



**Indian and Northern
Affairs Canada**

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February 21, 2011

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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February 21, 2011

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

Attn: Bill Buckle

RE: Municipal Water Licence (N7L3-0714)

Dear Mr. Buckle,

An inspection was conducted of the Municipal Water Supply and Waste Disposal Facilities on September 3, 2010. Enclosed is a copy of the Water Licence Inspection Report.

The efforts by the Hamlet to improve compliance with reporting, striving to ship out waste for recycling, and seeking better alternatives to the location of waste infrastructure has been noted. 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.

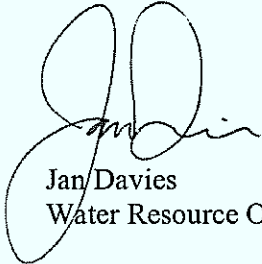
Progress is being made on certain issues, however, there are terms and conditions of your Water Licence that are being neglected resulting in non-compliance/violations. Upon review of previous years Inspection Reports it is apparent that many of the violations and concerns outlined in the Inspection Report are consistent with those in previous years. Please address the aforementioned items as Indian and Northern Affairs Canada 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 written over 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:	September 3, 2010	COMPANY REP:	Bill Buckle
LICENCEE:	Incorporated Hamlet of Tuktoyaktuk	LICENCE #:	N7L3-0714

WATER SUPPLY

Source:	Kudluk Lake	Quantity Used:	~ 28,270 m ³
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Owner/Operator: Hamlet of Tuktoyaktuk

Indicate:		A - Acceptable	U - Unacceptable	N/A - Not Applicable	N/I - Not Inspected		
Intake Facilities	N/I ¹	Storage Structures	A	Treatment Systems	A ²	Chem. Storage	A ¹
Flow Meas. Device	A	Conveyance Lines	A	Pumping Stations	A		

Comments:

Concerns:

1. Empty chlorine containers located by the day tank (fuel tank) located in the Water Treatment Plant (WTP). Full chlorine containers by chlorine pumps and at rear of the WTP. Ensure the proper cleaning and disposal of empty storage containers, so as to minimize risk to the environment and any possible future users.
2. During the previous inspection on November 24, 2009, it was noted that the back up generator did not have a drip tray or any containment for oil changes, future drips etc. It was recommended for a drip tray to be installed as regular operation and maintenance would require its use and its presence would maintain a clean and orderly facility. For future operations please ensure that any maintenance activities on WTP equipment are cleaned up afterwards and pose no risk to the cleanliness of the facility.
3. Intake Facility located at Kudluk Lake inspected on March 19, 2010, conditions were acceptable. A sign was to be posted to inform the public of the Water Intake Facility as per Part B: General Conditions, Item 6, in the Water Licence.

Notes:

- The new Water Treatment Plant is now operational and appears to be working well at the time of inspection.
- New WTP had a bathtub floor and floor drain with a sump pump leading to the facility waste tank.
- 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 at 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	Construction	N/A	Disch. Meas. Dev.	A	Freeboard	U ^{2,3}
Decant Structures	A	O&M Plan	U ¹¹	Dams, Dykes	A	Seenages	N/A
Dyke Inspections	A	A&R Plan	N/A	Erosion	A	Spills	U ^{1,4}
Periods of Discharge	Late Fall decant		Effluent Discharge Rate		Equal to pump rate		

Comments:

Concerns:

1. There was soil staining present at the turn around pad in front of the sewage discharge chute located at the Sewage Disposal Facility. The leaking equipment needs to be repaired and the contaminated soil cleaned up as there is a water body nearby.
2. The freeboard at the Solid Waste Disposal Facility (SWDF) lagoon was approximately 0.5 m which is the freeboard limit criteria in the Water Licence for the SWDF lagoon. 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 for 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.

3. The freeboard at the Sewage Disposal Facility was approximately 0.5 m and was in violation of Part D: Conditions Applying to Waste Disposal, Item 6, of the Water Licence which requires a freeboard limit of 1.0 m. It was in need of a decant which was going to be occurring as the equipment was setup and as indicated by the foreman.
4. Fuel and oil leaks were present on and by the pump for the sewage decant and need to be prevented/cleaned up (see Figure 1). Ensure a spill kit and drip pads are present for the operation of the pump (and its associated fuel tank) used for the sewage lagoon and Solid Waste Disposal Facility (SWDF) lagoon decants. Drips and spills are possible sources of contamination to nearby water bodies and need to be prevented.
5. There was a sheen noticed coming off the pipe present for the decant of the sewage lagoon. It was unclear if this was due to the pipe material or somehow associated with the lagoon itself.
6. Waste needs better segregation throughout the Solid Waste Disposal Facility (SWDF). Waste disposal areas need to be better identified to encourage waste segregation and public participation. 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.).
7. There was a large amount of waste all over the SWDF lagoon that needs to be cleaned up and properly segregated as well. There was a lot of garbage present in the water, containers floating including used oil containers which need to be removed and properly disposed of (see Figure 2). In one instance there was an ATV and a Caterpillar excavator piece of equipment located in the lagoon for the SWDF (see Figure 3). This kind of material and garbage amongst the water is unacceptable and needs to be removed.
8. Windblown debris continues to be a rampant problem throughout the SWDF. Solid waste cell capping, regular intermittent covering with fill and improved area fencing are measures needed to control windblown debris. It was known there was limited material to cover solid waste but it is understood there is a new source of fill that will allow for improved maintenance at the SWDF.
9. Propane and welding tanks present which present a hazard and need to be disposed of properly (see Figure 4).
10. There are presently no tire stop blocks installed at the sewage discharge chutes to prevent trucks from hitting the chutes, backing up too far, or just ensuring consistent discharge of sewage. This is highly recommended as it will protect infrastructure and allow for a clean discharge area.
11. 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 E: Conditions Applying to Operation and Maintenance, Item 4, of the Water Licence. Ensure that Hamlet Personnel are familiar with the O&M Plan and that it is being properly implemented. A copy of the approved O&M Plan needs to be readily available to Hamlet staff.
12. Groundwater monitoring wells all around the SWDF need to be properly maintained such as being covered and locked to prevent contamination of groundwater and access from unauthorized personnel.
13. A Spill Contingency Plan was due on January 31, 2011 for the Northwest Territories Water Board as per Part E: Conditions Applying to Operation and Maintenance, Item 1, of Water Licence.

