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NUNAVUT WATER BOARD  
NUNAVUT IMALIRIYIN KATIMAYINGI  
OFFICE DES EAUX DU NUNAVUT

**File: 3AM-IQA1626**

September 03, 2024

Steve England  
Chief Administrative Officer  
City of Iqaluit  
Box 460, Iqaluit, NU X0A 0H0

Email: [cao@city.iqaluit.nu.ca](mailto:cao@city.iqaluit.nu.ca)

**RE: NWB Technical Review of 2023 Annual Report for the City of Iqaluit; Water  
Licence No: 3AM-IQA1626**

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Dear Steve England:

The Nunavut Water Board (NWB or Board) has completed the technical review of the 2023 Annual Report (Report) for type A Water Licence No: 3AM-IQA1626 (Licence) issued to the City of Iqaluit (City or Licensee). The 2023 Annual Report was received on May 23, 2024, and was submitted as a requirement under Part B of the Licence.

On June 05, 2024, the NWB acknowledged receipt of the Report and distributed it to the Iqaluit distribution list for a two-month public review. Comments were received from Crown-Indigenous Relations and Northern Affairs (CIRNA)<sup>1</sup>, Fisheries and Oceans Canada (DFO)<sup>2</sup>, and Environment and Climate Change Canada (ECCC)<sup>3</sup> on August 06, 2024.

Table 1 briefly summarizes issues found outstanding during the Report review. The table also provides deadlines for the Licensee to respond to respective recommendations and concerns. For the intervenors' discussion of these items, please refer to the comment submissions referenced above.

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<sup>1</sup> Crown-Indigenous Relations and Northern Affairs Canada's review of the City of Iqaluit 2023 Annual Report for Type A Water Licence No. 3AM-IQA1626 in the Qikiqtani Region of Nunavut, CIRNA, August 6, 2024

<sup>2</sup> City of Iqaluit, 2023 Annual Report, Water Licence (3AM-IQA1626), DFO, August 6, 2024

<sup>3</sup> 3AM-IQA1626 – City of Iqaluit – 2023 Annual Water License Report, ECCC, August 6, 2024

**Table 1 Recommendations/Concerns and Deadline to Respond by and Provide Outstanding Information**

SN	Recommendations/Concerns	Deadline to Respond by and Provide Outstanding Information
<b>Crown-Indigenous Relations and Northern Affairs (CIRNA)</b>		
<b>Unresolved Comments from the 2021 Annual Report</b>		
R-01	Quantify and report the volume of spills or unauthorized discharges in the future.	November 01, 2024
<b>Unresolved Comments from the 2022 Annual Report</b>		
R-03b	Update the 2022 Annual Report with the sample results from S::CAN monitoring device located at the water treatment plant in the 2022 Annual Report.	November 01, 2024
R-03e	Review and update operating procedures for pH control in the treated water entering the treated water reservoir to meet Canadian Drinking Water Quality Guidelines (CDWQG).	November 01, 2024
R-05	Update the 2022 Annual Report and corresponding documents to address Schedule B Item J of the Water Licence.	November 01, 2024
R-06b	Specify the most common causes of spills and unauthorized discharges in the 2022 Annual Report, and submit an updated Spill Contingency Plan that addresses these causes.	November 01, 2024
R-08a	Update the 2022 Annual Report with the daily water levels and/or flow rates in the Niaqunguk River when withdrawals occurred at Monitoring Station IQA-10 for Period 1 (between June 12 and September 12, 2022).	November 01, 2024
R-09b	Discuss conducting a bathymetric survey comparing it to the bathymetry used for the Lake Geraldine Water Balance modelling.	March 31, 2025
<b>Comments for the 2023 Annual Report</b>		
R-01	Record and report the annual treated sewage volumes discharged from the Sewage Lagoon (IQA-02) for 2023.	November 01, 2024, and Subsequent Annual Reports (March 31 <sup>st</sup> of the year following the year being reported)
R-02a	Update the 2023 Annual Report with the monitoring and sampling analytical results in accordance with Schedule I of the Water Licence.	November 01, 2024
R-02b	Provide an update if the Licensee is on track for meeting the Schedule I commitments of the Water Licence for 2024.	November 01, 2024
R-03	Clarify whether construction activities on the ATCO	November 01, 2024

