



Water Resources  
Nunavut Regional Office  
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November 8, 2018

Richard Dwyer  
Manager of Licencing  
Nunavut Water Board  
Gjoa Haven, NU, X0E 1J0

INAC reference  
CIDM# 1230835

NWB reference  
#3BM-KIM0911

**Re: Crown-Indigenous Relations and Northern Affairs Canada – Water  
Resources Division Technical Review of Type ‘B’ Renewal & Amendment Licence  
for 3BM-KIM0911 Hamlet of Kimmirut**

Dear Mr. Dwyer,

Thank you for the email received on September 25, 2018 from the Nunavut Water Board concerning the above mentioned water licence. A technical memorandum is provided for the Nunavut Water Board's consideration. Comments have been provided pursuant to the Department's mandated responsibilities under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Indian Affairs and Northern Development Act*.

Please do not hesitate to contact me by telephone at 867-975-4568 or email at [Lisa.Bachellier@Canada.ca](mailto:Lisa.Bachellier@Canada.ca) for further comments or any questions.

Sincerely,

Lisa Bachellier  
Water Resource Technician

c.c.: Ian Parsons, A/Manager, Water Resources, CIRNAC, NRO  
Justin Hack, Manager of Field Operations, CIRNAC, NRO



## Technical Memorandum

**Re: Crown-Indigenous Relations and Northern Affairs Canada – Water Resources Division Technical Review of Type ‘B’ Renewal & Amendment Licence for 3BM-KIM0911 Hamlet of Kimmirut**

Applicant: Hamlet of Kimmirut  
Project: Community of Kimmirut  
Region: Qikiqtani Region

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### A. BACKGROUND

On September 25, 2018 the Nunavut Water Board (NWB or Board) provided notification to interested parties that the Hamlet of Kimmirut (Licensee) had submitted a Renewal-Amendment Type B water licence application 3BM-KIM0911- for the community of Kimmirut.

The Hamlet of Kimmirut is a small community with a population of approximately 560. The Hamlet is located on the southern tip of Baffin Island in Nunavut, at 62°50'06"N and 69°52'04"W within the Qikiqtani region of Nunavut.

On June 8, 2009 the Government of Nunavut Community of Government Services (GN-CGS) applicant had submitted a Type B application for amendment for their existing water licence 3BM-KIM0911

On March 19, 2010 the Nunavut Water Board had made a decision not to amend the Hamlet of Kimmirut water licence 3BM-KIM0911, the decision is made pursuant to the NWB's authority under Article 12 of the *Agreement between the Inuit of the Nunavut Settlement Area and Her Majesty the Queen in Right of Canada* (Nunavut Land Claims Agreement or NLCA) and the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* (NWNSTRTA). As set out in the reasons for decision, based on the application, submissions by all parties and applicable legislation, the Board is not satisfied that the requirements of s. 57 of the NWNSTRTA have been met, and accordingly cannot amend the Licence as requested in the application

The Hamlet of Kimmirut currently disposes of its solid waste in an existing landfill site located adjacent to the existing sewage disposal site. A new solid waste disposal facility was partially constructed adjacent to the sewage lagoon but was never commissioned.

Lake Fundo is the community's primary source of potable water with a relatively large volume of 6,783,000 cubic meters compared to the 30,000 cubic meters authorized for use on an annual basis.



In 2001, a new WWTF was constructed 1.8 km west of the community, under the approval of the Nunavut Water Board, and it consisted of a lagoon system with wastewater treatment by a downstream wetland. The facility was subsequently determined to have inadequate capacity for overwinter storage, and in 2011, the WWTF was upgraded. However, this WWTF has never been active. During licencing for operation of the WWTF, concerns were expressed over the potential presence of fish in the downstream wetland and Tuullitsut Lake

## **B. RESULTS OF REVIEW**

On behalf of Crown-Indigenous Relations and Northern Affairs Canada – Water Resources Division, the following comments and recommendations are provided for the Board's consideration.

### **1. Water Use**

#### **Reference:**

Water Licence Renewal and Amendment Application Hamlet of Kimmirut licence # 3BM-KIM0911- Date Submitted 05/31/2016

2015 Annual Report

**Comment:** The Hamlet of Kimmirut is asking for 30,000 m<sup>3</sup> as their annual water limit. This is based on 2015 data. The Hamlet is also asking for a 10 year licence renewal. The 2015 annual report states that water use was 19,000 m<sup>3</sup> for the year, however the application states that 29,000 m<sup>3</sup> was the annual use. As well, the hamlet's predicted sewage calculation (sewage prediction = water use) for year 2028 is above the 30,000 m<sup>3</sup> of water being asked for.

