



Water Resources Division  
Resource Management Directorate  
Nunavut Regional Office  
P.O. Box 100  
Iqaluit, NU, X0A 0H0

Your file - Votre référence  
3AM-IQA1626  
Our file - Notre référence  
CIDM#1242578

March 1, 2019

Manager of Licensing  
Nunavut Water Board  
P.O. Box 119  
Gjoa Haven, NU, X0B 1J0  
E-mail: [licensing@nwb-oen.ca](mailto:licensing@nwb-oen.ca)

**Re: Crown-Indigenous Relations and Northern Affairs Canada's Information Requests for the City of Iqaluit's Application to Amend Water Licence No. 3AM-IQA1626 – Municipal Undertaking**

Dear Mr. Dwyer,

Thank you for your February 13, 2019 invitation to review the City of Iqaluit's Application to Amend Water Licence No. 3AM-IQA1626 – Municipal Undertaking, and to provide Information Requests upon an Assessment of Completeness. Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) examined the amendment application and supplemental documents. Comments have been provided in Attachment A pursuant to CIRNAC's mandated responsibilities under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Indian Affairs and Northern Development Act*.

CIRNAC would be satisfied to attend teleconference style Technical Meeting / Pre-Hearing Conference for the application, though we default to the Nunavut Water Board to make this decision.

If there are any questions or concerns, please contact me at (867) 975-4282 or [bridget.campbell@canada.ca](mailto:bridget.campbell@canada.ca) or Godwin Okonkwo at (867) 975-4550 or [godwin.okonkwo@canada.ca](mailto:godwin.okonkwo@canada.ca).

Sincerely,

Bridget Campbell,  
Water Resource Coordinator

CC: Matthew Hamp, Erica Bonhomme, City of Iqaluit

## **Attachment A: Information Requests**

To: Richard Dwyer, Manager of Licensing, Nunavut Water Board

From: Bridget Campbell, Water Resource Coordinator, Water Resources Division,  
CIRNAC

Date: March 6, 2019

**Re: Crown-Indigenous Relations and Northern Affairs Canada's Information Requests for the City of Iqaluit's Application to Amend Water Licence No. 3AM-IQA1626 – Municipal Undertaking**

Applicant: City of Iqaluit

Project: Municipality

Region: Qikiqtani

---

### **A. BACKGROUND**

The City of Iqaluit (the City) provided the Nunavut Water Board (NWB) on February 1, 2019, with an amendment application (the Application) and supporting documentation for their municipal Type "A" Water Licence No. 3AM-IQA1626. Additional information was provided for clarity on February 12, 2019. The Application proposes two major changes which are intended to continue to the expiration of the licence in 2026; the City is applying to withdraw 500,000 cubic metres from the Upper Niaqunguk River (Apex River) to supplement the Lake Geraldine reservoir, and to increase the permitted withdrawal volume from Lake Geraldine from 1,100,000 cubic metres to 2,000,000 cubic metres.

The City of Iqaluit depends on the Lake Geraldine reservoir for its year-round municipal water supply. The City has conducted a number of studies which suggest that the current reservoir capacity will not be able to supply sufficient water over the long term to meet growing demands. In 2018, the City applied, and was authorized, for an Emergency Amendment. This amendment allowed the City to withdraw the following volumes of water (2018 Emergency Amendment, pg. 7<sup>1</sup>):

1,100,000 cubic meters annually from Lake Geraldine reservoir, 500,000 cubic meters in 2018 from Niaqunguk River (Apex River) watershed and/or small unnamed source water lakes, and 500,000 cubic meters in 2018 from the large unnamed source water lake.

---

<sup>1</sup> Nunavut Water Board Type "A" Water Licence No: 3AM-IQA1626 - Emergency Amendment Decision and Licence Amendment No. 1. August 14, 2018. <<ftp://ftp.nwb-oen.ca/registry/3%20MUNICIPAL/3A/3AM%20-%20Municipality/3AM-IQA1626/4%20LICENCE/1%20LICENCE/2018%20Emergency%20Amendment/180814%203AM-IQA1626%20Emergency%20Amendment-ODBE.pdf>>

According to the City's 2018 Application for Emergency Amendment (page 4<sup>2</sup>), "Work completed in 2017, identified that as a result of presence of overwintering fish within the Apex River, that the Apex River could not meet the City's long term needs for supplementary water, while meeting DFO water withdrawal guidelines." A number of supplementary water supply alternatives were investigated by a number of consultants on behalf of the City. The proposed supplemental resupply of Lake Geraldine from the Apex River is intended as a temporary short term solution to meeting the City of Iqaluit's water needs. The City has assured the NWB that a long term solution is being investigated.

## **B. INFORMATION REQUESTS**

### **1. Apex River Flow and Water Level Data at Apex Hydrometric Station (10UH002) to Determine Withdrawal Rates and Adequacy of Apex River as a Viable Supplementary Water Source:**

#### References:

- City of Iqaluit, 3AM-IQA1626 Application for Amendment – Supporting Submission, Revision 1, Section 4.3.2, February 1, 2019.

The City of Iqaluit states the following on page 4-4 of the Amendment Application Support Document:

If possible to meet water supplementation requirements of Lake Geraldine, water withdrawal from the Apex River at the proposed location will be at a rate less than 10% of the instantaneous flow, when natural flow is above 30% MAD. Flow and water levels are currently monitored at the Water Survey of Canada (WSC) Apex River at Apex hydrometric station (10UH002), located downstream of the proposed Upper Apex pumping location.

However, flow and water level data at Station 10UH002 are not presented in the document. To predict if flow in the Apex River will be sufficient to meet the water supplementation requirement without exceeding the water withdrawal limit of 10% of the instantaneous flow when the flow is above 30% MAD, historic flow and water level data of the Apex River are essential.

