



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

Your file - Votre référence
3BM-TAL1926
Our file - Notre référence
GCDOCS#96267950

July 23, 2021

Richard Dwyer
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 Review of amendment application for water licence 3BM-TAL1926 Hamlet of Taloyoak .

Dear Richard,

Thank you for the June 17, 2021 invitation to review the referenced 2021 Amendment application water licence 3BM-TAL1926 Hamlet of Taloyoak municipal undertaking.

Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) examined the submission 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*.

Comments and recommendations are provided in the attached Technical memorandum. If there are any questions or concerns, please contact me at Lisa.Bachellier@canada.ca and Sarah Forte at Sarah.Forte@canada.ca.

Regards,

Lisa Bachellier
Water Resources Technician, Nunavut Regional Office



Technical Review Memorandum

Date: July 23, 2021

To: Richard Dwyer, Nunavut Water Board

From: Lisa Bachellier, Water Resources Technician, CIRNAC

Subject: **Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC)**
Review of amendment application for water licence 3BM-TAL1926
Hamlet of Taloyoak.

Region: ☒ Kitikmeot ☐ Kivalliq ☐ Qikiqtani

A. BACKGROUND

On June 17, 2021 the Nunavut Water Board (NWB) distributed for review the amendment water licence application for the Hamlet of Taloyoak 3BM-TAL1926. The application was submitted by Government of Nunavut – Community and Government Services on behalf of the Hamlet of Taloyoak.

The Hamlet of Taloyoak is the northernmost community on Canada's mainland and is located on the southwestern coast of the Boothia Peninsula within the Kitikmeot Region of Nunavut, approximately 460 km east of Cambridge Bay and 1,224 km northeast of Yellowknife.

Their two cell sewage lagoon system is located 3.2 km from the community and has a 46,300m³ capacity. Their water source is Canso Lake and current water licence allows to withdrawal 70,000m³ per year. Their solid waste facility is also covered in the current licence which includes bulky metals and hazardous waste areas.

The amendment application requests removal of toxicity testing and modification to compliance points and criteria for sewage discharge.

B. DOCUMENTS REVIEWED

The following table provides a summary of the documents reviewed under the submission.

Table 1: Documents Reviewed

Document Title	Author, File No., Rev., Date
Crown-Indigenous Relations and Northern Affairs Canada – Water Licence Inspection form	Baba Pedersen- August 13, 2020
- Cover Letter	Government of Nunavut
- Inuktitut & English Summary	
- Water Licence Amendment Application	

- Appendix A NPC Conformity Letter
- Appendix B Exp Memo for Taloyoak Water License Amendment
- Appendix C Recommendations for Municipal Wastewater Standards
- Appendix D Redlined Taloyoak Water License (3BM-TAL1926)
- Appendix E ECCC Comments on 2014 WL Application
- Appendix F CGS Response to ECCC Comments on 2014 WL Application

Municipality of Taloyoak Environmental Emergency Contingency Plan	June 2021
Sewage Lagoon facility Hamlet of Taloyoak-Operation and Maintenance Manual	Shah Alam P.Eng., E.P Municipal Planning Engineer, Cambridge Bay, Nu December 15, 2020
Taloyoak Waste water facility business plan	Government of Nunavut, February 17,2021

C. RESULTS OF REVIEW

1. Monitoring stations in the management plans

Comment:

In the Sewage Lagoon facility Hamlet of Taloyoak-Operation and Maintenance Manual and Solid Waste Facility Operation and Maintenance Manual, as well as the QA/QC Plan Sewage Lagoon Facility, the following stations are not aligned with the NWB water licence 3BM-TAL1926 Part I item #2.

Currently the monitoring stations in the plans are listed as follows:

1 Monitoring Stations

Table:

Sampling Station	GPS Location Latitude Longitude	Description	Comments
TAL-1	N 69° 32' 39 " " W 93° 32' 05"	Raw Water supply at Water Lake	Volume of water collected from lake
TAL-2	N 69° 32' 38 " " W 93° 35' 39"	Sewage outfall entry to wetland	onto wetland

		Outside the lagoon	
TAL-3	N 69° 32' 26 " W 93° 35' 22"	Solid waste discharge run-off	Outside the fenced area on wetland
TAL-4	N 69° 32' 22 " W 93° 35' 25"	Effluent Final discharge point before meeting ocean	Combined effluent at the end of wetland
TAL-5	N 69° 32' 23 " W 93° 34' 34"	Hazardous storage cell retention water New station	Sample collect only when decanting requires

Recommendation:

(R-01) CIRNAC recommends that the Hamlet of Taloyoak add station "Tal-6 Effluent Final Discharge Point from Wetland area to ocean" in their Sewage Lagoon facility Hamlet of Taloyoak- Operation and Maintenance Plan, Solid Waste Facility Operation and Maintenance Manual, as well as the QA/QC Plan Sewage Lagoon Facility. Additionally, they should update all monitoring stations in the table to reflect the current water licence.

2. Reclamation of old water intake pump house and utilidor

Comment:

Below is the concern from the water resource inspector as described in the Water Licence Inspection form dated August 13, 2020, Section 3 Item # 8:

The Inspector has brought up the requirement for the Licence Holder to work with the GN CGS to Remove and Reclaim the old Water Intake Pump House and Utilidor System in numerous previous Inspection Reports. The claim of a lack of funding to carry out the required Reclamation is neither adequate nor acceptable. The Licence Holder MUST find appropriate funding and complete Reclamation of the old Water Intake Pump House and Utilidor System PRIOR TO July 31, 2021 or the Inspector may have to consider further Enforcement Action.

Recommendation:

(R-02) CIRNAC recommends Community and Governments Services submit an Abandonment and Restoration Plan and reclaim the old Water Intake Pump house and Utilidor System.

3. Discharge criteria in effluent

Comment:

Below are comments made by the proponent from the executive summary of their application:

- The proponent would like to toxicity testing to removed entirely from the NWB licence.
- The proponent is requesting effluent quality limits to be removed from TAL-3.
- The proponent would like to only have criteria at TAL-6 and recommends using
 - cBOD = 100 mg/L
 - TSS = 120 mg/L

CIRNAC has reviewed water quality from 2016-2020 annual reports. At TAL-3, the TSS and BOD discharge limits are respected, except 1 sample where TSS is 1 mg/L over the limit. The pH level was above the discharge limit for 3 of 5 samples, and it is known that algal blooms in lagoons can be the source of high pH. The annual report data shows that the wetland reduces the TSS, BOD and pH at TAL-6.

It is not clear why the proponent is requesting to remove discharge limits from TAL-3, since currently they mostly meet the requirements. The proponent has not provided any supporting information why in Taloyoak the proposed limits for TAL-6 would be protective of the environment.

Recommendation:

CIRNAC recommends before removing any requirements from the water licence, that Community and Government Services demonstrate to the NWB with site specific information how the proposed TSS and BOD criteria are an acceptable standard for TAL-3.

4. Taloyoak Wastewater Treatment Facility 2021 Business plan

Comment:

Community and Government Services has provided a Business Plan for their new engineered wastewater treatment facility for the community of Taloyoak. Currently their sewage is discharged into a natural two ponded system into a wetland system then discharged into the ocean. CIRNAC believes the proposed facility will be an improvement over the current situation.

Recommendation:

CIRNAC recommends the proponent continue actions necessary for construction of the new facility.