



Water Resources Division
Resource Management Directorate
918 Nunavut Drive
Iqaluit, NU, X0A 3H0

Your file - Votre référence
3BM-QIK1924
Our file - Notre référence
GCDocs# 129905504

October 10, 2024

Robert Hunter
Licensing Administrator
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU, X0B 1J0
Email: licensing@nwb-oen.ca

Re: Crown-Indigenous Relations and Northern Affairs Canada's Review of the Amendment Renewal Water Licence Application for the Municipality of Qikiqtarjuaq, Type B Water Licence No. 3BM-QIK1924

Dear Robert,

Thank you for the August 29, 2024, invitation to review the above-mentioned amendment renewal application, submitted by the Municipality of Qikiqtarjuaq, for Type "B" Water Licence No. 3BM-QIK1924.

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 and Northern Affairs Act*. Please find CIRNAC comments and recommendations in the attached Technical Memorandum.

If there are any questions or concerns, please contact Andrew Keim at (867) 975-4550 or Andrew.Keim@rcaanc-cirnac.gc.ca.

Sincerely,

Andrew Keim for,

Lee Ann Pugh
Regional Water Coordinator



Technical Review Memorandum

Date: October 10, 2024

To: Richard Hunter, Licensing Administrator, Nunavut Water Board

From: Lee Ann Pugh, Regional Water Coordinator, CIRNAC

Subject: **Crown-Indigenous Relations and Northern Affairs Canada's Review of the Amendment Renewal Water Licence Application for the Municipality of Qikiqtarjuaq, Type B Water Licence No. 3BM-QIK1924**

Region: Kitikmeot Kivalliq Qikiqtani

A. Background

The Hamlet of Qikiqtarjuaq (or the Hamlet) is located at Latitude 67° 33' N and Longitude 64° 02' W, on Broughton Island, off the eastern coast of Baffin Island, adjacent to Auyuittuq National Park, approximately 470 km NE of Iqaluit, in the Qikiqtani Region of Nunavut. Water Licence 3BM-QIK1924 was issued on September 20, 2019, and expired on September 19, 2024. Hamlet infrastructure includes:

- A Water Supply Facilities which draws water from Tulugak River. Water is transferred by gravity from the intake location to the Water Storage Reservoir, designed with a usable capacity of 31,500m³. Water is treated at the truck-fill station and trucked to holding tanks in each community building.
- A Sewage Disposal/Treatment Facilities (double celled lagoon system) which receives trucked swage collected from holding tanks in each building and houses, with a Wetland Treatment Area (WTA) between the lagoon and the marine environment.
- A Solid Waste Disposal Facilities, which includes a Metals Disposal Area, and Hazardous Waste Storage Area. Segregation of waste requires ongoing attention.
- Development of a Landfarm Facility was previously initiated, then suspended and now abandoned.

This amendment renewal application is requesting an increase of water usage from 37,500 m³ to 49,245 m³. A study to identify secondary water source is also planned in the near future and will be submitted for approvals to the Board when available.

On August 29, 2024, the Nunavut Water Board provided notification of the Hamlet of Qikiqtarjuaq's submission of the amendment renewal application and invited comments. A summary of the subjects of Crown-Indigenous Relations and Northern Affairs Canada's (CIRNAC) comments and recommendations regarding the Annual Report are listed in Table 1. Documents reviewed as part of this submission can be found in Table 2 of Section B. Detailed technical review comments are in Section C.



Table 1: Summary of Recommendations

Recommendation Number	Subject
R-01	Management Plans
R-02	Application Information
R-03	Plan for Compliance
R-04	Quality Assurance/Quality Control
R-05	Annual Reporting
R-06	Hydrological Study

B. DOCUMENTS REVIED AND REFERENCED

The following table (Table 2) provides a list of the documents reviewed under the submission and reference during the review.

