



Water Resources Division
Nunavut Regional Office
Iqaluit, NU X0A 0H0

September 10, 2010

Phyllis Beaulieu
Manager of Licensing
Nunavut Water Board
PO Box 119
Gjoa Haven, NU X0A 1J0

**Re: 1BR-BEA1015 – Bear Island Mid-Canada Line Radar Station –
Sewage Lagoon O & M Plan - Indian and Northern Affairs Canada –
Contaminated Sites**

Please be advised that Indian and Northern Affairs Canada (INAC) has completed a review of the above noted new water licence application.

In conducting this review, I have referred to all documents on the Nunavut Water Board FTP site as it relates to 1BR-BEA1015. Attached is a Technical Review Memorandum for your consideration.

Please feel free to contact me should you have any questions or comments. I can be reached at (867) 975-4566 or by email at tanya.trenholm@inac.gc.ca.

Sincerely,

Original signed by

Tanya Trenholm
Pollution Policy Specialist



Technical Review Memorandum

To: Phyllis Beaulieu, Manager of Licensing - Nunavut Water Board

From: Tanya Trenholm, Pollution Policy Specialist - Indian and Northern Affairs Canada – Water Resources Division

Re: **1BR-BEA1015 – Bear Island Mid-Canada Line Radar Station – Sewage Lagoon Operation and Maintenance (O&M) Plan - Indian and Northern Affairs Canada – Contaminated Sites**

Estimation of Water Use:

The sewage lagoon O & M Plan estimates the total input into the sewage lagoon facilities based on a calculation of water consumption of 25L/person/day. Twenty five litres per person per day water usage seems to underestimate water usage and would therefore underestimate lagoon capacity. This should be re-evaluated.

Considerations for Sewage Lagoon Design:

INAC Water Resources have the following suggestions for the Boards consideration:

- 1) In order to prevent inadvertent seepage of effluent through the lagoon berms to the surrounding environment during periods of thaw, consideration should be given to the inclusion of an impermeable high density polyethylene (HDPE) liner in the lagoon design.
- 2) The submitted O & M plan proposes using two sewage lagoon cells in parallel. INAC Water Resources recommends using the lagoons in sequence rather than in parallel with the first cell designed to provide for settling of solids, before discharge into the second cell for further polishing of wastewater.

With consideration to the above noted comments, INAC Water Resources Division has no concerns with an amendment to the above noted licence for the use of a small camp and related water use / waste disposal activities.

Please feel free to contact me at your convenience should you wish to further discuss any part of this submission to the Board. I can be reached at 867-975-4566 or via email, tanya.trenholm@inac.gc.ca.

Cc: Lou-Ann Cornacchio, Manager, Water Resources Division – Indian and Northern Affairs Canada;