

WATER LICENCE INSPECTION FORM

☒ Original

☐ Follow-Up Report

Licensee	Licensee Representative
Hamlet of Resolute Bay	Bhabesh Roy
Licence No. / Expiry	Representative's Title
3BM-RUT1520	Municipal Engineer
Land / Other Authorizations	Land / Other Authorizations
Date of Inspection	Inspector
July 21, 2018	Joseph Monteith & Jonathan Mesher
Activities Inspected	
<input type="checkbox"/> Camp	<input type="checkbox"/> Drilling
<input type="checkbox"/> Roads/Hauling	<input type="checkbox"/> Mining
	<input type="checkbox"/> Construction
	<input checked="" type="checkbox"/> Other: Water Treatment Facility, Waste Water Utilidor Hazardous Waste Facility
	<input type="checkbox"/> Reclamation
	<input type="checkbox"/> Fuel Storage

Conditions:	A- Acceptable	U-Unacceptable	C-Concern	NI-Not Inspected	NA- Not applicable
PART:				Condition	Observation No.*
A: SCOPE, DEFINITIONS AND ENFORCEMENT				A	
B: GENERAL CONDITIONS				A	
C: CONDITIONS APPLYING TO SECURITY				NI	
D: CONDITIONS APPLYING TO WATER USE				A	1-9
E: CONDITIONS APPLYING TO WASTE DISPOSAL AND MANAGEMENT				A	10-16
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				NA	
J: CONDITIONS APPLYING TO MONITORING				A	
SCHEDULES				A	
*The observation number corresponds with specific comments provided below.					
Samples taken by Inspector:		Location(s): Latitude: 74°43’01’’N Longitude: 94°58’10’’W			
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					

SECTION 1	<input type="checkbox"/> Comments (s. __)	<input type="checkbox"/> Non-Compliance with Act or Licence (s. __)	<input type="checkbox"/> Action Required (s. __)
BACKGROUND <p>The Hamlet of Resolute Bay is located on the south coast of Cornwallis Island on the Perry Channel. The community is approximately 1550 km northwest of Iqaluit. There are three water licenses in this community: The Government of Nunavut (GN) holds the Licence for the airport, the Hamlet of Resolute Bay holds the Licence for solid waste management, and Community and Government Services (CGS) hold the Licence for the Utilidor Systems. Due to delays in plans to refurbish the airport (Licence No. 3BM-YRB0308) and solid waste management facility (Licence No. 3BM-RES9699), the Board decided to process the Renewal Application for the Utilidor System independently.</p> <p>The community is serviced by a Utilidor which is maintained and operated by the GN-CGS. The water supply system constitutes Char Lake, the pump-house, the water treatment plant and associated delivery mediums, whereas sewage effluent travels from buildings via pipes and is discharged untreated into ‘bleeders’ where it is diluted before exiting into Resolute Bay. The outfall pipe is located on the shore of the Bay at the high tide water mark.</p> <p>The Utilidor System was built in the 1970’s without a water Licence. At the time of the initial Water Licence application, a rehabilitation and expansion of the system was scheduled for completion in 2007. This did not occur, and under the current Application the rehabilitation and expansion of the system was scheduled for completion in 2016. Current status is unknown. On June 20, 2018, Bhabesh Roy, GN-CGS, Municipal Engineer emailed Water Resource Officer (WRO) Monteith with photographs and an attached letter from Dr. Kim Baker, MD, CFP, MPH, FRCP(C), addressed to Atul Deshmukh, GN-CGS, Baffin Facility Manager, dated June 19, 2018, acknowledging receipt and approving of an application to install an emergency by pass at another location at the char lake pump house to exclude odors that occur annually.</p> Inspector Statement <p>On July 21, 2018, A Water Licence Inspection was conducted on the Hamlet of Resolute Bay, Qikiqtani Region, Nunavut, for water licence 3BM-RUT1520.</p>			



General Condition

On July 12, 2018 Richard Dwyer, Nunavut Water Board, Manager of Licencing emailed WRO Monteith a copy of the Technical Review of The Hamlet of Resolute Bay’s 2017 Annual Report. Suggesting a submission was made in regards to satisfying Part B: Subsection 1 of the Water Licence. But, upon review it was noted that additional information is necessary to meet the following requirements of the licence such as requirements as per Part H, Item 4, Part H, Item 5, Part H, Item 6, Part D, Item 4, and Part F, Item 1.

