

## Review Comment Table

<b>Board:</b>	GLWB
<b>Review Item:</b>	Town of Inuvik - Type "A" Municipal Water Licence Renewal (G17L3-001)
<b>File(s):</b>	<a href="#">G17L3-001</a>
<b>Proponent:</b>	Town of Inuvik
<b>Document(s):</b>	<a href="#">Application Package</a> (4.3 MB) <a href="#">Sewage Treatment Facility O&amp;M Plan</a> (7.1 MB) <a href="#">Solid Waste Disposal Facility O&amp;M Plan</a> (2.5 MB) <a href="#">Spill Contingency Plan</a> (2.1 MB)
<b>Item For Review Distributed On:</b>	
<b>Reviewer Comments Due By:</b>	Mar 7, 2017
<b>Item Description:</b>	The Town of Inuvik has submitted an application to renew Type "A" Water Licence G06L3-001, for the purpose of municipal water use and the deposit of waste. The Town's current Licence expires on June 30, 2017, and a ten year renewal term has been requested.
<b>General Reviewer Information:</b>	<p>Reviewers are invited to submit questions, comments and recommendations on the application using the Online Review System (ORS) by Tuesday March 7, 2017. All documents that have been uploaded to this review are also available on our public registry.</p> <p>If you have any questions or comments about the ORS, please contact Board staff identified below.</p>
<b>Contact Information:</b>	AlecSandra Macdonald 867-777-4954

## Comment Summary

Environment and Climate Change Canada: Gabriel Bernard-Lacaille				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Response
3	General File	<p><b>Comment</b> (<a href="#">doc</a>) ECCC Comments Cover Letter</p> <p><b>Recommendation</b></p>		
1	ECCC 1 - Submission in Support of Inuvik's Application for Renewal, Section 2.1.3 Surveillance Network Program (SNP), p.4 - Monitoring at SNP 0036-4 and 0036-5	<p><b>Comment</b> The existing water license states that water at station numbers 0036-4 and 0036-5 shall be sampled monthly, during periods of flow, and analyzed for a number of parameters including metals, BOD5, suspended solids, oil and grease, and phenols. However, no discussion or results indicating the quality of water at these stations has been provided by the Town of Inuvik (the Proponent).</p> <p><b>Recommendation</b> Environment and Climate Change Canada (ECCC) recommends that - the Proponent provide results of sampling at SNP 0036-4 and 0036-5 and discuss any implications for water quality.</p>		
2	ECCC 2 - Spill Contingency Plan, Section 2.5 Off-Site Resources, p.5 - ECCC	<p><b>Comment</b> In the Off-Site Resources section of the Spill Contingency Plan, ECCC notes an incorrect contact number for ECCC (867-669-4725).</p> <p><b>Recommendation</b> In the case of a spill or emergency, the 24 Hour Northwest</p>		

	Emergency Contact Number	Territories Spill Report Line should be contacted first by the Proponent, who will then involve ECCC Emergencies when appropriate. For information relating to the environmental enforcement and reporting requirements under the Canadian Environmental Protection Act and the Fisheries Act please contact ECCC Environmental Enforcement at 867-669-4730. The ECCC National Environmental Emergencies Centre (NEEC) will provide technical and scientific environmental advice and assistance to the lead agency, in the event of an environmental emergency. A lead agency is described as the governmental authority that regulates or has authority over the activity from which the emergency originated. NEEC can be contacted at 1-866-283-2333.		
<b>GNWT - ENR: Patrick Clancy</b>				
<b>ID</b>	<b>Topic</b>	<b>Reviewer Comment/Recommendation</b>	<b>Proponent Response</b>	<b>Board Staff Response</b>
1	General File	<b>Comment</b> ( <a href="#">doc</a> ) Letter of Recommendation <b>Recommendation</b>		
2	Topic 1: Part A - Scope and Definitions of	<b>Comment</b> To reflect current updates and maintain consistency with other Water Licences issued in the NWT, the GLWB should consider adding or		

