



**Indian and Northern
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December 2, 2009

Northwest Territories Water Board
P.O. Box 2531
Inuvik, NT X0E 0T0

Attn: Mike Harlow, Executive Director

RE: Municipal Water Licence (N7L3-0714)

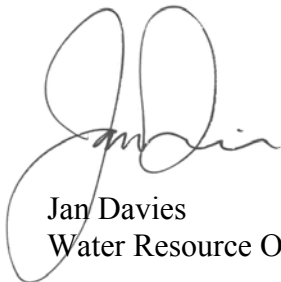
Dear Mr. Harlow,

Please find the enclosed Inspection Report for your review and/or records.

An electronic copy (un-editable Adobe pdf.) has also been provided by e-mail.

If you have any questions or concerns regarding the enclosed, and/or if additional information is required please contact me at 867-777-8909.

Sincerely,



Jan Davies
Water Resource Officer

Cc: Conrad Baetz, District Manager, North Mackenzie District, Inuvik, NT

Enclosure: Water Licence Inspection Report and Cover Letter (6 pages)



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December 2, 2009

Incorporated Hamlet of Tuktoyaktuk
Box 120
Tuktoyaktuk, NT, X0E 1C0

Attn: Debbie Raddi

RE: Municipal Water Licence (N7L3-0714)

Dear Ms. Raddi,

An inspection was conducted of the Municipal Water Supply and Waste Disposal Facilities on November 24, 2009. Enclosed is a copy of the Water Licence Inspection Report.

While there have been some great improvements since the last inspection like the shipping out of waste metal for proper disposal and providing all the necessary Annual Reports from 2003 to 2008. There were a number of violations as depicted on page three of the Inspection Report. Some of the violations are simple in nature and can be dealt with promptly. Please review the concerns throughout the Inspection Report.

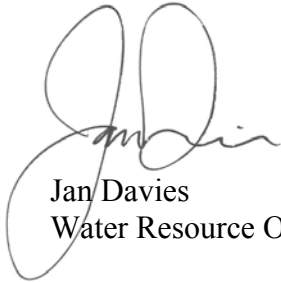
Upon review of previous years Inspection Reports it is apparent that many of the violations and concerns outlined in the Inspection Report are consistent with those in previous years. While it is clear that progress is being made on certain issues, there are terms and conditions of your Water Licence that are being neglected resulting in non-compliance/violations. Please address the aforementioned items as INAC considers non-compliance of Water Licences a serious matter.

Please note that it is the Hamlet's responsibility to ensure compliance with all of the terms and conditions of its Water Licence. INAC looks forward to working with you as much as possible to achieve compliance.

A copy of this report will be sent to the Northwest Territories Water Board for their review and/or public records.

If you have any questions or concerns, and/or if additional information is required please contact me at 867-777-8909.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jan Davies', is positioned above the printed name and title.

Jan Davies
Water Resource Officer

Cc: Conrad Baetz, District Manager, North Mackenzie District, Inuvik, NT

Enclosure: Water Licence Inspection Report (4 pages)



WATER LICENCE INSPECTION FORM

DATE:	November 24, 2009	COMPANY REP:	Debbie Raddi
LICENCEE:	Incorporated Hamlet of Tuktoyaktuk	LICENCE #:	N7L3-0714

WATER SUPPLY

Source:	Kudlak Lake	Quantity Used:	~ 35,745 m ³
Owner/Operator:	Hamlet of Tuktoyaktuk		

Indicate: **A - Acceptable** **U - Unacceptable** **N/A - Not Applicable** **N/I - Not Inspected**

Intake Facilities	N/I	Storage Structures	A ¹	Treatment Systems	A ^{1,2}	Chem. Storage	A
Flow Meas. Device	A	Conveyance Lines	A	Pumping Stations	A ¹		

Comments:

Concerns:

1. There is a new Water Treatment Plant (WTP) on site that is operational. The finishing touches, training etc were occurring. Upon inspection the facility back up generator did not have a drip tray or any containment for oil changes future drips etc. A drip tray needs to be installed as regular operation and maintenance will require its use.
2. Fuel tanks and piping on Water Treatment Plants - see Fuel Storage Section.

Note:

- Intake lines replaced from reservoir to pumphouse.
- New WTP had a bathtub floor and floor drain with a sump pump leading to the facility waste tank.
- Intake Facility located at Kudluk Lake were not inspected.
- Due to the spill that occurred in 2004 at the Kudluk Lake (Spill #04-572) water intake facility there are a number of measures being used. A propane motor is being used to run the pump and there is a diesel backup. The Raw Water Reservoir is filled over a 3 week period during which time there is a 24hr watch of the pump station a Kudluk Lake and it is checked 3 times a day.

