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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

File No. **3BM-GRI1520**

December 9, 2015

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Hamlet of Grise Fiord
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Municipal Planning Engineer, GN-CGS
P.O. Box 379
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RE: NWB Renewal Licence No. 3BM-GRI1520

Dear Mr. Kaslak and Mr. Roy:

Please find attached Licence No. **3BM-GRI1520** issued to the Hamlet of Grise Fiord by the Nunavut Water Board (NWB) pursuant to its authority under Article 13 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada (Nunavut Land Claims Agreement or NLCA)*. The terms and conditions of the attached Licence related to Water use and Waste disposal are an integral part of this approval.

If the Licensee contemplates the renewal of this Licence, it is the responsibility of the Licensee to apply to the NWB for its renewal. The past performance of the Licensee, new documentation and information, and issues raised during a public hearing, if the NWB is required to hold one, will be used to determine the terms and conditions of the Licence renewal. Note that if the Licence expires before the NWB issues a new one, then Water use and Waste disposal must cease, or the Licensee may be in contravention of the *Nunavut Land Claims Agreement* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*. However, the expiry or cancellation of a licence does not relieve the holder from any obligations imposed by the licence. The NWB recommends that an application for the renewal of this Licence be filed at least three 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 consults the comments received by interested parties. This information is attached for your consideration¹.

Sincerely,

Thomas Kabloona
Nunavut Water Board
Chair

TK/SA/pb

Enclosure: Licence No. **3BM-GRI1520**
Comments – AANDC

Cc: Qikiqtani Distribution List

¹ Aboriginal Affairs and Northern Development Canada (AANDC), April 2, 2015.

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DECISION

LICENCE NUMBER: 3BM-GRI1520

This is the decision of the Nunavut Water Board (NWB) with respect to a complete application dated October 29, 2014 for a renewal of a Water licence made by:

HAMLET OF GRISE FIORD

to allow for the use of Water and deposit of Waste during municipal activities by the Hamlet of Grise Fiord, located within the Qikiqtani Region, Nunavut, generally located at the geographical coordinates as follows:

Latitude: 76° 25' N and Longitude: 83° 01' W

DECISION

After having been satisfied that the application was in conformity with the North Baffin Regional Land Use Plan¹ and exempt from the requirement for screening by the Nunavut Impact Review Board² in accordance with Schedule 12-1 of the *Nunavut Land Claim Agreement (NLCA)*, the NWB decided that the application could proceed through the regulatory process. In accordance with s.55.1 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act (Act)* and Article 13 of the *NLCA*, public notice of the application was given and interested persons were invited to make representations to the NWB.

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

Licence No. 3BM-GRI0911 be renewed as Licence No. 3BM-GRI1520 subject to the terms and conditions contained therein (Motion # 2015-B1-040).

Signed this 9th day of December 2015 at Gjoa Haven, NU.

Thomas Kabloona
Nunavut Water Board
Chair

TK/SA/pb

¹ Nunavut Planning Commission Conformity Determination, June 24, 2015

² Nunavut Impact Review Board, Screening Exemption Decision, March 12, 2015

I. BACKGROUND

The Hamlet of Grise Fiord is a small community located on the southern tip of Ellesmere Island at Latitude 76°25'N and Longitude 83° 01'W, within the Qikiqtani Region of Nunavut. The Community is located approximately 320 km NE of Resolute. The Community is situated on a narrow strip of beach near the mouth of Grise Fiord. Surface soils in the area consist of free-draining gravel deposits. The depth of the active layer of permafrost is approximately 0.6m.

Grease Fiord receives an average of 15.2 cm of snowfall each year, the rainfall mean annual precipitation totals near 0 cm. July mean high and low temperatures are 10⁰C and 2.2⁰C. January mean high and low temperatures are -27.2 ⁰C and -35⁰C. Winds are generally south-east and annually average 18.5km/h.

Currently the population of Grise Fiord is 160; the projected population in 2019 is 175⁴ persons.

