

## Review Comment Table

<b>Board:</b>	SLWB
<b>Review Item:</b>	Deline Got'ine Government - Water Licence Renewal Application (S18L3-001)
<b>File(s):</b>	<a href="#">S18L3-001</a>
<b>Proponent:</b>	Deline Got'ine Government
<b>Document(s):</b>	<a href="#">Application Cover Letter</a> (87.8 kB) <a href="#">Renewal Application</a> (60.8 kB) <a href="#">Municipal WL Questionnaire</a> (1.7 MB) <a href="#">Facility Location Map</a> (872 kB) <a href="#">Existing SNP Location Map</a> (6.4 MB) <a href="#">Temporary Solid Waste Disposal Facility Sketch</a> (181 kB) <a href="#">Sewage Lagoon Operation and Maintenance Manual</a> (430 kB) <a href="#">Solid Waste Disposal Operation and Maintenance Plan</a> (1.9 MB) <a href="#">Spill Contingency Plan</a> (2.3 MB) <a href="#">Deline Renewable Resource Council - Letter of Support</a> (29.8 kB) <a href="#">S18L3-001 - DRAFT Terms and Conditions</a> (700 KB)
<b>Item For Review Distributed On:</b>	Mar 19 at 16:09 <a href="#">Distribution List</a>
<b>Reviewer Comments Due By:</b>	Apr 10, 2018
<b>Proponent Responses Due By:</b>	Apr 17, 2018
<b>Item Description:</b>	<p>The Deline Got'ine Government (DGG), Local Services Department has submitted a renewal application for the Type B municipal water licence S12L3-002 to the SLWB. The current licence will expire May 4, 2018. The DGG is requesting a term of 5 years for the renewal licence (S18L3-001).</p> <p>Reviewers are invited to submit questions, comments and recommendations using the Online Review System (ORS) by <b>April 10, 2018</b>.</p> <p>Please provide comments and recommendations on the:</p> <ul style="list-style-type: none"> <li>• Application;</li> <li>• Municipal WL Questionnaire;</li> <li>• Solid Waste Disposal Facilities Operation and Maintenance Plan, Version 1;</li> <li>• Sewage Disposal Facilities Operation and Maintenance Plan, Version 1; and</li> <li>• Spill Contingency Plan, Version 1.</li> </ul>

<b>Contact Information:</b>	<p>Under the <i>Preliminary Screening Requirement Regulations</i> of the <i>Mackenzie Valley Resource Management Act</i> (MVRMA), the Board must conduct a preliminary screening for an application for a proposed development that requires a licence, unless it is exempt from Part 5 of the MVRMA. Reviewers are encouraged to provide comments and recommendations (e.g., on impacts and mitigation measures) to assist with the completion of the preliminary screening.</p> <p><b>*Note*</b> A draft Water Licence was posted to this review on March 29, 2018. The purpose of the draft Licence is to allow parties to comment on Board staff's suggested conditions. These draft materials are not intended to limit in any way the scope of parties' comments. The Board is not bound by the contents of the draft Licence and will make its decision at the close of the proceeding on the basis of all the evidence and arguments filed by all parties</p> <p>All documents that have been uploaded to this review are also available on our public registry. If you have any questions or comments about the ORS or this review, please contact Board staff identified below.</p>
	Sabrina Sturman 867-598-2413

## Comment Summary

Environment and Climate Change Canada: Petrel Liu				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Response
6	General File	<b>Comment</b> ( <a href="#">doc</a> ) ECCC Cover Letter <b>Recommendation</b>		
1	Sewage Lagoon Operations and Maintenance Manual - Appendices	<b>Comment</b> The reports identified to be in the appendices are not included in the submitted maintenance manual. <b>Recommendation</b> ECCC recommends that the proponent update the manual to include appendices.	<b>Apr 25:</b> To be provided within 60 days of licence issuance	<b>Apr 18:</b> Board recommend that the Plan be resubmitted with the appendices within 60 days of Licence issuance.
2	Solid Waste Disposal Facility Operation and Maintenance Plan -	<b>Comment</b> The current solid waste facility is meant for temporary use while the new solid waste facility is under construction but appears to have been in use for many	<b>Apr 25:</b> The proponent will collect leachate sample(s) from drainage from the Temporary Landfill, submit for laboratory analysis and report on analysis in its	<b>Apr 18:</b> Response acceptable.