	Inuvik Water Licence	<p>adjusting the following definitions in Part A - Scope and Definitions of the Inuvik Water Licence: Municipal Sewage Sludge is a mixture of water and non-stabilized solids separated from various types of wastewater as a result of a natural or artificial process. Reclamation means activities which facilitate the return of areas affected by the Waste Disposal Facilities to viable and, wherever practicable, self-sustaining ecosystems that are compatible with a healthy environment, human activities, and surrounding environment. Sewage Sludge Treatment Facility comprises the area and engineered structures designed to treat Sewage sludge. Unauthorized discharge means a release or discharge of any Water or Waste not authorized under this Licence. The term "Abandonment and restoration" has been replaced by "Closure and reclamation" in other NWT Board jurisdictions and most recent Water Licences, and "Closure and reclamation" should be used where appropriate within Inuvik's Water Licence. In the same manner, the term "Spill Contingency Planning" is now commonly used in NWT Water Licences and should be used where appropriate in Inuvik Water Licence</p>		
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		<p>such as Part G.</p> <p><b>Recommendation</b> 1) ENR recommends that the above definitions and updated terminology be added to Inuvik's Water Licence.</p>		
3	<p>Topic 2: Changes to Part B "General Conditions"</p>	<p><b>Comment</b> ENR notes that Part B, Item 1 of the current Inuvik Water Licence does not contain the following conditions: . A description of sewage sludge management activities; . Any updates and/or revisions to approved management plans (with brief summary in the introduction); . The annual quantity of hazardous material stored on site and shipped off site (if any); . The Licensee shall operate in accordance with the plans and programs approved pursuant to the conditions of this Licence and with any revisions to the plans and programs as may be made pursuant to the conditions of this Licence and as approved by the Board. If any plan is not approved by the Board, the Licensee shall revise the plan as requested by the Board. Similar conditions have been included in the more recent municipal Water Licences issued in the NWT.</p> <p><b>Recommendation</b> 1) ENR recommends that the above (or similar) general conditions be added to the Inuvik Water Licence to provide the</p>		

		necessary clarity and to better align with current NWT Water Licences.		
4	Topic 3: Part D “ Conditions Applying to Waste Disposal	<p><b>Comment</b> ENR notes conditions such as follows have been included in the more recent municipal Water Licences issued in the NWT in Part D - Conditions Applying to Waste Disposal. Note that for clarity purposes for the Licensee, the Board may regroup and identify conditions under Sewage and Solid Waste. . The Licensee shall ensure that any unauthorized Wastes associated with this undertaking do not enter any Waters. . The Licensee shall immediately notify an Inspector of the exceedance of any effluent quality criterion.</p> <p><b>Recommendation</b> 1) ENR recommends that these conditions be added to the Inuvik Water Licence to ensure the necessary provision and clarity towards waste disposal practices.</p>		
5	Topic 4: Part F “ Conditions Applying to Spill Contingency Planning	<p><b>Comment</b> ENR notes that similar conditions have been included in the more recent municipal Water Licences issued in the NWT. . The Licensee shall act in accordance with the approved Spill Contingency Plan, and shall annually review the Plan and make the necessary revisions to reflect</p>		

		<p>changes in operations, technology, chemicals or fuels, or as directed by the Board. Revisions to the Plans shall include a brief summary of the changes made, and shall be submitted to the Board, for approval, at least sixty (60) days prior to any proposed changes to the requirements I the approved Plan. . All spills and Unauthorized Discharges of Water or Waste shall be reclaimed to the satisfaction of an inspector.</p> <p><b>Recommendation</b> 1) ENR recommends addition of similar conditions to Inuvik Water Licence to foster the necessary provision towards Spill Contingency Planning (Part G).</p>		
6	<p>Topic 5: SNP Effluent Monitoring of Sewage Disposal Facilities “ CBOD Monitoring</p>	<p><b>Comment</b> Carbonaceous Biochemical Oxygen Demand (CBOD) was selected as a preferable parameter to measure wastewater effluent quality in southern Canadian jurisdictions, with the adoption of the Canada-wide Wastewater System Effluent Regulations (WSER). The WSER do not yet apply to wastewater treatment systems in Canada's North and it is unknown when the WSER will be legislated in the NWT because of the unique challenges presented in the Northern environment. In the spirit of harmonizing wastewater treatment systems' monitoring requirements, BOD has been replaced by CBOD</p>		

		<p>within NWT Water Licences, allowing for comparison between NWT wastewater treatments systems performance with its southern Canadian counterparts. Inuvik's current licence requires monitoring of Biochemical Oxygen Demand (BOD5) at SNP 0036-3 (compliance point), as well as SNP 0036-6, SNP 0036-7 and SNP 0036-8. In past Water Licences renewals, ENR recommended that both parameters be monitored to establish a CBOD/BOD trend ratio specific to a sewage/wastewater treatment system. During Fort Providence last Water Licence renewal in July 2016, an EQC for CBOD was derived at 90% of BOD value by looking at the trend analysis submitted by the City of Yellowknife (MV2009L3-0007). This CBOD/BOC ratio reflected a 3 years analysis of wastewater effluent monitoring data.</p> <p><b>Recommendation</b> 1) ENR recommends BOD monitoring to be replaced by CBOD in order to align with southern Canadian jurisdictions in using this parameter to assess wastewater treatment quality through oxygen-consuming capability of sewage discharges.</p>		
7	Topic 6: Sewage Treatment Facility (STF) O&M Plan	<p><b>Comment</b> A Sewage Treatment Facility O&amp;M plan was submitted as part of this application providing</p>		