Table 2: Documents Reviewed and Referenced

Document Title	Author, File, No., Rev., Date
Updated Application Water Licence Amendment Renewal	Hamlet, August 26, 2024
NPC Determination Letter	NPC, May 23, 2024
Letter of Authorization	Hamlet, June 2026, 2024
Summary English	Hamlet, August 28, 2024
Summary Inuktitut	Hamlet, August 28, 2024
Plan for Compliance - Updated August 2024	Hamlet, August 28, 2024
Spill Contingency Plan	Hamlet, August 28, 2024
Final QA/QC Plan August 2024	Hamlet, August 28, 2024
Hydrology and Water Balance Report	Hamlet, May 24, 2024
Applicant Response to NWB Request for Additional Info	NWB, August 28, 2024
CALA_Cert_King_exp_Dec_20_2026	CALA, June 21, 2024
CALA_Cert_Ott_exp_July_13_2025	CALA, January 3, 2023
CALA_Cert_RHill_exp_Feb_14_2026	CALA, August 15, 2023
Kingston 2250 Wall Certificate 2023	Ontario, September 30, 2024
Ottawa 2232 Wall Certificate 2023	Ontario, September 30, 2024
RHill 2273 Wall Certificate 2024	Ontario, July 7, 2025
2023 Annual Report	Hamlet, April 16, 2024



C. RESULTS OF REVIEW

1. Management Plans

Comment:

Water Licence 3BM-QIK1924 states, *“The Board has granted the Applicant with the replacement Licence despite the need for the submission of complete, functional, and separate (stand-alone) management plans for all operational facilities. Following discussion with the Applicant, it is the Boards understanding that Government of Nunavut Community and Government Services (GN-CGS) is currently in the process of developing standardized templates for all facilities at all communities, and that these manuals or plans will be commissioned and implemented before the expiry of this Licence in 2024.*

As emphasized in CIRNA Comments for Renewal Application:

CIRNAC finds the information provided in the Water Licence renewal application incomplete and inconsistent and recommends that the application be returned to the licensee for revision and resubmission. Alternatively, given that the Community and Government Services, Government of Nunavut is currently working on a territorial-wide municipal solid waste management planning, CIRNAC recommends that the Water License be renewed for five (5) years under the term and condition that the Updated Operation and Maintenance (O&M) Plan for Water Reservoir, Sewage Lagoon and Solid Waste Disposal Facility for the Hamlet of Qikiqtarjuaq be implemented.”

CIRNAC is aware the Licensee has had capacity issues in over several years in providing adequate, up to date and critical information during the water licensing process specific to the facilities located in the Hamlet of Qikiqtarjuaq and related to water use and waste. It is our understanding that a consultant has been hired to assist the Hamlet in this process with the Board as stated in the Letter of Authorization, dated June 26, 2024.

Recommendation:

(R-01) CIRNAC reiterates that the information provided in the water licence amendment renewal application dated August 26, 2024, is incomplete, inconsistent and does not provide clarity to reviewers such lending to the Board’s ability to make a sound decision. It is the Applicants sole responsibility to adhere to the Boards regulatory requirements, including the water licensing process, to provide a complete water licence application for Board review and processing.

The Licensees commitment only strengthens the Boards ability to carry out its mandated role and responsibilities with the information required to make sound decisions and within a timely manner. CIRNAC is also committed to participating in the water licensing process and is open to having future discussions with the Licensee regarding the regulatory requirements of the legislation and associated regulations.



CIRNAC recommends the Licensee confer with their consultant and the Government of Nunavut who made commitments on behalf of the Licensee to review and revise and/or provide an update on the following information regarding management plans submitted to the Board:

- The process of developing standardized templates for all facilities at all communities, as it was confirmed to the Board that these manuals or plans were to be commissioned and implemented before the expiry of 3BM-QIK2024.
- The above-mentioned territorial-wide municipal solid waste management planning, led by the Government of Nunavut, Department of Community and Government Services, and as previously stated in 3BM-QIK1924.
- Confirm the continued implementation *2010 Updated Operation and Maintenance (O&M) Plan for Water Reservoir, Sewage Lagoon and Solid Waste Disposal Facility for the Hamlet of Qikiqtarjuaq* and if there are any plans for future updates and/or revisions to in the near future as per the terms and conditions set out in 3BM-QIK1924.
- This information, along with a commitment from the Government of Nunavut to provide this information in a timely manner should be submitted to the Board prior to the issuance of a renewal license.