	Leachate	<p>years. The plan for the temporary solid waste facility indicates that drainage has not been constructed and that the facility relies on natural attenuation of landfill leachate. No information on monitoring or collection of leachate within the facility footprint is included in the plan.</p> <p><b>Recommendation</b> ECCC recommends that the Proponent provide information on the quality of leachate coming from the solid waste disposal facility and any details on collection within the facility.</p>	2018 annual report. (Note it is intended to discontinue use of this site in 2018.)	
3	Solid Waste Disposal Facility Operation and Maintenance Plan - Closure and Reclamation	<p><b>Comment</b> The temporary solid waste facility is currently being used until such a time that the new solid waste facility is constructed (projected to begin in 2018-19). While a closure plan is referenced in the existing plan this information has not been provided in the submission and it is unclear if this plan needs to be updated prior to final closure of the temporary solid waste facility.</p> <p><b>Recommendation</b> ECCC recommends that the Proponent provide information on the proposed closure and reclamation of the temporary solid waste facility to be implemented upon completion of the new solid waste facility.</p>	<p><b>Apr 25:</b> MACA has confirmed responsibility for reclamation of the old sewage lagoon and temporary landfill site. It is proposed that reclamation will occur in 2019. The proponent cannot bind MACA into unreasonable timeframes and suggests that the part of the Reclamation Plan addressing the temporary landfill be updated within 120 days of licence issuance. THIS should allow for review by the parties prior to 2019 remediation.</p>	<p><b>Apr 18:</b> Board recommend that the Plan be resubmitted with the requested information within 120 days of issuance of the Water Licence.</p>
4	General	<p><b>Comment</b> The Proponent has not provided water quality sampling results of the</p>	<p><b>Apr 25:</b> There has been a gap in the management of the Water Licence</p>	<p><b>Apr 18:</b> Board recommend that the SLWB remind</p>

		<p>effluent quality being achieved in the sewage lagoon or any other SNP locations.</p> <p><b>Recommendation</b> ECCC recommends that the Proponent provide recent results of water/effluent sampling at SNP stations.</p>	<p>following dissolution of the Charter Community of Deline and establishment of the Deline Got'ine Government. As a result effluent samples were not collected as intended under the current licence. It should be noted that there was no decant of the old sewage lagoon in 2016. It would be helpful if the Board confirmed sampling requirements in the new licence and the Water Resources officer comes to town during Spring to work with DGG staff to confirm SNP locations and provide refresher training on sampling.</p>	<p>Deline Got'ine Government of their responsibility to conduct SNP sampling under the NWT Waters Act.</p>
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**GNWT - ENR: Central Email GNWT**

<b>ID</b>	<b>Topic</b>	<b>Reviewer Comment/Recommendation</b>	<b>Proponent Response</b>	<b>Board Response</b>
13	General File	<p><b>Comment</b> (<a href="#">doc</a>) ENR Letter with Comments and Recommendations</p> <p><b>Recommendation</b></p>		
1	Topic 1: Waste Management Facilities - Wetland Treatment Path Trajectory Not Yet Outlined on a Map	<p><b>Comment</b> Section 1.2 of the WWTS O&amp;M Plan (Sewage Lagoon O&amp;M Plan) specifies that the effluent flows from the cells into a low lying area making its way through various wetlands until eventually discharging to Great Bear Lake, approximately 4.5 km away. The "Existing SNP Location Map" provides the visual representation of six active SNP monitoring stations enumerated in the draft Water Licence - and one inactive SNP station (SNP 0555-1).</p>	<p><b>Apr 25:</b> Proponent to annotate existing map to indicate WWTS flow path and update it with revised SNP station locations to be determined when Water Resource Officer visits community in Spring. To be complete within 90 days of licence issuance.</p>	<p><b>Apr 18:</b> Board recommend that the Plan be resubmitted with the revised map within 90 days of issuance of the Water Licence.</p>

		<p>Planned locations to monitor the treatment performance of the Sewage Disposal Facilities are represented as SNP 0555-4 [effluent at point of discharge to the wetland] and SNP 0555-5 [effluent at 2,000 m downstream from discharge]. ENR notes that SNP numbering used on the Map is in very fine print, which makes it difficult to decipher - unless the map is expanded. In order to fully understand and inform future decisions towards effluent quality monitoring and future maintenance needs, the entire WWTS flow path should be visually represented on a map. Such a map should present the discharge location to the lagoon system, location where wastewater enters the wetland, as well as the entire wetland/flow, including the Final Point of Discharge (see subsequent comment) and the Receiving Environment (Great Bear Lake).</p> <p><b>Recommendation 1)</b> ENR recommends the entire Sewage Disposal Facilities (or WWTS), including the wetland portion location in between the new lagoon cells and the receiving environment (Great Bear Lake), and corresponding SNP monitoring station, be visually represented on a map and included within Deline WWTS O&amp;M Plan.</p>		
2	None	<p><b>Comment</b> None</p> <p><b>Recommendation 2)</b> ENR recommends that the font</p>	<b>Apr 25:</b> Agreed	<b>Apr 18:</b> Board recommend that the SNP stations