The Hamlet operates Water and Waste management facilities; its community infrastructure includes:

- The Water Supply Facility (WSF): the Community drinking water is obtained from a glacial runoff pond. The WSF consists of the Water source, two water storage tanks, a heating system, boilers to supply heat, a chlorination system, and trucks to deliver the Water to the Community.
- The Sewage Disposal Facility (SDF) consists of a non-engineered, unfenced sewage lagoon. The sewage lagoon has a capacity of 19,360 m³.
- The Solid Waste Facility (SWF) consists of a main Municipal Solid Waste area (MSW) and a bulky waste area. The MSW area contains items such as organic waste, paper, paperboard and other paper products, plastic, rubber, leather, diapers, cans, glass, ceramic, wood and wood products, etc. The bulky waste area contains construction and demolition wastes, white goods (such as large household materials like fridges, stoves, clothes washers and driers, televisions), scrap metal and scrap vehicles, snowmobiles, engines, and tires. Hazardous waste material is found within both areas.

II. FILE HISTORY

On **November 15, 2003**, the Nunavut Water Board (“NWB” or “Board”) issued Water Licence NWB3GRI0308 - Type “B” to the Hamlet of Grise Fiord for the use of 6,200 m³ of Water *per* year and the deposit of Waste generated by the Hamlet. Licence NWB3GRI0308 expired on November 15, 2008.

4 2014 Grise Fiord O&M Manual for Sewage Lagoon, Population Projection

On **July 25, 2009**, the NWB approved amendment / renewal Water Licence 3BM-GRI0911 for the use of 7,720 m³ of Water *per* year and the deposit of Waste generated by the Hamlet. Licence 3BM-GRI0911 expired on July 31, 2011.

III. PROCEDURAL HISTORY OF RENEWAL APPLICATION

A first Application for the renewal of the Licence was submitted to the NWB by the Hamlet of Grise Fiord on **August 2, 2011**. Later, the application was withdrawn by the Hamlet.

A second application (the Application) for renewal of the Licence was submitted to the NWB by the Hamlet of Grise Fiord on **October 29, 2014**. The Application consisted of the following documents:

- Letter of Authorization from GN;
- Application Cover Letter on October 29, 2014;
- Water Licence Renewal Application, dated October 27, 2014;
- Technical Summary in English and Inuktitut of the Licensed Facilities of the Hamlet of Grise Fiord;
- 2011, 2012, 2013 Annual Reports;
- Quality Assurance, Quality Control Plan, September 2014;
- 2012/2013 Analytical Results;
- Photos of Monitoring Stations;
- Solid Waste Operation and Maintenance (O&M) Plan, October 2014;
- Hazardous Waste Segregation, Storage and Transportation Procedure;
- O&M Manual for the existing Sewage Lagoon, October 2014; and
- O&M Manual for Water Storage and Pumping System at Grise Fiord, March 1988.

On **March 2, 2015**, the NWB acknowledged receipt of the renewal Application; the Board undertook a preliminary review of the Application, concluded that it meets the requirements of section 48(1) of the Nunavut Waters and Nunavut Surface Rights Tribunal Act (“Act”), and distributed the Application to interested parties for a thirty (30) day review and comment period. In accordance with s.11.5.10 of the *Nunavut Land Claims Agreement* (“NLCA”), the NWB sent the proposed project to the Nunavut Planning Commission (NPC), to determine whether the proposal is in conformity with an approved land use plan. Moreover, pursuant to s. 13.5.1 of the NLCA, the NWB requested that the Nunavut Impact Review Board (NIRB) determine whether the project requires environmental screening.

The NPC responded on June 24, 2015, stating that the project proposal conforms to the North Baffin Regional Land Use Plan (NBRLUP); and on March 12, 2015, the NIRB informed the NWB that the project is exempt from screening. In addition, comments on the Application were submitted by Aboriginal Affairs and Northern Development Canada (AANDC), on April 2, 2015.

Based on the results of the completed detailed assessment the Board has approved the application for the renewal of Licence No. 3BM-GRI0911 as Licence No. 3BM-GRI1520.

IV. ISSUES

Term of the Licence

The NWB is aware of recurring, non-compliance issues of the Hamlet with respect to the Nunavut Waters and Nunavut Surface Rights Tribunal Act (NWNSTRTA or the Act) and conditions of the expired licence; for instance, the Hamlet is in non-compliance with respect to the monitoring conditions as dictated under Part H of the 3BM-GRI0911, also the Hamlet continues operating the Waste disposal facilities without the assistance of an approved Management Plan as requested under Part F, Item 1 of the expired Water Licence.

