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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

File No.: 3BM-PON1012

May 26, 2010

Mr. Mike Richards
Senior Administrative Officer
Hamlet of Pond Inlet
P.O. Box 120
Pond Inlet, Nunavut
X0A 0S0
Email: hamletpond_sao@qiniq.com

RE: NWB Licence No. 3BM-PON1012

Dear Mr. Richards,

Please find attached, the renewal Licence No. 3BM-PON1012 issued to the Hamlet of Pond Inlet 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*. 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* (NLCA) and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWNSTRA). However, the expiry or cancellation of a licence does not relieve the Licensee 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 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 the time of acceptance by

the NWB. It is the responsibility of the Licensee to ensure that all application materials have been received and acknowledged by the Manager of Licensing.

The NWB strongly recommends that the Licensee consult the comments¹ received from interested persons on issues identified during the review process. This information is attached for your consideration.

Sincerely,

A handwritten signature in dark ink, appearing to read 'T. Kabloona', with a long horizontal flourish extending to the right.

Thomas Kabloona
Nunavut Water Board
Chair

TK/tla/pb

Enclosure: Licence No. 3BM-PON1012
Comments INAC, EC, GN-DoE and GN-CLEY

cc: Qikiqtani Distribution List

¹ GN-DoE, August 21, 2009; GN-CLEY, July 29, 2009; INAC, July 31 & October 1, 2009; and EC, August 21 & October 2, 2009.



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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

DECISION

LICENCE NUMBER: 3BM-PON1012

This is the decision of the Nunavut Water Board (NWB) with respect to an application received March 6, 2009 with supporting information submitted July 7, 2009 and March 4, 2010 for a Licence renewal made by:

HAMLET OF POND INLET

to allow for the use of water and disposal of waste for the Hamlet of Pond Inlet, located within the Qikiqtani Region of Nunavut. With respect to this application, the NWB gave notice to the public that the Hamlet had filed an application for a water licence amendment and renewal.

DECISION

After having been satisfied that the application was exempt from the requirement for screening by the Nunavut Impact Review Board in accordance with S. 12.3.2 of the *Nunavut Land Claims Agreement* (NLCA), the NWB decided that the application could proceed through the regulatory process. After reviewing the full submission of the Applicant and written comments expressed by interested parties, 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 *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWNSRTA), decided to waive the requirement to hold a public hearing and determined that:

Licence Number 3BM-PON0409 be renewed and issued as 3BM-PON01012 subject to the terms and conditions contained therein. (Motion #: 2010-04-L05)

SIGNED this 26th day of May, 2010 at Gjoa Haven, NU.

Thomas Kabloona
Nunavut Water Board, Chair

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I. BACKGROUND

The Hamlet of Pond Inlet is located within the Qikiqtani Region of Nunavut, at general latitude 72°42'N and general longitude 77°59'W, on the northern edge of Baffin Island.

Water and waste infrastructure in Pond Inlet consists of a water supply system, sewage lagoon, landfill, landfarm and bulky metals site serving a population of approximately 1650 people.

A new sewage lagoon was built in 2005 and the old lagoon is planned to be decommissioned.

II. PROCEDURAL HISTORY

On March 6, 2009 the Nunavut Water Board (NWB) received an application from the Government of Nunavut Department of Community and Government Services (CGS), on behalf of the Hamlet of Pond Inlet (Hamlet), to renew the Type B municipal water licence (3BM-PON0409). Upon receipt of the application, the NWB undertook a preliminary assessment of the file and by way of letter to CGS dated May 21, 2009, advised that additional information was required.

Following receipt of additional information, the NWB distributed the application information to interested parties for review on July 7, 2009. In its distribution letter, the NWB also advised CGS that further clarification was required for the application. At the time, the NWB provided fourteen (14) days for CGS to respond with notice that if more time was required, the NWB would extend the review period to provide parties with sufficient time to consider the application information.

A submission with additional information/clarification was received on August 13, 2009 from CGS in response to the NWB's letter of July 7, 2009. The NWB distributed the information on September 15, 2009 and extended the review period until October 2, 2009.

The information provided by CGS in its submission dated August 13, 2009 indicated that funding was an issue with respect to providing the information requested by the NWB and subsequently to comply with the conditions of the water licence. As a result, the NWB identified a potential issue with the requirements of section 57 of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (Act), which must be met prior to the NWB issuing a Licence². The NWB requested that parties also provide comment on the funding issue.

