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Mr. Bhabesh Roy, M.A.Sc., P.Eng.
Community Government Services
Baffin Region, Government of Nunavut
P.O. Box 379, Pond Inlet X0A 0S0

via facsimile:
(867) 899-7328

Effluent Discharge Criteria Amended Water Licence Hamlet of Clyde River

Dear Mr Roy:

As requested, we have reviewed the amended water license for the Hamlet of Clyde River and offer the following comments for consideration during the water license renewal process.

1. The amended licence includes two (2) separate discharge criteria, one at the discharge point of the sewage lagoon and the second at the discharge of the wetlands. The water license defines the final discharge point as follows:

"Final Discharge Point" in respect of an effluent means an identifiable discharge point of a facility beyond which the operator of the facility no longer exercises control over the quality of the effluent;

We feel the inclusion of discharge criteria for two locations is contradictory to the definition of the final discharge point as there can only be one final discharge point therefore only one set of discharge criteria. We also believe that the final discharge point should be considered to be the end of the wetlands as the operator can control the rate of sewage applied to the wetlands therefore has control of the quality of treatment from the wetlands.

2. The discharge criteria for the maximum average concentration for these two points are BOD₅ 97 mg/L and TSS 116 mg/L at the end of the lagoon, and BOD₅ 18 mg/L and TSS of 22 mg/L at the outlet of the wetlands. These criteria match the estimated levels of BOD₅ and TSS as presented in the project design brief for the effluent at these locations. Therefore it appears that the discharge criteria in the amended water license are based on the estimated effluent quality from the design brief.

The estimated performance of the sewage lagoon and wetlands, as presented in the design brief, were prepared solely for the purpose of demonstrating an order of magnitude level of treatment to demonstrate that the proposed facility would provide treatment meeting or exceeding the criteria set forth in the original water licence (BOD₅ 120 mg/L and TSS 180 mg/L). We are concerned that the estimated levels of treatment are being adopted as discharge criteria as we believe this is a misuse of the conclusions drawn. We believe that

the appropriate development of effluent criteria should be based on guidelines such as the "Guidelines for the Discharge of Domestic Wastewater In Nunavut".

3. A third issue of concern is the clause regarding the effluent being proven to be Not Acutely Toxic. The CCME Canada-wide Strategy for the Management of Municipal Wastewater Effluent states:

"All medium, large and very large wastewater facilities are required to complete whole effluent acute and chronic toxicity testing in accordance with Technical Supplement 2."

We do not believe the Clyde River facility falls under this requirement as the facility should be considered small. The Strategy also states:

"Toxicity testing may be required on a site-specific basis for small and very small facilities where a risk has been identified by the jurisdiction or owner."

As we are unaware of the jurisdiction or owner identifying any risk we feel this also does not apply. As neither of the requirements for Toxicity testing apply the condition should not be included in the water license.

If you have any questions or require additional information please contact Steven Burden at (613) 225-9940 extension 257.

Yours truly,

Trow Associates Inc.

A handwritten signature in black ink, appearing to read "S. Douglas".

Stephen A. Douglas
Senior Designer
Infrastructure Division

A handwritten signature in black ink, appearing to read "Steven Burden".

Steven L. Burden, P.Eng.
Senior Project Manager
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