

Environmental Protection Operations Directorate  
Prairie & Northern Region  
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ECCC File: 6200 000 001/011  
NWB File: 3AM-IQA1626



August 22, 2023

via email at: [licensing@nwb-oen.ca](mailto:licensing@nwb-oen.ca)

Richard Dwyer  
Manager of Licensing  
Nunavut Water Board  
P.O. Box 119  
Gjoa Haven, NU X0B 1J0

Dear Richard Dwyer:

**RE: 3AM-IQA1626 – City of Iqaluit – Municipal Type A Water Licence – Annual Water Licence Report Review**

Environment and Climate Change Canada (ECCC) has reviewed the information submitted to the Nunavut Water Board (NWB) regarding the above-mentioned annual water licence report.

ECCC provides expert information and knowledge to project assessments on subjects within the department's mandate, including climate change, air quality, water quality, biodiversity, environmental preparedness and emergencies. This work includes reviewing proponent characterization of environmental effects and proposed mitigation measures. We provide advice to decision-makers regarding a proponent's characterization of environmental effects, the efficacy of their proposed mitigation activities, and may suggest additional mitigation measures. Any comments received from ECCC in this context does not relieve the proponent of its obligations to respect all applicable federal legislation.

ECCC's notes most of the topics discussed in this review (i.e., 1. Wastewater Treatment Plant (WWTP) Sludge2. WWTP, and 3. Rainbow trout bioassay) and the accompanying recommendations are recurring items. ECCC noted the same concerns during review of the City of Iqaluit's 2021 annual report.

The following comments are provided:

**1. Wastewater Treatment Plant (WWTP) Sludge**

Reference(s)

- City of Iqaluit 2022 Annual Report for Water Licence 3AM-IQA1626



#### Comment

Section D of the 2022 Annual Report indicates that an annual total of approximately 424 cubic metres of wastewater treatment plant (WWTP) sludge was deposited at the West 40 Landfill. However, the report does not indicate whether sludge was characterized prior to disposal in the landfill.

#### ECCC Recommendation(s)

ECCC recommends that WWTP sludge be characterized and managed/disposed appropriately. Future annual reports should indicate whether WWTP sludge is characterized prior to disposal and provide any accompanying monitoring results. If sludge is not characterized prior to landfilling, ECCC recommends that it be encapsulated.

## **2. Wastewater Treatment Plant (WWTP)**

#### Reference(s)

- City of Iqaluit 2022 Annual Report for Water Licence 3AM-IQA1626

#### Comment

The 2022 Annual Report notes that the WWTP has been operating with outstanding deficiencies and troubleshooting items are still ongoing. Per Section N of the report, the City continued to manage the completion of WWTP deficiencies and troubleshooting activities during 2022, with the final completion certificate presented to the City in March 2022 for construction related to the WWTP Upgrades project.

ECCC notes that wastewater effluent quality continues to be highly variable and does not yet meet secondary treatment targets. Monitoring data shows no consistent trends to suggest improvement from previous results. Improvements in effluent quality should be pursued on a priority basis.

#### ECCC Recommendation(s)

ECCC recommends that the City of Iqaluit provide a summary of actions to be taken to achieve acceptable wastewater effluent quality, including a timeline and commitment to completing.

## **3. Rainbow Trout Bioassay**

#### Reference(s)

- City of Iqaluit 2022 Annual Report for Water Licence 3AM-IQA1626

#### Comment

The water licence requires annual bioassay testing of rainbow trout following commissioning, which effectively occurred June 2021. However, the annual report does not indicate whether bioassay testing was conducted during 2022.

#### ECCC Recommendation(s)

ECCC recommends that annual bioassay testing be conducted in accordance with the water licence and results provided in the annual report.

### **4. West 40 Landfill – Pond 2 effluent quality**

#### Reference(s)

- City of Iqaluit 2022 Annual Report for Water Licence 3AM-IQA1626

#### Comment

Section B of the 2022 annual report states that a total volume of 1,500 cubic metres of effluent was discharged from West 40 Landfill Pond #2 to the environment (Station ID IQA-08) between August 22, 2022 to August 26, 2022. This timeframe does not agree with monitoring dates reported in Table 5 (Summary of 2022 Sampling Conducted) of Section F and Appendix B (Water Quality Sampling Results), which both indicate that Detention Pond 2 was decanted between June 8 to July 19, 2022. Therefore, decant dates should be clarified.

The monitoring results reported in Appendix B for July 13, 2022, indicate elevated concentrations of TSS (270 mg/L) and iron (2.36 mg/L) during the middle of decanting Pond 2. However, the 2022 annual report does not provide a discussion of monitoring results. Future annual reports should discuss monitoring results, particularly for any elevated parameters.

#### ECCC Recommendation(s)

ECCC provides the following recommendations:

- Clarify the dates when Detention Pond 2 was decanted during 2022.
- In future annual reports, provide the following additional information regarding Pond 2:
  - Describe the receiving environment to which the landfill Detention Pond 2 is discharged.
  - Note any elevated monitoring parameters, discuss the potential underlying cause(s), and describe any measures taken/planned to prevent elevated parameter concentrations.

If you need more information, please contact Abigayle Blackmore at (780) 239-3894 or [Abigayle.Blackmore@ec.gc.ca](mailto:Abigayle.Blackmore@ec.gc.ca) and [EANorthNU@ec.gc.ca](mailto:EANorthNU@ec.gc.ca).

Sincerely,

*[original signed by]*

Abigayle Blackmore  
Environmental Assessment Officer

cc: Eva Walker, Acting Head, Environmental Assessment North (NT and NU)  
Generic EA North Inbox - [EANorthNU@ec.gc.ca](mailto:EANorthNU@ec.gc.ca)