2 section 57: The Board may not issue a licence unless the applicant satisfies the Board that

(a) any waste produced by the appurtenant undertaking will be treated and disposed of in a manner that is appropriate for the maintenance of water quality standards and effluent standards that are prescribed by the regulations or, in the absence of such regulations, that the Board considers acceptable; and

(b) the financial responsibility of the applicant, taking into account the applicant's past performance, is adequate for

(i) the completion of the appurtenant undertaking,

(ii) such measures as may be required in mitigation of any adverse impact, and

By October 2, 2009 comments had been submitted by Indian and Northern Affairs Canada (INAC), Environment Canada (EC), Government of Nunavut Department of Environment (GN-DOE) and Government of Nunavut Department of Culture Language Elders and Youth (GN-CLEY).

In addition to technical comments concerning the application, EC provided the following in its submission of October 2, 2009:

EC shares the Board's concern with the need for the submission of an Operations and Maintenance Manual, and the associated improvements in management of wastes and wastewater. The Applicant's response does not address concerns regarding operational improvements to be made, as these are all contingent on funding being made available at some unspecified future time. EC strongly encourages the GN to prioritize funding of municipal needs.

In its submission of August 21, 2009, the GN-DOE also identified significant concerns:

The DOE cannot support a renewal of the Hamlet of Pond Inlet's water license until the applicant is in compliance with the existing license. Pursuant to the July 2009 Inspector's report, the Hamlet of Pond Inlet has failed to address the following issues:

- Seepages from the sewage lagoon;
- Waste oils leaching off site;
- Improper storage of barrels;
- Segregation of bulk metals;
- Segregation of hazardous wastes

Finally, INAC stated the following in its submission of October 1, 2009:

It was evident as a result of a review of the applications, including supplemental information submitted by the GN on August 13, 2009 and information provided on the NWB ftp site as it relates to 3BM-PON0409, that the applicant is in non-compliance with the licence on a number of issues.

Given the severity of the issues, the NWB wrote to CGS on January 21, 2010 and requested that CGS address the comments received, funding constraints and the requirement of section 57 of the Act.

On March 4, 2010 CGS provided a response to the NWB outlining the measures that would be taken upon renewal of the licence to come into compliance with the licence conditions. CGS

(iii) the satisfactory maintenance and restoration of the site in the event of any future closing or abandonment of that undertaking.

also provided timelines for specific actions and stated that funding would be made available through the Hamlet and CGS to come into compliance.

Based upon the results of the detailed assessment, including consideration of any potential accidents, malfunctions, or impacts to water that the overall project might have in the area, the Board has decided to renew Licence No.3BM-PON0409, and has issued Licence 3BM-PON1012.

III. ISSUES

Term of Licence

In accordance with Section 45 of the *Act*, the NWB may issue a licence for a term not exceeding twenty-five years. In determining an appropriate term of a water licence, the Board considers a number of factors, including the results of INAC site inspections and the compliance record of the Applicant.

In review of the application and the comments received from interested parties, there were no comments provided with respect to the Hamlet's request for a term of five (5) years for the Licence renewal. However, the Board has recently issued municipal licences for terms of two (2) years where compliance issues have been of a concern.

A two-year Licence term is intended to provide the Licensee time to take immediate action towards achieving full compliance with all Licence requirements for its existing facilities and to develop and submit required plans. Upon submission of an application to renew this Licence, the Board fully expects the Hamlet to be in compliance with the Licence. As per Part B, Item 13 of the Licence, the Licensee must submit an **updated and detailed** Plan for Compliance that clearly demonstrates how the Hamlet will achieve full compliance with the Licence conditions during this time period and subsequent licence term(s).

Annual Report

Annual Reports were not submitted for most years of the previous licence term. INAC noted that a 2008 Annual Report was submitted by CGS on behalf of the Hamlet on June 9, 2009. However, the annual report was incomplete. EC noted that the Licensee provided some monitoring results; however, it did not include all the locations, nor do they include results of all the parameters required by Part H, Items 1 and 2 of the previous Licence.

The NWB would like emphasize the requirement to produce an Annual Report for submission, not later than March 31st of the year following the calendar year being reported. The requirement to produce Annual Reports is to ensure that the NWB has an accurate and timely annual update of municipal activities during a 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 available for use from the NWB file transfer protocol (ftp) site under the Public Registry link at the NWB Website.

Link = <ftp://nunavutwaterboard.org/ADMINISTRATION/Standardized%20Forms/>

Operational Plans

The NWB notes that the Licensee submitted with the application, an Operation and Maintenance (O&M) Plan for the landfarm and that an O&M Plan for the sewage disposal facility is on file that was received May 17, 2005.

