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Department of Environment

Ministère de l'Environnement

May 14, 2008

Phyllis Beaulieu
Manager of Licensing
Nunavut Water Board

via Email to: licensingadmin@nunavutwaterboard.org

RE: NWB FILE # 3BM-CLY0308 – Hamlet of Clyde River – Municipal Water License Amendment

Dear Ms. Beaulieu:

The Government of Nunavut, Department of Environment (DOE) has reviewed the water license amendment application from the GN-CGS on behalf of the Hamlet of Clyde River, and has the following comments and recommendations to make based on the *Environmental Protection Act* regarding operation and maintenance, and monitoring of two sewage lagoons.

A. Monitoring

Page 36 of *Design Brief New Sewage Lagoon and Rehabilitation of Existing Sewage Lagoon for the Hamlet of Clyde River* proposed sampling frequency of once at the beginning of decant, and once at the end of decant. The DOE suggests the sampling frequency be once at the onset of decant, once during the decant period, as well as once at the end of decant totalling of three sampling events. This will contribute to little information available regarding performance of treatment wetland in an arctic climate, and will provide better assurance that the treatment wetland is working effectively. Note that the monitoring frequency proposed by the DOE is also prescribed in the current Qikiqtarjuaq Hamlet water license dated May 7, 2007 related to a treatment wetland.

B. Operation and Maintenance

In general, an operation and maintenance manual related to routine operation and maintenance procedures for the two sewage lagoons should be provided for review. Additionally, the manual should provide details related to sludge management and decanting of lagoons, discussed below.

1. Sludge Management

- Page 19 of “*Design Brief New Sewage Lagoon and Rehabilitation of Existing Sewage Lagoon for the Hamlet of Clyde River*” stated that the



effluent quality will guide when the lagoon will need to be desludged. The DOE requests more information on the rate of sludge accumulation and the frequency of desludging be provided.

- Page 19 of the the report referenced above stated that the sludge has to be tested prior to disposal. However, it is unclear the disposal standard the proponent intends to comply with. The DOE requests more information regarding the standards be provided.
- The sludge is suggested to be disposed off in a separate cell at the Municipal Solid Waste Site. More information should be provided on sludge disposal procedures. How and when (time of year) will sludge removal occur? Where will the communities' sewage go when the lagoons are being desludged? Will one lagoon be desludged while the other is in operation? Further details on the logistics and practicalities of this maintenance procedure are required.

2. Decant

Page 15 of the *“Design Brief New Sewage Lagoon and Rehabilitation of Existing Sewage Lagoon for the Hamlet of Clyde River”* report indicated decant is to start mid to late August, and end around mid to late September. As the proposed design of the sewage treatment facility relies on wetland treatment, the DOE recommends that decant starts no later than mid-August as there may be limited plant growth and biological treatment available in late September.

The DOE thanks NWB for the opportunity to provide comments on the Hamlet of Clyde River's water license amendment application. Please contact us if you have further questions.

Yours sincerely,

Original signed by

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