

The NWB strongly recommends that the Licensee consult the comments received by interested persons on issues identified. This information is attached for your consideration.¹

Sincerely,



Thomas Kabloona
Nunavut Water Board, Chair

TK/ce/mp

Enclosure: Licence No. **3BM-RUT1520**
Comments – AANDC

Cc: Qikiqtani Distribution List

¹ Aboriginal Affairs and Northern Development Canada (AANDC), October 3, 2014;

TABLE OF CONTENTS

DECISION	i
I. BACKGROUND.....	ii
II. PROCEDURAL HISTORY	iii
III. ISSUES	iv
WATER LICENCE RENEWAL	1
PART A: SCOPE, DEFINITIONS AND ENFORCEMENT	2
1. Scope	2
2. Definitions	2
3. Enforcement	5
PART B: GENERAL CONDITIONS	5
PART C: CONDITIONS APPLYING TO WATER USE	7
PART D: CONDITIONS APPLYING TO WASTE DEPOSIT AND MANAGEMENT	8
PART E: CONDITIONS APPLYING TO MODIFICATIONS AND CONSTRUCTION	9
PART F: CONDITIONS APPLYING TO OPERATION AND MAINTENANCE	10
PART G: CONDITIONS APPLYING TO ABANDONMENT, RESTORATION AND CLOSURE	11
PART H: CONDITIONS APPLYING TO THE MONITORING PROGRAM.....	12

DECISION

LICENCE NUMBER: 3BM-RUT1520

This is the decision of the Nunavut Water Board (NWB) with respect to an application dated August 23, 2012 for a renewal of a Water Licence made by:

**GOVERNMENT OF NUNAVUT,
DEPARTMENT OF COMMUNITY AND GOVERNMENT SERVICES**

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

Latitude: 74°43'01"N

Longitude: 94°58'10"W

DECISION

After having been satisfied that the application was in conformity with the North Baffin Regional Land Use Plan¹ as determined by the Nunavut Planning Commission (NPC) and exempt from the requirement for Screening as described within Schedule 12-1 by the Nunavut Impact Review Board² in accordance with Article 12 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-RUT1012 be renewed as Licence No. 3BM-RUT1520 subject to the terms and conditions contained therein. (Motion #: 2014-B1-047)

Signed this 30th day of March 2015 at Gjoa Haven, NU.



Thomas Kabloona
Nunavut Water Board, Chair

TK/ce/mp

¹ NPC Conformity Determination, dated October 14, 2010 and September 19, 2014.

² NIRB exempt from Screening Decision, dated September 19, 2014.

I. BACKGROUND

The Hamlet of Resolute Bay is located on the south coast of Cornwallis Island on the Perry Channel. Located at 74°43'01"N and 94°58'10"W, the community is approximately 1660 km northeast of Yellowknife and 1550 km northwest of Iqaluit. In the early 1970's, the settlement was relocated from the beach area to the present location. In 2012, 269 individuals were residing in the community though the relocated community was designed to accommodate 1500 people. There are three water licenses in this community: The Government of Nunavut (GN) holds the Licence for the airport, the Hamlet of Resolute Bay holds the Licence for solid waste management, and Community and Government Services (GN-CGS) hold the Licence for the Utilidor Systems. Due to delays in plans to refurbish the airport (Licence No. 3BM-YRB0308) and solid waste management facility (Licence No. 3BM-RES9699), the Board decided to process the Renewal Application for the Utilidor System independently.

In the community, the average daily minimum and maximum temperatures for July and January are 1.3 °C and 6.8 °C, and -35.8 °C and -28.5 °C, respectively. An average of 50.4 mm of rainfall and 97.3 mm of snowfall for a total of 139.6 mm of precipitation is received each year.

The community is serviced by a Utilidor which is maintained and operated by the Government of Nunavut, Department of Community and Government Services (GN-CGS or Licensee). The Utilidor System (Sewer and Water system) is over thirty-five (35) years old and nearing the end of its useful life cycle. The water supply system constitutes Char Lake, the pump-house, the water treatment plant and associated delivery mediums, whereas sewage effluent travels from buildings via pipes and is discharged untreated into 'bleeders' where it is diluted before exiting into Resolute Bay. The outfall pipe is located on the shore of the Bay at the high tide water mark.

The Utilidor System was built in the 1970's without a water Licence. At the time of the initial Water Licence application, a rehabilitation and expansion of the system was scheduled for completion in 2007. This did not occur, and under the current Application the rehabilitation and expansion of the system is scheduled for completion in 2016.

II. FILE HISTORY

Three water Licences have been issued to the Hamlet of Repulse Bay for the operation of water and waste-water facilities. The first was issued by the Northwest Territories Water Board (NWTWB) (3BM-RES9699), while the Nunavut Water Board (NWB) issued the other two (NWB3YRB0308 and 3BM-RUT1012).

The Licence issued by the Northwest Territories Water Board to the Hamlet of Resolute Bay is as follows:

- ***Licence N4L3-1571***

This Licence was issued on July 1, 1996 and expired on June 30, 1999. The Licence allowed for the deposit of waste and use of 65, 000 cubic metres of water *per* year for a Municipal undertaking. The Licensee has submitted a separate renewal application for 3BM-RES9699 (N4L3-1571) for the Municipality's solid waste management.