The NWB acknowledges, however, that the Hamlet of Grise Fiord appears to have made efforts to address its compliance issues. In that way, Annual Reports and O&M Plans for the Waste Disposal Facilities have been submitted with the current Application. In addition, the Licensee submitted to the Board an updated Plan for Compliance on November 10, 2014, which provides objectives and associated timelines to address many non-compliance issues remaining in the Licensed Facilities of the Community.

The Licensee has requested a five (5) year term for the renewal licence. In accordance with s. 45 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWNSTRTA or the Act), the NWB may issue a licence for a term not exceeding twenty-five (25) years. In determining an appropriate term of a Water licence, the Board considers a number of factors, including the results of the AANDC annual site inspection and the compliance record of the Applicant.

In recognition of the recent efforts made by the Licensee to address compliance issues and taking into consideration the Licensee's request, compliance history, and intervener's (AANDC) recommendations, the NWB has issued the Licence for a term of five (5) years and believes that this time period will provide a realistic opportunity for the Licensee to prove to the Board that it can meet the long-term requirements of the Licence, as well as establish a consistent compliance record with respect to the requirements under the terms and conditions of the Licence.

Annual Report

Part B of the expired licence required the submission of Annual Reports; Annual Reports should include information regarding the Hamlet's water use, waste disposal/management and data of the Hamlet's Monitoring Program. Noticeably late, the Hamlet has submitted 2011, 2012, 2013 and 2014 Annual Reports with the Application.

Annual Reports are an important assessment tool for the NWB regarding the state of a Water Licence in addition to ensuring that the NWB and other stakeholders possess an accurate understanding of municipal activities during any particular calendar year related to Water use and Waste disposal. Therefore, in accordance with s.14 of the Nunavut Water Regulations, the

NWB maintains the condition under Part B, Item 1 of the current Licence, to produce and submit Annual Reports by March 31st every 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 at the NWB’s ftp site at: [ftp://ftp.nwb-oen.ca/1%20PRUC%20PUBLIC%20REGISTRY/3%20MUNICIPAL/3B/3BM%20-%20Municipality/3BM-GRI0911/3%20TECH/1%20GENERAL%20\(B\)/](ftp://ftp.nwb-oen.ca/1%20PRUC%20PUBLIC%20REGISTRY/3%20MUNICIPAL/3B/3BM%20-%20Municipality/3BM-GRI0911/3%20TECH/1%20GENERAL%20(B)/)

The Licensee is advised that the NWB *Standardized Form* could be supplemented by additional monitoring documentation as required.

Water Use

The Hamlet currently receives its freshwater supply from a glacier run-off pond located at the following coordinates: Latitude 76⁰ 25’N and Longitude 83⁰ 01’W.

No concerns were expressed in relation to the Water allowances requested by the Licensee. Therefore the Board has set the maximum water usage for all purposes specified in this Licence at 7,700 cubic meters *per* year and less than 300 cubic meters *per* day.

Deposit of Waste

Sewage

The Hamlet of Grise Fiord disposes of the Community wastewater into the sewage lagoon located approximately 800 m away from the Community, next to the landfill. The retention lagoon is a natural ditch where sewage undergoes natural treatment before being discharged into the Ocean.

Solid Waste

The Hamlet of Grise Fiord Solid Waste Facility (SWF) consists of two main components: a Municipal Solid Waste area, and a bulky waste area. The SWF is a non-engineered facility and there is no protocol in place for the management and handling of the waste.

Issues of non-compliance identified at the SWF during the 2014 AANDC’s Inspection⁵ are the following:

- Failure to segregate hazardous waste: following the 2011 Inspection the Municipality has committed to organize the safe storage of hazardous wastes including drums of waste oil, batteries, paint cans and other materials. This work has not been accomplished.
- The SWF remains unfenced;
- Signs of open burning were present at the facility;

⁵ AANDC Water Licence Inspection Report, July 7, 2014

- Failure to control wind-blown litter.