On August 13, 2018 Richard Dwyer, Nunavut Water Board, Manager of Licencing emailed WRO Monteith a copy of Outstanding Licence Submissions and detailed an outstanding licence submissions for Operation and Maintenance Manual for the Water Supply Facilities, Utilidor, and Sewage Disposal Facility.

Water Supply Facilities

Intake Structure at Char Lake(See photo 1):

1. Intake structure contains 4 water pumps, a reservoir/sump like structure, a generator, a boiler, indoor day tank, and has an external double walled storage tank for fuel with a capacity of 9176 Litres(within 31 metres of the high water mark of Char Lake). This is the site of a spill report that has caused the odours to be announced by the public.
2. New pipes for new pump house is already installed, no building constructed at the time of the inspection.
3. Banks of Char River appear to be eroding into Char Lake (See photo 2)

Emergency Bypass Hose(See photo 3)

4. A flexible hose with Fish Mesh Screen was installed to bypass the intake hose and reservoir pipe entry port in the intake structure at Char Lake due to odours from a historical spill that occurred there.
5. Hose was propped upwards to and fixed to a floating wooden structure within Char Lake (See photo 3).
6. From the Pump house, freshwater would be piped to the Water Treatment Plant to be piped to the Water Treatment Centre (See photo 4).

Water Treatment Plant(See photo 5)

7. The Water Treatment Plant contains sump pits, pumps, a chlorine mix pot, 12,300 cubic metre water storage tank, and pipes the treated water to the residents by gravity using underground pipes.
8. Appeared to be operating as intended. Some signs of spill from chlorine Mixing station
9. Water storage tank gauge reads 12 feet

Old Trailer Building

10. An old Trailer Building contains a macerator, which takes any solids such toilet paper, and traps it from being discharged with the waste water. (See photo 6)

Water Consumption Reports

11. The licence authorizes the use of 1,260,230 cubic metres per year, or a maximum of 345 cubic metres per day.
12. No Flow metre on water intake or waste discharge. On October 26, 2018 Jayson Mablick, Government of Nunavut(GN), Community Government and Services(CGS) emailed WRO Monteith a excel Spreadsheet copy of the Water Consumption Report for the months of January 2018, to October 2018, listing Utilidor and ATCO Truck consumption numbers total of 116,970,362 Litres consumed(See photo 7).
13. On July 22, 2018 Bhabesh Roy, GN,CGS, Municipal Engineer, emailed WRO Monteith a copy of Resolute Water Consumption Report, Jan. to June 2018 which would appear to be submitted apart of the Annual Report submission showing 2539382 litres withdrawn for 2018 Truck Report and Utilidor, listing the Quantity of Sewage Waste Discharged as “SAME”. This record of water consumption is the same as the one emailed to WRO Monteith on October 26, 2018 from Jayson Mablick, except the record for June is different, probably due to that months water consumption was compiled yet (See photo’s 8 &9). The amount listed for Truck should be considered the amount deposited into 3BMYRB1520 Water licence, and the amount listed for Utilidor should be the amount of waste directly discharged into the ocean.

Arctic Waters Pollution Prevention Act

14. It was observed that the waste water that discharges from the Utilidor system goes directly into the ocean.
15. The direct discharge into the environment constitutes a breach of Subsection 4(1) of the Arctic Waters Pollution Prevention Act (AWPPA).
16. The direct discharge into the environment constitutes a breach of Subsection 5 of the Arctic Waters Pollution Prevention Regulations (ASSPPR).

SECTION 2	<input type="checkbox"/> Comments	<input type="checkbox"/> Non-Compliance with Act or Licence	<input checked="" type="checkbox"/> Action Required
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The following information is a summary of the Actions Required by the licensee to promote and ensure compliance:

• Develop a plan to address the breach of subsection 4(1) of the *Arctic Waters Pollution Prevention Act*.