**Recommendation:** CIRNAC recommends that the Hamlet of Kimmirut provide clarification on the correct amount of water use annually. As well, if the amount of water use is 29,000 m<sup>3</sup> then CIRNAC advises that the Hamlet ask for a greater volume of water use based on the fact that they are at their water use limit now based on data from three years ago. Given that they are requesting a 10 year licence renewal, CIRNAC is certain that they will be over their requested annual water use unless they ask for a greater volume.

### **2. Solid Wastes Landfill, including Hazardous Materials (wastes)**

#### **Reference:**

SOLIDWASTE OPERATION AND MAINTENANCE PLAN



**Comment:** The documentation provided describes that the solid wastes landfill is just a designated area by the hamlet to place wastes. The area is not bermed, fenced or delineated. This area also accepts Hazardous wastes which are not segregated and are just placed within the bulky metals section of landfill area. The documentation also states that the facility is at or near capacity. The lack of berms for the facility is allowing contaminants to leave the facility freely without knowing its characterization is of great concern. As well the overall lack of organization of the facility is of concern; the hazardous wastes not being segregated or placed in secondary containment structures (i.e. sea cans), and the facility being at capacity. CIRNAC notes that the documentation does state that a new landfill is in the works to be designed and commissioned, however, this new facility will not be ready until 2021, not including delays, is another concern.

**Recommendation:** CIRNAC recognizes that the hamlet may be limited in the scope of what can be done in the short term to mitigate the issues. However, CIRNAC recommends at the very least that the hamlet segregate and place all hazardous materials/wastes in secondary containment, as well as berming the landfill facility to stop the flow of contaminants from leaving the facility and entering the environment. CIRNAC also recommends that the hamlet sample the “water” leaving the facility so as to characterize the contaminants entering the environment.

Signage and fencing should also be put in place.

### 3. Sewage Disposal System

#### Reference:

#### OPERATION AND MAINTENANCE PROCEDURE FOR THE EXISTING SEWAGE DISPOSAL SYSTEM

i) **Comment:** The documentation in the application states that sewage is pumping directly into the environment. CIRNAC recognizes that the Hamlet has been doing this for years and currently has no alternative but to continue this practice. However, the current practice of just dumping the sewage onto the tundra (environment) without any controls is an unacceptable process that must be stopped or altered.

**Recommendation:** CIRNAC recommends that the hamlet at least control the sewage being deposited onto the tundra (side of a hill). CIRNAC also recommends that the hamlet alter the current system, such as building a terrace system where the sewage can be treated, by the tundra (wetland), for a longer time period than happens currently, at least until a new lagoon system is in place.

ii) **Comment:** Section 3.4.3 of The Operation and Maintenance Manual for the Sewage disposal system states that “In the event of any disruption of services, due to blizzard or truck breakdown, the next operation becomes frequent discharges to the slope of the hill. Quality does not matter for any situation”.



**Recommendation:** CIRNAC recommends that the Hamlet clarify what the contingency is in case of a long-term sewage truck breakdown.

iii) **Comment:** Section 4.1. of the Operation and Maintenance manual for the sewage disposal system is out dated.

**Recommendation:** CIRNAC recommends updating this section with the most up-to-date information.

#### 4. Reclamation of (new) sewage lagoon and (new) Solid waste facility

Reference:

**Comment:** In the application the Hamlet describes the building of two facilities that were never used (sewage lagoon system and solid waste system). CIRNAC is of the understanding through reading the application material that the hamlet is asking the NWB to not include these facilities in the new water licence as well as indicating that these facilities will be remediated with the building of new commissioned facilities in 2021.

**Recommendation:** CIRNAC advises that the Hamlet (licensee) should be clearer in their application documentation as to what they are asking for. In the meantime, CIRNAC recommends that all facilities be included in the water licence and the old and used (new) facilities can be decommissioned and remediated at the appropriate time.

#### 5. Other

**Comment:** CIRNAC could find no sampling data with the application renewal package. As well, there are several instances of non-compliance since the expiry of the water licence in 2011. CIRNAC also advises the licensee to follow any instructions given by the inspector either verbally and/or through emails and inspection reports.

**Recommendation:** CIRNAC recommends that the hamlet start sampling as per their water licence immediately. If sampling has been done, the hamlet should submit the results to the NWB for review. Also CIRNAC recommends that the hamlet follow through on any instructions given to them by a CIRNAC inspector.