Operating Plans and Spill Contingency Measures

Operating Plans

Part F, Item 1, of the expired licence required the submission of a consolidated O&M Manual for the Sewage and Solid Waste Facilities within ninety (90) days of the Licence issuance. This obligation has not yet been fulfilled. However, the Licensee has included with the Application some of the individual Plans, therefore in order to facilitate the Hamlet's compliance with this condition, the Board has amended the licence's relevant condition to allow for individual plans that formed part of the Manual to be submitted and approved separately.

The following Plans have been included with the Application

- Solid Waste Operation and Maintenance (O&M) Plan, October 2014;
- Hazardous Waste Segregation, Storage and Transportation Procedure;
- O&M Manual for the existing Sewage Lagoon, October 2014;
- O&M Manual for Water Storage and Pumping System at Grise Fiord, March 1988.

The Board has approved under Part F, Item 1, the Solid Waste Facility O&M Plan dated October 2014 as well as under Part F, Item 2, the Sewage Lagoon O&M Manual dated October 2014.

Further to this, under Part F, Item 3 and Item 4 respectively, the Board requires the Hamlet to submit updated versions of the Hazardous Waste Segregation, Storage and Transportation Procedure and of the O&M Manual for Water Storage and Pumping System.

Issues Related to Waste Management

AANDC Inspection Reports as well as AANDC' comments⁶ received during the review period indicate that hazardous materials have been improperly stored at the Solid Waste Facility:

“There are barrels of hazardous waste material (oil and other lubricants) situated adjacent to a pond.”

And

“Several drums of unknown waste products were found within the solid waste disposal facility. These drums were turned on their sides and leaking into a stream that flows down slope toward the marine environment.”

These issues shall be addressed by the Hamlet, as follows:

⁶ Technical Review Memorandum, AANDC, April 2 2015

The leaking drums found within the Solid Waste Facility (SWF) identified in the 2011 Inspection Report shall be removed and sent to a licensed hazardous waste facility. All areas affected by these unknown hazardous waste products shall be remediated accordingly.

The barrels of hazardous waste material situated adjacent to a pond⁷ identified in the 2010 Inspection Report shall be removed and sent to a licensed hazardous waste facility for disposal or treatment.

Spill Contingency Planning

A Spill Contingency Plan (SCP) for the Sewage Lagoon has been included in the Sewage Lagoon O&M Manual; likewise a SPC for the Solid Waste Facility has been included in the Solid Waste Facility O&M Plan. These Plans are approved with the approval of the corresponding O&M Manuals and Plans.

Comments provided by AANDC as well as Section 4 of the AANDC 2014 Inspection Report indicate that a large fuel spill occurred in 2013 near the refuelling station. The Inspection Report also indicates that the spill appears to have been cleaned up. However, there are no records of the relocation of the contaminated soils; the Inspector has requested the Municipality to clarify this issue ASAP.

Lastly, under Part F, Item 9 the Board has included the requirement for annual inspections by an Engineer, of engineered facilities pertaining to Water and Waste management. Also, as indicated under Part F Item 10, the Board requires the Licensee to conduct a geotechnical inspection of engineered facilities related to Water and Waste management at least one (1) year prior to the renewal of the Licence. These conditions reflect AANDC's recommendation regarding geotechnical inspections of the Sewage Lagoon, and will put the Hamlet in-line with inspection requirements found elsewhere in Nunavut.

Monitoring Program

Although the Board recognizes that the Hamlet carried out Water quality sampling during years 2012, 2013 and 2014, the Licensee generally failed to fulfill conditions related to the Monitoring Program as established by the expired licence. The 2014 AANDC's Inspection Report states:

"A review of sampling results submitted in the 2013 Annual report found the sampling program undertaken by the Hamlet to be incomplete. Sampling results submitted (samples collected) do not follow the conditions and terms outlined in the now expired Water License.

In 2013 samples were not collected from the point of control of the Solid Waste Disposal facilities. Samples were collected from the Local sewage trucks but were not required."

And it concludes:

"It is unclear what sampling program the municipality has been following".

While the Board recognizes that municipalities in Nunavut often face deficiencies in financial and human resources, monitoring requirements are integral components of Water Licences as they are one of the few ways that the Licensee can prove to regulators and interested parties that their activities pose no detriment to the surrounding environment.