	Loop sanitary sewer and watermain decommissioning and Federal Road Utilidor/Watermain Extension were undertaken under Water Licence 3AM-IQA1626 and, if not, whether approval from the Nunavut Water Board has been obtained for these construction activities.	
R-04	<p>Provide a summary of the following:</p> <ul style="list-style-type: none"> <li>any modifications or major maintenance work carried out at the Wastewater Treatment Plant in 2023 to address the DAF clarifier and HVAC system deficiencies noted in the 2022 Annual Report (R-04).</li> <li>any modifications and/or major maintenance work carried out in 2023 for the UV disinfection system at the Water Treatment Plant.</li> </ul>	November 01, 2024
R-05	Provide an update on the implementation plan for the Wastewater Treatment Plant, Landfill and Pumping Project, including changes projected implementation and status of their implementation.	November 01, 2024
R-06	Provide an update on future Wastewater Treatment Plant studies planned as per Schedule B Item O.	March 31, 2025
R-07a	Provide the estimates or ranges for spill volumes when precise measurements are not available. If estimating is not possible, explain why.	November 01, 2024
R-07b	Provide clarification on how it was determined that the average volume spilled was less than 100 litres.	November 01, 2024
R-07c	Provide more details on the follow-up actions, especially if they differ between incidents. Provide details on how spills were collected and disposed of and specify if additional monitoring or corrective actions were taken.	November 01, 2024
R-07d	Provide information on spills in addition to the reported wastewater spills.	November 01, 2024
R-08a	Provide any new or updated Plans, Manuals and Reports that differ from those approved under the Licence to the Nunavut Water Board for review.	November 01, 2024
R-08b	Provide a summary on updates or revisions that were made to the Wastewater Treatment Plant (WWTP) and Water Treatment Plant (WTP) Operation and Maintenance (O&M) manuals, and in the summary provide confirmation of the most recent upgrades at both facilities.	November 01, 2024
R-09a	Provide a table in the 2023 Annual Report that lists the outstanding recommendations from the DSI reports. The table should list the DSI recommendations, list the proposed actions to address the recommendations and/or updates on continuing actions to address the recommendations, provide a column showing the	November 01, 2024

	recommended timeline for completion of the recommendations (as stated in the DSI reports), and a column showing the date when the City intends to resolve the recommendations.	
R-09b	<p>Clarify the required timeline for completion of the following:</p> <ul style="list-style-type: none"> <li>• Removal of the contaminated soil around the base of the hydro pole adjacent to the south berm.</li> <li>• Removal and replacement of the contaminated soil atop the center and north berms.</li> <li>• Installation of new rip-rap material within the upstream face of the north and center berms before the reservoir is re-filled.</li> <li>• Minor work required to repair erosion damage within the north access road and new steel culverts.</li> <li>• Outstanding deficiencies remaining to be corrected by Nunavut Excavation.</li> <li>• Repair of the depressions at the base of the upstream face of the center and north berms.</li> <li>• Repair of cracks within the concrete dam.</li> </ul>	November 01, 2024
R-10	Provide a table in the Annual Reports that lists the outstanding recommendations from the DSI reports. In the table list the DSI recommendations, list the proposed actions to address the recommendations and/or updates on continuing actions to address the recommendations, provide a column showing the recommended timeline for completion of the recommendations (as stated in the DSI reports), and provide a column showing the date when the City intends to resolve the recommendations.	Subsequent Annual Reports (March 31 <sup>st</sup> of the year following the year being reported)
R-11a	Advise if consideration has been given for exhaustion of GAC media and its ability to continue to remove hydrocarbons.	November 01, 2024
R-11b	Compile the lab results in an Appendix table with comparison to the applicable guidelines.	Subsequent Annual Reports (March 31 <sup>st</sup> of the year following the year being reported)
R-12	Provide information on how GAC capacity is being tracked and steps that are in place in the event that the GAC media has reached capacity and requires replacement.	November 01, 2024
R-13	Provide a detailed analysis of the monitoring data that supports the conclusion of no harmful impacts of pumping exceeding 10% of instantaneous flow, and provide information on the methods used to assess potential impacts and any specific observations or	November 01, 2024

