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Nunavut Water
Board

APR 27 2006

Public Registry

**RE: NWB3CAP0207 - Cape Dorset Sewage Lagoon Water License Amendment –
Response to Intervener's Comments & NWB Technical Concerns**

Environment Canada (EC) is in receipt of the letter dated June 2, 2006 from Gary Strong providing responses to the questions and concerns raised in EC's letter to the NWB dated May 1, 2006, as well as the letter dated June 21, 2006 from Joe Murdoch with the Nunavut Water Board (NWB). Environment Canada has reviewed this information, and is pleased to provide the following advice to the NWB regarding the proposed amendment to the Cape Dorset sewage lagoon system

Overall, based on the information currently available and the expert advice provided to the NWB by other interveners (including the review completed by Mr. Holger Hartmaier on behalf of the NWB), EC has identified some concerns regarding the current design of the sewage treatment system. Outstanding questions remain regarding the following issues:

- The possible presence of a talik under P-Lake and the potential for groundwater contamination.
 - The presence of a through talik under P-Lake could result in contamination of groundwater and facilitate the transport of contaminants. Environment Canada disagrees with the principle behind the statement in the Dillon Consulting response to EC's concerns on this issue that movement of sewage through the ground would provide additional filtration of contaminants. The use of groundwater as a dilution factor for treatment is not a best practice.
 - Environment Canada recommends that thermistors be installed to determine the thermal regime at the site. If a through-talik is discovered or if the use of the lake will result in the development of a through-talik, EC recommends that the bottom of the lagoon be lined with an impermeable liner to prevent contamination of the groundwater.
- The stability of the lagoon slopes and berms surrounding the lagoon.
 - The review completed by BGC Engineering Inc. on behalf of the NWB reveals some potentially serious concerns regarding the design of the lagoon berms. Given that the failure of the lagoon berms would likely result in the deposit of a deleterious substance into Telik Inlet, EC recommends that the concerns stated by BGC Engineering be addressed and the requests that the outcome of any such discussions be forwarded to Environment Canada.

Environment Canada respectfully recommends that these issues be addressed prior to any decision regarding the proposed project. Further, the additional information should be submitted to the NWB for further review. Given that the additional information requested will influence the development of

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a detailed monitoring program for the sewage treatment system, EC will provide such recommendations once the information is submitted.

Wastewater management in Canada involves federal, provincial, territorial, aboriginal and municipal governments. Effective wastewater management requires co-operation among all these governments. To this end, EC is participating in the development of 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 Canada-wide Strategy, which will address specific parameters and governance, will be developed by December 2006. 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 in to surface water. 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. Environment Canada encourages the proponent to design the Cape Dorset sewage treatment system using best practices for the management of municipal wastewater in northern climates in order to facilitate compliance with any future regulations developed under the *Fisheries Act*.

Environment Canada appreciates the opportunity to participate in the review of the Cape Dorset sewage lagoon system amendment. Please do not hesitate to contact me with any questions or comments with regards to the foregoing at (867) 975-4639 or by email at colette.spagnuolo@ec.gc.ca.

Yours truly,

Original signed by

Colette Spagnuolo
Environmental Assessment / Contaminated Sites Specialist

cc: (Stephen Harbicht, Head, EA North, Environment Canada, Yellowknife)
(Craig Broome, Head, Environmental Enforcement, Environment Canada, Yellowknife)

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