		used to represent SNP stations on the Existing SNP Map be increased in order to be readable.		be clearly labelled on the revised map to be submitted within 90 days of issuance of the WL.
3	Topic 2: SNP Monitoring - Rationale for SNP 0555-5 Monitoring Site Selection	<p><b>Comment</b> The "S18L3-001 Deline Existing SNP Location Map" illustrates SNP 0555-5 monitoring station to be located less than half way between the point of discharge from the lagoon and the receiving environment in Great Bear Lake. This aligns with the SNP 0555-5 description provided in the draft Water Licence, specified as "Continuous discharge lagoon, Effluent at 2,000 m downstream from discharge." Deline WWTS O&amp;M Plan however, describes (p. 5 of 24) that "The effluent flows from the cells into a low lying area making its way overland through various wetlands until eventually discharging to Great Bear Lake [Receiving Environment] approximately 4.5 km away." To measure the performance of the entire Wastewater Treatment System, SNP 0555-5 should be located at the Final Discharge Point (located at the end of the treatment system), and described as the "point where the treated wastewater leaves the treatment system and enters the environment" [see Section 11 of the MVLWB</p>	<p><b>Apr 25:</b> Proponent to provide locations and map of agreed upon SNP stations following visit by Water Resource Office. To be complete within 90 days of licence issuance.</p>	<p><b>Apr 18:</b> Board agree with the revised SNP location to be reflected on the revised map required within 90 days of issuance of the WL and in the WL conditions SNP station location descriptions.</p>

		<p>WWTS O&amp;M template]. This location would allow for monitoring of the treatment performance of the entire system.</p> <p><b>Recommendation</b> 1) ENR recommends the suggested location for SNP location 0555-5 be revised and represent the Final Discharge Point, located immediately prior to entering the receiving environment of Great Bear Lake.</p>		
4	<p>Topic 3: SNP Monitoring  “ EQCs for CFU and CBOD</p>	<p><b>Comment</b> Reviewer' input was requested by the Board for Effluent Quality Criteria (EQC) limits, used while assessing the lagoon effluent quality prior to considering discharging at SNP 0555-4. Considering the absence of past SNP monitoring data, it may be difficult to confirm the adequacy of site-specific treatment criteria used as compliance standard limits. ENR notes however that CFU limits used in other NWT Water Licences range between 200 CFU per 100 ml and 1 x 10<sup>6</sup> CFU per 100 ml, and that most frequently used limits are 1 x 10<sup>4</sup> and 1 x 10<sup>6</sup> per 100 ml. In the spirit of harmonizing wastewater treatment systems' monitoring requirements, BOD has been replaced by CBOD within NWT Water Licences, allowing for comparison between NWT wastewater treatments systems performance and their southern Canadian counterparts. ENR suggests</p>	<p><b>Apr 25:</b> Agree</p>	<p><b>Apr 18:</b> Staff have revised the Water Licence conditions to reflect a CBOD equivalent of 72 mg/L and removed the requirement for BOD.</p>

		<p>that CBOD monitoring only would suffice, rather than requesting that both BOD and CBOD be monitored. Deline's draft Water Licence currently requires the monitoring of both parameters, with EQCs of 80 mg/L for BOD, and 330 mg/L for CBOD. During Fort Providence Water Licence renewal in July 2016, a limit for CBOD was derived at 90% the BOD value, based on a three year trend analysis. This 90% ratio has since also been applied to calculate the CBOD equivalent in other recent Water Licences, such as for the Town of Inuvik.</p> <p><b>Recommendation</b> 1) Should the SLWB decide to use the 90% CBOD/BOD ratio to derive from the 80 mg/L BOD limit, ENR recommends that a CBOD equivalent of 72 mg/L be represented in Deline's Water Licence.</p>		
5	<p>Topic 4: Responsibility to Monitor Effluent Discharges to the Environment</p>	<p><b>Comment</b> ENR understands that the Deline Government has historically not been assessing the quality of their wastewater effluent discharges prior to releasing sewage/wastewater to the environment for the old sewage lagoon and SWF, and with the most recently commissioned WWTS. As such, SNP monitoring data could not be located on the Public Registry. To demonstrate that effluent released from their WWTS</p>	<p><b>Apr 25:</b> No comment</p>	<p><b>Apr 18:</b> Board recommend that the SLWB remind Deline Government of their responsibility to conduct SNP sampling under the NWT Waters Act.</p>



