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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

File: 3AM-IQA1626

November 06, 2023

Steve England
Chief Administrative Officer
City of Iqaluit
Box 460, Iqaluit, NU X0A 0H0
Email: cao@city.iqaluit.nu.ca

RE: Licence No: 3AM-IQA1626, Type “A”; City of Iqaluit; 2021 and 2022 Annual Reports Review

Dear Steve England:

The Nunavut Water Board (NWB or Board) has completed the technical review of the 2021 and 2022 Annual Reports (Reports) for Type “A” Water Licence 3AM-IQA1626 (Licence) issued to the City of Iqaluit (City or Licensee). The 2021 and 2022 Annual Reports were received on June 23, 2022 and April 28, 2023 respectively and were submitted as a requirement under Part B of the Licence.

The NWB distributed the 2021 Annual Report to the Iqaluit distribution list for review on July 05, 2022. Comments from Environment and Climate Change Canada (ECCC) and Crown-Indigenous Relations and Northern Affairs (CIRNA) were received on October 05, 2022. The table below provides a brief summary of issues found outstanding during the Report review period. 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.

Table 1 Intervener Recommendation and Deadline to Respond for 2021 Annual Report

SN	Intervener Recommendation/ Concern	Deadline to Respond by and Provide Outstanding Information
Crown-Indigenous Relations and Northern Affairs (CIRNA)		
R-01	Quantify and report the volume of spills or unauthorized discharges in the future.	March 31, 2024 (2023 Annual Report)
R-02	Address the additional reporting requirements as described in Water Licence Amendments #5 and #6 (i.e., Items r, s, t, u and v of Schedule B).	March 31, 2024 (2023 Annual Report)
R-03	Clarify if and how the term and condition stipulated	March 31, 2024 (2023

	in Item 11 of Amendment #4 was implemented with respect to water withdrawal from Apex River in 2021.	Annual Report)
Environment and Climate Change Canada (ECCC)		
1	Characterize and manage/dispose wastewater treatment plant (WWTP) sludge 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.	March 31, 2024 (2023 Annual Report)
2	Provide a summary of actions to be taken to achieve acceptable wastewater effluent quality, including a timeline and commitment to completing.	March 31, 2024 (2023 Annual Report)
3	Conduct annual bioassay testing (Rainbow trout) in accordance with the water licence and results provided in the annual report.	March 31, 2024 (2023 Annual Report)
Nunavut Water Board		
1	Part M of the Annual reports mentions that no inspections or compliance reports were filed for 2021. However, there were two inspections carried out on March 31, 2021 and on June 10, 2021. Provide a summary of actions taken to address the deficiencies identified in the 2021 inspection reports.	March 31, 2024 (2023 Annual Report)
3	Provide a timeline for the implementation of the recommendations in the <i>Lake Geraldine Dam Safety Inspection 2021</i> reports and <i>Lake Geraldine Dam 2021 Dam Safety Review</i> .	March 31, 2024 (2023 Annual Report)
4	Ensure that the requirements of the Monitoring Program are fulfilled according to Schedule I of the Water Licence and the Amendments. Water quality monitoring reports for all the stations and months are not available.	March 31, 2024 (2023 Annual Report)
5	Address the recommendations in the 2020 Annual Report Review.	March 31, 2024 (2023 Annual Report)

Copies of all documents received during the 2021 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/2021>

The NWB distributed the 2022 Annual Report to the Iqaluit distribution list for review on May 08, 2023. Comments from Environment and Climate Change Canada (ECCC) and Crown-Indigenous Relations and Northern Affairs (CIRNA) were received on August 22, 2023. The

table below summarizes the list of issues found outstanding during the Report review period. 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.

