



Northwest Territories Environment and Natural Resources

Land and Water Division
Environmental Assessment and Monitoring
Environment and Natural Resources
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October 8, 2013

Liz Castaneda
P.O. Box 2531
125 Mackenzie Road
Suite 302, Professional Building
Inuvik, NT X0E 0T0

**Re: Hamlet of Tuktoyaktuk
Water Licence Application – N7L3-0714
Type B Municipal Water Licence Renewal
Request for Review and Comments**

Dear Mrs. Castaneda,

The Department of Environment and Natural Resources (ENR) has reviewed the renewal application at reference based on its mandated responsibilities under the *Environmental Protection Act*, the *Forest Management Act*, the *Forest Protection Act* and the *Wildlife Act* and provides the following comments and recommendations for consideration by the board.

Topic 1: Solid Waste Disposal Facility

Comment(s):

- ENR notes that the Hamlet of Tuktoyaktuk (the Hamlet) has not provided an Operations and Maintenance Plan in the application. ENR notes that the Hamlet has identified this deficiency in its waste management practices; however, there is no method of control for the deposition of waste in the landfill or to quantify the amount of waste being deposited. ENR also notes that the Hamlet has not identified in the application the steps that it is taking to rectify this deficiency.

For use in the NWT, the *Guideline for the Planning, Design, Operations and Maintenance of Modified Solid Waste Sites in the Northwest Territories*¹, is endorsed by the Departments of Municipal and Community Affairs (MACA) and ENR, Government of the Northwest Territories. It provides specific advice in this regard, has been developed specifically for use in the NWT, and provides definitions and uses terminology and instructs on common procedures that will

¹ Municipal and Community Affairs. 2003. Guideline for the Planning, Design, Operations and Maintenance of Modified Solid Waste Sites in the Northwest Territories.

provide all stakeholders certainty and clarity when discussing, planning for, and operating the Hamlet's SWDF. For specific guidance on the development of an O&M Plan, consult the *"Guidelines for the Preparation of an Operation and Maintenance Manual for Sewage and Solid Waste Disposal Facilities in the Northwest Territories"*².

- ENR notes that the Hamlet has stated there is a potential issue for groundwater and surface water contamination. No information is provided regarding off-site transport of contaminants or how the Hamlet intends to mitigate these contamination issues.
- The Guideline for the General Management of Hazardous Waste in the NWTⁱ defines hazardous waste and outlines the roles and responsibilities of generators, carriers, and receivers of hazardous waste in the NWT. ENR, Environment Division (ED) registers generators, carriers, receivers, and tracks the disposal of hazardous waste generated in the NWT to registered receiving facilities on hazardous waste movement documents (manifest). The definition of hazardous waste includes all waste materials that are 'dangerous goods' according to the Transportation of Dangerous Goods Regulationsⁱⁱ, and any additional waste of special concern that the Environment Division has determined hazardous until proven otherwise.

It is understood the disposal facility is currently operating without permanent supervision or tipping fee's and may be accepting hazardous waste from the industrial, commercial, and institutional sector. In August 2011 the NWT Water Board facilitated a Hazardous Waste Workshop for community governments that provided the basis for developing a Hazardous Waste Management Plan (HWMP). The community based HWMP were meant to identify how hazardous waste was managed within a community government and the distinction between household hazardous waste and hazardous waste from the Industrial, commercial, and institutional sector.

Recommendation(s):

- 1) In order to ensure that its purpose is to develop operations and maintenance requirements specific to Tuktoyaktuk sourced municipal solid waste, ENR recommends that an updated Operations and Maintenance Plan, specific to Tuktoyaktuk's municipal water use and waste deposits, is prepared and submitted to the Board for its approval. ENR recommends that the Hamlet consult the *"Guideline for the Planning, Design, Operations and Maintenance of Modified Solid Waste Sites in the Northwest Territories"* and the *"Guidelines for the*

² Municipal and Community Affairs. 1996. Guideline for the Preparation of an Operation and Maintenance Manual for Sewage and Solid Waste Disposal Facilities in the Northwest Territories.

Preparation of an Operation and Maintenance Manual for Sewage and Solid Waste Disposal Facilities in the Northwest Territories” in developing this plan. Once the plan is developed, ENR recommends that it is made available to Hamlet staff managing the SWDF and that it is implemented.

- 2) ENR notes that the landfill design is not appropriate to limit leachate production; therefore, an action plan should be submitted on how the community intends to meet the waste management needs of the community into the future with definitive timelines on when this will be completed. ENR also notes that no analytical summaries have been provided for the production of leachate or for the categorization of groundwater and surface water and its deposition into the environment.

The generation of leachate should be addressed in the Hamlets Interim Closure and Reclamation Plan. The Hamlet should provide a timeline on when it intends to complete these plans and include an objective based action plan to limit leachate production into the future. ENR has the following concerns that should be directly addressed in the closure and reclamation plan:

- a) The current site is located at sea level, and is prone to periodic flooding;
- b) High sea levels and storms create high water levels that rise over the berms and allow waste, and leachate (from the solid waste lagoon), to enter adjacent waters, and leads to likely contamination of surface water;
- c) Potential exists for groundwater contamination due to the shallow water table;
- d) Surface water from the SWDF (contained in the solid waste lagoon) is decanted to the receiving environment;
- e) It is known that there is increasing erosion of lands in and around the site, which further brings to question the viability and sustainability of this site for waste disposal;
- f) There are growing concerns of climate change and subsequent rising sea level; and,
- g) The site sits directly between the community and its sub-division (Reindeer Point) which further augments potential risks to the community in general and specifically to public health and safety.

