
 - The Applicant has committed to obtaining this information, and to providing these mitigation techniques to CIRNA
- CIRNA recommended that the Applicant provide the Sewage Disposal Facility O&M Manual for review;
 - The Applicant committed that a compiled O&M Manual will be completed and submitted for review by March 1, 2021
- CIRNA recommended that the Applicant clarify the Effluent quality objectives they propose for the replacement licence, and provide clear rationale for the proposed Effluent quality objectives;
 - The Applicant submitted technical documents completed by Dalhousie University, PlusArctic and EXP Services Inc. to answer the above comment

- CIRNA recommends that the Applicant clarify the proposed method of operating and decanting the future sewage lagoon.
 - The Applicant responded that exfiltration, was not recommended. The Effluent will be pumped over the edge of the lagoon, maintaining the recommended 1m freeboard

Solid Waste Disposal Facility

The Hamlet of Naujaat Solid Waste Disposal Facility consists of four main components: A landfill, a Waste diversion area consisting of a wood pile, a bulk metals disposal area and a Hazardous Waste storage area. The Applicant has stated in the Application that the Solid Waste Disposal Facility is unchanged since the last renewal.

The current facility is over capacity and the Applicant has stated that they are in the process of identifying potential locations for a new facility. Information regarding the new facility is not available at this time. The Inspectors Report, dated August 01, 2019, states that the south berm of the landfill has been breached and is in need of repair. The Report commends the community for segregating Hazardous Waste and requested the Hamlet to upgrade the battery storage area to avoid possible leaching into the environment. The Inspector requested that these issues be resolved by August 15, 2020. The NWB strongly recommends that the Applicant addresses all operational issues as directed by the Inspector.

ECCC has recommended that the Applicant submit an updated solid waste management plan and include information on the measures being taken to manage the additional volumes of waste in the interim, prior to construction of a new facility. The Applicant has stated that a new solid waste management plan is being developed and will be submitted to the Board by March 01, 2021.

Operation & Maintenance Plans

Conditions in Part F of the expired Licence required the Applicant to submit the following plans:

- Part F, Item 1 – Operation and Maintenance Plan for the Upgraded Sewage Disposal Facility (including a Sludge Management section containing operating procedures, de-sludging schedule, sludge volume, monitoring methodology and treatment/disposal options for excavated sludge);
- Part F, Item 2 – Operation and Maintenance Plan for Solid Waste Disposal Facility;
- Part F, Item 3 – Long-term Solid Waste Management Plan;
- Part F, Item 5 – Spill Contingency Plan;
- Part F, Item 6 – Operation and Maintenance Plan for the Upgraded Water Supply Facility
- Part G, Item 6 – Closure and Reclamation Report for the Solid Waste Site used prior to 2002;

- Part H, Item 12 – Quality Assurance and Quality Control Plan (QA/QC).

No Operation & Maintenance (O&M) Plans were submitted during the course of the expired Licence, or with the Application or during the processing of the Application. The Applicant has stated that the required Plans are being developed and will be submitted by March, 2021. The Board expects that these non-compliance issues will be addressed and has included conditions in the Licence to submit the following plans:

- O&M Plan for Sewage Disposal Facility
- O&M Plan for Solid Waste Disposal Facility
- O&M Plan for Water Treatment Facility
- Long-term Solid Waste Management Plan
- Spill Contingency Plan
- Closure and Reclamation Report
- Quality Assurance / Quality Control (QA/QC) Plan

The Applicant has stated that these plans are being developed and will be submitted by March 01, 2021.

CIRNA have requested that the Applicant provide spill follow-up actions with future spill reports. The spill reports should include the following information:

- a. Cause of the spill;
- b. Who cleaned up the spill;
- c. When the spill was cleaned up;
- d. How the spill was cleaned up;
- e. What was done to prevent further spills of that type.

Closure and Reclamation Plan

The Applicant plans to build new solid waste disposal facility in the community. During the Application the Applicant has stated that they do not plan on decommissioning the existing landfill. The Feasibility studies for a new landfill are to be done in the near future.

General terms and conditions have been included under Part G in the Licence, requiring the Licensee to submit a Closure and Reclamation Plan at least six (6) months prior to decommissioning any facility under the scope of this renewal Licence.

Monitoring Plan

Under Part H, Item 1, the Board has reaffirmed the monitoring locations and added additional locations. The new locations include the truck discharge (annual), Effluent from lagoon to wetlands (monthly) and at the end of the wetlands (monthly).

