



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

Your file - Votre référence
3BM-CLY1924
Our file - Notre référence
GCDOCS# 136299220

May 20, 2025

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's Second Response to Reply on the Review of the Licence Amendment and Renewal Application for the Hamlet of Clyde River, Type B Water Licence No. 3BM-CLY1924

Dear Richard,

Thank you for the May13, 2025 invitation to review the second reply to comments on the referenced licence amendment and renewal application, submitted by the Government of Nunavut Department of Community and Government Services (GN-CGS) on behalf of the Municipality of Clyde River, for Type B Water Licence No. 3BM-CLY1924.

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 (867) 975-3877 or Joyce.Demers@rcaanc-cirnac.gc.ca or Andrew Keim at (867) 975-4550 or Andrew.Keim@rcaanc-cirnac.gc.ca.

Sincerely,

Joyce Demers, B.Sc.,
Industrial Coordinator



Technical Review Memorandum

Date: May 20, 2025

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

From: Joyce Demers – Industrial Coordinator, CIRNAC

Subject: **Crown-Indigenous Relations and Northern Affairs Canada's Second Response to Reply on the Review of the Licence Amendment and Renewal Application for the Hamlet of Clyde River, Type B Water Licence No. 3BM-CLY1924**

Region: ☐ Kitikmeot ☐ Kivalliq ☒ Qikiqtani

CIRNAC provides the following comments and recommendations pertaining to the application package. A summary of the subjects of recommendations can be found in Table 1. Documents reviewed as part of this submission can be found in Table 2 of Section B. Detailed technical review comments can be found in Section C.

Table 1: Summary of Recommendations

| Recommendation Number | Subject | Status |
|------------------------------|---|---------------------------------|
| 1 | Environmental Emergency Contingency Plan | Resolved |
| 2 | Location of Spill Kits Not Easily Identifiable and Locked | Resolved – Additional comment |
| 3 | MSDS Sheets | Resolved |
| 4 | Sewage Spill Cleanup - Dilution | Resolved |
| 5 | QA/QC Sampling Locations GPS Coordinates | Resolved |
| 6 | Decanting Process | Resolved |
| 7 | OM Plan Sewage Disposal Facility | Resolved |
| 8 | OM Plan Solid Waste Disposal Facility | Resolved – waiting NWB decision |
| 9 | OM Plan Solid Waste Disposal Facility – Fence | Resolved |
| 10 | OM Plan Solid Waste Disposal Facility – Hazardous Materials | Resolved |
| 11 | Open Burning | Resolved |
| 12 | OM Plan Water Supply Facility Inconsistencies | Resolved |
| 13 | OM Plan Water Supply Facility – Daily Quantities Missing | Resolved |
| 14 | OM Plan Solid Waste Disposal Facility | Resolved |
| 15 | Length of Renewal Application | Resolved |
| 16 | Proposed Amendments to the Water Licence | See Table 1B Below |