The Licences issued by the Nunavut Water Board to the Hamlet of Resolute Bay include the following:

- ***Licence NWB3YRB0308***
This Licence was issued on November 30, 2003 with an expiry date of November 30, 2008. The Licence allowed for the use of 600 cubic metres of water annually and deposit of waste in support of a Municipal undertaking. Licensee has now submitted a renewal application for 3BM-YRB0308 for the Municipal Airport undertaking.
- ***Licence 3BM-RUT1012***
This Licence was issued on November 4, 2010 with an expiry date of October 31, 2012. The Licence allowed for 126, 020 cubic metres per year of water use and deposit of waste annually

III. PROCEDURAL HISTORY

The NWB received from the Government of Nunavut – Community Government Services (GN-CGS), the following application documents (Application) for the five (5) year renewal of Licence 3BM-RUT1012 under multiple submissions occurring from August 23, 2012 through to August 25, 2014:

- Annual Reports for 2010, 2011, 2012 and 2013;
- Report entitled “Sewage and Water Works Technical Evaluation – Phase 1” prepared by exp Services Inc., dated March 2010;
- Report entitled “Sewage and Water Works Technical Evaluation - Phase 2” prepared by exp Services Inc., dated March 2010;
- Report entitled “Leak Repair Program Resolute Bay” prepared by exp Services Inc., dated October, 2010;
- Report entitled “Leak Detection Deficiencies” prepared by exp Services Inc., dated September 20, 2010;
- Report entitled “Sewer and Waterworks Rehabilitation, 2010 Resolute Bay, Nunavut”, prepared by exp Services Inc., dated August 26 to September 1, 2010;
- Letter from B. Roy, GN-CGS, to P. Beaulieu (NWB), dated August 23, 2012;
- Water Licence application for a renewal of a water Licence, signed by B. Roy, GN-CGS, dated August 23, 2012;
- “Technical Summary of the Utilidor System of the Hamlet of Resolute Bay” in English and Inuktitut, dated September 28, 2012;
- Certificate of Lab Analysis Report, dated October 26, 2012;
- Government of Nunavut Response to Deficiencies noted by NWB Technical Advisor, Mr. Erik Skiby, dated February 11 2013;
- Corrected Government of Nunavut Response to Deficiencies noted by NWB Technical Advisor, Mr. Erik Skiby, dated February 11 2013;
- “Resolute- Water System Inspection Report”, dated February 3, 2013;
- Engineer stamped drawings issued for tender entitled “New Utilidor Design Resolute Bay, NU.”, drawing no. C-300 to C-332, Project no. OTT-0020633-AO, prepared by exp Services Inc., dated October 25 2013;
- Engineer drawing “Resolute Bay Utilidor”, dated August 17, 2005;
- Engineer drawing “New Utilidor Expansion”, dated August 17, 2005;
- “Hamlet of Resolute Bay Land Use Map”, October 25, 2013;
- Plan entitled “Utilidor Operation and Maintenance Manual”, dated 1978;
- Report entitled “PLAN FOR COMPLIANCE LICENCE NO: 3BM-RUT1012 (Utilidor System)” prepared by Bhabesh Roy, dated March 21, 2014; and

- Report entitled “*Char lake Hydrology Study*” prepared by exp Services Inc., Project # OTT_00220977_A0, dated August 25, 2014.

On September 18, 2014, following a preliminary internal review of the Application, the NWB concluded that the Application met the requirements of section 48(1) of the Nunavut Waters and Nunavut Surface Rights Tribunal Act (NWSRTA or Act) and forwarded notice of the Application to regulators, council of the municipalities most affected by the project and other interested parties. Parties were invited to make representations to the NWB within thirty (30) days.

Comments were submitted by Aboriginal Affairs and Northern Development Canada (AANDC) on October 3, 2014. AANDC also submitted the “3BM-RUT1012 Site Inspection Report” on December 3, 2014. The submitted comments and report are available on the Board’s FTP site, for the Applicant’s review. Further recommendations made by AANDC have been included in Part F of this Licence. No public concern was expressed during the notice period. Therefore, the NWB waived the requirement to hold a public hearing and proceeded with the application process.

On September 19, 2014 the Nunavut Planning Commission (NPC) issued written confirmation that the project conforms to the North Baffin Regional Land Use Plan and forwarded the application to the Nunavut Impact Review Board (NIRB) for Screening. On September 19, 2014, the NIRB exempted the project proposal from Screening pursuant to item #5 of Schedule 12-1 of the Nunavut Land Claims Agreement (NLCA).

The NWB has placed in its Public Registry copies of the Application and all comments received from interveners. This information can be accessed on the NWB’s File Transfer Protocol (FTP) site using the following link (Username: public; Password: registry):

<ftp://ftp.nwb-oen.ca/1%20PRUC%20PUBLIC%20REGISTRY/3%20MUNICIPAL/3B/3BM%20-%20Municipality/3BM-RUT1012/>

Based upon the results of the detailed assessment of the Application, including consideration of any potential accidents, malfunctions, or impacts to water that the overall project might have in the area, the Board has approved the Application and has issued water Licence 3BM-RUT1520.