Therefore under Part H, Item 1 the Board has confirmed the same Monitoring Stations which were established under the expired licence. The Licensee is also informed that additional monitoring may be imposed by AANDC Inspector.



NUNAVUT WATER BOARD WATER LICENCE RENEWAL

Licence No. **3BM-GRI1520**

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 GRISE FIORD

(Licensee)

P.O BOX 117 GRIOSE FIORD, NUNAVUT, X0A 0JO

(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-GRI1520 TYPE "B"

Water Management Area: SOUTHERN ELLESMERE ISLAND WATERSHED (64)

Location: GRISE FIORD, QIKIQTANI REGION, NUNAVUT

Classification: MUNICIPAL UNDERTAKING

Purpose: DIRECT WATER USE AND DEPOSIT OF WASTE

Quantity of Water use not to Exceed 7,700 CUBIC METRES PER ANNUM AND LESS THAN 300 CUBIC METRES PER DAY

Date of Licence Issuance: DECEMBER 9, 2015

Expiry of Licence: DECEMBER 8, 2020

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

Thomas Kabloona,
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 Grise Fiord, located in the Qikiqtani Region, Nunavut (Latitude: 76° 25' N and Longitude: 83° 01' W).

- a. This Licence is issued subject to the conditions contained herein with respect to the taking of Water and the depositing of Waste of any type in any Waters or in any place under any conditions where such Waste or any other Waste that results from the deposits of such Waste may enter any Waters. Whenever new Regulations are made or existing *Regulations* are amended by the Governor in Council under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, or other statutes imposing more stringent conditions relating to the quantity or type of Waste that may be so deposited or under which any such Waste may be so deposited, this Licence shall be deemed, upon promulgation of such Regulations, to be subject to such requirements; and
- b. Compliance with the terms and conditions of this Licence does not absolve the Licensee from responsibility for compliance with the requirements of all applicable Federal, Territorial and Municipal legislation.

2. Definitions

“Act” means the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*;

“Addendum” means the supplemental text that is added to a full plan or report usually included at the end of the document and is not intended to require a full resubmission of the revised report;

“Amendment” means a change to original terms and conditions of this Licence requiring correction, addition or deletion of specific terms and conditions of the Licence; modifications inconsistent with the terms of the set terms and conditions of the Licence;

“Appurtenant Undertaking” means an undertaking in relation to which a use of Water or a deposit of Waste is permitted by a licence issued by the Board;

“Board” means the Nunavut Water Board established under the *Nunavut Land Claims Agreement* and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act*;

“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 an identifiable discharge point of a Waste Disposal Facility beyond which the Licensee no longer exercises care and control over the quality of the Effluent;

“Freeboard” means the vertical distance between Water line and crest on 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;

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

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

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

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

“Licensee” means the holder of this Licence;

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

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

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

“Sewage” means all toilet Wastes and greywater;

“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 October 29, 2014.

“Spill Contingency Plan” means a Plan developed to deal with unforeseen petroleum and hazardous materials events that may occur during the operations conducted under the Licence. A Spill Contingency Plan should follow a format similar to that found in *Guidelines for Spill Contingency Planning* (AANDC 2007);

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

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

“Waste Disposal Facilities” means all facilities designated for the disposal of Waste that includes the Sewage Disposal Facilities and Solid Waste Disposal Facilities as described in the Application for Water Licence renewal filed by the Applicant on October 29, 2014;

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

“Water Supply Facilities” means the glacier run-off pond source of freshwater, and its associated equipment: Water storage tanks, a Water heating and recirculation system and hypochlorite dosing pumps to treat the water.

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 freshwater obtained from all sources;
 - c. the daily, 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 Facilities;
 - d. a summary of modifications and/or major maintenance work carried out on the Water Supply and Waste Disposal Facilities, including all associated structures and facilities;
 - 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 updates or revisions for manuals and plans (*Including Operations and Maintenance Plans, Spill Contingency, Abandonment and Restoration, QA/QC*) as required by changes in operation and/or technology;
 - h. a summary of any studies, reports and plans requested by the Board that relate to Waste disposal, Water use or reclamation, 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;
 - j. any other details on Water use or Waste disposal requested by the Board by November 1st 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 H, Item 1.