Table 1B: Breakdown Summary of Recommendation 16

| Recommendation Number | Water Licence Item # | Subject | Status |
|-----------------------|-------------------------------|--|--|
| 16 | | Proposed Amendments to the Water Licence | |
| 16.1 | All Application items | Change term “Hamlet” to “Municipality” | Agrees / no position |
| 16.2 | B-1-d | Remove requirement to report daily quantities of sewage and solid waste discharged to monthly and annually | Does not Agree |
| 16.3 | B-7 | Remove municipal boundaries to “in the areas of the Water Supply or Waste Disposal Facilities” for spills related to Licenced Facilities | Agrees / Resolved |
| 16.4 | C-2 and quantity of water use | 53,600 cubic metres to 72,000 cubic metres yearly with max 299 cubic meters daily | No longer being requested - Resolved |
| 16.5 | C-3 | Removal of requiring a hydrological study on Emirtavik Lake during the summer of 2025 to determine the viability of the water sources for future use and submitting the study in the 2025 annual report | Resolved |
| 16.6 | D-2 | a. Amend compliance points of CLY-4 and CLY-5 to CLY-6b as CLY-6b is the end point of treatment; b. Amend the parameter BOD5 to cBOD with a 100 mg/L maximum concentration of any grab sample; c. Amend the maximum concentration of any grab sample of 120 mg/L for total suspended solids | Resolved |
| 16.7 | F-1 | Remove Plan entitled “Hazardous Waste Segregation, Storage and Transportation Procedure” dated July 2019 | Resolved |
| 16.8 | F-2 | Amend “Spill Response Plan – Clyde River, Nunavut” dated June 19, 2019 to “Municipality of Clyde River Environmental Emergency Contingency Plan for Municipal Water Licence” dated November 2024 | Resolved |
| 16.9 | F-3 | Amend “Clyde River Truck-fill Operations and Maintenance Manual” which was submitted in the 2019 annual report to “Municipality of Clyde River Operation & Maintenance Plan for Municipal Water Licence: Water Supply Facilities” dated November 2024 | Resolved |
| 16.10 | F-4 | Amend “Solid Waste Operation and Maintenance Plan” to “Municipality of Clyde River Operation & Maintenance Plan for Municipal Water Licence: Solid Waste Disposal Facilities” dated November 2024 | Resolved |
| 16.11 | F-5 | Amend submission timeline for inspections of engineered facilities related to the management of water and waste shall be carried by an Engineer (Civil, Municipal or Geotechnical) before commissioning any facility from 60 days after the inspection to 60 days after receiving the inspection report | Agrees as it is done before commissioning any facility |
| 16.12 | F-7-a | Amend “Spill Response Plan - Clyde River, Nunavut” under Part F Item 7a to read the updated plan titled “Municipality of Clyde River Environmental Emergency Contingency Plan for Municipal Water Licence” dated November 2024 | Resolved |
| 16.13 | H-1 | Remove sampling points CLY-6a, CLY-9, CLY-10, CLY-11, and CLY-12 from monitoring program | Does not Agree |
| 16.14 | H-3 | Remove requirement to measure and record daily, monthly, and annual quantities in cubic metres of sewage discharged | Does not Agree |
| 16.15 | H-4 | Remove sampling points CLY-6a from monitoring program | Agrees |
| 16.16 | H-8 | Amend “Clyde River Wastewater Facility, Clyde River, Nunavut, Operations and Maintenance Manual Volumes 1 and 2” dated July 2012 to "Municipality of Clyde Operation & Maintenance Plan for Municipal Water Licence: Sewage Disposal Facilities" dated November 2024 | Resolved |
| 16.17 | H-9 | Remove requirement to monitor annually in early to mid-fall, prior to freezing, for the presence of seepage within standpipes at Monitoring Station(s) CLY-11. If seepage is observed, the licensee shall sample and analyze the seepage for the parameters listed in Part H Item 4 | Does not Agree |
| 16.18 | H-10 | Remove requirement to monitor temperature at Monitoring Station(s) CLY-9 and CLY-10, a minimum of twice annually, in early spring and mid to late fall in accordance with the approved Operations and Maintenance Plan entitled “Clyde River Wastewater Facility, Clyde River, Nunavut, Operations and Maintenance Manual Volumes 1 and 2” dated July 2012 | Does not Agree |
| 16.19 | H-11 | Remove requirement to monitor settlement and displacement annually at Monitoring Station(s) CLY-12 in accordance with the approved Operations and Maintenance Plan entitled “Clyde River Wastewater Facility, Clyde River, Nunavut, Operations and 15 NUNAVUT WATER BOARD Licence No. 3BM-CLY1924 Maintenance Manual Volumes 1 and 2” dated July 2012 | Does not Agree |
| 16.20 | H-12 | Remove requirement for monitoring results of settlement stations at Monitoring Stations CLY-9, CLY-10, CLY-11, and CLY-12 in future annual reports | Does not Agree |



B. DOCUMENTS REVIEWED 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 |
|---|--|
| 250506 3BM-CLY1924 - Response to Comments and Recommendations - May 6, 2025-IMLE | N.A., May 6, 2025 |
| 250506 3BM-CLY1924 Clyde River Environmental Emergency Contingency Plan with Appendices (May 2025)-IMLE | N.A., May 2025 |
| 250506 3BM-CLY1924 Clyde River Application for Water Licence Renewal and Amendment May 2025_RKsigned-IMLE | Government of Nunavut Transportation and Infrastructure Nunavut, March 6, 2025 |



C. RESULTS OF REVIEW

2. Location of Spill Kits Not Easily Identifiable and Locked

Comment:

Section 6.2 Spill Response Equipment Inventory states that “The spill response kits should be stored in the on-site locker at the Hazardous Waste Storage Area provided for this purpose. Some equipment may be stored in other areas throughout the community.”. It is not easily identifiable where the location of the spill kits are. Spill kits should not be locked in the event of a spill they need to be easily assessable to ensure maximum effectiveness of the clean up efforts. Spill kits need to be placed in areas where spills are likely to occur.

Recommendation:

(R-02) CIRNAC recommends that the applicant clarify the location of all spill kits and ensure that they remain unlocked.

Reply from GN-CGS:

“Please see updated Environmental Emergency Spill Contingency Plan.

There is no storage space for the spill response kit at the water supply facility (pumphouse too small), solid waste disposal facility (no enclosed structure), or sewage disposal facility (no enclosed structure). The maintenance garage is accessible to all municipal staff, who would respond to the spill, and is a short drive to all facilities. Once constructed, the new water treatment plant will contain a spill response kit and the Environmental Emergency Spill Contingency Plan will be updated.”