Regarding the Landfarm O&M Plan, GN-DOE provided the following comments:

- The Operations and Maintenance manual for this facility states that soil testing will be carried out annually, however, it fails to outline the standards that the applicant intends to achieve for soil remediation. It is important the soil is treated to an approved standard before the soil can be disposed of;
- In 2007, DOE requested that locations of monitoring wells, as well as monitoring frequencies be provided, however, the proponent has still not supplied this information. As well, the frequency of collection sump monitoring should be provided;
- The O&M manual for this facility outlines proper storage procedures for the Superphosphate and Ammonium Nitrate (fertilizer), however, it does not outline how or where these chemicals will, in fact, be stored. Actual storage plans should be clarified.

In addition, the previous Licence required the submission of O&M Plans for both the sewage and solid waste disposal facilities. In CGS’ submission of August 13, 2009, it was stated that no funding was available to develop the O&M Plan for the landfill or the requested Quality Assurance/ Quality Control Plan (QA/QC), which INAC noted to be missing. However, in its final submission dated March 3, 2010, CGS committed to develop the plan for the landfill and further stated that Hamlet would supply its own funding to address compliance issues.

The NWB accepts the Licensee’s response and requires that the Licensee develop and submit an O&M Manual for the Waste Disposal Facilities. Existing plans, including the O&M Plan for the sewage disposal system and O&M Plan for the landfarm, must be revised to address the comments received from parties during the review, to incorporate previous licence conditions applicable to the O&M Plans, and to combine the plans under one O&M Manual. The details on the requirements of the revised O&M Manual can be found under Part F, Item 2. This condition has combined the required O&M Plans into one O&M Manual for ease of reference.

The NWB also notes the comments received by EC, recommending that the Licensee submit a Sludge Management Plan for the Sewage lagoon. The Plan should include periodic removal and disposal of sewage sludge and sewage disposal methods during desludging maintenance. Estimates should be made of the quantities of sludge likely to be produced, the required frequency of extraction from the lagoons; and operational procedures developed for environmentally sound removal and disposal. These procedures should include sludge characterization to ensure disposal options are appropriate and methods of dealing with sewage while the lagoon is being desludged. This Plan is required as part of the O&M Manual requested in Part F, Item 1 of the Licence.

Water Use

The Hamlet of Pond Inlet receives water from the Salmon River, where it is pumped to Water Lake Reservoir. Water Lake is located 4.4 km south of town and covers an area of 277,800 m². The Water Lake reservoir is filled annually during the summer. Under the previous Licence, the Hamlet was authorized to withdraw 67,000 cubic metres of water per year. Due to the lack of annual reporting by the Licensee for most years, the NWB is unable to accurately determine whether the Hamlet is exceeding the volume of water permitted on an annual basis. The INAC inspection report notes that a water meter has not been installed The Licensee is reminded of the conditions under Part B, Item 4 of the Licence, which requires the installation of a meter to measure the volume of water withdrawn from the Salmon River. Volumes are to be recorded monthly, in accordance with the Monitoring Program, and reported to the NWB in the Annual Report mentioned above, which is due March 31 of each year.

There was no request to change the volume of water permitted and no comments or concerns were raised by parties with respect to water volume or source. The NWB has renewed the volume of water previously authorized with a clarification that the Salmon River is the seasonal freshwater source for the reservoir.

Sewage

The renewal application indicates that the Pond Inlet sewage lagoon was built in 2005. The sewage lagoon is decanted annually at the end of September and effluent is released to a wetland area before meeting the receiving environment. No changes to the licence conditions were requested. The conditions regulating the sewage lagoon and effluent release have been renewed.

Additionally, INAC Inspection reports, suggests that there is leakage from the east berm of the sewage lagoon. CGS reported in its 2008 Annual Report that water samples outside of the lagoon were tested and found that the outside surface water had no sewage water characteristics. However, INAC noted that CGS' water sample results are indicative of the presence of faecal coliforms (53000 cts/100mL), indicating that seepage is occurring from the wall of the lagoon.

In the response provided by CGS on March 4, 2010, a commitment was made to undertake a geotechnical investigation in the summer of 2010 to assess the structural integrity of the sewage lagoon. The NWB accepts CGS' proposed timeline and finds, based on past issues with the licensed facilities and to be consistent with other similar licences issued, that the geotechnical inspection must be carried out on all engineered facilities related to the management of water and waste. In accordance with Part F, Item 3 the geotechnical inspection shall be carried out annually in July or August by a Geotechnical Engineer. The engineer's report shall be submitted for review to the Board for review, within sixty (60) days of the inspection, including a covering letter from the Licensee outlining the corrective action and implementation plan addressing each of the Engineer's recommendations.