6. 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.
7. The Licensee shall immediately report to the 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/or 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

(b) Inspector Contact:

Manager of Field Operations, AANDC
Nunavut District, Nunavut Region
P.O. Box 100
Iqaluit, NU X0A 0H0
Telephone: (867) 975-4295

Fax: (867) 979-6445

13. The Licensee shall submit one paper copy and one electronic copy of all reports, studies, and plans to the Board. Reports or studies submitted to the Board by the Licensee shall include a detailed executive summary in Inuktitut.
14. The Licensee shall ensure that any document(s) or correspondence submitted by the Licensee to the NWB is received and acknowledged by the Manager of Licensing.
15. This Licence is assignable as provided for in Section 44 of the *Act*.

PART C: CONDITIONS APPLYING TO WATER USE

1. The Licensee shall obtain all freshwater for municipal purposes from glacial melt water source using the Water Supply Facilities or as otherwise approved by the Board. The annual quantity of Water use for all purposes shall not exceed seven thousand seven hundred (7,700) cubic metres per year, and less than three-hundred (300) cubic metres per day.
2. The Licensee shall maintain the Water Supply Facility to the satisfaction of the Inspector.
3. 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.
4. The Licensee shall not cause erosion to the banks of any body of Water and shall provide necessary controls to prevent such erosion.
5. The Licensee shall implement sediment and erosion control measures prior to and maintain as required during Hamlet 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 GRI-4 shall not exceed the following Effluent quality limits:

Parameter	Maximum Concentration of any Grab Sample
BOD ₅	120 mg/L
Total Suspended Solids	180 mg/L

Faecal Coliforms	1 x 10 ⁶ CFU/dl
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 Waste.
5. 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.
6. 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.
7. 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.
8. 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.
9. The Licensee shall implement measures to control wind-blown litter at the Solid Waste Facility.

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 and signed by a qualified Engineer registered in Nunavut, at least sixty (60) days prior to the construction of any dams, dykes or structures intended to contain, withhold, divert or retain Water or Wastes.
2. The Licensee may, without written consent from the Board, carry out Modifications to the Water Supply Facility and Waste Disposal Facilities provided that such Modifications are consistent with the terms of this Licence and the following requirements are met:
 - a. the Licensee has notified the Board in writing of such proposed Modifications at least sixty (60) days prior to beginning the Modifications;
 - b. such Modifications do not place the Licensee in contravention of the Licence or the *Act*;
 - c. 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. The Modifications for which all of the conditions referred to in Part E, Item 2(a), have not been met, may only be carried out upon 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 a Construction Summary Report along with stamped as-built plans and drawings, providing explanation to reflect any deviations from the 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 negative impacts to Water resulting from the release of sediment and to 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 Board has approved the Solid Waste Facility (SWF) Operation and Maintenance Plan for the Hamlet of Grise Fiord, dated October 2014 submitted with the Application.
2. The Board has approved the Operation and Maintenance Manual for the Sewage Lagoon, dated October 2014 submitted with the Application
3. The Licensee shall submit to the Board for approval in writing, within three (3) months of the date of the Licence issuance, an updated “Hazardous Waste Management Procedure” for the Solid Waste Facility. This updated Procedure shall address the following:
 - a. date of issuance and period of cover;
 - b. facility fencing and signage;
 - c. inventory of Hazardous Waste;
 - d. an Implementation Plan which shall include timelines for implementation of the

Procedure, roles and responsibilities in carrying out this Procedure, outcomes and costs for the implementation of the Procedure.

