WATER LICENCE INSPECTION FORM

☒ Original
☐ Follow-Up Report

Licensee	Licensee Representative
Hamlet of Clyde River	Bhabesh Roy , Johnathan Paulluq, Moe Kuluguktuk
Licence No. / Expiry	**Representative's Title**
3BM-CLY1419 Renewal Licence	Municipal Engineer – GN- C&GS , Acting Senior Administration Officer, acting Hamlet foreman
Land / Other Authorizations	**Land / Other Authorizations**
Date of Inspection	**Inspector**
October 3, 2019	Joseph Monteith

Activities Inspected

☐ Camp ☐ Drilling ☐ Mining ☐ Construction ☐ Reclamation ☐ Fuel Storage
☐ Roads/Hauling ☐ Other: Potable Source, Waste Disposal Facility, Solid Waste Facility, General Conditions , water crossing (LUP N1999X0043) ☐ Other:

Conditions: A- Acceptable U-Unacceptable C-Concern NI-Not Inspected NA- Not applicable

PART:	Condition	Observation No.*
A: SCOPE, DEFINITIONS AND ENFORCEMENT	NA	
B: GENERAL CONDITIONS	A	
C: CONDITIONS APPLYING TO SECURITY	NI	1
D: CONDITIONS APPLYING TO WATER USE	C	2-6
E: CONDITIONS APPLYING TO WASTE DISPOSAL AND MANAGEMENT	A	7-16
F: CONDITIONS APPLYING TO MODIFICATIONS	NI	
G: CONDITIONS APPLYING TO CONSTRUCTION	NI	
H: CONDITIONS APPLYING TO EMERGENCY RESPONSE AND CONTINGENCY PLANNING	A	
I: CONDITIONS APPLYING TO ABANDONMENT, RECLAMATION AND CLOSURE PLANNING	NI	
J: CONDITIONS APPLYING TO MONITORING	A	
SCHEDULES	A	

**The observation number corresponds with specific comments provided below.*

Samples taken by Inspector:

☐ Yes ☒ No

Location(s):

Water Crossing - N70 28 30.0 W68 32 30.1 LUP N1999X0043 –Bridge Construction

3BM-CLY1419 Renewal coordinates: N70° 27', W68° 33' is incorrect as the coordinate is in the old town part of Clyde River apart of 1BR-CLY1828

SECTION 1 ☒ **Comments** (s.__) ☐ **Non-Compliance with Act or Licence** (s.__) ☐ **Action Required** (s.__)

BACKGROUND

The Hamlet of Clyde River (Clyde River or the Hamlet or Licensee) is located approximately 750 kilometres North of Iqaluit, on the shore of Patricia Bay, on the east coast of Baffin Island, within the Qikiqtani Region of Nunavut. The annual snowfall in Clyde River is approximately 169 cm and the annual rainfall is approximately 5 cm. In February the daily mean temperature is approximately -30° Celsius while in July the daily mean temperature is approximately 5° Celsius. Freeze up usually occurs during the month of November but may occur as early as September or October, while spring thaw usually occurs between late May and June.

The Hamlet, which has a population of approximately 963 (2014), operates water and waste management facilities for which a water licence from the Nunavut Water Board is required. The Hamlet is authorized to withdraw 36,000 cubic metres of water per year.

Relevant infrastructure include:

A Water Supply Facilities which draws water from Water Source Lake. Water is treated in the truck-fill station and stored for trucked water to holding tanks in each building;

- A Sewage Disposal/Treatment Facilities (Two Lagoon Cells) which receives trucked sewage collected from holding tanks in every building, with a wetland area between the lagoon and the ocean; and
- A Solid Waste Disposal/Management Facility, which includes a bulky metals disposal area, and hazardous waste/used oil storage area. Segregation of waste needs to be approved.

Inspector Statement

On October 3, 2019 at 3:58pm Water Resource Officer (WRO) Joseph Monteith conducted an inspection on water licences 3BM-CLY1419 Renewal Licence. The inspection was complete on October 3, 2019 at 4:51pm.

General Conditions

1. On August 14, 2018 WRO Monteith inspected the required documents, and observed the licence posted up at the Hamlet. No concerns noted.
2. On Wednesday March 13, 2019 WRO Monteith received an email from Richard Dwyer, Manager of Licencing, Nunavut Water a copy of the 2018 Annual Report.

