



Environment Canada
Environnement Canada

Environmental Protection Operations
301, 5204 50th Ave.,
Yellowknife, NT
X1A 1E2

Our File: 4782-20

August 29, 2008

Deon Bridge
Technical Advisor
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0

By email

Re: Taloyoak New Water Licence Application

On behalf of Environment Canada (EC) I have reviewed the information submitted in connection with this water licence application. The following specialist advice has been provided pursuant to Environment Canada's mandated responsibilities for the enforcement of the *Canadian Environmental Protection Act*, Section 36(3) of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

The Hamlet of Taloyoak has applied for a new water licence to withdraw approximately 90,000 cubic meters of water per year, and to dispose of solid and sanitary wastes. A new water treatment plant is to be constructed, including water system upgrades. No changes are proposed to the sewage disposal system, which consists of discharge into a natural lagoon which drains through wetlands to the ocean, however a engineering study of the system is planned once funding is allocated. There are no changes proposed for the solid waste site at this time.

Comments and Recommendations:

Solid Waste:

Over the past ten years, inspections of the landfill have repeatedly identified issues with the management of hazardous wastes and proper segregation. Specific concerns raised included the storage of waste oil/solvent barrels, areas of fuel contamination, segregation of wastes, and installing fencing around the landfill. EC supports the inclusion of licence terms to address these problems, and recommends that an Operations and Maintenance Plan be required early in the licence term. As part of this plan, provision should be made for:

- training of municipal staff in good operating practices,
- signage for the landfill
- advertising to inform landfill users about segregation of wastes and what are acceptable disposal practices
- a section on Hazardous Waste Management which plans for the ultimate

- disposal of items such as solvents, waste oil, batteries, and any other hazardous waste, as well as providing for secure handling and storage in the interim.
- Operation of the landfarm. We note that there was standing water in the bermed area and note the concern that this may attract migratory birds. Standing water should be removed and may need to be run through an oil/water separator prior to disposal. If this is not feasible, use of flagging to deter birds from landing on the water would be another option.

Sewage:

There is little data available with which to assess the performance of the existing sewage lagoon, which has been in use since approximately 1995. It is my understanding that a berm was added in the last year or so in order to increase retention in the wetland, and that this appears to be effective. EC supports the proposal of having an engineering study done, and that can be used along with monitoring results to optimize treatment and ultimately determine what appropriate discharge standards might be. At this time EC will not be providing detailed recommendations for effluent criteria; it does not appear that the system has any means of controlling the discharge, and it is unclear where the end of the “wetlands” would be. EC recommends that the water licence include sampling stations at the end of the lake area prior to entering the wetlands, at the end of the wetlands, and at the point just before discharge to the ocean (access permitting).

Sludge build-up may become an issue and compromise treatment in the system over time; it is recommended that the engineering study include a review of the need for sludge removal and options for disposal.

Canada-wide Strategy for Municipal Wastewater Effluent:

The Hamlet should be aware of the work being done to develop a Canada-wide Strategy for the Management of Municipal Wastewater Effluents. The latest draft of the Canada-wide Strategy, was released in October 2007 and is available on line at http://www.ccme.ca/assets/pdf/mwwe_cda_wide_strategy_consultation_e.pdf. As part of the federal government's implementation of the CCME Canada-wide Strategy, it is EC's stated intention to develop a regulation under the *Fisheries Act*. The Canada-wide Strategy will more clearly define regulatory requirements related to the release or discharge of wastewater into surface waters. Environment Canada's goal is to ensure that effluents from wastewater systems are treated before being discharged to the receiving environment so that effluents do not pose unacceptable risks to ecosystem and human health, or to fisheries resources.

The focus is on setting maximum allowable limits for carbonaceous biological oxygen demand (cBOD₅), residual chlorine and total suspended solids (TSS) in municipal wastewater effluent. There will be a period of up to five years during which northern issues are examined and practical limits put forth for wastewater quality. For the Hamlet, this may eventually impact the cBOD₅ and TSS discharge criteria.

Plans:

In addition to an O&M Plan (as outlined above) there should be a spill contingency plan, and the Hamlet should maintain a supply of spill clean-up materials in appropriate locations. Recommended conditions pertaining to fuel storage and spill contingency planning include the following:

- The Hamlet should produce a Spill Contingency Plan for approval as a condition of the water licence, and the plan should include a list of available spill response equipment and the names of trained personnel who will be available in the case of a spill.
- Secondary containment or surface liners (e.g. drip pans) should be placed under all containers or vehicle fuel tank inlet and outlet points, hose connections and hose ends during fuel or hazardous substance transfers.
- Transfer operations should be attended by trained personnel at all times.
- Please note that any spill of fuel or hazardous materials, adjacent to or into a water body, **regardless of quantity**, shall be reported immediately to the NWT 24-hour Spill Line, **(867) 920-8130**.
- Environment Canada operates a 24 hour emergency spill line that is monitored by Emergency and Enforcement Officers. The number to be called to contact the Duty Officer is **(867) 766-3737**.

Licence Term:

EC recommends a five year licence term so that data can be collected and effluent standards evaluated. This should also give the municipality time to implement needed solid waste management practices.

Please do not hesitate to contact me at 867-669-4735 or by email at anne.wilson@ec.gc.ca with any questions or comments regarding the foregoing.

Sincerely,

Anne Wilson
Water Pollution Specialist
Environmental Protection Operations

cc: Carey Ogilvie (Head, EA-North, Yellowknife)
Craig Broome (Head, Enforcement, Yellowknife)