• Develop a plan to address the breach of subsection 5 of the *Arctic Waters Pollution Prevention Regulation*.

• Submit the Operation and Maintenance Manual for the Water Supply Facilities, Utilidor, and Sewage Disposal

Facility.

- The Licensee is reminded to remain diligent to prevent wastes from entering water, the environment, and to adhere to the discharge requirements listed in this licence.

SECTION 3

☐ Comments

☒ Non-Compliance with Act or Licence

☐ Action Required

Arctic Waters Pollution Prevention Act


Deposit of Waste -Prohibition

4 (1) Except as authorized by regulations made under this section, no person or ship shall deposit or permit the deposit of waste of any type in the arctic waters or in any place on the mainland or islands of the Canadian arctic under any conditions where the waste or any other waste that results from the deposit of the waste may enter the arctic waters.

Arctic Waters Pollution Prevention Regulations

Deposit of Industrial Waste

6 Any person may deposit or permit the deposit of industrial waste if the industrial waste is of a type and in a quantity and is deposited under conditions authorized by or under the *Oil and Gas Production and Conservation Act*, the [Territorial Lands Act](#) or the *Public Lands Grants Act*, whichever is applicable.

Licensee or Representative	Inspector's Name
Bhabesh Roy	Joseph Monteith
Signature	Signature
	
Date	Date
	November 23, 2018

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

PHOTO LOG

Date	Camera	Inspector	
July 21, 2018	Nikon Cool Pix	Joseph Monteith	
Photo Log #	Location		
Photo 1	Resolute Bay		
			
Description: Char Lake Water Source, Pump House			



Photo Log #	Location
Photo 2	Resolute Bay
	
Description: erosion on the banks of Char Lake, Pump House parking pad	

Photo Log #1	Location
Photo 3	Resolute Bay
	
Description: Bypass Hose for Emergency Bypass to limit odours authorized by Department of Health	




Photo Log #1	Location
Photo 4	Resolute Bay
	
Description: Bypass Hose for Emergency Bypass to limit odours authorized by Department of Health enters into pump house building to transfer by pipes to the Water Treatment Facility	

Photo Log #1	Location
Photo 5	Resolute Bay
	
Description: Water Treatment Plant – Water Storage Reservoir – Capacity 12,500 Cubic Metres	

Photo Log #1

Location

Photo 6

Resolute Bay



Description: Macerator in Old Trailer Building – Solids extracted from Macerator, and deposited into waste bin.