		<p>[and Solid Waste Disposal Facilities] are of acceptable quality that will not negatively impact surrounding water bodies, Deline is required to conduct SNP monitoring. Conditions of the Deline Water Licence provide direction on how to ensure that contamination risks (from the effluent) are properly monitored, reported and managed by the community. In the most recent inspection report dated September 2017, ENR Water Resources Officer stated that he will be returning to Deline to conduct SNP sampling training with the community's Water Treatment Operator. ENR wishes to remind the Deline Government of their responsibility under the NWT Waters Act, to monitor the quality of their wastewater effluents and prevent/minimize risk to their surrounding environment</p> <p><b>Recommendation</b> None.</p>		
6	Topic 5: Closure and Reclamation Groundwater Monitoring Wells	<p><b>Comment</b> The draft Water Licence (SNP section, p. 17) proposes the addition of seven new groundwater monitoring wells. All proposed groundwater monitoring wells are located in and around the old Solid Waste Facility (also where the Temporary SWF is located) and old sewage lagoon cells. The groundwater monitoring wells locations are said to align with Section 7.3 of Deline Closure and</p>	<b>Apr 25:</b> No comment	<b>Apr 18:</b> Staff have updated the Water Licence conditions to include further details, as recommended, within the rationale for each groundwater well in the SNP section.

	<p>Reclamation Plan (CRP) (v2 - Sept 2014), as well as with groundwater monitoring requirements for other facilities active sites in the Sahtu. The Solid Waste Management for Northern and Remote Communities Guidelines were released by Environment Canada and Climate Change (ECCC) in March 2017. Section 7.0 of this document offers guidance with respect to best groundwater monitoring practices. Groundwater monitoring objectives for each monitoring well should be carefully selected and described, as these will provide guidance on what each well is to accomplish. Objectives will guide the evaluation and interpretation of the monitoring results and influence future actions/decisions regarding potential changes, improvements and/or groundwater monitoring cessation (if no longer necessary). Examples of groundwater monitoring objectives [or Rationales], as provided within ECCC Guidelines for Solid Waste Management for Northern and Remote Communities (Table 7.1) are as followed: . To measure the extent and magnitude of groundwater leachates contamination (if any) underneath the Solid Waste Facility Old Cell; . To measure the extent and magnitude of groundwater</p>		
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		<p>leachates contamination (if any) migrating offsite from the Solid Waste Facility; . To measure groundwater levels and general hydrogeological conditions on the site; . To assess baseline groundwater chemistry; . To use quality assurance and quality control (QA/QC) The monitoring objectives could be incorporated in to the "Rationales" provided in the SNP section. As such, each rationale provided in the SNP section should specify that monitoring results will be interpreted to detect potential contamination (extent and magnitude), as well as the location of the groundwater that is being assessed.</p> <p><b>Recommendation 1)</b> ENR suggests that further details, as outlined above, be provided within the rationale for each groundwater well in the SNP section.</p>		
7	None	<p><b>Comment</b> None</p> <p><b>Recommendation 2)</b> In order to prevent confusion, ENR recommends that the type of monitoring (groundwater) be specified in the rationale for each groundwater monitoring well.</p>	<b>Apr 25:</b> No comment	<b>Apr 18:</b> Staff have updated the conditions in the WL to specify groundwater monitoring in the rationale for each groundwater monitoring well.
8	None	<p><b>Comment</b> None</p> <p><b>Recommendation 3)</b> ENR recommends that there should be a requirement to regularly evaluate and interpret the results of the groundwater monitoring program. Depending upon the results of the evaluation,</p>	<b>Apr 25:</b> No comment	<b>Apr 18:</b> Staff have updated the conditions of the Water Licence to include a new condition that requires regular evaluation and interpretation of

