Crown-Indigenous Relations and Northern Affairs Canada
Relations Couronne-Autochtones et Affaires du Nord Canada

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#1245514

April 1, 2019

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

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

Dear Mr. Dwyer,

Thank you for your March 25, 2019 invitation to reply to responses provided by the City of Iqaluit (City) to the Information Requests (IRs) provided by Crown Indigenous Relations and Northern Affairs Canada (CIRNAC) regarding the Application to Amend Water Licence No. 3AM-IQA1626 – Municipal Undertaking. CIRNAC examined the response. The reply provided in Attachment A is 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*.

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

Sincerely,

Bridget Campbell,
Water Resource Coordinator

CC: Matthew Hamp, Erica Bonhomme, City of Iqaluit

Canada

Attachment A: Reply to Responses to Information Requests

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

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

Date: April 1, 2019

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

Applicant: City of Iqaluit
Project: Municipality
Region: Qikiqtani

A. BACKGROUND

The City of Iqaluit (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. Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) submitted Information Requests (IRs) on March 1, 2019, to which the City replied on March 22, 2019. CIRNAC expects the information requested in the outstanding IRs, as presented in Part C, to form part of our Technical Review.

B. RESOLVED INFORMATION REQUESTS

CIRNAC considers the following Information Requests to be clarified and resolved:

IR Number	Subject of IR
IR-3	Fuel Transportation to Site
IR-4	Mitigations to Date
IR-6	Timing of Activities
IR-7	Reporting Erosion and Sedimentation Control Measures

C. UNRESOLVED INFORMATION REQUESTS

CIRNAC considers the following Information Requests to be unresolved:

IR Number	Subject of IR
IR-1, IR-2	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
IR-5	Plans for Research of Alternatives

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

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

Comment:

The City stated the following in its IR response letter to the NWB (page 1):

> To address uncertainties raised in the Nunavut Impact Review Board process in regard to impacts of the proposal to the river ecosystem, the City is withdrawing its proposed contingency of pumping at a rate that exceeds DFO criteria (10% instantaneous flow; flows >30% mean annual discharge), and correspondingly, is also withdrawing its proposed Fish and Fish Habitat Monitoring Plan, which is only applicable under these conditions. The City demonstrates that the proposed annual withdrawal amount at the proposed withdrawal rate can be achieved.

However, the data presented in the response to CIRNAC's IR-1 indicate that "This analysis shows that, of the 35 years analyzed here, 29 years would have had available extraction volumes at or above the requested 500,000 cubic meter." In other words, based on this data set, there is a one in six chance that the proposed withdrawal rate could not be achieved. Furthermore, CIRNAC notes that there are a number of recent peer-reviewed scientific publications (e.g., Bakaic et al, 2017) which suggest significant deficiencies in using the Apex River as a short term water replenishing source.

Recommendation for Resolution:

CIRNAC recommends that the City provide justification for its decision to withdraw the proposed contingency by addressing the uncertainties associated with the 35 years hydrometric data and conclusions made by relevant independent scientific studies.

2. Plans for Research of Alternatives

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

Comment:

CIRNAC finds that there are still details lacking in this response regarding which water sources are being studied, what information remains to be collected and analyzed within each study, and the dates that these studies are expected to be completed. In their response to IR-5, the City does not provide its plans to further the study at the Sylvia Grinnell River, does not provide timelines for the studies at the Unnamed Lake, and does not clearly state which water source studies are still being pursued. The City reintroduces the Apex River as a potential long-term water source, which counters the information provided in the 2019 Amendment Application Support Document (page 10), in which the City states, "A permanent solution is considered an alternative to the temporary supplementation from Apex River." This contradictory information decreases CIRNAC's confidence in the City's progress to find a long-term supplemental water source.

Recommendation for Resolution:

CIRNAC recommends that the City provide a strategic plan to complete the proposed studies within the seven year term of the amended licence. This plan should outline concrete commitments and timelines so that a long-term supplemental water source can be determined within this timeframe. This plan should include the following details:

a) If the Apex River is being further considered as a long-term water source beyond the proposed seven year licence term
b) How long data is expected to be collected at the hydrometric station and at the water level loggers at Unnamed Lake
c) When the water level model for Unnamed Lake is expected to be completed
d) When the conveyance study for Unnamed Lake is expected to be completed
e) Whether the comparison study of the two potential intake sites at the Sylvia Grinnell River has been completed, and
    a. if so, report the feasibility results as part of the strategic plan
    b. if not, outline what tasks are still required before feasibility can be reported
f) What findings will be reported in the annual reports for each potential water source
g) When a feasibility determination is expected to be made available for each potential water source

D. REFERENCES

Bakaic M., Medeiros A. S, Peters J.F., and Wolfe B.B. (2018). Hydrologic monitoring tools for freshwater municipal planning in the Arctic: the case of Iqaluit, Nunavut, Canada. Environ Sci Pollut Res (2018) 25:32913–32925.

City of Iqaluit, Response to Information Requests Round 1, March 22, 2019.

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