Under Part H, Item 12, the Board has reaffirmed the requirement for the Licensee to submit a QA/QC Plan, with an endorsement letter from a CALA certified lab, for Board review within ninety (90) days following the issuance of the Licence.

The Licensee is required to seek approval and/or confirmation from the Board prior to making any changes to the monitoring program. It should also be noted that additional sampling may be required upon request by the Board or the Inspector.



NUNAVUT WATER BOARD

WATER LICENCE

Licence No: 3BM-NAU2126

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 NAUJAAT

(Licensee)

P.O. BOX 10, NAUJAAT, NUNAVUT X0C 0H0

(Mailing Address)

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

Licence Number/Type: **3BM-NAU2126 TYPE "B"**

Water Management Area: **REPULSE BAY WATERSHED (18)**

Location: **KIVALLIQ 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 299 CUBIC METRES *PER* DAY**

Effective Date: **JANUARY 27, 2021**

Expiry of Licence: **JANUARY 26, 2026**

This Licence renewal, 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 Naujaat (Repulse Bay), located within the Kivalliq Region of 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 Agreement* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*;

“Contaminated Soil Storage Area” means the engineered storage area built in 2005 to store contaminated material;

“Effluent” means treated or untreated liquid waste material that is discharged into the environment from a structure such as a settling pond, lagoon (including wetland), landfill 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.2d* 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” in respect of an Effluent means an identifiable discharge point of a facility beyond which the operator of the facility no longer exercises control over the quality of the Effluent, identified as Monitoring Program Station REP-6 in the Licence;

“Freeboard” means the vertical distance between water line and the designed maximum operating height on the crest of a dam or dyke’s upstream slope;

“Geotechnical Engineer” means a professional engineer registered with the Association of Professional Engineers, Geologist and Geophysicists of Nunavut and whose principal field of specialization with the engineering properties of earth materials in dealing with man-made structures and earthworks that will be built on a site. These can include shallow and deep foundations, retaining walls, dams, and embankments;

“Grab Sample” means an undiluted quantity of material collected at a particular time and place that may be representative of the total substance being sampled at the time and place it was collected;

“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);

“Hazardous Waste” means Waste classified as “hazardous” by Nunavut Territorial or Federal legislation, or as “dangerous goods” under the Transportation of Dangerous Goods Act;

“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;

“Monitoring Program” means a monitoring program established to collect data on surface water and groundwater quality to assess impacts to the freshwater aquatic environment of an appurtenant undertaking;

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

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

“Sewage” means all toilet wastes and greywater;

“Sewage Disposal Facility” refers to the proposed engineered sewage lagoon and wetland area where sewage will undergo natural treatment before being discharged into Hudson Bay, as described in the document *“Naujaat Sewage Lagoon Upgrade”*, which was submitted with the Application for Water Licence renewal filed by the Applicant on September 16, 2020;

“Solid Waste Disposal Facility” means the area comprised of, and the associated structures designed to contain solid waste, as described in the Application for Water Licence renewal filed by the Applicant on September 16, 2020;

“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;

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

“Waste Disposal Facilities” means all facilities designated for the disposal of Waste, and includes the Sewage Disposal Facility and Solid Waste Disposal Facility (including the bulk metal, Hazardous Waste and wood disposal area), as described in the Application for Water Licence renewal filed by the Applicant on September 16, 2020;

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

“Water Supply Facility” means all facilities designated for the withdrawal, treatment and supply of water in the community; and

“Wetland Treatment Area” comprises approximately 64,000 m² along a 1,400 m flow path of wetlands and surface Water bodies, which treats sewage wastewater before discharging into Hudson Bay as described in *Wetlands Assessment, Sewage Treatment Wetlands, Hamlet of Naujaat, NU, October 18, 2012*.

