

Hamlet of Taloyoak, Nunavut

Interim Compliance Plan

Water Licence NO 3BM-TAL-0813

Water, Sewage and Solid waste facilities

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Executive Summary

The Hamlet of Taloyoak is responsible for the disposal of sewage and solid waste generated from the community. These facilities have been operating effectively without inclusion in the current Water Licence. The sewage lagoon comprises a series of two natural lakes connected with a sub-merged berm, has been operating for sewage management facility which is connected to natural wetland for effluent remediation before ending to ocean. Raw sewage retains inside the primary cell for the winter starting October/November and remains frozen until the next May/June, by this time a partial treatment of sewage happened inside the Lagoon. Once meted, sewage effluent starts flowing over submerged berm onto the secondary cell and moves forward to shallow channel on meandering wetland which completes the remediation process before final discharge into ocean.

Solid waste site facility composed of a fenced containment on an elevated ground with an entrance near the sewage lagoon site. The facility has been operating for community solid waste disposal comprising household, commercial waste, metal dump, construction waste and other wastes allowable for disposal. Leachate borne by rain and snow melt water collects in shallow ditch area down the solid waste site from where it overflow across the wetland and finally merge with sewage effluent final discharge to ocean. Due to long time uses and quantity generated, there had some issues over the year in terms of O & M manual, control of metal and hazardous materials leachate mixing with sewage effluent, poor segregation, facility & monitoring signage and poor performance of facility operations and training.

In order to obtain the Water Licence through the Nunavut Water Board, improvement operation and management were required to use sewage lagoon and solid waste facilities. The Hamlet of Taloyoak with the help of GN had taken certain measures over the year in compliance to the requirements for inclusion of sewage and solid waste facilities, but due incomplete O&M manual, A&R plan for unused facility and full implementation of monitoring, the current sewage lagoon and solid waste site still awaiting for inclusion with the Licence.

Current status and improvement on facility operations:

Abandonment plan for old water treatment plant and storage facility will be submitted to the Board, once a final decision in conjunction to fire storage option decided from the community. Monitoring of current solid waste facility has started since summer 2012 comprising onsite segregation of metal dump, hazardous waste, picking up paper boards & wood pieces, recycles from household disposal separately, isolation of batteries and waste oil from regular waste and confined in metal containers and removal of illegal dump from outside of the facility. Signage has been installed on locations of sampling stations TAL-2, TAL-3, TAL-4 and TAL-5 (new)

with GPS locators. Comprehensive monitoring of solid waste facility continued during the summer including leachate retention and Operator Training of Environmental Awareness. GN had retained EXP consultant for helping the community in compliance with requirements.

GN CGS will continue the monthly monitoring and sampling program for sewage and solid waste effluent for the next summer and fall which include in-hand training, sample preservation, packaging and transportation, communication for testing in laboratory and recording of sample results for Annual Reporting to the Board.

Annual Reports of water drawn & sewage disposal has been submitted with the Board including outstanding years 2006 – 2007. Status for water withdrawal from Cano Lake and ‘As-Built Drawings’ of new treatment plant and O&M manual has been submitted with the Board. However, an interim compliance plan for sewage & solid waste sites operation are taking place while waiting for updating full O&M manual for these facilities as requested by the Board.

The enclosed Compliance Plan for sewage and solid waste facilities are updated with current status and resources in implementing operation as outlined in the Condition of Licence and requested. We confidently determined, the Compliance Plan will be helpful in operation and monitoring of facilities as required in the Nunavut Water Licence for this northern community.

Key Schedules of compliances & Dates:

Based on the field situation, major operation and maintenance works take place during summer and fall. However, mandatory works in terms of disposal & storage in designated location, site cleaning, securing, quantity tracking and ensuring safety to facility and public are continuous. Materials, resource and workability are concern in taking full implementation of the monitoring program. Considering the practicality and scope, the hamlet requires some time to finalize those outstanding and requesting to consider the following schedule to fulfill the compliance.