Finally, the NWB notes that under Part E, Item 4 of the previous Licence, the Licensee was required to submit as-built drawings of the sewage lagoon. The NWB confirms that signed drawings are on file in hardcopy at the NWB's Gjoa Haven office, and that unsigned electronic copies are available on the ftp site

Solid Waste

The landfill is located adjacent to the sewage lagoon. Every summer the Hamlet burns combustible waste and remaining waste is compacted and covered. There were a number of issues with the operation and maintenance of the landfill noted by the Inspector including water pooling in the hazardous waste storage area and bulky metals waste area. Also noted the 2009 INAC Inspection Report was the issue with waste oils leaching off site and barrels improperly stored, some of which are leaking. The GN-DOE also raised concern for the solid waste facility, specifically the storage of barrels and segregation of waste, including hazardous waste.

In its response to these issues, CGS committed to develop a plan to organize the landfill, segregate waste and clean-up the hazardous waste. CGS stated that these actions would be undertaken in 2010. CGS also committed to stopping and recovering the leaking waste oil. To ensure that the undertakings are carried out in a timely manner, the NWB has included the requirement for a follow-up report on the landfill clean-up to be submitted by November 30, 2010. In addition to the above, the Licensee is required to develop an O&M Plan for the landfill to ensure the facility operation does not return to its current state following the 2010 clean-up.

Landfarm

The Landfarm is a relatively new facility constructed in accordance with Amendment No. 1, issued by the NWB on September 27, 2007. The landfarm was screened by the Nunavut Impact Review Board, and received section 12.4.4(a) screening decision on September 7, 2007.

INAC noted that the previous Licence (Part H, item 13) required the Licensee to install groundwater monitoring wells with at least one upstream for background data and one

downstream of the solid waste disposal facility, and one downstream of the metals dump. The renewal application did not state whether this activity had been undertaken. INAC stated that that failure to install these monitoring wells is a contravention of the water licence terms and conditions. The condition to install monitoring wells has been carried forward into the renewed Licence. The application states that the landfarm was built and as such, the required monitoring must be undertaken and results report in the Annual Report.

The NWB notes the numerous comments made by parties with respect to the O&M Plan for the landfarm. As previously stated, this plan must be revised to address the comments provided by interested parties during the review of the renewal application, to be resubmitted with the O&M Manual discussed above and required in accordance with Part F, Item 2.

Finally, the NWB has removed the requirement for the Licensee to demonstrate that Effluent from the Landfarm is non-acutely toxic, due to the logistical and time constraints with shipping samples to an accredited laboratory. The Licensee is reminded of the requirement under Part A, Item 1(c), that 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, including the Fisheries Act.

Modifications and Construction

For the construction of new, or modifications to existing licensed facilities, the NWB generally requires that final design reports, accompanied by stamped and signed “for construction drawings” be provided to the NWB for review and approval prior to the undertaking. This provides assurance to the Board and interested persons, that proper engineering practices will be in place through all phases of construction and operation.

Abandonment, Restoration and Closure

The renewal application stated that the old sewage lagoon is being planned for decommissioning, and that an Abandonment and Restoration (A&R) Plan would be developed when funding becomes available. INAC noted that the requirement for an A&R Plan to be submitted at least 6 months prior to abandoning any facilities, and the construction of new facilities to replace existing ones was included under Part G of the licence. Therefore, the A&R Plan for the old sewage lagoon should have been developed prior to commissioning the new facility in 2005. The previous Licence also required an A&R Plan specifically for the Temporary Sewage Disposal Facilities by June 30, 2004. However, the NWB’s records indicate that the A&R Plan has not been provided.

In CGS’s letter of March 3, 2010, it was stated that CGS would bring on a consultant to address the decommissioning of the old lagoon with no specific timeline provided. However, the NWB notes the commitment made by CGS and the Hamlet to address compliance issues raised and

with the submission of an A&R Plan being a compliance issue, the NWB fully expects the Licensee to submit the Plan to the Board for approval in writing, within the required time period set out in Part G. Following the Plan's approval, the NWB fully expects the restoration work to be undertaken in the time frame specified.

Generally, to ensure that all existing end-of-life facilities are reclaimed in an appropriate manner, the NWB has renewed the requirement for the Licensee to submit an A&R Plan at least six (6) months prior to the final closure of any licensed facility or upon submission of the final design report and drawings for the construction of new facilities to replace existing ones. The requirements for the Plan are outlined in Part G, Item 1 of this Licence. This is an important consideration in the event the Licensee decides to construct a new Solid Waste Facility.

Monitoring Program

A significant issue with the previous Licence was the lack of monitoring data collected and reported in accordance with the required Monitoring Program. This issue was highlighted in the 2008 Inspection report. It is the Licensee's responsibility to comply with the Monitoring Program under Part H of the Licence.