		<p>important information on the design and operation of Inuvik's wastewater treatment cells system. The recently produced MVLWB O&amp;M templates for Sewage Treatment Facility O and M Plan, recommends the following information be included within an STF O&amp;M Plan :</p> <p>Facility Location Coordinates; Name, contact info &amp; roles/responsibilities of each staff member working at STF; Annual volume of wastewater collected in piped system in m<sup>3</sup>/year; Date of decommissioning of the STF (if unknown, estimate year); Ground Conditions relating to permafrost in and around the community in which the STF is located (Permafrost, Continuous permafrost, Discontinuous permafrost); How the sludge is disposed of (after being transferred to the sludge cells); Annual flow design; Where are records of annual/yearly quantities of sewage discharged to the STF are kept; Summary of any closure and reclamation work completed; Summary of any studies requested; Records of repairs and upgrades; etc.</p> <p><b>Recommendation</b> 1) ENR recommends that Inuvik's current STF O&amp;M (or future versions) be updated to provide the above information on the wastewater</p>		
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		<p>treatment system. During this updating process of the STF O&amp;M plan, the Town may also refer to the MVLWB O&amp;M template specific to Engineered Lagoons (Schedule C) and/or Natural Lake Lagoon (Schedule B) for additional information/details that Land and Water Boards are expecting within STF O&amp;M plans.</p>		
8	<p>Topic 7: Sewage Treatment Facility (STF) O&amp;M Plan  “ Sludge Treatment</p>	<p><b>Comment</b> The STF O&amp;M plan specifies, section 3.3.5, that sludge was transferred from the primary cells to the sludge holding cells (last transfer occurring in 1993). Section 3.3.1 described that runoff water is often trapped in the sludge holding cells and should be removed through pumping to prevent erosion of the dykes. Section 3.3.8 of the STF also reported a possible reduction of sludge transfer operations and sludge accumulation since enzyme addition procedures were initiated shortly after 1993.  <b>Recommendation</b> 1) ENR recommends that sludge holding cells runoff accumulation be added to the items to be inspected and removed, to prevent erosion of the dykes.</p>		
9	<p>None</p>	<p><b>Comment</b> None  <b>Recommendation</b> 2) ENR recommends that details on enzyme additions procedures to the wastewater</p>		

		treatment cells be provided within the current or subsequent updated versions of the STF O&M plan.		
10	Topic 8: ENR Inspector Information Update and GLWB Notification	<p><b>Comment</b> Section 4.0 of the STF O&amp;M Plan refers to Indian and Northern Affairs Canada Inspector Jan Davies. Following devolution, GNWT Environment and Natural Resources has taken over responsibility for Water Licence inspections.</p> <p><b>Recommendation</b> 1) ENR recommends the department, name and contact information be updated to GNWT Environment and Natural Resources, Water Resources Officer Lloyd Gruben, at 867.678.6650. Contact information within the SCP should be revised and updated as necessary to prevent any delays in time of spills emergencies.</p>		
11	None	<p><b>Comment</b> None</p> <p><b>Recommendation</b> 2) Contact information referring to AANDC within the Application Package should also be revised to ENR contact.</p>		
12	None	<p><b>Comment</b> None</p> <p><b>Recommendation</b> 3) Part D, Item 5 of Inuvik current Water Licence specifies that the Licensee shall advise an Inspector at least ten (10) days prior to initiating the Batch Decant of the sewage lagoon. The GLWB may also</p>		

		be advised of the decant at the same time as inspector, as currently done in other NWT Water Licences, which would require that such specification be made this condition.		
13	Topic 9: Spill Contingency Plan “ Staff Roles and Responsibilities of Spill Response Team	<p><b>Comment</b> Section 2.11.4 of Inuvik SCP provides the Procedures for Initial Actions. One very important step to be conducted as Initial Actions is the Activation of the Spill Response Team (or responding personnel), as specified in 2007 INAC Spill Contingency Guidelines ("Procedures for initial action" - Section 2.3). The SCP Guidelines also specifies (section 2.2) that the response organization should identify each employee's associated duties (roles and responsibilities during a spill emergency), as well as 24 hour telephone numbers for employee(s) responsible for activating the plan. While section 2.4 of Inuvik SCP provided contact information for the spill response personnel as well as their Job title, the roles and responsibilities of these staff members within the Spill Response Team were not identified. It is also noted that no employee was assigned the important role of On-Site Supervisor (see below comment).</p> <p><b>Recommendation</b> 1) ENR recommends that the employee who</p>		