Annual Report with compliance of General conditions:	submission by Mar31, 2014
A&R plan for in-town old water treatment facility:	submission by July 30, 2014
Spill Contingency Plan within water supply & plant:	submission by July 30, 2014
Facility signage for sewage lagoon and solid waste sites;	submission by July 30, 2014
O&M manuals updating for sewage & solid waste sites:	submission by July 30, 2014

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Licence Condition		Status reported by NWB	Current status and Compliance	Implementation / Date of Obligation	Action/responsible
Part B	General Conditions				
B-1	Annual Report with the Board not later than March 31 of the following calendar year which shall contain information a - monitoring program, b - water quantity drawn c- modifications and/or maintenance on water supply and associated structures. d- summary of A&R works completed e- updates of O & M manuals f- any study or report relate to water use or restoration. g- other details on water use request	Non compliance Annual Report from 2004-2010 still outstanding	<ul style="list-style-type: none"> Annual reports submitted on July 30,2013 for 2006 through 2012 Raw water intake from Canso Lake. Annual quantities in cubic meters drawn (not exceeding 248 cu meters /day) reported in 'Annual report'. Water supply using truck-fill from new treatment plant, 'As-Built' drawing already submitted to the Board. Updated O&M manual for water supply submitted to the Board. No report related to water use required, but a request for A&R plan of old intake pump station storage-treatment facility . 	<p>Next Annual Report by March 31, 2014 with information of water uses in current year.</p> <p>Possible A&R plan for old intake pumphouse and treatment plant submission by July 2014, once such decision and funding confirm.</p>	<p>Hamlet. With CGS help</p> <p>GN-CGS with the help of Hamlet.</p>
B-2	The Licensee shall comply with the "Monitoring Program" and any amendments to the "Monitoring Program" from time to time, pursuant to the conditions of this Licence	Non compliance - Please refer to section H for specific compliance issues	<ul style="list-style-type: none"> Annual quantities of water measures from truck-fill daily records in cubic meters and sum-up monthly. Annual records all up-to date and submitted. Monthly Monitoring Program has been updated with the Board including Training Program on Sep 11, 2013 by GN prepared by EXP. No spills occurred within boundaries of water supply as required by Part H. Bacterial test for supply water- monthly Chlorine test - daily at least 1 sample from each truck operating for the day. Sewage disposal volume- monthly and sampling May-Aug inclusive Solid waste run-off sampling: May-Aug 	<p>Annual quantities are recording for next submission March 2014 The Monitoring Program has been in effect since 2012 and continued.</p> <p>An Spill contingency Plan will be submitted to the Board by July 30, 2014</p>	<p>Annual Report by CGS</p> <p>Spill Plan submission by hamlet with the help of CGS.</p>

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B-5	The Licensee shall, within ninety (90) days after the first visit of the Inspector, post necessary signs to identify the stations of the "Monitoring Program." All signage postings shall be in the Official Languages of Nunavut, and shall be located and maintained	Non compliance as per 2011 inspection reports, signed, sent off and posted	Signage at monitoring stations has been Installed including a new station for solid waste facility in July 2013. Details information of stations has been updated with the Board. TAL-1: N 69° 32' 39" and W 93° 32' 05" TAL-2: N 69° 32' 38" and W 93° 35' 39" TAL-3: N 69° 32' 26" and W 93° 35' 22" TAL-4: N 69° 32' 22" and W 93° 35' 25" TAL-5: N 69° 32' 23" and W 93° 34' 34"	Facility signs will be installed by next July 2014.	Installation by Hamlet and Monitoring inspection by the MTO (Municipal Technical Officer).
B-8	The Licensee shall submit one paper copy and one electronic copy of all reports, studies, and plans to the Board, shall include a detailed executive summary in Inuktitut	Non-compliance	EXP's site visit Report submitted March 2013. A Geotechnical investigation for Sewage containment and solid waste protection in plan by EXP for the next summer 2014.	Geotechnical investigation can be done by July, 2014, requires fund conformation	CGS will request EXP
B-10	The Licensee shall submit within 90 days of Licence issuance or filing any application in relation to Licence, a Plan for Compliance demonstrating the measures of undertaking and schedule to achieve full compliance with the conditions including approval of waste water and solid waste disposal	Non-compliance	A Plan of Compliance has been submitted in Nov 02, 2012. Based on the plan, sewage and solid disposal has been carried including segregation and securing. Solid waste management plan is a multi-year plan and requires more resources for full implementation	Summer 2014 will carry more on segregation and heaping metal dumps, hazardous materials from general dump. A control on site burning facility also in plan.	Hamlet will continue the solid waste cleaning and keep updating information with the Board.
Part-E	Conditions applying to modification and construction				
E-3	Modification for conditions referred to in Part E, item 2. The licensee shall provide ' As-built plans and drawings ' of such modifications within 90 days of completion of modification	Non-compliance	As-built drawings and plans for water intake, treatment and delivery system has been updated with the Board. The existing water intake and delivery system remains for decision decommissioning or uses if Fire Storage requires	Report will be updated with the Board once confirm, expecting July 2014	Hamlet and CGS