Under this Licence, GN-CGS is the Licence holder and is responsible for complying with its terms and conditions. This Licence replaces the terms and conditions related to water use and sewage disposal contained in expired water Licence 3BM-RUT1012. The expired 3BM-RES9699 water Licence also contained terms and conditions applicable to solid waste disposal that have not been replaced by this Licence. Accordingly, the expiry of water Licence 3BM-RES9699 and issuance of this Licence do not relieve the Hamlet of Resolute Bay from their continued obligations under the expired Licences’ terms and conditions related to solid waste. Until such time as a new Licence authorizing solid waste disposal is issued to the Hamlet of Resolute Bay, the Hamlet continues to be bound by the obligations relating to solid waste disposal contained in expired water Licence 3BM- RES9699.

III ISSUES

The following sections provide background information relevant to the terms and conditions included in this Licence, in the context of submissions received and/or the Board’s rationale. Where appropriate, the Board has removed or modified terms and conditions associated with the previous Licence, which are no longer applicable under this renewal Licence.

Term of Licence

In accordance with section 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 for a renewal Licence, the Board generally takes into consideration several factors including AANDC's site inspection, the Licensee's compliance history, as well as the rationale contained in the Application.

According to AANDC's comments dated October 3, 2014, the following recurring issues of non – compliance were identified:

- Improper wastewater treatment. The facility only relies on dilution from bleed water and a comminutor before discharging to the marine environment. This does not constitute wastewater treatment and therefore needs to be upgraded before the next Licence renewal.
- Higher consumption amounts than 300,000 cubic metres per year due to system "water bleeds". It is recommended that a heat input be utilized in order to promote flow and reduce water consumption amounts.
- Incomplete water sampling results.
- Letting previous Licence expire before applying for renewal.
- A current Operations and Maintenance Plan and a Spill Contingency Plan have not been submitted to the NWB;
- A current Abandonment and Restoration Plan, which must be submitted at least six months prior to final closure of any licensed facility or upon the planned construction of new facilities to replace existing ones.

The Licensee requested in its Application a five (5) year term for the Licence. The intervening parties in their submissions did not comment on the term requested for the renewal Licence. Within its Application to the NWB, the Hamlet proposed a multi-year construction schedule for the Utilidor System upgrades, starting in 2014 with completion in 2016. The NWB has decided to issue the Licence for a term of five (5) years. The five (5) year Licence term is intended to provide the Licensee sufficient time to take immediate action towards implementing plans and achieving full compliance with all Licence requirements for its existing facilities and to carry out the required system up-grades. Upon submission of an application to renew this Licence, the Board fully expects the Hamlet to be in compliance with the Licence.

Annual Report

Under the reporting section of the Licence, Part B, Item 1, the Licensee is required to submit, on an annual basis, a report pertaining to water use and waste disposal activities. The submitted annual reports are kept in the NWB's public registry and made available to interested persons upon request. Further, the NWB maintains annual reporting information on its FTP site, which can be accessed using the following link (username: public and password: registry):

<ftp://ftp.nwb-oen.ca/1%20PRUC%20PUBLIC%20REGISTRY/>.

The Licensee is advised to use its own standardized forms or additional forms and reports to supplement the NWB Annual Reporting forms.

Water Use

In compliance with the previously issued Licence 3BM-RUT1012, the Licensee submitted a Char Lake Hydrology Study. The study and report, developed by exp Seivics Inc., states that there is sufficient stored volume between the extreme estimate of ice thickness and the raw water intake to support two (2) successive years of extreme high demand (300,000 m3 annually) combined with extreme low precipitation (78.2 mm total).

Water Licence 3BM-RUT1012 approved a quantity of water use not to exceed 126,020 cubic metres per year. The Hamlet of Resolute Bay has requested a renewal Licence allowing for the same water quantity of 345 cubic metres per day (126,020 cubic metres per year). Both AANDC and exp Services Inc. flag a large increase in water use of approximately 300,000 cubic metres per year in 2008 and 2009; this is a direct result of bleeder rates in the Utilidor which facilitate flow in dead end portions of the system, ensures adequate flow goes to the sanitary system and acts to keep sanitary pipes unfrozen. The GN-CGS has expressed that higher consumption amounts were also as a result of unique military base activities and that 126,020 cubic metres per year will be sufficient for the Hamlet of Resolute Bay. The NWB has authorized the requested water use for 126,020 cubic metres per year (345 cubic metres per day). Given the fact that the Nunavut Water Regulations were issued in April of 2013, after the submission of the renewal application in August 2012, the Type "A" Water Licence threshold of 300 cubic metres per day water use won't be applied at this time. However, it is important to note that the next renewal of this licence for more than 300 cubic metres per day water use will require a Type "A" Water Licence process.