		will assume the role of "On-Site Supervisor" in the eventuality of a spill emergency situation be identified within the Inuvik SCP. ENR further recommends that alternate(s) to the On-Site Supervisor be identified within the plan for times that the On-Site Supervisor may not be available.		
14	None	<b>Comment</b> None <b>Recommendation</b> 2) ENR recommends that spill response roles and responsibilities be specified for each spill response personnel (section 2.4), in order to provide clarity and prevent delays in the eventuality of spill emergency situation.		
15	Topic 10: Spill Contingency Plan - Lines of Communication and Response Duties of Response Personnel in Communication Flowchart	<b>Comment</b> Section 2.2 of the 2007 INAC Spill Contingency Guidelines specifies that a flowchart should be prepared to depict communication lines and the response duties of each member of the response team (example provided in Figure 3 of the Guidelines). A Spill Response Flowchart is provided under Figure 2.1 of the Inuvik SCP. Inuvik's SCP flowchart does not however provide the name of the "On-Site Supervisor", as well as the associated contact information. This flowchart should be updated to contain this information,		

		<p>and posted at highly visible(s) location(s) that are easily accessible by on-site staff.</p> <p><b>Recommendation</b> 1) To prevent confusion in time of emergency, the SCP flowchart provided on page 10 should be updated to provide the name of the On-Site Supervisor.</p>		
16	None	<p><b>Comment</b> None</p> <p><b>Recommendation</b> 2) Once the flowchart diagram is updated with the name and contact information of the On-Site Supervisor (and alternate(s)), ENR also recommends that this diagram be posted in a highly visible place at each of Inuvik waste management or recreational facilities enumerated in section 1 where hazardous substances are being stored (near potential spill sources).</p>		
17	Topic 11: Spill Contingency Plan - Immediately Reportable Spill Quantities – Appendix A	<p><b>Comment</b> ENR's website, under "Hazardous Material Spills - Reporting Spills" provides "Reportable Quantities for NWT Spills. Appendix A of the current SCP also provides a Table of Immediately Reportable Spill Quantities for the required various substances. ENR notes that untreated sewage and wastewater is currently missing from this Table.</p> <p><b>Recommendation</b> 1) ENR recommends for Sewage and</p>		

		Wastewater to be added to Inuvik SCP Appendix A: Reportable Quantities for NWT Spills.		
18	Topic 12: Spill Contingency Plan - Section 2.11.7: Spill Under Ice	<p><b>Comment</b> Section 2.11.7 provides information on the planned spill emergency procedures if a spill was to occur on the ice, but does not provide which procedures would be considered if a spill was to migrate under ice.</p> <p><b>Recommendation</b> 1) ENR recommends that details on planned procedures to recover spilled material under ice be clarified and identified within Inuvik's SCP. These clarifications will help staff to plan ahead and understand best possible response procedures may this type of scenario was to occur.</p>		

**GTC Department of Cultural Heritage : Sharon Snowshoe**

<b>ID</b>	<b>Topic</b>	<b>Reviewer Comment/Recommendation</b>	<b>Proponent Response</b>	<b>Board Staff Response</b>
1	General File	<p><b>Comment</b> (<a href="#">doc</a>) GTC Department of Cultural Heritage Cover Letter</p> <p><b>Recommendation</b></p>		
2	Comments	<p><b>Comment</b> We have reviewed the above application, and have no issues or concerns at this time.</p> <p><b>Recommendation</b> As with any application, if archaeological or heritage materials are encountered during the development within the</p>		

		Gwich'in Settlement Area, all work must cease immediately as required by law, and the DCH and the Prince of Wales Northern Heritage Centre in Yellowknife must then be contacted.		
<b>Gwich'in Renewable Resources Board: Janet Boxwell</b>				
<b>ID</b>	<b>Topic</b>	<b>Reviewer Comment/Recommendation</b>	<b>Proponent Response</b>	<b>Board Staff Response</b>
1	General File	<b>Comment</b> <a href="#">(doc)</a> GRRB Letter <b>Recommendation</b>		
2	5 year term renewal	<b>Comment</b> GRRB staff have reviewed this application and has identified gaps in the information provided. We offer the following comments and recommendations for the consideration of the Board <b>Recommendation</b> Staff recommend a 5 year renewal term be approved, rather than a 10 year renewal term as requested, in order to address the gaps indicated below and to make revisions or to obtain more information as needed		
3	Compliance	<b>Comment</b> . Staff notice in the Detailed Compliance Table of the Municipal Water Licence provided that a Sewage Management Plan is required under Part B, item 11 and was due July 1, 2011 and is still outstanding. <b>Recommendation</b> Provide update on status of these actions.		