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Licence Condition		Status reported by NWB	Current status and Compliance	Implementation / Date of Obligation	Action/responsible
Part-F	Conditions applying to Operation and Maintenance				
F-1	The Licensee submit within 90 days, an O & M manual for sewage and solid waste disposal facilities and shall contain a Spill Contingency Plan appended to the O & M manual.	Non compliances	<p>Status of O&M manual reviewed by EXP during last visit in Feb 2012 and updated reports with NWB on March 31, 2012.</p> <p>It requires an updated O&M Manual for both sewage facility and Solid waste facility. No previous O&M manual available to be addressed.</p>	No previous manuals available, submission of O & M manuals will take some time and will be submitted to the Board by July 2014.	Hamlet will submit it With the help of GN-CGS, to the Board.
Part G	Abandonment & Restoration				
G-1	The Licensee shall submit to the Board for approval an Abandonment and Restoration (A & R) Plan of existing water intake facility within 90 days of issuance of the licence.	Non compliances	<p>No final decision yet for A&R of previous water intake Pumphouse & treatment facility. Operation of water intake, treatment & delivery switched to new water treatment plant since 2011.</p> <p>No changes or restoration of intake facilities within the current water treatment plant.</p> <p>Scope of works to be assessed for in-town previous facility.</p>	Possible A&R plan for existing water intake facility to the Board by end of 2014 once confirmed and funding available for A&R works	Hamlet will ensure the decision to GN for taking steps.
Part H	Conditions Applying to the Monitoring Program				
H-1	The Licensee shall measure and record, in cubic meters, the monthly and annual quantities of water pumped for all purposes	unknown	<p>Annual quantities of water pumped from all sources for all purposes as found on Tap water delivery (Fluid manager) and reported to the Board as below:</p> <p>2012; water pumped 35,518.8 cu meters</p> <p>2011: water pumped 35,152.4 cu meters</p> <p>Note: daily Allowable quantity 248 cu meters.</p>	Next Report of Annual quantity pumped and uses to the Board by March 31, 2014	Hamlet with the help of GN-CGS

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H-2	The Licensee shall include all the data and information in the Annual Report required by 'Monitoring Program' as required as per Part B, Item 1 or as requested by the Inspector	Items H-2 through H-4 unknown	<p><u>B-1. a:</u> tabular summary of all data under 'Monitoring Program'-submitted to NWB</p> <p><u>B-1.b:</u> Annual quantities of fresh water - submitted to the Board.</p> <p><u>B-1.c:</u> summary of modification on water supply-reported in item iv of Ann Report</p> <p><u>B-1.d, f, g:</u> No A&R, study or ware use request for current year, but an A&R plan may be for year 2014-15 for previous water intake and storage system as mentioned in Annual Report.</p> <p><u>B-1.e:</u> No O&M manuals updates and changes for carried this year, but requires for updating and submission to the Board ASAP.</p>	<p>O&M manuals submission by July 2014.</p> <p>A&R plan for existing water intake and treatment system possibly by July 2014, implementation 2015 provided funding confirmation.</p>	<p>O&M manuals submission by Hamlet.</p> <p>A&R plan submission by GN-CGS</p>
H-3	Modification of 'Monitoring Program' may be upon written approval from NWB	Not shown	<ul style="list-style-type: none"> Raw water intake volume- monthly Bacterial test for supply water- monthly Chlorine test - daily at least 1 sample from each truck operating for the day. Sewage disposal volume- monthly Sewage sampling- May-Aug inclusive Solid waste run-off sampling: May-Aug Re-located monitoring station TAL-2 (sewage) and TAL-3 and TAL-4 	<p>Annual Reports 2006 through 2012 has shown annual volume and test results -within allowable limits.</p> <p>Next report: by March 31, 2014 and anytime on request.</p>	Monitoring, sampling, testing and recording -all under Hamlet's responsibility. GN-CGS in helping hamlet
H-4	Data concerning spills within boundaries of water supply plant and source shall be in I report	unknown	No spills occurred or reported within boundaries of water supply plant and surface.	Next Annual Report by March 31, 2014.	Hamlet