The volume of water taken at the water intake is to be measured monthly and reported annually in order for the NWB to have an accurate measurement of the volume of water used by the Hamlet. As this water use volume is also an important factor in the design and sizing of a wastewater treatment facility for hamlets, the information is considered to be of dual importance. A device must be installed in order to achieve this.

During seasonal flow from the Sewage Lagoon, sampling shall be performed monthly at the point of discharge from the lagoon. Similarly, the wetland area downstream of the Sewage Lagoon should be sampled monthly during periods of observed flow. Weekly inspections for observed flow should be conducted from May to August inclusive from the wetland area point of discharge to assess the treatment efficiency of the wetland area. Although wetland monitoring is not a licence requirement, it is recommended as the information will be required before the NWB can consider including the wetland as part of the treatment process in the future.

Finally, the NWB reminds the Licensee of its responsibility to fulfill all the requirements of the Monitoring Program. When the Licensee applies to renew the Licence in 18-months time, the NWB will again consider the past performance in the Licensee as well as compliance with regulated effluent criteria. As previously stated, the NWB expects the Licensee to be in full compliance with the terms and conditions of the Licence upon application to renew.



Licence 3BM-PON1012

NUNAVUT WATER BOARD WATER LICENCE

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 POND INLET

(Licensee)

P.O. BOX 120, POND INLET, NUNAVUT X0A 0S0

(Mailing Address)

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

Licence Number/Type: 3BM-PON1012 TYPE "B"

Water Management Area: NUNAVUT 05

Location: HAMLET OF POND INLET, NUNAVUT

Classification: MUNICIPAL UNDERTAKING

Purpose: DIRECT WATER USE AND DEPOSIT OF WASTE

Quantity of Water use not
to Exceed: SIXTY SEVEN THOUSAND (67,000)
CUBIC METRES PER YEAR

Date of Licence Issuance: MAY 26, 2010

Expiry of Licence: MAY 31, 2012

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

Thomas Kabloona,
Nunavut Water Board
Chair

PART A: SCOPE AND DEFINITIONS

1. Scope

- a. This Licence allows for the use of water and the deposit of waste for municipal undertakings at the Hamlet of Pond Inlet, Qikiqtani Region, Nunavut (72°42' N; 77°59'W);
- b. 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
- c. Compliance with the terms and conditions of this Licence does not absolve the Licensee from the responsibility for compliance with the requirements of all applicable Federal, Territorial and Municipal legislation.

2. Definitions

In this Licence: **3BM-PON1012**

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

“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;

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

“Appurtenant undertaking” means an undertaking in relation to which a use of waters 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*;

“Commercial Waste Water” means water and associated waste generated by the operation of a commercial enterprise, but does not include Toilet Wastes or Greywater;

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

“Engineer” means a professional engineer registered to practice in Nunavut in accordance with the *Engineering, Geological and Geophysical Act (Nunavut)* S.N.W.T. 1998, c.38, s.5;

“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. For Sewage, the Final Discharge Point is located at the Sewage lagoon discharge point prior to entering the wetland area;

“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 is 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 a single water or wastewater sample taken at a time and place representative of the total discharge;

“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*.

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

“Landfarm Facility” means an area designed to biologically treat petroleum hydrocarbon-impacted soil, as described in the Application for Amendment to a Water Licence filed by the Applicant on June 12th, 2007 and illustrated in the Drawing entitled “Pond Inlet Landfarm Detail: DWG 102 (GN Project #07-7400-1000/May 2007).

“Licensee” means the holder of this Licence;

“Modification” means an alteration to a physical work that introduces new structure or eliminates an existing structure and does not alter the purpose or function of the work, but does not include an expansion, and changes to the operating system that are consistent with the terms of this Licence and do not require amendment,;

“Monitoring Program” means a monitoring program established to collect data on surface water and groundwater 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;

“Old Sewage Lagoon” means the facility described in section 1.2.1 of the Report entitled *Pond Inlet Lagoon Remediation* prepared by Ferguson Simek Clark March 28, 2002 - FSC Project No. 2001-0580.

“Petroleum Hydrocarbon-Impacted Soil” means soil in which the primary petroleum product present, as determined by laboratory analysis consistent with that described in the *Canada-Wide Standards for Petroleum Hydrocarbons in Soil*, generally consisting of fuel oil, diesel fuel, gasoline and/or jet fuel;

“Sewage” means all Toilet Wastes and Greywater;

“Sewage Disposal Facilities” comprises the area and engineered lagoon designed to contain Sewage as described in the Application for Water Licence filed by the Applicant on January 20, 2003, illustrated in drawing No. 2002-1000-055 and constructed in 2005;

“Sewage Sludge” means the semi-solid sewage material which settles at the bottom of the Sewage lagoon;

“Solid Waste Disposal Facilities” comprises the area and associated structures designed to contain solid waste as described in the Application for Water Licence filed by the Applicant on January 20, 2003 and illustrated in Drawing No. 2002-1000-055, and including a Landfarm Facility as per the Amendment of September 27, 2007.