2. Application Information

Comment:

In the *Applicant Response to NWB Request for Additional Info document*, dated August 28, 2024, the Licensee was notified by the Board that the amendment renewal water licence application had missing information that was required for processing, including information on the required submission of management plans. For example;

- Item 1 of 3BM-QIK1924 states that the use of a water pump to withdraw water from Tulugak Lake is an activity currently not authorized under the licence,
- Updates regarding inspections for the Hamlets infrastructure conducted by Geological Engineers,
- Provide the approximate time required for the Licensee to provide a response to the Board.

CIRNAC notes the Licensee responded to the Boards request, but the information that was submitted for review is found to be insufficient and/or incomplete.

Recommendation:

(R-01) CIRNAC requests the Licensee to provide:

- An update or options concerning the current status of the abandoned landfarm.
- An update on the development of a Closure and Reclamation Plan and should the landfarm activity cease entirely. CIRNAC would like to remind the Licensee that a Closure and Reclamation Plan for each of the water/wastewater facilities is required as per the terms and conditions set out in 3BM-QIK1924.
- An update on the Updated Operation and Maintenance (O&M) Plan for Water Reservoir, Sewage Lagoon and Solid Waste Disposal Facility for the Hamlet of Qikiqtarjuaq.



- An amendment request sent to the Board which would authorize the use of a water pump and hose for usage if and when required to draw water from Tulugak River before the issuance of a licence.
- Clarity to the Board as to why Appendix potentially E, but F of the QA/QC plan was omitted and the timeline in which the missing information will be submitted to the Board.
- A timeline as to when inspections will occur by the Hamlet appointed Geotechnical Engineering firm in respect to the liner of the bed for the Hamlet's water reservoir.
- The results of the inspections when available for submission to the Board.

3. Plan for Compliance

Comment:

3BM-QIK1924 states, *in addition, on August 19, 2018, CIRNA conducted an inspection and issued a Water Licence Inspection Form 5, that outlined a number of issues of non-compliance for the Hamlet of Qikiqtarjuaq.*

In brief and detailed below, the Hamlet of Qikiqtarjuaq should address the following in their compliance plan:

- *Measuring water use directly at the intake on the Tulugak River (see PART H, Item 1);*
- *Improving segregation of hazardous and non-hazardous waste at the Solid Waste Disposal Facilities (see PART D, Item 10 and Item 11);*
- *Including the construction of a small dam at the Tulugak River Water intake (see PART E, Item 1);*
- *Ensuring a freeboard limit of 1.0m is maintained at the Sewage Disposal Facilities (see PART D, Item 4);*
- *Ensuring that sediment and erosion control measures are installed prior to, and maintained during all activities that have potential to cause erosion (see Part E, Item 6);*
- *The Licensee shall also verify any damage done to the Waste Water Treatment Facility walls, and conduct any follow-up activities required.*

The NWB would like to highlight these issues with respect to the NWNSRTA in the context of the Licence issued to the Hamlet. The NWB also acknowledges, however, that improvements have been made by the Licensee during last few years in trying to address previous non-compliance issues (i.e. complete monitoring, consistent annual reporting, etc.).

The Board also recognizes that some status information provided in the Plan for Compliance is out of date and/or contradictory to the most recent Inspection Report, however the Licensee is required to implement the Plan for Compliance under Part B, Item 8 of the Licence. The Licensee is advised that an updated Plan is required to be submitted with the 2019 Annual Report, that address concerns by the Inspector. The Licensee is also advised to follow Inspector recommendations and address operational issues raised by the Inspector.

Upon review of the Plan for Compliance, dated August 2024, CIRNAC notes that the information within the plan is out of date, incomplete and/or requires further review and revisions to ensure it



is in line with the Boards regulatory requirements stated in 3BM-QIK1924. CIRNAC also notes outdated amounts for the use of water in respect to this amendment renewal application, outdated or inaccurate dates for compliance and limited information to fully capture the Hamlet of Qikiqtarjuaq's plan for compliance and implementation.

On June 25, 2024, a CIRNAC Inspector conducted inspections of the water and waste facilities for the Hamlet including items within the Plan for Compliance. CIRNAC has been notified that the Inspection report will be submitted to the Board in the coming weeks.