		additional actions may be recommended.		the results of the groundwater monitoring program. Depending upon the results of the evaluation, additional actions may be recommended.
9	Topic 6: Closure and Reclamation Plan - For New Waste Management Facilities	<p><b>Comment</b> Part H of the draft Water Licence on "Closure and Reclamation" refers to the September 2014 Closure and Reclamation Plan, which was prepared specifically for Closure and Reclamation of the old sewage lagoon cells and landfill. There is currently no Closure and Reclamation planning requirements in the draft Water Licence for the new WWTS already in operation, or new SWF planned for opening in 2018-2019.</p> <p><b>Recommendation</b> 1) ENR recommends that conditions relating to Closure and Reclamation of the Deline new Waste Management Facilities (WWTS and SWF) be inserted within part H of the Water Licence.</p>	<b>Apr 25:</b> No comment	<b>Apr 18:</b> Staff have updated the conditions of the Water Licence to include conditions relating to Closure and Reclamation of the Deline new Waste Management Facilities (WWTS and SWF) within part H of the Water Licence.
10	Topic 7: WWTS O&M Plan "Other Details Typically Requested via LWBs Templates	<p><b>Comment</b> The current O&amp;M Plan provides many details, but omits some site-specific and system-specific information as typically required by the recently produced MVLWB O&amp;M templates for Wastewater (Sewage) Treatment System. Further details should be supplemented as follows: . Facility location coordinates;</p>	<b>Apr 25:</b> Agree with Staff recommendation; however, as per above comment we are requesting 120 days to fulfill this condition.	<b>Apr 18:</b> Board recommend that the Plan be resubmitted with the requested information within 120 days of issuance of the Water Licence.

		<p>. For each staff working at WWTS - a Name, contact info &amp; roles/responsibilities; . Security and control of the WWTS (Section 3 of template); . Wastewater generation and conveyance (Section 4); . Influent Wastewater Quality (Section 5); . System capacity design and effluent discharge (Sections 6 &amp; 7); . Receiving environment and wetland specifications; . Past sludge removals (years when it has occurred); . Annual flow design; . Where records are being kept; . Summary of any closure and reclamation work completed; . Summary of studies requested (if any); and, . Records of repairs and upgrades.</p> <p><b>Recommendation 1)</b> ENR recommends that Deline's current WWTS O&amp;M be updated to provide typical WWTS management and information details, such as required in the MVLWB WWTS O&amp;M Template. During the updating process of the WWTS O&amp;M plan, Deline should also refer to the O&amp;M Template Appendix specific to Engineered Lagoons (Schedule C) for further wastewater treatment train specific information.</p>		
11	Topic 8: WWTS O&M Plan "Missing Appendices	<p><b>Comment</b> The following Appendices are enumerated the introductory Table of Contents of the WWTS O&amp;M plan (p. 4 of 24) [referred to as the Sewage</p>	<p><b>Apr 25:</b> Agreed, as per response to similar comment by ECCC</p>	<p><b>Apr 18:</b> Board recommend that the Plan be resubmitted with the appendices within 60 days of</p>

		<p>Lagoon Operation &amp; Maintenance Manual]: .  Appendix A Drawings  .....A.1 . Appendix B  Current Water Licence  .....B.2 . Appendix C INAC  Sampling Guide ....C.3 .  Appendix D Site Inspection  Template ... D.4 . Appendix  E Laboratory Sampling  Requirements ...E.5 ENR  notes that none of these  Appendices were inserted at  the end of the document  (blank pages).  <b>Recommendation 1)</b> ENR  recommends that the missing  Appendices be inserted in the  Deline WWTS O&amp;M Plan, or  as otherwise recommended  by the SLWB.</p>		<p>Licence  issuance.</p>
12	<p>Topic 9: Spill  Contingency  Plan -  Flowchart  Posted in  Visible Place</p>	<p><b>Comment</b> A Response  Flowchart was provided in  Section 3.0 of the SCP (p. 7  of 25). Such a diagram  provides a visual summary of  the response organization and  chain of command to be  followed when responding to  a spill. To best support  community staff in case of a  spill, the flowchart should  contain the name and phone  numbers of relevant staff (eg.  SAO) responsible for and  responding to activating the  Spill Recovery Plan. The  flowchart (once updated with  names and contact info)  should be posted in a highly  visible and accessible place,  in order to offer guidance to  staff when required.  <b>Recommendation 1)</b> ENR  recommends that the Spill  Response Flowchart be</p>	<p><b>Apr 25:</b> Agree with Staff  recommendation.</p>	<p><b>Apr 18:</b> Board  recommend that  the SLWB request  Deline Got'ine  Government to  post the the Spill  Response  Flowchart in a  highly visible  location within  Deline facilities  and to submit the  flowchart updated  with names and  contact  information to the  Board for posting  on the registry.</p>

		posted in a highly visible location within Deline facilities where potential spill sources are being stored, in order to facilitate quick access to Deline's spill response organization and chain of command in the event of a spill emergency.		
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