Response from CIRNAC:

CIRNAC notes that it would still be possible to have spill kits on the outside of the building(s) which are likely to have spills or would require a spill kit.

Second Reply from GN-CGS:

“It is preferred that the spill kit be stored indoors, where it is better secured from the weather, wildlife, theft, and vandalism.”

Second Response from CIRNAC:

CIRNAC understands GN-CGS’s position however still believes that spill kits should remain unlocked and near to locations where they are likely to be used. CIRNAC leaves it at the discretion of the GN-CGS as they are ultimately responsible for the clean up of any spill.



8. OM Plan Solid Waste Disposal Facility

Comment:

- a. List of appendices outlines that an appendix B which has photographs and C listed as other. These were not included in the plan and therefore not sure what they were about. Appendix A was as-built drawings however unsure about the image found in that appendix. The concern is that this may be important information required to the plan.
- b. In section 1.2.1 include: temperatures reaching 50°C in July, and a single cell sewage lagoon instead of two lagoon cells. This is just a small typo observed what should be corrected.
- c. Under section 7.0 Monitoring, Table 1- Requirements should also include a section for quantifying the amount of waste discharged at the solid waste disposal facility as required by the water licence Part B item d “the daily, monthly and annual quantities in cubic metres of each and all waste discharged; including the hazardous and non-hazardous waste accepted at the Solid Waste Facilities” [Note that the applicant is requesting to remove daily and keep monthly/annual quantities and therefore CIRNAC suggests that the applicant should update and submit the updated plan with the annual report when the water board renders its decision.]

Recommendation:

(R-08) CIRNAC recommends that the applicant include Appendix B and C, fix the temperature error and include a line in table 1 under section 7 including the requirement of the water licence Part B item d [unless it is no longer required by the water licence see comment 16.2, 14].

Reply from GN-CGS:

“Please see updated O&M Plan for the Solid Waste Disposal Facilities:

- Appendix A changed to site layout sketch. No as-builts are available as it is a non-engineered facility. Appendix A will be updated to include as-built drawings for the upgraded solid waste facility upon completion.
- Appendix B and Appendix C have been removed from the Table of Contents.
- Section 1.2.1 corrected temperature typo and removed the number of lagoon cells

The Licensee requests that Part B Item 1-d of the water licence be changed to “the monthly and annual quantities in cubic metres of wastewater discharged; and the annual hazardous and non-hazardous waste accepted at the Solid Waste Facilities” This request has been reflected in Table 1 of the O&M Plan for the Solid Waste Disposal Facilities.



An estimated volume of hazardous and non-hazardous waste disposed annually into the solid waste facility can be provided in the Annual Report based on the standard solid waste generation rates as the uploaded memorandum Solid Waste Generation Rates in Nunavut.”

Response from CIRNAC:

Refers to the Nunavut Water Board on the decision for requiring water licence Part B item d “the daily, monthly and annual quantities in cubic metres of each and all waste discharged; including the hazardous and non-hazardous waste accepted at the Solid Waste Facilities” and will leave the potentially required changes to their discretion.

Second Reply from GN-CGS:

No response provided.

Second Response from CIRNAC:

CIRNAC restates response above however also notes that this issue is also discussed under 16.2 and 16.14 below and awaits decision from NWB.

16. Proposed Amendments to the Water Licence

16.2 & 16.14 – Reporting Quantities of Sewage and Solid Waste

| | | | |
|----|-------|---|------------------------------------|
| 2 | B-1-d | Remove requirement to report daily quantities of sewage and solid waste discharged to monthly and annually | Differs to the Nunavut Water Board |
| 14 | H-3 | Remove requirement to measure and record daily, monthly, and annual quantities in cubic metres of sewage discharged | Differs to the Nunavut Water Board |

Comment:

The concern is that an non-accurate amount of waste will be reported therefore in the event of some kind of spill/mishap it will go underestimated. Larger spills are important to quantify for getting proper funding for clean up operations. CIRNAC differs to the Nunavut Water Board for substantive changes to monitoring requirements under the license.

Recommendation:

(R-16.2, 14) CIRNAC recommends that the applicant ensures that they are capable of an accurate reading of the sewage and solid waste be made monthly and annually and differs to the Nunavut Water Board for substantive changes to monitoring requirements under the license.



Reply from GN-CGS:

“The Board has accepted in the past that sewage disposal volumes be assumed as equal to water withdrawal volumes.