Recommendation:

(R-02) CIRNAC recommends the Licensee provide:

- Tabular summaries of all data generated under the Monitoring program within 30 days of receipt to the Board.
- A summary of modifications and/or major maintenance work, specifically the leak to water reservoir liner 30 days upon completion to the Board.
- Further information on the short- and long-term plans for the current abandoned landfarm with a schedule of activities to the Board in the next annual report.
- Review the Plan for Compliance and confirm the errors and make the appropriate changes before the Issuance of a License.
- The actions proposed to be actioned as directed by the CIRNAC inspector and in the timeframe specified within 90 days after receipt of the report.

4. Quality Assurance/Quality Control Plan

Comment:

Page 10 of the Quality Assurance/Quality Control Plan (QA/QC) states, *the following information is compiled pursuant to the requirements of Part B, Item 1 of Water Licence # 3BM-QIK 1924 issued to the Hamlet of Pond Inlet.*

i) - iii) tabular summaries of all data generated under the "Monitoring Program"; monthly and annual quantities in cubic metres of freshwater obtained from all sources; monthly and annual quantities in cubic metres of each and all wastes discharged.

Attached are quantities of water used as reported in our On Tap Water Delivery System and the estimated discharge of sewage waste based on quantities used."

CIRNAC notes the tabular summaries are incomplete and provided limited information the Board requires for a sound review and decision. CIRNAC also notes the Hamlet referenced in the document is Pond Inlet rather than Qikiqtarjuaq and Page 21 of the document provides a second table of contents that may be a duplicate.

Recommendation:

(R-03) CIRNAC recommends the Licensee to provide a revised table of summaries of all data



generated under the monitoring program and to review the QA/QC Plan to address these issues before a licence is issued by the Board.

5. Annual Reporting

Comment:

The Board Acknowledged receipt of the Hamlets 2023 Annual Report on April 4, 2024, as per the General Conditions set out in Part B of 3BM-QIK1924.

Page vii of 3BM-QIK1924 states, *“The NWB has also taken this opportunity to review the Annual Reports submitted in recent years, and the following deficiencies in reporting have been identified:*

- *failure to submit the required documentation on time;*
- *incomplete monitoring data in accordance with the Monitoring Program;*
- *no interpretation of data provided, no explanation for missing data.*

The Annual Report shall include all Monitoring Program results as per requirements included within Part H (Conditions applying to the Monitoring Program) of the Licence. The Board would like to remind the Licensee that the Annual Reporting requirements of the Licence should be adhered to at all times so as to help maintain full compliance with respective terms and conditions in the Licence. The Board strongly recommends that for all subsequent annual submissions the Licensee submit a more systematic Monitoring report, in accordance with Part I, Item 2, of current Water Licence, including a short analysis and interpretation of the data.”

Upon review of the 2023 Annual Report for the Hamlet of Qikiqtarjuaq, CIRNAC must reiterate the Board’s comments that the same issue in reporting have major deficiencies that need be addressed by the Licensee.

Recommendation:

(R-04) CIRNAC recommends the Licensee to address the Board’s ongoing concerns respecting required content within annual reports and proactively conduct a review and applicable revisions now and to subsequent reports to be submitted to the board within 90 days.

6. Hydrological Study

Comment:

The Board Acknowledged receipt of the Hamlets Hydrological Desktop Study, dated May 24, 2024. The document provides a sustainability analysis of Tulugak River and watershed to determine if there is enough water to meet the current and future needs over a 20- and 40-year period for the Hamlet.



The assessment determined there is sufficient water quantities to meet the hamlets current and future water supply needs to the year 2064 and notes that there are significant gaps and questionable data points and limited datasets available at the time of the study.

Recommendation:

CIRANC recommends the Licensee review the recommendations for consideration and/or re-enforce them into subsequent Plans for Compliance and ensure its implementation, including:

- The installation of flow gauges and levels to monitor the Tulugak River during flow periods including at the intake structure, Hydrograph development of the Tulugak River, ongoing monitoring of precipitation and ET rates for the Tulugak River watershed and determine flow depths along the river and at the intake structure.
- Additional topographic survey of the Tulugak River water basin and additional water quality weekly sampling.
- Measure and verify temporal water quality fluctuations and sediment transport that occurs over the flow period and confirm optimal dates for raw water collection.
- Conduct further investigations related to permafrost monitoring, potential impacts on hydrological patterns and impacts on flood mitigations.