



Water Resources Division  
Resource Management Directorate  
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Your file - Votre référence  
8BC-IMI----  
Our file - Notre référence  
GC Docs #94745817

May 21 2021

Richard Dwyer  
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 Review of the Licence Application for the Iqaluit Marine Infrastructure Project, Type (B) Water Licence No. 8BC-IMI----**

Dear Richard,

Thank you for the April 30<sup>th</sup>, 2021 invitation to review the referenced licence application, submitted by Tower Arctic Ltd., for Type B Water Licence No. 8BC-IMI----

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) examined the application pursuant to its mandated responsibilities under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Crown-Indigenous Relations and Northern Affairs Act*. Please find CIRNAC comments and recommendations in the attached Technical Memorandum.

If there are any questions or concerns, please contact me at (306) 501-4047 or [Andrew.Keim@canada.ca](mailto:Andrew.Keim@canada.ca).

Sincerely,

Andrew Keim,  
Water Resources, Nunavut Regional Office  
Crown-Indigenous Relations and Northern Affairs Canada  
[Andrew.Keim@canada.ca](mailto:Andrew.Keim@canada.ca) / Tel : (306) 501-4047



## Technical Review Memorandum

**Date:** May 6, 2021

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

**From:** Andrew Keim, Water Resources, CIRNAC

**Subject:** **Crown-Indigenous Relations and Northern Affairs Canada Review of the Licence Application for the Iqaluit Marine Infrastructure Project, Type (B) Water Licence No. 8BC-IMI**

**Region:**  Kitikmeot  Kivalliq  Qikiqtani

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### **A. BACKGROUND**

The construction of the Iqaluit Deep Sea Port Marine Infrastructure Project (Project) has been underway through three open water seasons and was initiated in 2018. The Government of Nunavut is the proponent of the Project. Tower Arctic Ltd. (TA) was selected as the Contractor.

During the 2021 open-water season, water withdrawal will be required to support dust suppression, produce concrete and crushed aggregates for the Project. The City of Iqaluit has confirmed that the water requirements for the construction activities of the Project cannot be met with the municipal water supply.

The proposed withdrawal site, along the Niaqunguk River (63°45.385'N, 68°27.730'W), is approximately 870m downstream of an approved water withdrawal site for the City of Iqaluit to support the municipal water supply. A daily maximum of 30 cubic meters of water will be withdrawn and transported to be used for the construction activities. The total volume required for water withdrawal throughout the season (June to October 2021) is expected to be 500 to 800 cubic meters of water.

CIRNAC provides the following comments and recommendations pertaining to the application package. Documents reviewed as part of this submission can be found in Table 1 of Section B. Detailed technical review comments can be found in Section C.



## B. DOCUMENTS REVIEWED

The following table (Table 1) provides a summary of the documents reviewed under the submission.

**Table 1: Documents Reviewed**

Document Title	Author, File No., Rev., Date
8BC-IMI Water License Application	Tower Arctic Ltd., April 28,2021
Summary English	Tower Arctic Ltd., April 27,2021
Appendix 1 – Letter of Authorization	Tower Arctic Ltd., April 26,2021
Appendix 2- Project Map	Tower Arctic Ltd.. March 23,2021
Appendix 3- NPC Decision Letter	Nunavut Planning Commission, April 21,2021
Appendix 4- NIRB Screening Decision	Nunavut Impact Review Board ,Sept 29,2017 .
Appendix 5- Spill Response Plan	March 15,2021
Appendix 6- Interim Code Of Practice End-of-Pipe-Fish-Protection Screen.	Department of Fisheries and Oceans, Government of Canada
2020 Report Supplementary Pumping Program	Nunami Stantec Limited, January 15, 2021
Guidelines for Spill Contingency Planning	Water Resources Division, Indian and Northern Affairs, Government of Canada,2007.



## C. RESULTS OF REVIEW

### 1. Water Withdrawal from Niaqunguk River – Cumulative effects

#### Comment:

Based on the identification that the City of Iqaluit was facing a deficit in the availability of Freshwater within Lake Geraldine reservoir in 2018 and 2019 the City applied to the Nunavut Water Board to supplement the Lake Geraldine Reservoir from the Niaqunguk River during summer months on an annual basis until 2026 (the term of the licence).