3. Enforcement

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

PART B: GENERAL CONDITIONS

1. The Licensee shall file an Annual Report on the Appurtenant Undertaking with the Board no later than March 31st of the year following the calendar year being reported, containing the following information:
 - a. Tabular summaries of all data generated under the “Monitoring Program”;
 - b. The daily, monthly and annual quantities in cubic metres of fresh Water obtained at the Water Supply Facility and/or for all purposes under the licence;
 - c. The monthly and annual quantities in cubic metres of sewage Waste discharged; and the monthly and yearly quantities of every type of Waste accepted at the Solid Waste Disposal Facility;
 - d. Summary of modifications and/or major maintenance work carried out on the Water Supply Facility and Waste Disposal Facilities, including all associated structures;
 - e. A list of unauthorized discharges and summary of follow-up action taken;
 - f. A summary of any abandonment and restoration work completed during the year and an outline of any work anticipated for the next year;
 - g. Any Addendum with updates or revisions for manuals and plans (including *Operations and Maintenance Manuals/Plans*) as required by changes in operation and/or technology;
 - h. A summary of any studies or reports requested by the Board that relate to the use of Water and Waste disposal or restoration, and a brief description of any future studies planned;
 - i. A summary of any inspections completed by federal or territorial authorities, geotechnical or municipal engineers, on undertakings related to Waste disposal, Water use or reclamation activities; and
 - j. Any other details on Water or Waste deposit requested by the Board by November 1 of the year being reported.
2. 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.
3. The “Monitoring Program” and compliance dates specified in the Licence may be modified

at the discretion of the Board in writing.

4. The Licensee shall, maintain 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.
5. 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.
6. The Licensee shall install flow meters or other such devices, or implement other such methods as approved by the Board in writing, for the measuring of Water volumes as required under Part H of this Licence.
7. 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.
8. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.
9. 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.
10. 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 condition 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.
11. The Licensee shall ensure a copy of this Licence is maintained at the Municipal Office at all times. Any communication with respect to this Licence and any notice provided to an Inspector, 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

Nunavut District, Nunavut Region
P.O. Box 100
Iqaluit, NU X0A 0H0
Telephone: (867) 975-4295
Fax: (867) 979-6445

12. 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.
13. The Licensee shall ensure that all document(s) and correspondence submitted by the Licensee to the Board are received and acknowledged by the Manager of Licensing.
14. This Licence is not assignable except as provided in Section 44 of the Act.

PART C: CONDITIONS APPLYING TO WATER USE

1. The Licensee shall obtain all Water for municipal purposes under this Licence from the Nuviq Luktujuq Lake using the Water Supply Facility or as otherwise approved by the Board.
2. The annual quantity of Water used for all purposes shall not exceed sixty thousand (60,000) cubic metres, at a maximum daily withdrawal rate that shall not exceed two hundred and ninety-nine (299) cubic metres.
3. The Licensee shall equip all Water intake hoses with a screen of 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.
4. The Licensee shall maintain the Water Supply Facility to the satisfaction of the Inspector.
5. The Licensee shall not remove any material from below the ordinary High Water Mark of any water body unless otherwise 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. The Licensee shall implement sediment and erosion control measures, prior to and during operations, 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 Facility or as otherwise approved by the Board.

2. The Licensee shall provide a minimum of ten (10) days' notice to an Inspector prior to initiating any decant of the Sewage Disposal Facility.
3. All Effluent discharged from the Sewage Disposal Facility at Monitoring Program Station REP-6 shall be measured for the parameters listed under this Licence and shall not exceed the following Effluent quality limits:

Parameter	Maximum Concentration of Any Grab Sample
pH	between 6 and 9
BOD ₅	80 mg/L
Total Suspended Solids	70 mg/L
Fecal Coliforms	1 x 10 ⁶ CFU/100mL
Oil and grease	No visible sheen

4. The Licensee shall, in the sewage lagoon being designed, install the appropriate flow-metering equipment required to accurately record outflow volumes.
5. The Licensee shall maintain at all times, a Freeboard of at least 1.0 metre, or as recommended by a qualified Geotechnical Engineer and as approved by the Board in writing, for all dams, dykes or other structures intended to contain, withhold, divert or retain Water or Waste.
6. The Sewage Disposal Facility shall be maintained and operated, to the satisfaction of an Inspector and in such a manner as to prevent structural failure.
7. The Licensee shall manage all solid Waste disposed of at the Solid Waste Disposal Facility in accordance with acceptable standard and practices.
8. 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.
9. The Licensee shall dispose of all Solid Wastes in such a manner as to prevent the deposition of such waste in to water.
10. The Licensee shall segregate and store all hazardous materials and/or Hazardous Waste within the Solid Waste Disposal Facility in such a manner as to prevent the deposit of deleterious substances into any Water, until such a time that the materials have been removed for proper disposal at an approved facility.