Sewage Disposal

The Sewage Disposal Facility is a part of the Utilidor System and consists of a macerating facility and outfall pipe to the shoreline of the marine environment in Resolute Bay. In addition, the Utilidor dilutes wastewater via bleeders. The Application addresses the rehabilitation and expansion of the Utilidor which is expected to reduce overall bleeder rates.

In review of the Application, the NWB considered the discharge to the shore of the marine environment. The Board's jurisdiction is limited to inland waters, non-marine waters on or below the surface of the land, and similarly, the Board's authority in waste management is limited to waste disposal that affects the water.¹ During the Board's initial technical review for Licence No. 3BM-RUT1012 the NWB required clarification on the position of the sewage outfall to properly determine its jurisdiction. In the subsequent review process the NWB received evidence on the discharge location of the Sewage Disposal Facility outfall. AANDC provided photographs showing the outfall discharging to the beach of Resolute Bay prior to entry into the marine environment. In its response to AANDC's evidence, the Licensee identified contours on the photographs which denote the outfall at the high water mark. The Licensee also stated in an email that the outfall discharges sewage into deep water during high tide and to the surface during low tide.³

Based on available evidence it thus appears that effluent discharge sometimes occurs on land, where it may enter inland waters, and sometimes occurs in the ocean. As such, the NWB recognizes an overlap with the Department of Fisheries and Oceans Canada's (DFO) and Environment Canada's (EC) jurisdiction under the *Fisheries Act*. Reflecting the fact that this outfall has elements that could trigger the mandates of all three agencies, the Board has decided to maintain a precautionary approach to regulation that meets the Board's primary obligation to protect inland water quality but that is also consistent with protection of the marine environment. Therefore, the Board has given considerable focus to the specific terms and conditions of this Licence under which the effluent discharge is authorized to ensure they meet these obligations.

¹ See the definitions of "marine areas" and "waters" under s. 4 of *Nunavut Waters and Nunavut Surface Rights Tribunal Act*, S.C. 2002, c. 10 ("NWNSRTA or Act")

² Act, s. 12(1).

³ Email from B. Roy, GN-CGS (RBhabesh@gov.nu.ca) to D. Carr, NWB, Subject: RE: 3BM-RUT---Discharge Point, dated November 4, 2009.

The Board recognizes that in setting effluent discharge criteria limits, the Board must be at least as stringent as the standards prescribed under the applicable *Fisheries Act* regulations.⁴ Currently the *Wastewater Systems Effluent Regulations* under the *Fisheries Act* are not in effect with applicable standards for the North. Without applicable regulations, the Board has relied upon the Guidelines for the Discharge of Treated Municipal Wastewater in the Northwest Territories, 1992 (Guidelines). Use of these Guidelines is standard for communities across Nunavut.

The Board also notes that section 4.3.4 of the Application document entitled "Resolute Bay, NWT Water and Sewer Facilities Investigation" prepared by UMA Engineering Ltd.(1996) refers to these Guidelines in assessing quality criteria limits.

As detailed in the Application, the Board acknowledges that under the expired Licence the existing Utilidor System generated a wastewater flow greater than 600 Liters per Capita per Day (Lcd) and that the rehabilitated system involving reduced bleeder rates may generate a wastewater flow between 150 – 600 Lcd, and that the Guidelines recommend different effluent quality criteria limits for different wastewater volumes. The Board acknowledges that the current wastewater flow rate is undetermined because the flow mag meter on the wastewater discharge line is not-functioning. Under Part H Item 5, the Board requires that the Licensee measure and record the daily, monthly and annual volume of all effluent discharged from the Sewage Disposal Facility at RUT-2. The Board has set effluent quality criteria limits for each wastewater flow accordingly in Part D Items 2 and 3 for Biochemical Oxygen Demand (BOD₅), Total Suspended Solids (TSS), Faecal Coliforms, pH and oil and grease.

In setting a discharge limit for Faecal Coliforms the Board considered note (g) of Table 4.1 of the Guidelines which state that in the case of well flushed marine bays or fjords bacteriological standards will be of concern only where the discharge might affect a fishery or water contact recreation. The Board also considered concerns raised in section 4.3.3 of the Application document entitled "Resolute Bay, NWT Water and Sewer Facilities Investigation" prepared by UMA Engineering Ltd. 1996 regarding the potential environmental effects of the discharge into Resolute Bay as well as the concerns raised by the community as documented in section 5.4 of the Application document entitled "Utilidor Upgrade – Final Report" prepared by Dillon Consulting Limited dated 1999, regarding sewage smells, potential impacts, and traditional activities conducted in the Bay and near shore areas. Given the above information, the Board is concerned that Resolute Bay may not be well flushed and is used by the community for recreational purposes. For that reason the Board required as a condition in Part D Item 4 of the 3BM-RUT1012 Licence that the Licensee conduct a site specific study for the determination of a Faecal Coliform limit for Sewage Disposal Facility effluent that maintains the quality of the receiving waters within reasonable and acceptable limits. The Licensee was required to submit this report (site specific study for the determination of a fecal coliform limit for the Sewage Disposal Facility Effluent) by December 1, 2011. The Licensee has failed to comply with this requirement, thus violating Part D, Item 4 of the expired Licence. The Board is now requesting that this report be submitted by December 1, 2015. AANDC also noted the lack of this report in their July 2014 Inspection Report.