In September 2019, the City received an amendment (Amendment #4) to its type A water licence 3AM-IQA1626 to permit supplementary pumping of freshwater from the Niaqunguk River on an annual basis as and when required.

This is facilitated by a semi-permanent pipeline from the Niaqunguk River to Lake Geraldine installed in 2019. Amendment #4 to the City's Type A water licence permits a maximum of 500,000 cubic metres (m<sup>3</sup>) to be extracted from Niaqunguk River for supplementation purposes annually. In the annual report the City of Iqaluit states the following;

*“Supplementary pumping from the Niaqunguk River to the Lake Geraldine Reservoir was completed between June 21 to July 28, 2020. A total of 358,615 m<sup>3</sup> were pumped with daily pumped volumes ranging from 0 to 17,520 m<sup>3</sup>”<sup>1</sup>*

While the total volume required for water withdrawal throughout the season (June to October 2021) under the submitted application is expected to be 500m<sup>3</sup> to 800m<sup>3</sup>, the concern for the cumulative effect of this withdrawal on the Niaqunguk River may not have been fully assessed.

Additionally, the withdrawal of between 5 m<sup>3</sup> and 8 m<sup>3</sup> per day later in the season during periods of lower flow volumes may have some further negative downstream effects on the river and aquatic habitat.

#### Recommendation:

(R-01a) CIRNAC recommends that the Nunavut Water Board include in the licence the requirement for the licensee to coordinate water withdrawals with the City of Iqaluit so that their total combined abstraction rates only occur when the natural flow in the Niaqunguk River is above 30% of the mean annual discharge and their total combined withdrawals will not exceed 10% of the instantaneous flow of the Niaqunguk River.

(R-01b) CIRNAC recommends the Nunavut Water Board include in the license the requirement for ongoing Water level monitoring by the licensee to analyze the possible downstream effects on the Niaqunguk River.



## 2. Spill Contingency and Response Planning

### Comment:

The submitted Spill Response Plan, A-21808-WP-13-SPILL RESPONSE PLAN REV8 , Tower Arctic Limited was found to contain the majority of the essential elements required pursuant to the Published guidelines. However the guide reads as follows;

*“Under the NWT Waters Act and Section 6 g (i) and (ii) of the NWT Waters Regulations all operations requesting licences for water use and waste disposal must prepare comprehensive spill contingency plans. These plans are required to establish a state of readiness which will enable prompt and effective response to possible spill events. The plans submitted to Land and Water Boards must demonstrate that the Licence Holder is capable of responding and taking appropriate action in the event of a spill.”<sup>2</sup>*

### Recommendation:

(R-02) CIRNAC recommends that with the submission of the 2021 annual report to be submitted by March 31<sup>st</sup> 2022, The proponent submit an updated Spill Response Plan that includes the following information:

1. A complete inventory of the resources available to the proponent to Control, Contain and Clean up and remediate grounds and waters in the event of an uncontrolled or release of a hydrocarbon or other hazardous substance into the Environment.
2. Submission of a detailed training plan provided to on-site staff.
3. Submission of MSDS sheets for all hazardous substances on site and used in the Construction phase of the project by the proponent.
4. A copy of the Spill line Spill report form for use when reporting spill to the Spill Line
5. A copy of the names and contact information for regulators for spill reporting
6. To include in the list of Hazardous goods contained on site a description of the storage capacity and the type and number of storage containers, and the locations for each of these materials

## D. REFERENCES

### Works Cited

1. Executive summary, Paragraph 2, Page 3. **Iqaluit 2020 Lake Geraldine Resupply (Apex Pumping): Report of Activities**, Nunami Stantec, January 15, 2021
2. Paragraph 2, Page 1. Guidelines for Spill Contingency Planning, Indian and Northern Affairs, Government of Canada, 2007
3. City of Iqaluit Type A Water License Amendment #4 (3AM-IQA1631), Nunavut Water Board ,September 4, 2019.