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Prairie and Northern Region
Environmental Protection Operations (EPO) Directorate
5019 52nd Street, 4th Floor
Yellowknife, NT X1A 2P7

August 22, 2013

EC File No.: 5200 000 001 /004
MVLWB File No.: MV2009L3-0007

Miki Ehrlich
Regulatory Officer
Mackenzie Valley Land and Water Board
Box 2130, 7th Floor - 4910 50th Avenue
Yellowknife, NT X1A 2P6

Submitted Online

Attention: Ms. Ehrlich

RE: MV2009L3-0007 – City of Yellowknife – Addition of New Water Treatment Plant to Current Water Licence

Environment Canada (EC) has reviewed the information submitted regarding the addition of the new City of Yellowknife Water Treatment Plan to the current Water Licence. The following specialist advice is provided pursuant to EC's mandated responsibilities arising from the *Canadian Environmental Protection Act, 1999* (CEPA), the pollution prevention provisions of the *Fisheries Act*, the *Migratory Birds Convention Act* (MBCA) and the *Species at Risk Act* (SARA).

EC understands the Mackenzie Valley Land and Water Board (the Board) is considering whether the addition of the new City of Yellowknife Water Treatment Plant is simply a modification to the water licence or whether a water licence amendment is required. Also, additional information has been provided by the City of Yellowknife, at the request of the MVLWB, regarding the waste stream that will be associated with the new plant.

EC does not have comments regarding whether the addition of the new Water Treatment Plant to the Water Licence should be considered a modification or amendment. However, EC provides the following comments related to waste management, for the Board's consideration.

Sludge Management

The City plans to dispose of the estimated 650-950m³/year of Sludge produced in the sewage lagoon. At this time, the City does not have a plan to manage the sludge that has already collected in the sewage lagoon during the course of the 20+years the system has been in use. In recent years, the lagoon volume has been over capacity, requiring early decanting, which may be a signal that there is too much sludge volume in the base of the lagoon. Additionally, the presence of a flocculant and coagulant in the water treatment plant sludge may react with lagoon wastewater to increase the production of sludge in the lagoon. EC is concerned with the lack of sludge

management planning which may be impacting the effectiveness of wastewater treatment in the lagoon.

EC recommends that sludge management by means of treatment and disposal form part of the mitigation measures in response to the upcoming Sewage and Wetland Study. This management plan should reflect the types of sludge produced in the lagoon, received from the water treatment plant and any other sludge sources being disposed of in the lagoon by the City.

If you have any questions please do not hesitate to contact me at (867) 669-4744 or loretta.ransom@ec.gc.ca.

Sincerely,

A handwritten signature in black ink that reads "Loretta Ransom". The signature is written in a cursive style and is positioned above the typed name and title.

Loretta Ransom
Senior Environmental Assessment Coordinator, EPO

cc: Dave Fox (A/Head, EA North EPO, EC)
Mary Kelly (Project Officer, Expert Support, EPO, EC)