WASTE DISPOSAL

Well Waste	Off-Site Removal	N/A	Drilling Sump	N/A	Downhole	N/A	Land spread	N/A
Sewage	Sewage Treatment System (primary, secondary, or tertiary)				Primary			
	Natural Water Body	✓		Continuous Discharge (land or water)		N/A		
	Seasonal Disch.	✓		Wetlands Treatment	✓		Trench	N/A
Solid Waste	Owner/Operator:	Hamlet of Tuktoyaktuk						
	Landfill	✓		Burn & Landfill	Conditionally acceptable	Other	N/A	

Indicate: **A - Acceptable** **U - Unacceptable** **N/A - Not Applicable** **N/I - Not Inspected**

Discharge Quality	A ¹	Construction	N/A	Disch. Meas. Dev.	A	Freeboard	U ³
Decant Structures	A	O&M Plan	U ^{3,6,7}	Dams, Dykes	A ³	Seepages	N/A
Dyke Inspections	N/A	A&R Plan	N/A	Erosion	A	Spills	A ²
Periods of Discharge	Late Fall decant		Effluent Discharge Rate		Equal to pump rate		

Comments:

Concerns

1. Samples were collected prior to and during the decant of the sewage lagoon. The sample results for the decant were within Water Licence effluent quality standards.
2. Glycol on ground in front of sewage discharge chute from one of the vacuum trucks that had a leak (see Figure 1). The leak was reported to be repaired. Someone was notified to clean up the spill since snow removal occurs to move the snow with sewage (that accumulates on the pad) off to the side of the turn around pad to drain back into the sewage lagoon.
3. There was a visible amount of waste that needs better segregation throughout the Solid Waste Disposal Facility (SWDF). There was a large amount of waste all over the SWDF lagoon that needs to be cleaned up and properly segregated as well (see Figure 2). Waste disposal areas need to be better designated to encourage waste segregation. Signage was present at the SWDF however, additional signage and the continued use of barriers are needed to further increase public guidance. Signs should be posted for but not limited to the following areas: domestic garbage, waste tires, waste appliances(washers/dryers, etc.), wood waste, bulky metal wastes, vehicles/ATVs etc, empty drums, honey bag pit, waste animal pit and hazardous waste(waste oil, batteries etc.).

4. The Solid Waste Disposal Facility lagoon freeboard looked less than the proper freeboard of 0.5 metres as per Part D: Conditions Applying to Waste Disposal, Item 3, of the Water Licence. The lagoon needs to be decanted soon as it appears quite full of water and there has not been a decant for some time. In the past the results have been acceptable to decanting but time ran out for it to occur. If there needs to be a wider range of time for the decant to be allowed to occur the Hamlet will need to apply to the Northwest Territories Water Board for an amendment to the current Licence.
5. There are presently no tire stop blocks installed at the sewage discharge chutes to prevent trucks from hitting the chutes or backing up too far. This is highly recommended as it will prevent further occurrences like last year in which the sewage discharge chute was knocked off position by a vacuum truck.
6. Windblown debris is rampant throughout the Solid Waste Disposal Facility (SWDF). Measures are needed to control windblown debris such as improved area fencing and regular covering with fill material. It is understood there is limited material to cover solid waste and there is a new source of fill that will allow for improved maintenance at the SWDF.
7. It is apparent that the SWDF and Sewage Disposal Facility Operation and Maintenance Plans (O&M Plan) need to be updated and components of the O&M Plan are not being followed as per Part H: Conditions Applying to Operation and Maintenance, Item 2, of the Water Licence. Ensure that Hamlet Personnel are familiar with the O&M Plan and that it is being properly implemented. It is recommended that a copy of the approved O&M Plan be readily available to Hamlet staff.
8. In previous Inspection Reports the floating intake used while decanting the SWDF lagoon has difficulty because the line is so heavy once full of water and consequently plywood is used under the intake instead. The Hamlet of Tuktoyaktuk is reminded to apply to the Northwest Territories Water Board for an amendment to the Water Licence specifically Part D: Conditions Applying to Waste Disposal, Item 16. This will allow for the Hamlet to remain in compliance with the Licence and allow for the current method of decanting.
9. Ensure that groundwater monitoring wells all around the SWDF are properly maintained such as being covered and locked to prevent contamination of groundwater and future samples.

Note:

- There are approximately 8-9 truckloads of sewage taken to the sewage lagoon daily.
- Due to snow there was limited access and visibility at the Solid Waste and Sewage Disposal Facilities during the inspection.
- Only the Sewage Disposal Facility decanted this year, Solid Waste Lagoon was not decanted.
- Batteries collected by the Hamlet to send out with a contractor.
- This season there was a load of waste metal shipped out on a barge from the Tuktoyaktuk SWDF for disposal.