Photo Log #1

Location

Photo 7

Resolute Bay

2018 WATER CONSUMPTION												
	January	February	March	April	May	June	July	August	September	October	November	December
1	79,804	92,911	89,938	112,679	80,503	115,913	74,634	90,883	78,735	80,540		
2	90,094	94,488	85,414	98,526	101,911	39,564	71,211	154,237	87,431	89,934		
3	86,541	94,431	77,536	94,296	169,049	71,608	115,231	23,424	74,529	89,865		
4	72,702	140,538	92,863	95,551	22,159	92,602	67,346	75,871	85,070	96,825		
5		49,166	83,861	101,389	99,778	82,358	61,911	48,773	81,824	87,951		
6	193,973	94,833	83,755	94,615	97,219	90,620	80,750	95,521	79,279	91,074		
7		90,533	90,488	101,405	88,261	89,550	80,193	94,367	79,831	102,840		
8	152,453	97,654	91,940	105,330	94,451	83,150	100,329	96,338	79,211	96,285		
9	82,917	90,117	100,904	104,793	100,636	91,650	71,049	82,429	84,185	89,086		
10	106,790	90,040	120,306	98,213	94,828	108,410	79,540	87,901	105,445	88,542		
11	72,534	58,947	114,739	105,129	102,723	64,440	82,918	85,785	69,886	96,981		
12	93,256	82,998	73,166	93,204	90,963	103,239	106,544	96,606	51,898	106,068		
13	88,980	90,844	106,900		103,709	71,322	62,780	63,247	90,940	84,259		
14	105,370	87,299	106,530	225,467	87,707	78,189	93,254	77,337	77,556	116,079		
15	74,504	89,318	110,096	104,916	101,837	83,040	68,441	93,527	11,764	77,248		
16	113,603	89,574	94,711	88,082	93,133	86,000	76,474	70,734	157,297	91,184		
17	69,123	94,229	97,072	140,825	107,844	102,560	78,214	183,580	83,839	95,453		
18	89,811	88,499	114,758	81,513	102,599	79,900	84,909	94,788	69,050	94,500		
19	90,906	74,960	87,325		86,090	88,050	87,993		79,337	101,501		
20	89,344	90,819	115,287	203,974	97,960	78,521	82,918	162,535	87,468			
21	97,425	79,301	104,512	85,240	98,360	82,889	93,260	79,244	74,801			
22	81,875	83,945	98,492	115,723	83,596	82,800	90,075	82,184	82,471			
23	89,442	88,154	97,549	91,292	102,304	110,480		74,379	99,855			
24	89,230	85,705	104,346	95,337	86,460	53,540	77,479	80,634				
25	103,467	87,664	103,725	99,331	97,520	137,310	174,821	79,216				
26	78,620	86,220	100,975	104,000	98,400	42,533	81,090	95,545				
27	108,622	77,291	108,039	118,729	89,096	93,737	87,130	62,554				
28	96,391	91,220	106,318	88,961	95,507	74,722	43,672	82,258				
29	67,976		93,908	96,858	100,456	32,835	45,669	78,648				
30	96,135		98,546	103,072	92,345	157,558	89,733	78,997				
31	91,479		105,577		161,961		70,929	77,646				
Total Imp G	2,754,807	2,501,476	3,059,566	3,048,450	3,029,365	2,569,090	2,480,487	2,649,168	1,871,702	1,766,215	0	0
										Yearly Total Imp. G		25,729,826
Total Liters	12,521,355	11,371,960	13,909,093	13,858,559	13,771,796	11,679,340	11,276,542	12,043,383	8,508,944	8,029,390	0	0
										Yearly Total Liters		116,970,362

Description: 2018 Water Consumption Report Total for Truck and Utilidor Consumption from January to October 2018 is 116,970,362 Litres



Photo Log #1

Photo 8

Location

Resolute Bay

ANNUAL REPORT

FOR THE HAMLET OF RESOLUTE BAY, 2018

YEAR BEING REPORTED: 2018 TRUCK

The following information is compiled pursuant to the requirements of Part B, Item 1 of Water license #3BM issued to the Hamlet of Resolute Bay, NU.

i) - iii) tabular summaries of all data generated under the "Monitoring Program"; monthly and annual quantities in cubic meters of each and all waste 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	312,772	SAME
February	626,907	SAME
March	741,014	SAME
April	335,048	SAME
May	418,241	SAME
June	105,400	SAME
July	-	SAME
August	-	SAME
September	-	SAME
October	-	SAME
November	-	SAME
December	-	SAME
ANNUAL TOTAL	2,539,382	SAME

Note: The average consumption volume is considered equal to the discharge volume in each month because there is no meter in the intake or discharge pipe.

Description: 2018 Water Consumption Report Total for Truck Consumption from January to June 2018

Photo Log #1

Photo 9

Location

Resolute Bay

ANNUAL REPORT

FOR THE HAMLET OF RESOLUTE BAY, 2018

YEAR BEING REPORTED: 2018 Utilitor

The following information is compiled pursuant to the requirements of Part B, Item 1 of Water license #3BM issued to the Hamlet of Resolute Bay, NU.

i) - iii) tabular summaries of all data generated under the "Monitoring Program"; monthly and annual quantities in cubic meters of each and all waste 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	12,521,355	SAME
February	11,371,960	SAME
March	13,909,093	SAME
April	13,858,559	SAME
May	13,771,796	SAME
June	11,679,340	SAME
July	339,248	SAME
August	0	SAME
September	0	SAME
October	0	SAME
November	0	SAME
December	0	SAME
ANNUAL TOTAL	77,451,351	SAME

Note: The average consumption volume is considered equal to the discharge volume in each month because there is no meter in the intake or discharge pipe.

Description: 2018 Water Consumption Report Total for Utilidor Consumption from January to July 2018

Canada

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Report #Click here to enter text.

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