**(IR-1):** CIRNAC requests that the proponent present and analyze all the available historic flow and water level data at Station 10UH002 to predict if the Apex River has sufficient quantity of water to meet the predicted needs.

**(IR-2):** CIRNAC requests the City demonstrate how the limit will be set for daily withdrawals if a rate of less than 10% of the instantaneous flow, when natural flow is

---

<sup>2</sup> City of Iqaluit, 3AM-IQA1626 Support Submission Revision 2, August 7, 2018. Submitted to the Nunavut Water Board as part of the Emergency Amendment Application, 2018.

above 30% MAD, is not possible to meet the water supplementation requirements of Lake Geraldine.

## **2. Fuel Transportation to Site**

### References:

- City of Iqaluit, 3AM-IQA1626 Application for Amendment – Supporting Submission, Revision 1, Appendix A, February 1, 2019.

Section 2.1 of Appendix A: Spill Contingency Plan (page 24 of the document) states that “no fuels are to be stored on site.” Therefore, the Spill Contingency Plan should provide information on volume of fuel that will be transported to site daily, the method of transportation, and any mitigation measures to prevent fuel spills during transportation. This information is not available in the plan.

**(IR-3):** CIRNAC requests that the proponent indicate how much fuel will be transported to site daily, the method of transportation, and any mitigation measures which will be followed to handle fuel and prevent spills during transportation.

## **3. Mitigations to Date**

### References:

- E-mail from Dixon Weir of Colliers Project Leaders to Karén Kharatyan of the Nunavut Water Board, Subject Line: City of Iqaluit – Lake Geraldine Reservoir Situation Assessment, as part of the City of Iqaluit Licence 3AM-IQA1626 Emergency Amendment, dated July 27, 2018.
- City of Iqaluit, 3AM-IQA1626 Application for Amendment, Community Engagement Material, February 1, 2019.

In the above referenced e-mail, Mr. Weir explains that the City of Iqaluit was addressing the water shortage situation in Lake Geraldine by the following Task Teams: Supplemental Pumping led by Stantec; Water Loss Control led by EXP Services Ltd.; and Water Efficiency/Water Conservation led by Outcrop. CIRNAC is interested to know what the City of Iqaluit has done to remedy the situation to date. In the Application for Amendment, the City reports that they have initiated the following actions (page 19 of the document):

- The identification and repair of leaks in the City’s freshwater distribution system;
- Communications and actions for residents and businesses to reduce water consumption;
- Investigations into permanent additional water supply; and
- A program for planning and managing water demands associated with future development approvals.

**(IR-4):** CIRNAC requests a written update or report on how these Task Teams have improved the water shortage situation in Lake Geraldine, if and how the Task Teams are continuing to work on this issue, and the results of the above actions initiated by the City.

#### **4. Plans for Research of Alternatives**

##### References:

- City of Iqaluit, 3AM-IQA1626 Application for Amendment – Supporting Submission, Revision 1, Section 3, February 1, 2019.
- City of Iqaluit, 3AM-IQA1626 Application for Amendment, Section 24, February 1, 2019.
- Trow Associates Inc., City of Iqaluit Raw Water Supply and Storage Review, April 2004.

The City of Iqaluit has stated on page 3-1 of the Supporting Submission that “The City recognizes that a permanent solution of a long-term supplemental water source to meet the City’s demands is required, and continuous progress to identify and evaluate these potential sources is underway.” The City notes that it is currently conducting two studies to evaluate the feasibility of using the Sylvia Grinnell River and an Unnamed Lake as water sources for long term use. Completing these studies and producing meaningful results is an important step moving to a permanent solution. The City has been aware of a water shortage issue since 2004 and the issue continues to be unresolved 15 years later in 2019. Understanding the progress of these studies will enhance our confidence that determining a long-term solution is feasible before expiry of the licence in 2026.

**(IR-5):** CIRNAC seeks further details on the City of Iqaluit’s strategies to complete the studies to determine potential long term water sources.

#### **5. Timing of Activities**

##### References:

- City of Iqaluit, 3AM-IQA1626 Application for Amendment, Section 24, February 1, 2019.
- City of Iqaluit, 3AM-IQA1626 Application for Amendment – Supporting Submission, Revision 1, Section 2.4.3, February 1, 2019.
- Golder Associates Ltd., Supplementary Lake Geraldine Water Balance Modelling, Section 4.1, July 25, 2018.

On page 12 of the City of Iqaluit’s Application for Amendment, the proposed timeline for pumping is from August 1 to October 31, annually. However, the following quote is found on page 2-5 of the City of Iqaluit’s Supporting Submission: “The supplementary pumping of water, if required during a given year, will be completed during the open water period

before flows cease and before hoses would otherwise freeze (July 15 to October 31).” A decision to begin pumping early in the open water season is supported by a statement on page 5 of the Water Balance Modelling document in which “Total meteorological surpluses in the final weeks (October) before freeze-up are limited relative to earlier portions of the open-water period and thus reduce the catchments capacity to fully replenish the reservoir before freeze-up occurs.”

**(IR-6):** CIRNAC seeks clarification on the starting date for installation and for operation of the pumps.

## **6. Reporting Erosion and Sedimentation Control Measures**

### References:

- City of Iqaluit, 3AM-IQA1626 Application for Amendment – Supporting Submission, Revision 1, Appendix B, February 1, 2019.

Under Monitoring and Reporting of the Sedimentation and Control Plan, Appendix B, page 2, the City of Iqaluit notes that, “The implementation of erosion and sedimentation control measures shall be recorded daily by the contractor. This report should note aspects such as performance of silt curtains, days of in-water works, etc.”

**(IR-7):** CIRNAC requests that this report be made available for review.