The Licensee submitted two reports entitled "Sewage and Water Works Technical Evaluation Phase 1" and "Sewage and Water Works Technical Evaluation Phase 2" prepared by exp Services Inc., dated March 2010. In these reports, consultants provided a detailed list of recommendations to facilitate the continued operation of existing systems until a new water system can be installed. These recommendations included: a program of recommended facility rehabilitations, capital upgrades, improvements to operating methods, recommendations regarding enhanced preventative maintenance, and a contingency plan that provides for unusual events.

⁴ Act, s. 73.

In reviewing the Application, the Board also noted AANDC's comments dated October 3, 2014 in which AANDC agreed with the recommendations stated in the "Sewage and Water Works Technical Evaluation Phase 2" report by exp Services Inc. AANDC further recommended that the wastewater treatment facility in Resolute Bay be upgraded during the term of the Licence as the current wastewater treatment facility only relies on dilution from bleed water and a comminutor before discharging to the marine environment. AANDC further stated that this system does not constitute wastewater treatment and noted that as the proposed changes to the Utilidor System likely will decrease the bleed-rate, the dilution factor will subsequently decrease as well. AANDC's comments are supported by information contained in the report submitted by the Licensee entitled "Sewage and Water Works Technical Evaluation Phase 2" prepared by exp Services Inc., dated March 2010. The Board advises the Licensee that any future upgrades to the wastewater treatment facility will require an Amendment to this Licence.

Waste backhauled and records

AANDC commented in their July 2014 Site Inspection Report that the applicant has not maintained proper records of Hazardous waste back hauls. The Board hereby re-states this condition in Part D, item 7, and expects the Licensee will maintain compliance.

Operation and Maintenance Plans

In accordance with Part F, Item 1, of the expired Licence, the Licensee is required to submit an Operation and Maintenance (O&M) Manual that includes several management plans as subsets of the manuals. The O&M Plans for the Water Supply Facility, the Utilidor System, and the Sewage Disposal Facility need to be updated. Moreover a Spill Contingency Plan and Quality Assurance/Quality Control (QA/QC) Plan has not been submitted. Given that no such plans were submitted to NWB or found in the NWB's public registry, and also given that time that has passed since the former Licence was active, the NWB has imposed a condition in Part F Item 1 of this Licence requiring the Licensee to submit to the Board for approval within ninety (90) days, Operations & Maintenance Manuals for the Water Supply Facilities, Utilidor and Sewage Disposal Facility. The O&M Manual shall also include the Quality Assurance /Quality Control (QA/QC) Plan required under Part H, Item 7 and a Spill Contingency Plan prepared in the format set out by the *Consolidation of Spill Contingency Planning and Reporting Regulations R-068-93*. This requirement is consistent with other municipal water licenses issued by the Board. The purpose of the O&M Manual is to assist the Licensee and its contractors in carrying out the procedures relating to the on-site facilities. The O&M Manual should demonstrate to the NWB that the Licensee is capable of operating and maintaining the infrastructure related to water use and waste deposit and of meeting the requirements of the Licence.

Abandonment and Restoration

General terms and conditions under Part G, Item 1 in the Licence require the Licensee to submit an Abandonment and Restoration (A&R) Plan at least six (6) months prior to abandoning any facility under the scope of this renewal Licence. The Board expects that an appropriate A&R Plan will be submitted in accordance with the terms and conditions of this Licence.

Monitoring

Results of the monitoring program required under the expired Water Licence have not been submitted. This is an area of non-compliance that the NWB anticipates will be improved upon over the five (5) year duration of this Licence.

The NWB has included a requirement for a Monitoring Program Station at the freshwater intake prior to storage and treatment at RUT-1. The Licensee shall sample for volume to establish daily, monthly and annual water usage. A second Monitoring Program Station is required at the final discharge point of the sewage outfall on the shore of Resolute Bay. The Licensee shall sample monthly for parameters detailed under Part H, Item 6.

Part H, Item 9 of the Licence also requires the Licensee to submit to the Board a Quality Assurance/Quality Control (QA/QC) Plan. The QA/QC plan shall be accompanied by an approval letter from an accredited laboratory.

Engineered Drawings and Designs

Part E, Item 4 of the expired Licence required the Licensee to provide to the Board for review as-built plans and drawings, for facilities included under the scope of that Licence, within ninety (90) days of completion of construction or, if already constructed, within ninety (90) days of issuance of the Licence. The following record-of-drawings have been submitted to the NWB as a part of the Application:

- Engineer stamped drawings issued for Tender entitled "New Utilidor Design Resolute Bay, NU." drawing no. C-300 to C-332, Project no. OTT-0020633-AO, prepared by exp Services Inc., dated October 25 2013.

The Board has accepted these drawings as meeting the relevant requirements under the expired Licence.

The Board notes, however, that as-built drawings for upgrades to the facility under this Licence have not been submitted and would require submission with the Operations and Maintenance Manual or Plan for the Water Treatment Facilities, which is required upon completion of the facility upgrades, and prior to the expiration of this licence.