Table 2 Intervener Recommendation and Deadline to Respond for 2022 Annual Report

SN	Intervener Recommendation/ Concern	Deadline to Respond by and Provide Outstanding Information
Crown-Indigenous Relations and Northern Affairs (CIRNA)		
R-01	Confirm the annual volume of sludge removed from the Wastewater Treatment Facility and update the monthly volumes of sludge removed with the measured quantities.	March 31, 2024 (2023 Annual Report)
R-02	Update the 2022 Annual Report with the measured monthly quantities of wastes disposed of at the West 40 landfill.	March 31, 2024 (2023 Annual Report)
R-03a	Update the 2022 Annual Report with the monitoring and sampling analytical results in accordance with Schedule I of the Water Licence.	March 31, 2024 (2023 Annual Report)
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.	March 31, 2024 (2023 Annual Report)
R-03c	Update the 2022 Annual Report with the chlorine and bacteria sample results from the distribution system sampling in the 2022 Annual Report.	March 31, 2024 (2023 Annual Report)
R-03d	Clarify the commissioning date of the Wastewater Treatment Plant in the 2022 Annual Report.	March 31, 2024 (2023 Annual Report)
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).	March 31, 2024 (2023 Annual Report)
R-04	Update the 2022 Annual Report with the information to address Schedule B items g and h of the Water Licence.	March 31, 2024 (2023 Annual Report)
R-05	Update the 2022 Annual Report and corresponding documents to address Schedule B item 1(j) of the Water Licence.	March 31, 2024 (2023 Annual Report)
R-06a	Update the 2022 Annual Report with the information to address Schedule B item 1(k) of the Water Licence.	March 31, 2024 (2023 Annual Report)
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.	March 31, 2024 (2023 Annual Report)

R-07	Update the 2022 Annual Report to fulfill the requirements of Schedule B item 1(t).	March 31, 2024 (2023 Annual Report)
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).	March 31, 2024 (2023 Annual Report)
R-08b	Update the 2022 Annual Report with discussion of observed trends, exceedances, and unanticipated impacts – especially when the natural flow in the Niaqunguk River (Apex River) is below 30% of the mean annual discharge (MAD) and withdrawals exceeded 10% of the instantaneous flow of the Niaqunguk River (Apex River).	March 31, 2024 (2023 Annual Report)
R-08c	Update the 2022 Annual Report with a discussion of observed trends comparing the 2021 and 2022 volume pumped from the Niaqunguk River (Apex River) and the corresponding water levels in Lake Geraldine. This could provide an insight to potential trends of both usage and natural conditions that could change over time.	March 31, 2024 (2023 Annual Report)
R-09a	Update the 2022 Annual Report with the model calibrated for the entire period of record, a comparison of updated modelled results with the daily water level measurements, and any model discrepancies discussed.	March 31, 2024 (2023 Annual Report)
R-09b	Discuss conducting a bathymetric survey comparing it to the bathymetry used for the Lake Geraldine Water Balance modelling.	March 31, 2024 (2023 Annual Report)
R-10a	Update the 2022 Annual Report with the results of the fall 2022 remediation activities.	March 31, 2024 (2023 Annual Report)
R-10b	Conduct a Phase III Environmental Site Assessment (ESA) which is to be included in the 2023 Annual Report.	March 31, 2024 (2023 Annual Report)
Environment and Climate Change Canada (ECCC)		
1	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.	March 31, 2024 (2023 Annual Report)
2	Provide a summary of actions to be taken to achieve acceptable wastewater effluent quality, including a timeline and commitment to completing.	March 31, 2024 (2023 Annual Report)
3	Annual bioassay testing be conducted in accordance	March 31, 2024 (2023 Annual Report)

	with the water licence and results provided in the annual report.	Annual Report)
4i	Clarify the dates when Detention Pond 2 was decanted during 2022.	March 31, 2024 (2023 Annual Report)
4ii	In future annual reports, provide the following additional information regarding Pond 2: a. Describe the receiving environment to which the landfill Detention Pond 2 is discharged. b. Note any elevated monitoring parameters, discuss the potential underlying cause(s), and describe any measures taken/planned to prevent elevated parameter concentrations.	March 31, 2024 (2023 Annual Report)
Nunavut Water Board		
1	Provide details of actions taken for the implementation of the recommendations in the <i>Lake Geraldine Dam Safety Inspection 2022</i> report and a timeline for implementation for outstanding concerns and recommendations.	March 31, 2024 (2023 Annual Report)

Copies of all documents received during the 2022 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/2022>

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

Best regards,



Nidhi Singh
Technical Advisor
Nunavut Water Board

Enclosure: Comments - CIRNA, ECCC (2021 and 2022)
Cc: Distribution List – Iqaluit