



Environmental Protection Operations Directorate
Prairie & Northern Region
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March 29, 2016

ECCC File: 5300 000 011/005
ILA File: N5L3-0714

Mardy Semmler
Executive Director
Inuvialuit Water Board
P.O. Box 2531
Inuvik, NT X0E 0T0

Via email at semmlerm@nwtwb.com

**RE: N5L3-0714 – Hamlet of Tuktoyaktuk – Municipal Water and Waste – Type B
Municipal Water Licence Renewal Application**

Attention: Mardy Semmler

Environment and Climate Change Canada (ECCC) has reviewed the information submitted to the Inuvialuit Water Board regarding the above-mentioned water licence application. ECCC's specialist advice is provided based on our mandate, in the context of the *Canadian Environmental Protection Act*, the pollution prevention provisions of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

The following comments are provided:

General

1. The following documents should be prepared and submitted for Board approval:
 - Solid Waste Management Plan and Operation and Maintenance (O&M) Plan for the new landfill. These plans should include a monitoring component that includes monitoring of: leachate, surface water quality, groundwater quality and integrity of cover, berms and liner (if applicable); and
 - Abandonment and Restoration Plan for the existing landfill (required 6 months prior to closure). The Plan should include detailed information regarding post-closure monitoring of: leachate, surface water quality,

groundwater quality and integrity of cover (avoidance of cracking, ponding, erosion), berms and liner (if applicable).

2. Proper signage should be in place indicating the locations of the Surveillance Network Program (SNP) sites for the sewage lagoon and solid waste facility, as well as for the relevant segregated waste materials.
3. A number of water licence violations were identified by Environment and Natural Resources (ENR) - Government of the Northwest Territories (GNWT) and are documented in the Municipal Water Licence Inspection Report (November 25, 2015). This report includes many recommendations regarding sewage management, solid waste management, fuel storage and the SNP. Implementing these recommendations will address outstanding issues regarding these facilities.

Surveillance Network Program (SNP)

4. Currently, the SNP only includes two sampling locations: SNP 0714-2 (sewage lagoon effluent discharge) and SNP 0714-3 (solid waste facility site water discharge). Sampling at these locations in accordance with the SNP is essential to ensuring that discharges of sewage effluent and solid waste facility site water comply with water licence discharge criteria. As noted in the Municipal Water Licence Inspection Report (November 25, 2015) by ENR - GNWT, regular SNP sampling is not being conducted by the Hamlet of Tuktoyaktuk (the Proponent) as per SNP requirements and concentrations of parameters of concern in effluent released to the environment are unknown. SNP monitoring should be conducted as per the water licence requirements.
5. During decant activities for the sewage lagoon and the solid waste drainage retention system, daily water inspections for the presence of an oily sheen should be conducted. If a sheen is detected, a sample should be collected and analyzed for the presence of oil and grease.

Sewage and Sludge Management

6. Total volumes of sewage deposited in the lagoon system should be recorded to ensure adequate management and planning for reported volumes. Records could be generated by tracking the number of full or partial sewage truckloads per day/week/year with the associated volume of the sewage truck tanks.
7. Lagoon maintenance should include removal and disposal of sewage sludge, as required. Estimates should be made of the quantities of sludge likely to be produced, the required frequency of extraction from the lagoons and operational

procedures developed for environmentally sound removal and disposal. These procedures should include characterization to ensure disposal options are appropriate. Prior to desludging occurring, the Proponent should submit for approval a Sewage Sludge Management Plan that clearly outlines the sludge characteristics.

Use of sewage sludge as a landfill cover may be a potential sludge management option; however, in order to determine appropriate disposal options, the sludge must first be characterized.

Solid Waste Management - Site Water

8. The Proponent should use measures to minimize and control contact water and leachate, including:
 - Physical barriers, including berms and snow fencing
 - Maintenance of slope/grade away from landfill
 - Removal of snow from working face prior to placement of waste during winter
 - Removal of snow from landfill prior to spring thaw
 - Intermediate covering (prior to spring thaw), in addition to final capping
 - Final cap should be mounded so there is drainage away from the landfill
 - Regular visual inspections for integrity of landfill and water management system
 - Regular maintenance of landfill features and prompt repair, as required
9. Section 6.4, Surface Drainage, of the Solid Waste Disposal Facilities O&M Plan (January 25, 2016) lists the water licence conditions regarding removal of site water from the solid waste disposal facility, but does not contain information regarding what contingency measures will be implemented should the site water not meet the water licence discharge criteria. The O&M Plan should be updated to include a section on discharge contingency measures.

Solid Waste Management – Landfill Cover

10. The Proponent should use compaction followed by the application of cover material to minimize windblown debris, which has been identified as an ongoing issue around the landfill, including in nearby water bodies (Municipal Water Licence Inspection Report; November 25, 2015).

As mentioned previously, use of sewage sludge as a landfill cover may be a potential sludge management option; however, in order to determine appropriate disposal options, the sludge must first be characterized.

Solid Waste Management - Contaminated Soil and Snow

11. The Municipal Water Licence Inspection Report (November 25, 2015) by ENR - GNWT describes evidence of spillage of drum/container contents on the ground at the solid waste disposal facility. The contaminated soil should be removed to the designated contaminated soil storage area and managed appropriately for remediation. A Contaminated Soil and Snow Management Plan should be developed and implemented.

Should you require further information, please do not hesitate to contact me at (867) 669-4733 or Melissa.Pinto@canada.ca.

Sincerely,

Melissa Pinto

Melissa Pinto
Environmental Assessment Coordinator

cc: Wade Romanko, Head, Environmental Assessment North (NT and NU)
ECCC Review Team