NUNAVUT WATER BOARD WATER LICENCE RENEWAL

Licence No. 3BM-RUT1520

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

GOVERNMENT OF NUNAVUT, DEPARTMENT OF
COMMUNITY AND GOVERNMENT SERVICES

(Licensee)

P.O BOX 379, POND INLET, NU, XOA 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 renewal:

Licence Number/Type: 3BM-RUT1520 TYPE "B"

Water Management Area: BATHURST AND CORNWALLIS ISLANDS WATERSHED – 55

Location: RESOLUTE BAY, CORNWALLIS ISLAND
QIKIQTANI REGION, NUNAVUT

Classification: MUNICIPAL UNDERTAKING

Purpose: DIRECT WATER USE AND DEPOSIT OF WASTE

Quantity of Water use not
to Exceed: ONE HUNDRED AND TWENTY-SIX THOUSAND AND
TWENTY (126,020) CUBIC METRES PER ANNUM OR
MAXIMUM 345 PER DAY

Date of Issuance: MARCH 30, 2015

Expiry of Licence: MARCH 29, 2018

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 including operation of Water Supply Facility, Sewage Disposal Facility and Utilidor by the Hamlet of Resolute Bay, classified as per Schedule 1 of the *Regulations*, located within the Qikiqtani Region of Nunavut, at geographical coordinates as follows:

Latitude: 74°43'01"N Longitude: 94°58'10"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;

"Applicant" means the Licensee;

"Appurtenant Undertaking" means an undertaking in relation to which a use of water or a deposit of waste is permitted by a Licence issued by the Board;

“Board” means the Nunavut Water Board established under the *Nunavut 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” 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;

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

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

“Grab Sample” means an undiluted single water or wastewater sample, 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;

“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 of an appurtenant undertaking to the freshwater aquatic environment;

“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;

“Sewage Disposal Facilities” comprises existing Waste Water Treatment Plant;

“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;

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

“Utilidor” means the piped distribution system designed to transport treated water from the Water Supply Facilities to structures and dwellings in Resolute Bay and the piped collection system designed to collect sewage from structures and dwellings and transport to the Sewage Disposal Facility, as described in the application for water licence received August 23, 2012;

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

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

“Water Supply Facilities” comprises the area and associated intake infrastructure at Char Lake, Char Lake Pump House, Supply Line from Char Lake to the treatment plant and the Signal Hill Treatment Plant as described in the application for water licence received August 23, 2012;

3. **Enforcement**

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

PART B: GENERAL CONDITIONS

1. The Licensee shall file and Annual Report with the Board to review, no later than March 31st, of the following calendar year being reported, which shall contain the following information collected during that period:
 - a. Tabular summaries of all data generated under the Monitoring Program;
 - b. The daily, monthly and annual quantities of freshwater obtained from all sources;
 - c. The daily, monthly and annual quantities of Wastes removed for disposal from Licensed Facilities;
 - d. A summary of modifications and/or major maintenance work carried out on the Water Supply Facility, Utilidor and Sewage Disposal Facility, including all associated structures and facilities;
 - e. Modifications to the "Monitoring Program" in accordance with Part H, Item 12;
 - f. A list of unauthorized discharges and summary of follow-up action taken;
 - g. A summary of any abandonment and restoration work completed during the year and an outline of any work anticipated for the next year;
 - h. Any revisions to approved plans and manuals as required by Part B, Item 10, submitted in the form of an addendum;
 - i. Detailed minutes of any public consultation and participation with local organizations and the residents of the community regarding Licence amendments;
 - j. A summary of any studies or reports requested by the Board that relate to Water use and Waste deposit or restoration, and a brief description of any future studies planned; and
 - k. Any other details on Water use or Waste deposit 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.
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4. Metres, devices or other such methods used for measuring the volumes of Water used and Waste discharged, shall be installed, operated and maintained by the Licensee to the satisfaction of an Inspector.
5. The Licensee shall, within ninety (90) days after the first visit by the Inspector following issuance of this Licence, post the necessary signs to identify the stations of the Monitoring Program. All signage postings shall be in the Official Languages of Nunavut. Note that according to AANDC's July 2014 Inspection Report, the current signage is inadequate.
6. 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.
7. In the event that a Plan is not found acceptable to the Board, the Licensee shall, within thirty (30) days of notification by the Board provide a revised version to the Board for review or approval in writing.
8. The Licensee shall, for all Plans submitted under this Licence, implement the Plan as approved by the Board in writing.
9. 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.
10. The Licensee shall review the Plans referred to in this Licence as required by changes in operation and/or technology and modify the Plans or Manuals accordingly. Revisions to the Plans or Manuals are to be submitted in the form of an addendum to be included with the Annual Report required by Part B, Item 1(h), complete with a revisions list detailing where significant content changes are made.
12. 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, that may have resulted from the Water Supply Facilities, Utilidor or Sewage Disposal Facility.
13. The Licensee shall ensure a copy of this Licence is maintained onsite at all times.
14. 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:**
Water Resources Officer
Nunavut District, Nunavut Region
P.O. Box 100
Iqaluit, NU X0A 0H0
Telephone: (867) 975-4295
Fax: (867) 979-6445

15. The Licensee shall submit one (1) paper copy and one (1) electronic copy of all reports, studies, and plans to the Board or as otherwise requested by the Board. Reports or studies submitted to the Board by the Licensee shall include an executive summary in English and Inuktitut.
16. The Licensee shall ensure that any document(s) or correspondence submitted by the Licensee to the Board, is received by the Board and maintain on file a copy of the acknowledgment of receipt issued by the Manager of Licensing.
17. The expiry or cancellation of this Licence does not relieve the Licensee from any obligation imposed by the Licence, or any other regulatory requirement.

