

Environmental Protection Operations Directorate  
Prairie & Northern Region  
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ECCC File: 6200 000 010 / 004  
NWB File: 3BM-ARC1924



February 7, 2024

via email at: [licensing@nwb-oen.ca](mailto:licensing@nwb-oen.ca)

Robert Hunter,  
Licensing Administrator  
Nunavut Water Board  
P.O. Box 119  
Gjoa Haven, NU X0B 1J0

Dear Robert:

**RE: 3BM-ARC1924 – Hamlet of Arctic Bay – Type B Water Licence Renewal and Amendment – Application Reviewed**

Environment and Climate Change Canada (ECCC) has reviewed the information submitted to the Nunavut Water Board (NWB) by the Hamlet of Arctic Bay regarding the above-mentioned Water Licence Renewal and Amendment Application.

ECCC provides expert information and knowledge to project assessments on subjects within the department's mandate, including climate change, air quality, water quality, biodiversity, environmental emergencies preparedness and responses. This work includes reviewing proponent characterization of environmental effects and proposed mitigation measures. We provide advice to decision-makers regarding a proponent's characterization of environmental effects, the efficacy of their proposed mitigation activities, and may suggest additional mitigation measures. Any comments received from ECCC in this context does not relieve the proponent of its obligations to respect all applicable federal legislation.

The following comments are provided:

**1. Topic: Amendment of Compliance Point**

References

- Amendment Justification Summary – Item D-3
- Licence No. 3BM-ARC1924 – Part I (Conditions applying to the monitoring program)



### Comment

The renewal application requests to move the effluent compliance point for the wastewater treatment facility from ARC-4 (lagoon pump discharge (north berm)) to ARC-6b (surface water at the end of the wetland area). The rationale provided indicates, *“the wastewater treatment facility is designed as a lagoon-wetland treatment system for which the wetland performs significant effluent treatment based on the lab results from the Water Licence monitoring program. The end of the wetland is where the effluent enters the receiving environment and should therefore be the compliance point, as it represents the fully treated effluent.”*

It is acknowledged that the wetland provides additional treatment, however, ECCC notes that monitoring compliance at the end of the wetland may pose practical issues for establishing a meaningful and reliable compliance point. Wetlands are diffuse systems, often with unclear flow paths, and effluent disperse non-uniformly which may pose difficulty in setting a defined point for compliance.

### ECCC Recommendation:

ECCC recommends retaining the compliance point at ARC-4 where control of flow of effluent from the lagoon can be maintained.

## **2. Topic: Removal of ARC-7b**

### References:

- Amendment Justification Summary – Item I-2
- Licence No. 3BM-ARC1924 – Part I (Conditions applying to the monitoring program)

### Comment:

The Amendment Justification letter proposes to remove monitoring at ARC-7b (runoff from the quarry site). The rationale provided states, *“as the quarry is abandoned, there is minimal risk to the environment and therefore this monitoring station has low practical interest.”*

No information has been provided on quantity and quality of runoff from recent sampling at ARC-7b to demonstrate that the quantity is of low risk to the environment. ECCC was unable to locate a figure depicting the quarry so it is not clear how runoff may flow from the quarry, and the proximity to the surface waters. Additional information is required to assess whether this monitoring station has low risk to the environment.



### Recommendations:

ECCC recommends the Proponent provide the following to support the request to discontinue sampling at ARC-7a:

- Recent monitoring data from ARC-7a
- A discussion and/or figure depicting the runoff flow path and proximity to surface waters.

### **3. Topic: Monitoring at ARC-11**

#### References:

- Amendment Justification Summary – Item I-2
- Licence No. 3BM-ARC1924 – Part I (Conditions applying to the monitoring program)

#### Comment:

The Amendment Justification Letter proposes that the ARC-11 monitoring requirement is removed from the program, stating, “CGS (Community and Government Service) *has contracted Dillon to study the recommended frequency of an engineer’s inspection of the water and waste infrastructure including the Arctic Bay sewage lagoon. The findings of the study will be provided in the 2024 annual report to request a defensible inspection and monitoring method and frequency.*”

ECCC notes that’s ARC-11 is not necessarily directly connected to an engineer’s inspection since this station is for monitoring of wastewater seepage presence and quality in the standpipes around the lagoon. Monitoring for seepage from the lagoon would be an important component for understanding structural integrity of the lagoon, but also to understand the potential for unanticipated releases to the receiving environment.

#### Recommendation:

ECCC recommends that:

- The Proponent clarify whether an engineer must be present to sample ARC-11
- The Proponent clarify what information related to seepage monitoring at standpipes is expected to be included in the Dillon study.
- ARC-11 is retained in the monitoring program to monitor for potential seepage from the lagoon.



#### 4. Guidelines or Site-Specific Criteria

##### Reference:

- Environmental Monitoring Program and Quality Assurance/Quality Control Plan
  - Section 2.0 – Environmental Monitoring and Reporting

##### Comment:

The Environmental Monitoring and Quality Assurance/Quality Control Plan states:

*“The guidelines or site-specific criteria will be used to interpret the analytical results are as follows:*

*All sampling, sample preservation and analyses shall be conducted in accordance with methods prescribed in the current edition of Standard Methods for the Examination of Water and Wastewater, or by such other methods approved by the board”*

ECCC notes that the referenced “Standard Methods for the Examination of Water and Wastewater” relates to methods for sampling collection, preservation, and analysis by the lab, it does not include criteria used for interpretation of the results, once monitoring data is analyzed by the lab.

##### Recommendation:

ECCC recommends that the Environmental Monitoring Program is updated to provide details on which guidelines will be used for interpretation of monitoring data.

#### 5. Hazardous Waste Management and the Solid Waste Disposal Facility

##### References:

- Operations and Maintenance Plan for Municipal Water Licence: Solid Waste Disposal Facilities
  - Section 5.3 – Hazardous Waste Management
- Plan for Compliance 2024 – Item D-7
- 2022 CIRNAC Inspection Report

##### Comment:

ECCC notes that the 2022 CIRNAC Inspection Report specifically identifies issues with hazardous waste management, including hazardous waste drums spilling product into the surrounding receiving environment and migrating to a culvert. These observations by the CIRNAC inspector, which demonstrate the potential for wastes to enter surface waters,



provide evidence that proper hazardous waste management should be a high priority for the municipality.

Recommendations:

ECCC recommends that the Proponent:

- Prioritizes proper management of hazardous waste such that hazardous waste does not interact with other wastes or the receiving environment (i.e. secondary containment)
- Discusses measures that could be implemented to prevent runoff from hazardous waste to the sewage treatment wetland.

If you need more information, please contact Jessica Kassar at (867) 222-2036 or [Jessica.Kassar@ec.gc.ca](mailto:Jessica.Kassar@ec.gc.ca).

Sincerely,

**Kassar, Jessica** Digitally signed by Kassar, Jessica  
Date: 2025.02.10 13:58:37 -05'00'

Jessica Kassar  
Environmental Assessment Officer

Attachment(s):

cc: Eva Walker, Head, Environmental Assessment North (NT and NU)