PART E: CONDITIONS APPLYING TO MODIFICATIONS AND CONSTRUCTION

1. The Licensee shall submit to the Board for review, 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 approval from the Board, carry out modifications to the Water Supply Facility and Solid Waste Disposal Facility 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. these modifications do not place the Licensee in contravention of the Licence or the Act;
 - c. 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
 - d. 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 may be carried out only with written approval from the Board.
4. The Licensee shall, within ninety (90) days of completion of Modification or construction of facilities and/or infrastructure associated with the project, submit to the Board for review a Construction Summary Report along with stamped as-built plans and drawings, providing explanation to reflect any deviations from for construction drawings taking into account construction and field decisions and how they may affect the performance of engineered facilities.
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 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.
8. The Licensee shall only use material that is free of contaminants, for construction, operation, and maintenance activities and that is obtained from approved sources, demonstrated not to be potentially acid generating and metal leaching.

PART F: CONDITIONS APPLYING TO OPERATION AND MAINTENANCE

1. The Licensee shall submit to the Board for approval in writing, within ninety (90) days of issuance of the Licence, an Operation and Maintenance Plan for the Water Supply Facility.
2. The Licensee shall submit to the Board for approval in writing, at least ninety (90) days of commissioning the Sewage Disposal Facility, an Operation and Maintenance Plan for the Sewage Disposal Facility. This Plan will include a Sludge Management section containing operating procedures, de-sludging schedule, sludge volume, monitoring methodology and treatment/disposal options for the excavated sludge.
3. The Licensee shall submit to the Board for approval in writing, within ninety (90) days of issuance of the Licence, an Operation and Maintenance Plan for the Solid Waste Disposal Facility prepared in accordance with the “*Guidelines for the Preparation of an Operation and Maintenance Manual for Sewage and Solid Waste Disposal Facilities in the Northwest Territories*” (1996).
4. The Licensee shall submit to the Board for approval in writing, within six (6) months of issuance of the Licence, a Long-term Solid Waste Management Plan for the Hamlet of Naujaat that provides definitive objectives for building new or upgrading existing solid Waste management infrastructure.
5. The Licensee shall submit to the Board for approval in writing, within ninety (90) days of issuance of the Licence, a Spill Contingency Plan that addresses all Water Supply, Sewage and Solid Waste Disposal Facilities / operations, including Hazardous materials, in the event of a spill.
6. An inspection of all engineered facilities related to the management of Water and Waste shall be carried by an Engineer (Civil, Municipal or Geotechnical) annually or 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.
7. The Licensee shall perform more frequent inspections of the engineered facilities at the request of an Inspector.
8. The Licensee shall, during the term of this Licence, undertake the following activities in addition to any other required action should an unauthorized discharge of waste occur or if such a discharge is foreseeable:
 - a. Employ the appropriate contingency measures as approved under the Spill Contingency Plan for the Hamlet of Naujaat;
 - b. Report the incident immediately via the NWT/NU 24-Hour Spill Reporting Line at (867) 920-8130 and to the Inspector at (867) 975-4295; and

- c. Submit to the Inspector, a detailed report on each occurrence, not later than thirty (30) days after initially reporting the event, that provides the necessary information on the location (including the GPS coordinates), initial response action, remediation/clean-up, status of response (ongoing, complete), proposed disposal options for dealing with contaminated materials and preventative measures to be implemented.
9. The Licensee shall, in addition to Part F, Item 8, regardless of the quantity of releases of harmful substances, report to the NWT/NU 24-Hour Spill Reporting Line if the release is near or into a Water body.

PART G: CONDITIONS APPLYING TO CLOSURE AND RECLAMATION

1. The Licensee shall 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. Where applicable, the Plan shall include information on the following:
 - a. water intake facility;
 - b. the water treatment and waste disposal sites and facilities;
 - c. petroleum and chemical storage areas;
 - d. any site affected by waste spills;
 - e. leachate prevention;
 - f. an implementation schedule;
 - g. maps delineating all disturbed areas, and site facilities;
 - h. consideration of altered drainage patterns;
 - i. type and source of cover materials;
 - j. future area use;
 - k. hazardous wastes; and
 - l. a proposal identifying measures by which restoration costs will be financed by the Licensee upon abandonment.
2. The Licensee shall complete all restoration work within the time schedule specified in the Plan, or as subsequently revised and approved by the Board.
3. The Licensee shall carry out progressive reclamation of any components of the project no longer required for the Licensee's operations.
4. 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.
5. Areas that have been contaminated by hydrocarbons shall be reclaimed to meet objectives as outlined in the Government of Nunavut's Environmental Guideline for Site Remediation, January 2002. 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 for review, within six (6) months of Licence issuance, a Closure and Reclamation Report for the old Solid Waste Site used prior to 2002. This report is to be stamped by an Engineer and describe the history of the site and its decommissioning, and also the Engineer's assessment of whether further reclamation is required at the site to mitigate the possibility of contamination to surrounding freshwater systems.