PART C: CONDITIONS APPLYING TO WATER USE

1. The Licensee shall obtain all freshwater from Char Lake at Monitoring Program Station RUT-1 using the Water Supply Facilities or as otherwise approved by the Board in writing.
2. The use of water from streams or any water bodies not identified in Part C, Item 1, is prohibited unless authorized and approved by the Board in writing.
3. The annual quantity of Water, used for all purposes, shall not exceed 126,020 cubic metres (345 cubic metres per day) or as otherwise approved by the Board in writing.
4. Within 90 days of issuance of this Licence, the Licensee shall abide with the recommendations put forward in the "120920 3BM-RUT1012 March 2010 Sewage Water Works Tech Eval Phase 2 Final Trow Report" and present a schedule to implement the recommendations. Based on this report, the inspection of the existing

water and sewage system in Resolute Bay, Trow consultants provided a detailed list of recommendations to facilitate the continued operation of existing systems until a new water system can be installed. These plans included: a program of recommended facility rehabilitations, capital upgrades, improvements to operating methods, recommendations regarding enhanced preventative maintenance, and a contingency plan that provides for unusual events.

5. 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.
6. The Licensee shall not remove any material from below the ordinary High Water Mark of any water body unless authorized by the Board in writing.
7. The Licensee shall not cause erosion to the banks of any body of water and shall provide necessary controls to prevent such erosion.
8. Sediment and erosion control measures shall be implemented prior to and maintained during the undertaking to prevent entry of sediment into water.
9. The Licensee shall maintain the Water Supply Facilities to the satisfaction of the Inspector.

PART D: CONDITIONS APPLYING TO WASTE DISPOSAL AND MANAGEMENT

1. The Licensee shall direct all Sewage to the Sewage Disposal Facility or as otherwise approved by the Board in writing.
2. If wastewater flows are greater than 600 Lcd, all Effluent discharged from the Sewage Disposal Facility at Monitoring Program Station RUT-2, shall not exceed the following Effluent quality limits:

Parameter	Maximum Concentration of any Grab
BOD ₅	80 mg/L
Total Suspended Solids	70 mg/L
Oil and Grease	No visible sheen
pH	Between 6 and 9
Fecal Coliforms	To be determined in accordance with Part D

3. If wastewater flows are between 150 and 600 Lcd, all Effluent discharged from the Sewage Disposal Facility at Monitoring Program Station RUT-2, shall not exceed the following Effluent quality limits:

Parameter	Maximum Concentration of any Grab
BOD ₅	120 m/L
Total Suspended Solids	80 mg/L
Oil and Grease	No visible sheen
pH	Between 6 and 9
Fecal Coliforms	To be determined in accordance with Part D

4. The Licensee shall conduct a site specific study for the determination of a Fecal Coliform limit for Sewage Disposal Facility Effluent that maintains the quality of the receiving waters within reasonable and acceptable limits and submit a Report of the site specific study to the Board for approval by December 1, 2015. The study shall take into considerations the receiving water quality objectives provided in the *Guidelines for the Discharge of Treated Municipal Wastewater in the Northwest Territories*, 1992 and the Report shall provide recommended fecal coliform limits for inclusion in Part D, Items 2 and 3.
5. The Licensee shall maintain the Utilidor and Sewage Disposal Facility to the satisfaction of an Inspector.
6. The Licensee shall remove from the site, all Hazardous Wastes, waste oil and noncombustible Waste generated through the course of the operation, for disposal at a licensed Waste disposal facility.
7. The Licensee shall maintain records of all Waste backhauled and records of confirmation of proper disposal of backhauled waste. These records shall be made available to an Inspector upon request.
8. The Utilidor and Sewage Disposal Facility shall be maintained and operated in such a manner as to prevent structural failure.

PART E: CONDITIONS APPLYING TO MODIFICATIONS AND CONSTRUCTION

1. The Licensee shall submit to the Board for approval in writing, construction drawings stamped and signed by an Engineer, 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 Facilities, Utilidor and Sewage Disposal Facility provided that such Modifications are consistent with the terms of this Licence and the following requirements are met:

- a. the Licensee has notified the Board in writing of such proposed Modifications at least sixty (60) days prior to beginning the modifications;
 - b. the proposed Modifications do not place the Licensee in contravention of the Licence or the Act;
 - c. the Board has not, during the sixty (60) days following notification of the proposed Modifications, informed the Licensee that review of the proposal will require more than sixty (60) days; and
 - d. the Board has not rejected the proposed Modifications.
3. Modifications for which all of the conditions referred to in Part E, Item 2, have not been met, may only be carried out upon approval from the Board in writing.
4. The Licensee shall provide as-built plans and drawings of the Modifications referred to in this Licence within ninety (90) days of completion of the Modification. These plans and drawings shall be stamped by an Engineer.
5. All activities shall be conducted in such a way as to minimize impacts on surface drainage and the Licensee shall immediately undertake any corrective measures in the event of any impacts on surface drainage.