“Temporary Sewage Disposal Facilities” comprises the area known locally as “Kitingujaat”, which is currently utilized as a temporary sewage disposal site, as

described in the Amendment to Water License NWB3PON9904 approved by the NWB on September 5, 2001;

“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, and includes the Sewage Disposal Facilities, Solid Waste Disposal Facilities, and Landfarm Facility.

“Water Supply Facilities” comprises the intake infrastructure at Salmon River and Water Lake Reservoir, as described in the Application for Water Licence filed by the Applicant on January 20, 2003;

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 with the Board not later than March 31st of the year following the calendar year reported, which shall contain the following information:
 - a. tabular summaries of all data generated under the “Monitoring Program”;
 - b. the monthly and annual quantities in cubic metres of fresh water obtained at the Water Supply Facilities;
 - c. the monthly and annual quantities in cubic metres of all Effluent discharged;
 - 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 addendum with updates or revisions for manuals and plans (i.e., *Operations and Maintenance Manual*) as required by changes in operation and/or technology;
 - h. a summary of any studies or reports requested by the Board that relate to water use and waste disposal or restoration, and a brief description of any future studies planned; and
 - i. 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 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. Meters, devices or other such methods as approved by the Board in writing, used for measuring the volumes of water used and waste discharged shall be installed, operated and maintained by the Licensee.
 5. The Licensee shall maintain the necessary signs to appropriately identify the stations of the Monitoring Program. Signs are to be posted in the Official Languages of Nunavut, following confirmation of location by the Inspector.
 6. The Licensee shall immediately report to the 24-Hour Spill Report Line (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.
 7. 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 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@nunavutwaterboard.org

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

8. The Licensee shall submit one paper copy and one electronic copy of all reports, studies, and plans to the Board. Reports, plans or studies submitted to the Board by the Licensee shall include a detailed executive summary in both English and Inuktitut.
9. The Licensee shall ensure that all documents and correspondence submitted by the Licensee to the Board are received and acknowledged by the Manager of Licensing.
10. 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.
11. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.
12. 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.
13. The Licensee shall submit to the Board, for approval in writing, within the lesser of ninety (90) days or upon filing of any application in relation to the Licence, an updated and detailed Plan for Compliance that clearly demonstrates the ways and means the Licensee will undertake to achieve full compliance with the conditions of this Licence.
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 fresh water from Salmon River and Water Lake Reservoir or as otherwise approved by the Board in writing.
2. The annual quantity of water used for all purposes shall not exceed sixty-seven thousand (67,000) cubic metres.
3. The Licensee shall equip all water intake hoses with a screen of an appropriate mesh size to ensure that fish are not entrained and shall withdraw water at a rate such that fish do not become impinged on the screen.
4. 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.
5. The Licensee shall not cause erosion to the banks of any body of water and shall provide necessary controls to prevent such erosion.
6. Sediment and erosion control measures shall be implemented prior to and maintained during the operation to prevent entry of sediment into water.

PART D: CONDITIONS APPLYING TO WASTE DISPOSAL

1. The Licensee shall direct all Sewage to the Sewage Disposal Facilities.
2. The Licensee shall locate areas designated for waste disposal at a minimum distance of thirty one (31) metres from the ordinary high water mark of any water body such that the quality, quantity or flow of water is not impaired, unless otherwise approved by the Board in writing.
3. All Effluent discharged from the Sewage Disposal Facilities at Monitoring Program Station PON-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
Fecal Coliforms	1 x 10 ⁶ CFU/100 mL
Oil and grease	No visible sheen
pH	between 6 and 9

4. The Licensee shall maintain at all times, a freeboard of at least 1.0 metre, or as otherwise recommended by a Geotechnical Engineer and approved by the Board in writing, for all dams, dykes or other structures intended to contain, withhold, divert or retain water or wastes.
5. The Sewage Disposal Facilities shall be maintained and operated in such a manner as to prevent structural failure.
6. The Licensee shall, prior to the removal of any treated soil from the Landfarm Facility, confirm with the Government of Nunavut Environmental Protection Service that the soils have been treated so as to meet all legislatively-required Soil Quality Remediation Objectives.
7. All water from dewatering contaminated soil areas and discharge of Effluent at Monitoring Station PON-8 at the Landfarm Facility, shall not exceed the following effluent quality limits:

Parameter	Maximum Concentration of any Grab Sample (µg/L)
pH	6 to 9 (units)
Oil and Grease	5000
Arsenic (total)	100
Cadmium (dissolved)	10
Chromium (dissolved)	100
Cobalt (dissolved)	50
Copper (dissolved)	200
Lead (dissolved)	1
Mercury (total)	0.6
Nickel (dissolved)	200
PCB (total)	1000
Phenols	20
Zinc (total)	500
Benzene	370
Toluene	2
Ethylbenzene	90

8. If effluent does not meet the effluent quality limits of Part D, Item 7, it shall be considered hazardous waste and require treatment or disposed off-site at an approved facility.
9. The discharge location for all treated effluents described in Part D, Items 7 shall be to the satisfaction of an Inspector and shall be located at a minimum of thirty one (31) metres

from the ordinary high water mark of any water body and where direct or indirect flow into a water body is not possible and no additional impacts are created.

10. The Licensee shall direct Petroleum Hydrocarbon Impacted Soil to the Landfarm Facility.
11. The Licensee shall dispose of soils containing contaminants in excess of *Canadian Environmental Protection Act* (CEPA) Guidelines, off site at an approved treatment facility.
12. The Licensee shall provide at least ten (10) days notice in writing to an Inspector, of the intent to discharge effluent from the Sewage Disposal Facility or the Landfarm Facility.
13. The Licensee shall dispose of and permanently contain all solid wastes at the Solid Waste Disposal Facilities or as otherwise approved by the Board in writing.
14. The Licensee shall segregate and store all hazardous materials and hazardous waste within the Solid Waste Disposal Facilities in a manner to prevent the deposit of deleterious substances into any water, until such a time that the materials have been removed for proper disposal at licensed facility.
15. The Licensee shall implement measures to ensure leachate from the Solid Waste Disposal Facility does not enter water.

PART E: CONDITIONS APPLYING TO MODIFICATION AND CONSTRUCTION

1. The Licensee shall submit to the Board for approval in writing, 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 wastes.
2. The Licensee may, without written approval from the Board, carry out modifications to the Water Supply 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. 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;
 - d. the Board has not rejected the proposed modifications; and

- e. Modifications for which all of these conditions have not been met, may be carried out only with approval from the Board in writing.
- 3. The Licensee shall provide to the NWB for review, as-built plans and drawings, stamped and signed by an Engineer, within ninety (90) days of completion of construction and modifications or, if already constructed, as is the case for the Sewage Lagoon, within ninety (90) days of issuance of this Licence.
- 4. All construction and modification 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.
- 5. 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.

PART F: CONDITIONS APPLYING TO OPERATION AND MAINTENANCE

- 1. The Licensee shall submit to the Board for review, a Solid Waste Disposal Facilities Update Report and photographic record by November 30, 2010, which demonstrates the implementation of the commitments and measures to clean-up the existing current facility.
- 2. The Licensee shall submit to the Board for approval, by July 31, 2010 an updated consolidated Operations and Maintenance (O&M) Manual, consisting of:
 - a. Spill Contingency Plan, Hamlet of Pond Inlet (2010);
 - b. QA/QC Plan approved by the Analyst;
 - c. Sewage Treatment Facility O&M Plan;
 - d. Sludge Management Plan;
 - e. Solid Waste Management Facility O&M Plan;
 - f. Landfarm O&M Plan; and
 - g. Water Supply Facility O&M Plan.

Where appropriate, the Manual shall be 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*”. The updated Manual shall take into consideration the comments received during the application review.

- 3. An inspection of all engineered facilities related to the management of water and waste shall be carried out annually in July or August by a Geotechnical Engineer. The

engineer's report shall be submitted to the Board for review, within sixty (60) days of the inspection, including a covering letter from the Licensee outlining an implementation plan addressing the Geotechnical Engineer's recommendations.

4. The Licensee shall perform more frequent inspections of the engineered facilities at the request of an Inspector.
5. 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 appropriate contingency measures within the Spill Contingency Plan, approved for the Hamlet of Pond Inlet;
 - b. report the incident immediately via the 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, 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.

PART G: CONDITIONS APPLYING TO ABANDONMENT, RESTORATION AND CLOSURE

1. The Licensee shall submit to the Board for approval in writing, within six (6) months of Licence issuance, an *Abandonment and Restoration Plan* for the Old Sewage Lagoon and Temporary Sewage Disposal Facility.
2. The Licensee shall submit to the Board for approval in writing, 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. 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.
3. The Licensee shall complete the restoration work within the time schedule specified in the Plan approved under this Part, or as subsequently revised and approved by the Board in writing.
4. All disturbed areas shall be stabilized and re-vegetated as required, upon completion of work and restored as practically as possible to a pre-disturbed state.

