Environment Canada **Environnement Canada**

Environment Canada
Prairie and Northern Region
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January 10th, 2007

Your File: 3BM-KIM0207
Our File: 4782 044

Richard Dwyer
Licence Administrator
Nunavut Water Board
PO Box 119
Gjoa Haven, NU
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Re: Hamlet of Kimmirut – Renewal – Type "B" Water Licence 3BM-KIM0207

On behalf of Environment Canada (EC), I have reviewed the information submitted with the above-mentioned 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 Kimmirut is applying to renew their water license for another 5 year term to allow for the municipal use of water and deposit of waste. In 2000-2001 a new location for the Sewage Treatment Lagoon was selected. Due to safety issues with the access road to the lagoon the new location was never used. As per the most recent inspection report of August 26, 2003 the sewage treatment system consists of a primary cell that discharges down a 100m slope into the ocean. Recently the access road has been rehabilitated to correct the safety issues with future plans to use the new location. In past inspections several issues were raised that were unacceptable to the inspector. These were the decant structure, erosion control measures, seepage control measures and the fact that several necessary reports were not available. A contravention report was also issued regarding improperly stored oil drums. Details provided in the recent technical report suggest that the Hamlet is planning on using the new sewage lagoon and a new solid waste site in the near future; however these will be applied for under an amendment to the water licence.

Environment Canada recommends that the following conditions be applied throughout the duration of the license:

General

- The Hamlet must ensure that any effluent discharged from the system's final discharge point must be in compliance with Section 36(3) of the Fisheries Act. According to the *Fisheries Act*, Section 36(3), the deposition of deleterious substances of any type in water frequented by fish, or in any place under any conditions where the deleterious substance, or any other deleterious substance that results from the deposit of the deleterious substance, may enter any such water, is prohibited.
- The Proponent is to ensure that all construction and blasting activities on the existing sewage lagoon and future lagoon site do not result in sedimentation of any surrounding water bodies. Preventative measures, such as the use of silt curtains/fences, should be used to help mitigate any potential impacts.

- Any stockpiled material should be stored above the high water mark of any water body and in such a manner as to prevent sedimentation of surrounding water bodies.
- An updated Operations and Maintenance Manual should be submitted for approval as a condition of the water licence. The past licence references more details or guidelines to be followed. Generally the plan should include:
    - A description of how facilities are operated and maintained;
    - How often these tasks are performed; and
    - Who is responsible for their completion.
- An updated Closure and Reclamation Plan should be submitted for approval as a condition of the water licence, and should include plans for decommissioning the lagoon and related timelines. As stated in the past water licence this would be provided at the time plans for the new sewage treatment facility are submitted. The past licence cites guidelines that should be consulted.
- A Quality Control/Quality Assurance Plan should be submitted for approval as a condition of the water licence.
- The sewage lagoon should be properly bermed to prevent any uncontrolled runoff and should have a freeboard of 1.0 meter as per *Guidelines for the Planning, Design, Operation and Maintenance of Wastewater Lagoon Systems in the NWT (MACA1988).*

Monitoring

- No effluent criteria, effluent quality predictions nor monitoring plans are provided in the application. EC requests that the Hamlet provide full details on how the sewage lagoon functions such as effluent quality and sludge generation and management.
- An updated SNP report should be submitted for approval as a condition of the water licence. The location of station KIM-3 should be clearly identified and parameter limits should be carried forward from the previous licence assuming that the final discharge point is at the lagoon outlet and treatment does not include a wetland.
- The Hamlet should be aware of the work being done to develop a Canada-wide Strategy for the Management of Municipal Wastewater Effluents, under the aegis of the Canadian Council of Ministers of the Environment (CCME). The latest draft of the Canada-wide Strategy, which addresses specific parameters and governance, was released in October 2007 (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 BOD5, residual chlorine and 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 BOD and TSS discharge criteria.

Spill Contingency

- **All** spills must be documented and reported to the **NWT Spill Line at (867) 920-8130.**
- The proponent should produce a Spill Contingency Plan which includes the new operations and infrastructure. The plan should facilitate response to spills which might occur during construction and operation and decommissioning of the project. The plan should include a list of available spill response equipment and the names of trained personnel who will be on-site and available in the case of a spill.

Sewage Sludge Disposal

Maintenance should include removal and disposal of sewage sludge. 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. Environment Canada recommends that prior to desludging occurring, the proponent submit for approval a Sewage Sludge Management Plan that clearly outlines the chemical composition of the sludge, and how sludge will be stored, treated and eventually disposed of.

Solid Waste Management

- It is recommended that areas be set up for segregation of waste oil, paints and solvents, old batteries, and any other hazardous materials. A hazardous waste management plan needs to be developed and implemented.
- An Abandonment and Restoration Plan is needed for the existing solid waste site.
- The solid waste facility should be fully fenced to ensure that there is no dispersal of windblown debris.
- Waste oil drums should be stored in an upright position in a bermed and lined area to ensure there is no leakage or spills.
- Water (specifically from the municipal tank farm) shall not be discharged through the solid waste disposal area, as this can increase and affect the quality of runoff.
- The sewage truck discharge point should be relocated downstream to avoid sewage flowing through the solid waste site as noted by the INAC inspector.
- Issues regarding exposure of the honey bag site should also be addressed.

The current application lacks a number of necessary documents, making it difficult to comment or provide recommendations regarding the current facilities. There appears to be a number of outstanding issues raised by the INAC inspectors and there is no information addressing whether these issues have been rectified. Environment Canada asks that outstanding issues and reports are addressed as a condition of the water licence.

If there are any changes in the proposed activities, EC should be notified, as further review may be necessary. Please do not hesitate to contact me with any questions or comments with regards to the foregoing at (867) 669-4772 or by email at savanna.levenson@ec.gc.ca

Yours truly,

Savanna Levenson
Environmental Assessment Specialist
Environmental Protection Operations

cc: Carey Ogilvie, Head EA North, Environment Canada
Mike Fournier, Coordinator EA North, Environment Canada
Anne Wilson, Water Pollution Specialist, Environment Canada

References:

- Heinke, G.W., Smith, D.W. and Finch, G.R. *Guidelines for the Planning, Design, Operation and Maintenance of Wastewater Lagoon Systems in the NWT. For MACA, Yellowknife, NT (1988).*