4. The Plan referred to in Part F, Items 3 shall be prepared in accordance with the appropriate sections of the *Guidelines for Developing a Waste Management Plan*, Mackenzie Valley Land and Water Board, March 31 2011 and the *Environmental Guideline for the General Management of Hazardous Waste*, Department of Environment, GN, October 2010.
5. The Licensee shall submit to the Board for approval in writing, an updated Operation and Maintenance Plan for the Water Supply Facility (Water Storage and Pumping System), within three (3) months of the issuance of this Licence. The updated O&M Plan for the Water Supply Facility shall include a Spill Contingency Plan for the chemicals stored at the Facility and shall take into consideration the appropriate sections provided in the *Guidelines for Spill Contingency Planning* (AANDC, 2007).
6. An inspection of all engineered facilities related to the management of Water and Waste shall be carried out by an Engineer at a minimum of once annually, and before commissioning any engineered facility related to the management of Water and Waste. 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 to address each of the Engineer's recommendations.
7. An inspection of all engineered facilities related to the management of Water and Waste shall be conducted by a Geotechnical Engineer in accordance with the Canadian Dam Safety Guidelines, at least one (1) year prior to the expiry of the Licence, during the open Water period (June/July/August). The Geotechnical Engineer's report shall be submitted to the Board for review within sixty (60) days of the inspection, including a cover letter from the Licensee outlining an implementation plan to address the Engineer's recommendations.
8. The Licensee shall perform more frequent inspections of the engineered facilities at the request of an Inspector.
9. If during the period of this Licence, an unauthorized discharge of Waste occurs, or if such a discharge is foreseeable, the Licensee shall:
 - a. employ the appropriately approved Spill Contingency Plan for the Hamlet of Grise Fiord. Take whatever steps are immediately practicable to protect human life, health and the environment;
 - b. report the incident immediately via the NWT/NU 24-Hour Spill Reporting Line at (867) 920-8130 and to the AANDC Manager of Field Operations at (867) 975-4295; and
 - c. for each spill occurrence, submit to the Inspector not later than thirty (30) days after initially reporting the event, a detailed report that provides the necessary information on the location (including the GPS coordinates), amount and type of

spilled product, initial response action, remediation/clean-up, status of response (ongoing, complete), proposed disposal options for dealing with contaminated materials and any preventative measures to be implemented.

10. The Licensee shall, in addition to Part F, Item 12, 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 G: 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 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 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 site facilities;
 - i. consideration of altered drainage patterns;
 - j. type and source of cover materials;
 - k. future area use;
 - l. Hazardous Wastes.
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.

PART H: CONDITIONS APPLYING TO THE MONITORING PROGRAM

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

Monitoring Program Station ID	Description	Frequency	Status
GRI-1	Raw Water Supply Intake at the Water Supply Facility prior to treatment	Daily, Monthly and Annually	Active (Volume)
GRI-2	Effluent discharge from the Final Discharge Point at the Solid Waste Facility	Once in the beginning, once in the middle and once near the end of the season (when flow is observed)	Active (Quality)
GRI-3	Raw sewage at the truck offload point	N.A.	Inactive
GRI-4	Effluent discharge from the Final Discharge Point at the Sewage Disposal Facility	<u>Volume:</u> Monthly and Annually; <u>Water Quality:</u> Twice Annually – in the beginning and near completion of decanting	Active (Volume and Quality)

2. 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 GRI-1.
3. The Licensee shall measure and record in cubic metres the monthly and annual quantities of Effluent discharged from GRI-4.
4. All samples obtained at Monitoring Station GRI-4 shall be in compliance with effluent quality criteria as established under Part D, Item 3.
5. All Samples obtained at GRI-2, and GRI-4 shall be analyzed according to the frequency established under Part H, Item 1 and for the following parameters:

Biological Oxygen Demand (BOD ₅)	Fecal 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 Arsenic	Total Aluminum

Total Cadmium
Total Cobalt
Total Copper
Total Lead
Total Mercury
Total Zinc

Total Chromium
Total Iron
Total Manganese
Total Nickel
Total Organic Carbon (TOC)

6. The Licensee shall annually review the QA/QC Plan and modify it as necessary. Revised QA/QC Plans shall be submitted to the Board with a current approval letter from an accredited lab and shall meet the standards set out in Part H, Item 9 and Part H, Item 10 of the Licence.
7. The Licensee shall conduct all sampling, sample preservation and analyses 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 a laboratory certified by the Canadian Association for Laboratory Accreditation (CALA).
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 include all of the data and information required by the Monitoring Program in the Annual Report, as required under Part B, Item 1, or as requested by an Inspector.
10. Modifications to the Monitoring Program including the Monitoring Program Stations and parameters may be made only upon written approval of the Board.
11. Additional monitoring stations, sampling and analysis may be requested by an Inspector.