FUEL STORAGE

Owner:	Hamlet of Tuktoyaktuk	Operator:	Hamlet of Tuktoyaktuk	Condition of tanks:	Poor ^{1,2,3}
Berms & Liners	Good	Water within Berm:	N/A	Evidence of Leaks:	None
Drainage Pipes	N/A	Pump Station and Catchment Berm	Good		
Pipeline Condition	Poor ¹	Not Applicable:	N/A		

Comments:

Concerns:

1. At the old Water Treatment Plant (WTP) there is very serious frozen water buildup around tank and associated piping which connects to the tank at the bottom. Movement of frozen water, ice etc. against the pipe and tank could lead to a large spill due to the pipe connecting to the tank at the bottom (see Figure 3). Very strongly recommend protecting the tank and associated piping by moving the tank so the piping is free of the ice around it. It is understood that the use of this tank will be discontinued in a short time as the old Water Treatment Plant will soon be decommissioned. Additionally the fuel tank and hose flex connector is out of alignment and the pipe connection to the tank needs to be repaired.
2. New WTP has a new double walled fuel storage tank with a day tank inside the facility. The outside double walled tank has valves that are accessible to the public and should be locked and secure from unauthorized use (see Figure 4). Associated piping is anchored to the tank itself with flex pipes but continue to monitor the current setup against the seasonal changes which could shift infrastructure etc over time.
3. Inside the new WTP the day tank has a metal walled berm for secondary containment with venting going outside; continue to monitor so as to prevent any spills if there is a malfunction.

SURVEILLANCE NETWORK PROGRAM

Samples Collected Hamlet	Hamlet collected samples prior to and during the decant of the sewage lagoon. ¹				
Samples Collected DIAND	No samples taken during inspection.				
Signs Posted: SNP	Present at sewage lagoon and water reservoir, other signage is still needed at Solid Waste Disposal Facility lagoon. ²	Warning	Sewage Lagoon and old Water Treatment Plant sign present. Signage needed at the new Water Treatment Plant and Solid Waste Disposal Facility. ³		
Record & Reporting	2003-2008 Annual Reports submitted. Reminder 2009 Annual Report due April 31, 2009.				
Geotechnical Inspection	N/A. Recommended at the Water Supply Facility reservoir and the dyke for both the Solid Waste Disposal Facility lagoon and the sewage lagoon				

Comments:

Concerns:

1. Samples were collected prior to and during the decant of the sewage lagoon. The sample results for the decant were within Water Licence effluent quality standards. It appears that two samples were taken during the decant while the other two were unable to get to the lab due to weather. Please continue to ensure that future decants are sampled as per the Surveillance Network Program (SNP) of the Water Licence.
2. SNP signage is required at the Solid Waste Disposal Facility lagoon by Part B: General Conditions, Item 5, in the Water Licence.
3. Signs are to be posted to inform the public of the Solid Waste Disposal Facility and the new Water Treatment Plant as per Part B: General Conditions, Item 6, in the Water Licence.

Violations of Act of Licence:

Part B: General Conditions, Item 5,

“The Licensee shall, within sixty (60) days of the issuance of this Licence, post the necessary signs, where possible, to identify the stations of the “Surveillance Network Program”. All postings shall be located and maintained to the satisfaction of an Inspector.”

Part B: General Conditions, Item 6,

“The Licensee shall, within sixty (60) days of issuance of this Licence, post signs in the appropriate areas to inform the public of the Water Supply and Waste Disposal Facilities. All postings shall be located and maintained to the satisfaction of an Inspector.”

Part D: General Conditions, Item 3,

“A freeboard limit of 0.5 metres shall be implemented at all times at all dykes and earthfill structures or as recommended by a Geotechnical Engineer, and as approved by the Board.”

Part H: Conditions Applying to Operation and Maintenance, Item 2,

“The Licensee shall implement the plans specified in Part H, Item 1 as and when approved by the Board.”

Inspector’s Signature:

A handwritten signature in black ink, appearing to be 'J. Miller', is written over a horizontal line. The signature is stylized with large loops and a long tail.



WATER LICENCE INSPECTION REPORT Pg. 4 (Continued)

Date:	November 24, 2009	Licence #:	N7L3-0714
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Inspection Images:

Figure 1

Glycol leak that occurred from one of the vacuum trucks at the Sewage Disposal Facilities.



Figure 2

Large amount of waste in the SWDF lagoon that needs to be cleaned up and properly segregated.



Figure 3

Movement of frozen water, ice etc. against the old Water Treatment Plant pipe and fuel tank could lead to a large spill.



Figure 4

New Water Treatment Plant fuel tank valves that are accessible to the public and should be locked and secure.