Water Use and Related Structures

3. Water is withdrawn from Water Source Lake. GPS Coordinates: Lat: N70° 28’ 59.339” Long: W68° 36’ 48.744 (photo 1).
4. The condition of the piping was good. The length approximately 47 metres. Diameter 8 inches, with a 4 inch internal pump housed within the intake pipe. The pipe has a fish mesh screen (photo 2).
5. The pump house has a flow meter, and it measured less than 00869686 at the time of the inspection (photo 3).
6. WRO Monteith also photographed the Pump Meter Readings log for August 2018 with 13 entries for that day starting on August 1, 2018 - 867,791 m³ starting reading and on August 13, 2018 end reading 869686 m³ (photo 4).* The metre in the pump house indicates m³, but may be listing in litres. If not, the metre shows an exceedance by about 500,000 m³. Please verify, and provide an explanation of this reading.
7. At the time of the inspection, WRO Monteith received “Delivery Summary by Water Rate” from January 1, 2018 to July 31, 2018 which shows a total 22,972,329.50 Litres delivered. Below their annual licenced amount for water withdrawal.
8. On October 30, 2018 Jayson Mablick, Municipal Technical Clerk, Government of Nunavut(GN), Community & Government Services(C&GS) provided the Water Consumption Report for January to September 2018 for Clyde River and showed a total of 29,535,334 Litres water withdrawn for community use to date(photo 9), below the allowable maximum daily water listed in the 3BM-CLY1419 Renewal Licence.
9. On Wednesday March 13, 2019 WRO Monteith received an email from Richard Dwyer, Manager of Licencing, Nunavut Water a copy of the 2018 Annual Report. It showed that an exceedance in water withdrawal for the year by 1060m³ (Photo 10).

Waste Water Treatment Facility

10. At the time of the inspection, the sewage lagoon was in-use. The walls were operating as intended, no signs of leakage, but some slumping or erosion were observed on the west side of the lagoon walls (photo 6).
11. At the time of the inspection, Bhabesh Roy, and Moe Kuluguqtuk conducted their sampling program
12. The lagoon has two cells; the first is the original lagoon with a capacity of 11,600 cubic metres, the other cell forms as an extension from the original lagoon, with no listing for the amount of sewage it can store. No issues were observed during the course of the inspection.

Solid Waste Facility

13. Burnable solid waste is deposited in the fenced Open Pit Burning area of the solid waste facility. They burn the burnable garbage and push it into a pit, and cover the ash garbage with gravel.
14. The fencing approximately 1.5 metres high is damaged some parts of the north side of the fire pit. The fencing only covers a portion of the fire pit portion and should have more fencing put in to mitigate any garbage from blowing across the environment (photo 5).
15. The metal dump, one pile a mix of vehicles, white waste, empty oil drums, boats, building material and engines has some hazardous waste paint cans, within that section. No observations of batteries, or waste oil barrels in the metal dump (photo 7).
16. There is no berm to contain any leachate coming from bulk metal section of the land farm. Contaminants may migrate with rain water contaminating the environment on its migration to the down slope to the ocean (photo 8).

Hazardous Waste Facility

17. Hazardous Waste section contains a few sea cans(full), a bermed area full of waste oil drums, some packaged ready for delivery, other waste oil drums litter the inside and outside of the berm, spilling its leaked contents onto the ground all around the area. Some of the sea cans are left open to the environment.
18. The Hamlet was really good for signage, properly posting their segregated wastes, and this may have helped the public in segregating their hazardous wastes.

Section 2	☒ Comments	☐ Non-Compliance with Act or Licence	☐ Action Required

The following information is a summary of the Actions required by the licensee to promote and ensure compliance.

-The Open Pit Burning Area has some damage to the fencing that could be fixed with maintenance. The fencing only covers a portion of the open pit burning, and could use some more fencing to ensure wind does not displace any loose garbage and deposit them onto the environment, any water bodies, and other parts to the Hamlet land farm.

-Make a plan to send out Hazardous Waste to approved Hazardous Waste Facility to make room for any future hazardous waste in the bermed section of the Hazardous Waste Facility.