PART H: CONDITIONS APPLYING TO THE MONITORING PROGRAM

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

Monitoring Program Station Number	Description	Status
PON-1	Raw water supply intake at Salmon River.	Active (Volume)
PON-1a	Water withdrawn from the Water Lake Reservoir	New (Volume)
PON-2	Runoff from the Solid Waste Disposal Facilities.	Active
PON-3	Sewage at truck offload point	No longer active.
PON-4	Final Discharge Point for Effluent from the Sewage Disposal Facility prior to the wetland area.	Active
PON-5	Effluent from the Temporary Sewage Disposal Facility	Active
PON-6	Monitoring well located up gradient of the Solid Waste Disposal Facilities..	Active
PON-7	Monitoring well located down gradient of the Solid Waste Disposal Facility.	Active
PON-8	Discharge from the Landfarm Facility at the controlled point of release	Active

2. The Licensee shall measure and record, in cubic metres, the monthly and annual quantities of water pumped at Monitoring Program Station PON-1, for all purposes.
3. The Licensee shall sample monthly at Monitoring Program Station PON-2, PON-4 and PON-5 during periods of observed flow and annual discharges, to be analyzed for the following parameters:

Biochemical Oxygen Demand (BOD ₅)	Fecal Coliforms
Total Suspended Solids	pH
Conductivity	Nitrate-Nitrite
Oil and Grease (visual)	Total Phenols
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

4. The Licensee shall carry out inspections at Monitoring Program Stations PON-2, PON-4 and PON-5 weekly from May to August inclusive, to determine effluent or water flow in order to fulfill the monitoring requirements of Part H, Item 3. A record of inspections shall be retained and made available to an Inspector upon request.
5. The Licensee shall measure and record the volume of all soil, from all locations entering the Landfarm Facility.
6. The Licensee shall assess and record the concentration of petroleum hydrocarbon contaminated soil entering the Landfarm Facility from all sources, as per the CCME *Canada-Wide Standard for Petroleum Hydrocarbons in (PHC) in Soil*.
7. The Licensee shall sample prior to discharge at Monitoring Program Station PON-8, to verify compliance with the effluent quality limits under Part D, Item 7.
8. The Licensee shall install groundwater monitoring wells at the Landfarm Facility. These wells shall be located with at least one located upstream of the facility for background data collection (PON-6) and at least one downstream of the facility (PON-7).
9. The Licensee shall sample at Monitoring Program Stations PON-6 and PON-7 once annually in the summer, giving consideration to adequate ground thaw and obtaining a

representative groundwater sample. 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	Total Phenols
Magnesium	Calcium
Sodium	Potassium
Chloride	Sulphate
Sulphate	Total Mercury
Total Hardness	Total Alkalinity
Ammonia Nitrogen	Total Zinc
Total Cadmium	Total Iron
Total Aluminum	Total Manganese
Total Chromium	Total Nickel
Total Copper	Total Lead
Total Arsenic	
TPH (Total Petroleum Hydrocarbons)	
PAH (Polycyclic Aromatic Hydrocarbons)	
BTEX (Benzene, Toluene, Ethylbenzene, Xylene)	

10. Additional monitoring stations, sampling and analysis may be requested by an Inspector.
11. All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the current edition of *Standard Methods for the Examination of Water and Wastewater*, or by such other methods approved by the Board in writing.
12. All analyses shall be performed in a laboratory accredited according to ISO/IEC Standard 17025 for all required analyses. The accreditation shall be current and in good standing.
13. The Licensee shall submit to the Board upon approval by an Analyst, for inclusion with the O&M Manual, required under Part F, Item 2, a Quality Assurance/Quality Control (QA/QC) Plan. The Plan shall include up to date sampling methods to all applicable standards, acceptable to an accredited laboratory as required by Part H, Item 11 and Part H, Item 12. The Plan shall include a covering letter from the accredited laboratory and Analyst, confirming acceptance of the Plan for analyses to be performed under this Licence.
14. The Licensee shall annually review the Quality Assurance/Quality Control Plan in Part H, Item 13 and modify it as necessary. Proposed modifications shall be submitted to the accredited laboratory for approval.

15. The Licensee shall measure and record the annual quantities of Sewage Sludge removed from the Sewage Disposal Facilities.
16. 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.
17. Modifications to the Monitoring Program may be made only upon written approval of the Board.