PART H: CONDITIONS APPLYING TO MONITORING PROGRAM

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

Monitoring Program Station Identification	Description	Frequency	Status
REP-1	Raw Water source intake at Nuviq Luktujuk Lake	Daily, Monthly and Annually	Active (Volume)
REP-2	Runoff from the Solid Waste Disposal Facility culvert as noted in Interim Solid Waste Management Plan (2006)	Monthly and when runoff is observed	Active (Quality)
REP-2A	Runoff from the Solid Waste Disposal Facility boulder seepage as noted in Interim Solid Waste Management Plan (2006)	Monthly and when runoff is observed	Active (Quality)
REP-3	Raw Wastewater at truck offload point (current offload point)	Daily, Monthly and Annually	Active (Volume)
REP-3A	Raw Wastewater at truck offload point (new offload point to commence after construction of sewage lagoon)	Daily, Monthly and Annually	Active (Volume)
REP-4	Pump discharge point from sewage lagoon (to commence after	Monthly or once in the beginning, once in the middle and once near the	Active (Quality and volume)

Monitoring Program Station Identification	Description	Frequency	Status
	construction of sewage lagoon)	end of the season (when flow is observed)	
REP-4A	Spillway discharge point (to commence after construction of sewage lagoon)	Monthly or once in the beginning, once in the middle and once near the end of the season (when flow is observed)	Active (Quality and volume)
REP-5	Effluent discharge and run-off from the Contaminated Soil Storage Area (controlled discharge)	Monthly and when run-off is observed	Active (Quality)
REP-6	Final discharge from Wetland Area into Hudson Bay	Monthly or once in the beginning, once in the middle and once near the end of the season (when flow is observed)	Active (Quality)

2. The Licensee shall measure and record, in cubic metres, the daily, monthly and annual quantities of water pumped at Monitoring Program Station REP-1, for all purposes.
3. The Licensee shall sample for water quality at Monitoring Program Stations REP-2, REP-2A and REP-5, once per month in June, July and August during periods of observed flow. Samples shall be analyzed for the parameters listed in Part H, Item 8, as well as Total Petroleum Hydrocarbons.
4. The Licensee shall measure and record in cubic metres, the monthly and annual quantities of Effluent discharged from Monitoring Program Station REP-3 and REP-3A.
5. The Licensee shall, upon commissioning of the sewage lagoon, measure and record in cubic metres, the monthly and annual quantities of Effluent discharged from Monitoring Program Station REP-4 and REP-4A.
6. The Licensee shall, when discharge is observed to be occurring over the sewage lagoon spillway, sample at Monitoring Program Station REP-4A and notify the Inspector immediately of the release.
7. The Licensee shall sample at Monitoring Program Station REP-6, monthly, or a minimum of three (3) times annually, once within two weeks of commencing discharge at REP-4 or REP-4A, once half-way through discharge and once within two weeks following the end

of discharge.

8. Samples obtained at Monitoring Program Station REP-6 shall be in compliance with Effluent criteria as established under Part D, Item 3.
9. The Licensee shall sample at Monitoring Program Stations REP-2, REP-2A, REP-4, REP-4A, REP-5 and REP-6 according to the frequency established under Part H, Item 1, during periods of observed flow. Samples shall be analyzed for the following parameters:

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

10. 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.
11. All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025. The accreditation shall be current and in good standing.
12. The Licensee shall submit to the Board for review, within ninety (90) days of the issuance of the Licence, a Quality Assurance/Quality Control Plan based on 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 include a covering letter from an accredited laboratory confirming acceptance of the Plan for the monitoring and analyses to be performed under the Licence.
13. The Licensee shall include all of the data and information required by the "Monitoring Program" complete with an interpretation and discussion of the results, in the Licensee's Annual Report, as required *per* Part B, Item 1, or as requested by an Inspector.
14. Modifications to the Monitoring Program may be made only upon written approval from

the NWB.

15. Additional monitoring stations, sampling and analyses may be requested by an Inspector.