-The bulk metals portion is not bermed, and has the potential of releasing hazardous waste directly onto the environment. Rain has the potential washing away any hazardous waste onto the environment, which may migrate to any water bodies.

-Limit the amount of water withdrawal to the authorized amount listed in the water licence, or apply to the Water Board for an amendment to increase water withdrawal amount.

-Record your Annual Reports and books and records in Metres Cubed as per the Nunavut Water Regulations.

SECTION 3	☐ Comments	☒ Non-Compliance with Act or Licence	☐ Action Required

Part C: Conditions Applying to Water Use
2. The annual quantity of water use for all purposes under Part C, Item 1, shall not exceed thirty-eight thousand (38,000) cubic metres per year or one hundred and forty-five (145) cubic metres per day.

Nunavut Water Regulations – Annual Reports
Section 14 (1) A licensee must submit an annual report to the Board, in a form acceptable to the Board, by March 31 of each year. The report must contain the following information in respect of the previous calendar year.
(b): the quantity of water, in cubic metres, used by the licensee, the source of the water and the purpose of its use;

Nunavut Water Regulations - Books and Records
Section 13 (a) Books and Records
A licensee must
(*a*) maintain accurate and detailed books and record of
(i) the quantity of water, in cubic metres, used each day,

Licensee or Representative	Inspector's Name
	Joseph Monteith
Signature	**Signature**
	
Date	**Date**
	December 2, 2019

CC: Licensing Department, NWB
Justin Hack, Manager of Field Operations, INAC

Photo Log

Date	Camera	Inspector	Authorization
October 3, 2019	Nikon Coolpix	Joseph Monteith	

Photo Log #1	Location
Photo 1	Clyde River,NU

Description: Water Source Lake. Water Extraction pipe

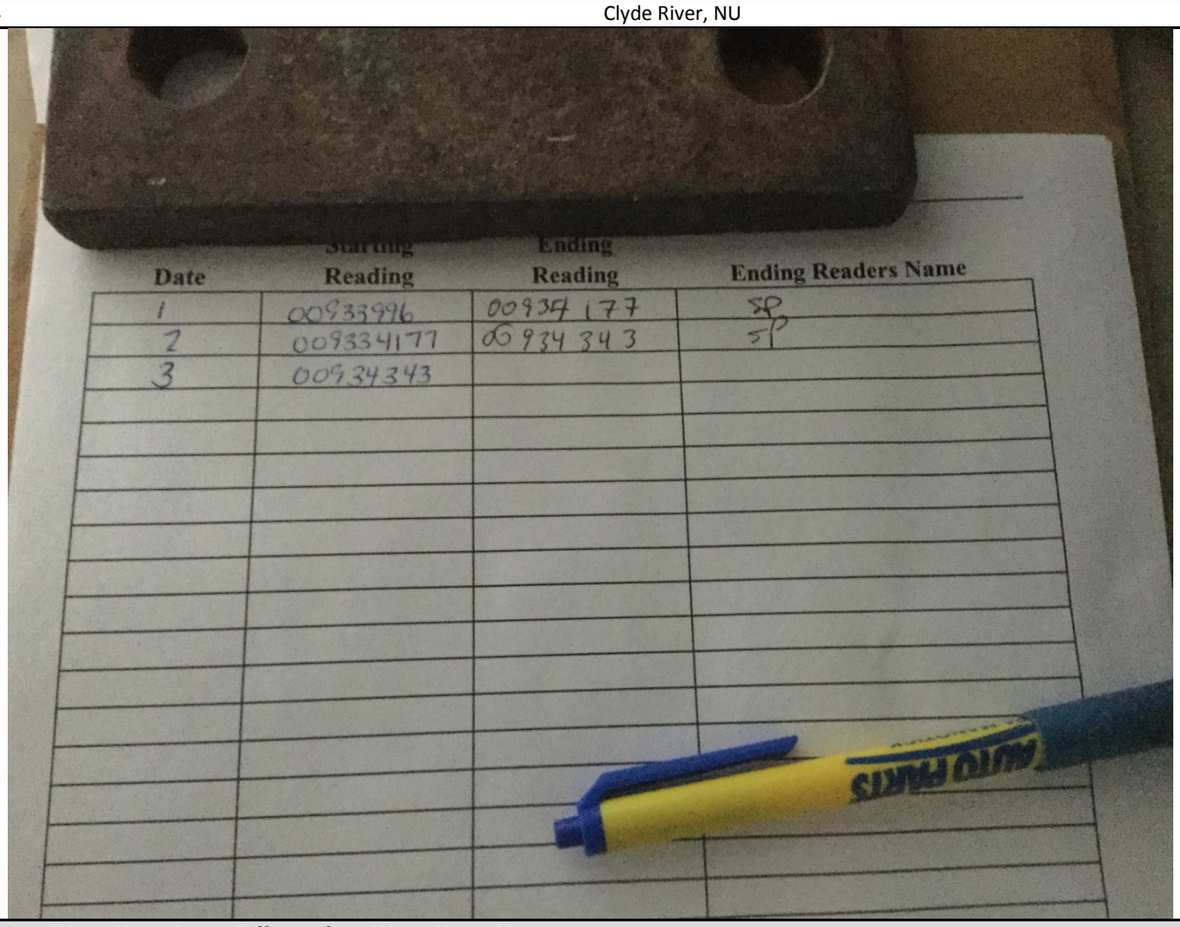
Photo Log #1	Location
Photo 2	Clyde River, NU