	findings related to ecological effects.	
R-14	<p>Complete the following:</p> <ul style="list-style-type: none"> <li>review the UVT analyzer performance to confirm the system is working as intended and provide an update, and</li> <li>provide sample results from S::CAN monitoring device located at the water treatment plant.</li> </ul>	November 01, 2024
R-15	<p>Provide the following:</p> <ul style="list-style-type: none"> <li>A full hydraulic lake balance model or more information on the watershed runoff approach,</li> <li>Update the bathymetric survey and development of new stage-storage curve, and</li> <li>Check the values in Table 2 for accuracy.</li> </ul>	March 31, 2025
R-16	Provide a response on how and when these concerns and non-compliances were rectified and required actions were completed. If any have not been addressed, provide a timeline for when they will be addressed.	November 01, 2024
<b>Fisheries and Oceans Canada (DFO)</b>		
1	<p>DFO recommends the following: Proponent follow DFO's protective measures for fish and fish habitat and standard codes of practice which can be found on DFO's website. Proponents are also asked to respect the NU in-water works restricted activity timing windows. By doing so, works, undertaking or activities where impacts to fish and fish habitat can be avoided.</p> <p>If the proposal meets the criteria for a site-specific review they should complete and submit the request for review form available on the website. It is also the proponent's Duty to Notify DFO if they have caused, or are about to cause, the death of fish by means other than fishing and/or the harmful alteration, disruption or destruction of fish habitat.</p>	N/A
<b>Environment and Climate Change Canada (ECCC)</b>		
1	Provide a summary of actions to be taken to achieve acceptable wastewater treatment plant effluent quality, including a timeline and commitment to implement.	November 01, 2024
2	<p>Include quarterly reports on the status of the wastewater treatment plant, or information contained therein, to future annual reports.</p> <p>Furthermore, ECCC reminds the Proponent of their requirement to provide quarterly reports as per issued Fisheries Act direction, until the plant effluent has been demonstrated to be effectively treated and passes required effluent toxicity tests</p>	Subsequent Annual Reports (March 31 <sup>st</sup> of the year following the year being reported)
3	ECCC recommends the Proponent:	November 01, 2024

	<ul style="list-style-type: none"> <li>• discuss possible causes for the variability of sewage lagoon effluent quality during decant in 2023; and</li> <li>• provide a summary of actions to be taken to achieve acceptable sewage lagoon effluent quality, including a timeline and commitment to implement.</li> </ul>	
4	<p>ECCC recommends that in future annual reports the Proponent:</p> <ul style="list-style-type: none"> <li>• summarize water quality sample results in tables presenting measured parameter concentrations for monitoring stations;</li> <li>• note any elevated monitoring parameters, discuss the potential underlying cause(s), and describe any measures taken/planned to prevent elevated parameter concentrations; and</li> <li>• implement QA/QC for water quality monitoring including QA/QC samples and a discussion of the results.</li> </ul>	Subsequent Annual Reports (March 31 <sup>st</sup> of the year following the year being reported)
5	Clarify where the landfill samples were collected in 2023 and use location specific, clear sample names in future years.	November 01, 2024
<b>Nunavut Water Board</b>		
1	The Report mentions construction activities for the Federal Road Watermain Extension project; however, the Board has no record of receiving the IFC drawings or construction summary as required by Part F of the Licence.	November 01, 2024
2	The City has provided multiple Water Treatment Plant Logs and results from the Water Sampling program for the same dates. However, the data in the logs are inconsistent and do not match. The Board requests that the City provide an explanation for the inconsistency and recommends providing reports without any duplication in the future.	Subsequent Annual Reports (March 31 <sup>st</sup> of the year following the year being reported)

Furthermore, the Board acknowledges the following plans submitted with the 2023 Annual Report:

- Draft version of the *Emergency Response Plan for Continued Supply of Safe Potable Drinking Water*. The NWB looks forward to the submission of the final version;
- *City of Iqaluit Return to Service Plan* and an approval letter from the Department of Health, Government of Nunavut.

Copies of all documents received during the 2023 Annual Report review can be accessed through the NWB's Public Registry and FTP site using the following link:

<ftp://ftp.nwb-oen.ca/registry/3%20MUNICIPAL/3A/3AM%20-%20Municipality/3AM-IQA1626/3%20TECH/B%20GENERAL/2%20ANNUAL%20RPT/2023>

If you have any questions, please contact the undersigned at [nidhi.singh@nwb-oen.ca](mailto:nidhi.singh@nwb-oen.ca) or (867) 360 6338 (ext. 32).

Best regards,

A handwritten signature in black ink, appearing to read 'Nidhi Singh', with a stylized, cursive script.

Nidhi Singh  
Technical Advisor  
Nunavut Water Board

Enclosure:      Comments - CIRNA, ECCC, DFO  
Cc:                Distribution List – Iqaluit