Please provide objectives and timelines in the closure and reclamation plan on how these specific items will be addressed.

- 3) Please clarify and provide information regarding the hazardous waste storage area at the Hamlets landfill. The Hamlet is not registered as a hazardous waste receiver. All hazardous waste must be disposed of at an approved hazardous waste facility.

In addition all hazardous waste must be transferred using territorial waste manifests indicating the generator and the receiver. The *Guideline for the General Management of Hazardous Waste*¹ in the NWT defines hazardous waste and outlines the roles and responsibilities of generators, carriers, and receivers of hazardous waste in the NWT. ENR's Environment Division registers generators, carriers, receivers, and tracks the disposal of hazardous waste generated in the NWT to registered receiving facilities on hazardous waste movement documents (manifest).

Please contact the Environment Division, ENR directly for more information. Contact Mr. Gerald Enns, Hazardous Waste Specialist by email (Gerald_Enns@gov.nt.ca) or by phone (867) 920-8044.

Topic 2: SNP Sampling Program

Comment(s):

- ENR notes that the Hamlet has not provided any information regarding the SNP sampling network or provided any analytical data to show temporal/spatial trends overtime.

Recommendation(s):

- 1) Provide a summary of all SNP sampling stations with sampling locations noted on Figures, including a summary of all exceedances (if any) of the water licence .

Topic 3: Sewage Lagoon

Comment(s):

- No analytical data was presented in the application to ensure that the sewage treatment plant was achieving the water licence targets.

Recommendation(s):

- 1) Please provide information of the sewage lagoons performance, based on results/year indicating the sewage treatment plants compliance with the water licence.
- 2) In addition please provide comment on the sewage lagoons performance during the winter/spring, including reference to the SNP network to ensure that the spread of contaminants away from the lagoon is minimized during periods of limited lagoon performance.

Topic 4: Spill Contingency Plan

Comment(s):

- ENR notes that the proponent has not provided a Spill Contingency Plan written in accordance with the GNWT *Spill Contingency Planning and Reporting Regulations*.

Recommendation(s):

- 1) The proponent is required to provide a Spill Contingency Plan for its operations. Please refer to the GNWT *Spill Contingency Planning and Reporting Regulations* found here for the information that should be provided:

http://www.justice.gov.nt.ca/PDF/REGS/ENVIRONMENTAL%20PROTECTION/Spill_Con ting Plan and Report.pdf

Supporting information can be found in the AANDC Spill Contingency Planning document found here:

<http://www.aadnc-aandc.gc.ca/eng/1100100024236/1100100024253#aB3>

A Spill Contingency Plan is required for all water license applications in the NWT, and is a best practice in the event of an emergency environmental release of contaminants. If clarification or further information is needed please contact the GNWT, ENR, Environment Division directly to aid in the development of the Plan.

Note for the Hamlet: The Spill Contingency Plan should account for all hazardous materials that are used during operations and stored in the solid waste facility. It should not only be focused on fuel and fuel distillates. All hazardous material associated with the Water Treatment Plant should be included in the application, with reference on figures to where hazardous materials are stored.

Topic 5: Management of the Landfill and Sewage Lagoon

Comment(s):

The absence of proper management or monitoring of waste disposal and discharges of waste at the landfill in Tuktoyaktuk is of concern to ENR(see photos below).

The Hamlet is not performing sufficient testing or providing the results of tests performed at solid waste disposal site and the sewage lagoon. ENR has concerns regarding aquatic discharge from both the solid waste disposal site and the sewage lagoon and impacts it may have on waters. Please not the photos showing hydrocarbons leaking into the landfill, the garbage strewn across the berm and the poor condition of the berm itself.

Recommendation(s):

- 1) The sewage lagoon berm should be inspected by a qualified engineer to ensure the contents of the lagoon are being properly and safely contained, and to ensure that the berm is not compromised, which could result in unauthorized discharges of sewage into the environment.
- 2) All hazardous waste and goods should be segregated, manifested and stored within a bermed area with an impermeable liner as approved by the Board.
- 3) Garbage escaping from the landfill and strewn about the bermed area should be cleaned every spring after thaw and every fall before freeze up.
- 4) The AANDC inspector should inspect the site prior to the Board issuing the renewal licence and submit his findings and recommendations to the Board with the goal utilizing the findings and recommendations in the Terms and Conditions of the Water Licence.





Comments and recommendations were provided by ENR technical experts in the Environment Division and the Inuvik Region and were coordinated and collated by the Environmental Assessment and Monitoring Section (EAM).

If you have any questions or concerns, please do not hesitate to contact Patrick at 920-6118 or patrick_clancy@gov.nt.ca.

Sincerely,

Handwritten signature of Patrick Clancy.

Patrick Clancy
Environmental Regulatory Analyst
Environmental Assessment and Monitoring
Land and Water Division
Department of Environment and Natural Resources
Government of the NWT

ⁱ Government of the Northwest Territories, 1998. Guideline for the General Management of Hazardous Waste in the NWT. Available online at:

http://www.enr.gov.nt.ca/live/pages/wpPages/Waste_Management_Program_publications.aspx

ⁱⁱ Transport Canada, Transportation of Dangerous Goods Regulations. Available on-line at:

<http://www.tc.gc.ca/eng/tdg/clear-menu-497.htm>