PART F: CONDITIONS APPLYING TO OPERATION AND MAINTENANCE

1. The Licensee shall submit to the Board for approval in writing, within ninety (90) days of issuance of the Licence, Operation and Maintenance (O&M) Manual for the Water Supply Facilities, Utilidor, and Sewage Disposal Facility prepared where appropriate, 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 Manual shall take into consideration the comments received during the application review process and shall contain the following plans:
 - a. O&M Plan for the Water Supply Facility;
 - b. O&M Plan for the Utilidor;
 - c. O&M Plan for the Sewage Disposal Facility;
 - d. Abandonment and Restoration Plan
 - e. Spill Contingency Plan; and
 - f. Quality Assurance/Quality Control (QA/QC) Plan required by Part H, Item 9 of the Licence.
2. If, during the period of this Licence, an unauthorized discharge of Waste and/or Effluent occurs, or if such a discharge is foreseeable, the Licensee shall:
 - a. Employ the appropriate contingency measure as described in an approved Spill Contingency Plan;

- 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. For each spill occurrence, submit a detailed report to the Inspector, no later than thirty (30) days after initially reporting the event, which includes the amount and type of spilled product, the GPS location of the spill, and the measures taken to contain, clean up and restore the spill site.

PART G: CONDITIONS APPLYING TO ABANDONMENT, RESTORATION AND CLOSURE

1. The Licensee shall, at least six (6) months prior to abandoning any facilities or upon submission of final design drawings for the construction of new facilities to replace existing ones, submit to the Board, for approval in writing, an Abandonment and Restoration Plan for the facilities being decommissioned. The Plan shall incorporate, where applicable, information on the following:
 - a. Water intake facilities;
 - b. The waste treatment and sewage treatment 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;
 - l. A proposal identifying measures by which restoration costs will be financed by the Licensee upon abandonment.
2. The Licensee shall carry out progressive reclamation of any components of the project no longer required for the Licensee's operations.
3. 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.
4. 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 2009. 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.

5. The Licensee shall complete the restoration work within the time schedule specified in an approved Abandonment and Restoration Plan, or as subsequently revised and approved by the Board.
6. The Licensee shall complete all restoration work prior to the expiry of this Licence.

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	Frequency	Status
RUT-1	Raw water supply prior to treatment	Daily, Monthly	Active (Volume
RUT-2	Effluent - Sewage Disposal Facility	Daily, Monthly	Active (Volume &

2. The Licensee shall provide the GPS coordinates (in degrees, minutes and seconds of latitude and longitude) of all locations where sources of Water are utilized for all purposes and at all Monitoring Program Stations.
3. The Licensee shall confirm the locations and GPS coordinates for all Monitoring Program Stations referred to in Part H Item 1 with an Inspector.
4. 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 RUT-1.
5. The Licensee shall measure and record the daily, monthly and annual volume of all Effluent discharged from the Sewage Disposal Facility at RUT-2.
6. The Licensee shall sample monthly at Monitoring Program Station RUT-2 and analyze for the following parameters:

BOD5	Fecal Coliforms
pH	Conductivity
Total Suspended Solids	Ammonia Nitrogen
Nitrate – Nitrite	Oil and Grease(visual)
Total Phenols	Sulphate
Sodium	Potassium
Magnesium	Calcium
Total Arsenic	Total Cadmium
Total Copper	Total Chromium
Total Iron	Total Lead
Total Mercury	Total Nickel
Total Zinc	Total Phosphorous

7. All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the current edition of *Standard Methods for the Examination of Water and Wastewater*, or by such other methods approved by the Board.
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. Within ninety (90) days of Licence issuance, the Licensee shall submit a Quality Assurance/Quality Control (QA/QC) Plan that conforms to the guidance document Quality Assurance (QA) and Quality Control (QC) Guidelines for Use by Class "B" Licensees in Collecting Representative Water Samples in the Field and for Submission of a QAQC Plan INAC (1996). The Plan shall include up to date field sampling methods to all applicable standards, acceptable to an accredited laboratory as required by Part H, Item 7 and Part H, Item 8 include a covering letter from the accredited laboratory confirming acceptance of the Plan for analyses to be performed under the Licence..
10. The Licensee shall annually review the QA/QC plan submitted under Part H, Item 9 and modify it as necessary. Proposed modifications shall be submitted to the accredited laboratory for approval.
11. The Licensee shall include in the Annual Report required under Part B, Item 1, all monitoring data and analysis and information required by this Part.
12. Modifications to the Monitoring Program may be made only upon written request and subsequent approval of the Board in writing.