Description: Water Pump House, and Truck Fill Station

Photo Log #1	Location
Photo 3	Clyde River, NU

Description: Working Water Meter – 00934422. Litres withdrawn from potable water source

Photo Log #1	Location
Photo 4	Clyde River, NU



Description: Water Usage Logs – Different from Water Usage Meter

Photo Log #1	Location
Photo 5	Clyde River, NU

Description: Fire Pit – No fencing on East Side, wind may blow ash and debris out of area onto the environment, to the sewage lagoon

Photo Log #1	Location
Photo 6	Clyde River, NU

Description: Sign of slumping on base of sewage lagoon wall

Photo Log #1	Location
Photo 7	Clyde River, NU

Description: Hazardous Waste Berm – overfilled with waste oil drums. Waste oil drums deposited outside of bermed area.

Photo Log #1	Location
Photo 8	Clyde River, NU

Description: the outer extent of bulk metal section of land farm, no berm to mitigate any potential deposit of wastes onto environment

Photo Log #1	Location
Photo 9	Clyde River, NU

Water consumption Jan.01 to Sep.30, 2018
Name of the Community: Clyde River

YEAR BEING REPORTED: 2018

The following information is compiled pursuant to the requirements of Part B, Item 1 of Water Licence # ---------- issued to the Hamlet of Clyde River
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.

Month Reported	Quantity of Water Obtained from all sources (litres)	Quantity of Sewage Waste Discharged (Estimated)
January	3,336,393	Same
February	3,132,861	Same
March	3,434,891	Same
April	3,241,046	Same
May	3,412,610	Same
June	3,173,306	Same
July	3,241,225	Same
August	3,441,347	Same
September	3,121,655	Same
October		Same
November		Same
December		Same
ANNUAL TOTAL		

Description: Water Usage Log between Jan. – Sept. 2018 – If trend persists, they will exceed licenced amount for water withdrawal

Photo Log #1	Location
Photo 10	Clyde River, NU

ANNUAL REPORT
FOR THE HAMLET OF CLYDE RIVER, 2018

YEAR BEING REPORTED: 2018

The following information is compiled pursuant to the requirements of Part B, Item 1 of Water Licence # 3BM –CLY 1419 issued to the Hamlet of Clyde River.

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...?

Month Reported	Quantity of Water Obtained from all sources (litres)	Quantity of Sewage Waste Discharged (Estimated)
January	3,336,393.00	Same
February	3,132,861.00	Same
March	3,434,891.00	Same
April	3,241,046.00	Same
May	3,412,610.00	Same
June	3,173,306.00	Same
July	3,241,225.00	Same
August	3,441,347.00	Same
September	3,121,655.00	Same
October	3,259,859.00	Same
November	3,187,196.00	Same
December	3,077,651.00	Same
ANNUAL TOTAL	39,060,040.00	39,060,040.00

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Description: Annual Reports shows an exceedance in water withdrawal by 1060m³.