Please see the updated memorandum Solid Waste Generation Rates in Nunavut as the response to the comment regarding solid waste. An accurate reading can only be taken if Solid Waste Disposal Facilities have a full-time attendant and a weighing scale. Facilities for an attendant are not available and there are numerous barriers to weighing scales. They are challenging to install and maintain in arctic and permafrost conditions, and require electricity, which the site does not have.”

Response from CIRNAC:

CIRNAC does not agree with this amendment. The memorandum sent out by the Government of Nunavut would suggest that the amount of waste generated will only be estimates. The concern is that without a proper understanding of the amount of waste being generated it is impossible to determine if existing infrastructure will be capable of holding the waste. If the memorandum is followed it could create significant risks of failures within these waste holding facilities. This could in turn lead to contaminants not contained and therefore potentially ending up into nearby water bodies.

Second Reply from GN-CGS:

“As justified in the memorandum Solid Waste Generation Rates in Nunavut, the proposed estimates are a conservative number, appropriate for sizing solid waste facilities, based on the results from eight waste audits performed in municipalities across Nunavut correlated with published literature and values found in similar municipalities to those in Nunavut.

Until such a time that the solid waste facility is upgraded with the necessary infrastructure and a full-time attendant is present, the estimate would be the most accurate value for waste disposed volumes that can be practically provided to meet the water licence requirement.

The provided estimates do not change the O&M and spill contingency procedures of the facility, which all waste accepted at the facility will be managed according to best practices to minimize environmental impact.”

Second Response from CIRNAC:

Is there a time table in place for a new solid waste facilities? CIRNAC understands that there are financial restraints on communities which can lead to delays in water licence compliance. However, only having an estimate of waste generated creates risks as discussed above. It is also unclear how communities would ensure that all waste being sent to the solid waste facilities are accounted for including but not limited to waste from non-residential generators. CIRNAC does not agree to this permanent nature of waste management. CIRNAC notes



that a memorandum sent as an attachment is not the correct process for this type of application. The memorandum must be sent to the NWB separately for review.

16.13, 16.17, 16.18, 16.19& 16.20 – Removal of Sampling Location CLY-6a, CLY-9, CLY-10, CLY-11, and CLY-12 from monitoring program

| | | | |
|----|------|--|----------------|
| 13 | H-1 | Remove sampling points CLY-6a, CLY-9, CLY-10, CLY-11, and CLY-12 from monitoring program | Does not Agree |
| 17 | H-9 | Remove requirement to monitor annually in early to mid-fall, prior to freezing, for the presence of seepage within standpipes at Monitoring Station(s) CLY-11. If seepage is observed, the licensee shall sample and analyze the seepage for the parameters listed in Part H Item 4 | Does not Agree |
| 18 | H-10 | Remove requirement to monitor temperature at Monitoring Station(s) CLY-9 and CLY-10, a minimum of twice annually, in early spring and mid to late fall in accordance with the approved Operations and Maintenance Plan entitled “Clyde River Wastewater Facility, Clyde River, Nunavut, Operations and Maintenance Manual Volumes 1 and 2” dated July 2012 | Does not Agree |
| 19 | H-11 | Remove requirement to monitor settlement and displacement annually at Monitoring Station(s) CLY-12 in accordance with the approved Operations and Maintenance Plan entitled “Clyde River Wastewater Facility, Clyde River, Nunavut, Operations and 15 NUNAVUT WATER BOARD Licence No. 3BM-CLY1924 Maintenance Manual Volumes 1 and 2” dated July 2012 | Does not Agree |
| 20 | H-12 | Remove requirement for monitoring results of settlement stations at Monitoring Stations CLY-9, CLY-10, CLY-11, and CLY-12 in future annual reports | Does not Agree |

Comment:

CIRNAC does not agree to remove sampling points CLY-9, CLY-10, CLY-11, and CLY-12 without seeing the justification of removing them. CGS contracted Dillon to conduct a study regarding the frequency of an of an engineer’s inspection of the water and waste infrastructure including the Clyde River sewage lagoon which will be provided in the 2024



annual report. Therefore, without evidence stating why these sampling points should be removed CIRNAC does not agree to remove them.

CIRNAC agree with the removal of CLY-6a as a sampling point because it is redundant.

Recommendation:

(R-16.13,17,18,19,20) CIRNAC recommends that the applicant submit an application to remove sampling point CLY-9, CLY-10, CLY-11, and CLY-12 after it has provided the study stating that those points are no longer required.

Reply from GN-CGS:

“Following the dam safety inspection study, the Licensee will provide a response to this comment in the subsequent water licence amendment application.”

Response from CIRNAC:

Restates comment and recommendation. CIRNAC cannot make a determination without a study or proof indicating those points are no longer required. Therefore, at this time, CIRNAC does not agree with the applicant.

Second Reply from GN-CGS:

No response provided.

Second Response from CIRNAC:

CIRNAC restates response above.