4	Compliance	<p><b>Comment</b> . Staff notice in the Detailed Compliance Table of the Municipal Water Licence provided that the water intake fish screen is the improper size and this has been outstanding since 2011.</p> <p><b>Recommendation</b> Provide update on status of these actions.</p>		
5	Hazardous waste management plan	<p><b>Comment</b> No hazardous waste management plan has been submitted with the current application.</p> <p><b>Recommendation</b> submit hazardous waste management plan</p>		
6	Sewage Treatment Facility Operations and Maintenance	<p><b>Comment</b> The Sewage Treatment Facility Operations and Maintenance (OM) Manual provided appears to lack current information. References cited are from 1993 and earlier. For example, the OM manual refers to a 1993 sludge transfer operation and states that accumulation needs to be monitored by survey every two or three years. Have there been more recent sludge transfer operations? What were the results? At what frequency is the rate of accumulation monitored and surveyed?</p> <p><b>Recommendation</b> update the Sewage Treatment Facility Operations and Maintenance manual</p>		
7	Landfill - Bears	<p><b>Comment</b> The Inuvik Landfill is an attractant for bears. This creates a</p>		

		<p>hazard for people and increases mortality to bears that have become habituated to this source of food and are then killed by wildlife officers. Grizzlies were assessed as a species of Special Concern under the federal Species at Risk Act in 2012 and will be assessed by the NWT Species at Risk Committee in April 2017. The solid waste management plan does not address alternatives to lethal dispatch of habituated bears, such as fencing or other bear deterrents that are used successfully elsewhere.</p> <p><b>Recommendation</b> Recommendation: investigate bear deterrent methods and other alternatives to killing bears at the Inuvik Landfill.</p>		
8	Surface drainage from the Baldy Landfill	<p><b>Comment</b> Staff request more information about the surface drainage from the Baldy Landfill. According to the map provided in Fig 2.1 (p26) of the application, there appears to be an ephemeral stream that may drain into Boot Creek and ultimately into Boot Lake, upstream of the water intake pipe. As permafrost warming and melt increases due to anticipated long term climate changes, it is expected there will be changes to current surface and subsurface drainage patterns.</p> <p><b>Recommendation</b> Recommendation: that additional SNP surface water</p>		

		<p>monitoring stations be established at Boot Creek where it drains into Boot Lake as well as where Boot Creek drains out of the lake and into the East Channel upstream of the water intake pipe. Recommendation: that groundwater monitoring stations be established upstream of the water intake pipe as well as along the outflow of the effluent from the sewage lagoon</p>		
9	Permafrost considerations	<p><b>Comment</b> In Section 3: Projected Outlook and Trends of the Submission in support of Inuvik's Application there is no discussion of potential impacts of melting permafrost on Inuvik's water supply and infrastructure or sewage effluent and infrastructure</p> <p><b>Recommendation</b> Recommendation: that research be conducted into potential permafrost effects and a long term permafrost mitigation plan be developed</p>		
10	Spill Response	<p><b>Comment</b> Staff request additional information on the spill response plan and have the following questions: Who does inspections to ensure sites have fully stocked spill response kits? What materials are used? Are personnel trained with hands-on practice, and regularly updated on new technologies</p>		

		or spill response procedures? <b>Recommendation</b> n/a		
<b>Gwich'in Tribal Council: Helga Harlander</b>				
<b>ID</b>	<b>Topic</b>	<b>Reviewer Comment/Recommendation</b>	<b>Proponent Response</b>	<b>Board Staff Response</b>
1	General File	<b>Comment</b> <a href="#">(doc)</a> GTC Lands and Resources Letter <b>Recommendation</b>		
2	No Comments	<b>Comment</b> GTC Lands and Resources has reviewed the above application and has no comments at this time. <b>Recommendation</b> n/a		
<b>Nihtat Gwich'in Council - DGO: Jozef Carnogursky</b>				
<b>ID</b>	<b>Topic</b>	<b>Reviewer Comment/Recommendation</b>	<b>Proponent Response</b>	<b>Board Staff Response</b>
1	Via emial	<b>Comment</b> No Issues here <b>Recommendation</b> n/a		