Notes:

- It appeared that the sewage lagoon would be decanted this year. There was no confirmation from the Hamlet of Tuktoyaktuk of this or of the SWDF Lagoon being decanted. Preliminary water quality sampling results (taken Sept. 1) were sent on September 21, 2010 to this office for the sewage lagoon and the SWDF lagoon. The available results were within criteria suitable for decanting.
- In conversations with the foreman during inspections and in previous Inspection Reports it was noted that 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 17. This will allow for the Hamlet to remain in compliance with the Licence and allow for the current method of decanting.
- It is understood there is a project being conducted by the Inuvialuit Land Administration to bring waste metal from off the land to put in cargo shipping containers (sea cans) to be sent out with NTCL, and if there is space available waste metal from the Tuktoyaktuk SWDF will be included.
- Burn bin (old tank cut in half) on furthest end of SWDF towards Tuktoyaktuk, is used to burn personal items from estates, paper etc.
- The SWDF has been around for more than 24 years according to the foreman, while the berm for its lagoon has been around approx. 15-20 yrs.
- Really dark green coloured water in sewage lagoon, which is a good indicator of healthy conditions.
- There are approximately 8-9 truckloads of sewage taken to the sewage lagoon daily.
- Batteries collected by the Hamlet to send out with a contractor.
- A Sewage Treatment Plan is due January 31, 2012
- A Municipal Solid Waste Operations and Maintenance Plan is due June 30, 2012.
- An assessment of the effects of the Solid Waste Disposal Facilities on the small bay adjacent to the facilities is due July 31, 2013.

FUEL STORAGE

Owner:	Hamlet of Tuktoyaktuk	Operator:	Hamlet of Tuktoyaktuk	Condition of tanks:	Good, new
Berms & Liners	Day tank inside with liner	Water within Berm:	N/A	Evidence of Leaks:	None
Drainage Pipes	N/I	Pump Station and Catchment Berm		N/A	
Pipeline Condition	Good	Not Applicable:		N/A	

Comments:

Notes:

- New Water Treatment Plant (WTP) has a new double walled fuel storage tank outside with a day tank inside the facility. Ensure the outside double walled tank is secure from unauthorized use. The outside fuel tank and associated piping is anchored together with flex pipes connecting the piping to the WTP, continue to monitor the current setup against the seasonal changes which could shift infrastructure etc over time.
- Inside the 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	Preliminary water quality sampling results(taken Sept. 1) were sent on September 21, 2010 to this office for the sewage lagoon and the SWDF lagoon. The available results were within criteria suitable for decanting.		
Samples Collected DIAND	Yes, samples were taken during inspection from SNP 0714-2 and 3.		
Signs Posted: SNP	Present at sewage lagoon, Solid Waste Disposal Facility lagoon, but not confirmed for supply line to reservoir. No map has been submitted. ¹	Warning	Sewage Disposal Facility had an old sign that needs to be repaired. Signage needed at the Water Supply Facilities and Solid Waste Disposal Facility. ²
Record & Reporting	2009 Annual Report was due April 30, 2010 and has not been submitted. ³ 2003-2008 Annual Reports were submitted on November 4, 2009, the Hamlet staff are to be commended for this effort.		
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. A map or drawing indicating the location of the SNP sampling locations has not been submitted and is still required by Part B: General Conditions, Item 4, in the Water Licence.
2. Signs are to be posted to inform the public of the Solid Waste Disposal Facility and the Water Supply Facilities as per Part B: General Conditions, Item 5, in the Water Licence. There was a sign located at the Sewage Disposal Facility along the fence near the sewage discharge chutes that needed to be repaired. It was a very well worded sign for the site and its associated hazards/requirements.
3. Annual Report for 2009 needs to be submitted as per Part B: General Conditions, Item 1, of the Water Licence. If data is limited the Annual Report should be sent with what information is known so there are records available.

Violations of Act of Licence:

Part B: General Conditions, Item 1,

"The Licensee shall file an Annual Report with the Board and an Inspector no later than April 30th of the year following the calendar year reported..."

Part B: General Conditions, Item 4,

"The Licensee shall, within 60 days of the issuance of this Licence, submit to the Board for approval a map or drawing indicating the location of all Surveillance Network Program sampling stations."

Part B: General Conditions, Item 5,

"The Licensee shall, within 60 days of issuance of the Licence, post signs in the appropriate areas to inform the public of the Water Supply, Waste Disposal Facilities and the segregated temporary storage of Hazardous waste areas. All postings shall be located and maintained to the satisfaction of an Inspector."

Part D: Conditions Applying to Waste Disposal, Item 6,

"A Freeboard limit of 1.0 metres or as recommended by a qualified Geotechnical Engineer and as approved by the Board, shall be maintained at all dykes and earthfill structures associated with the Solid Waste Disposal Facilities."

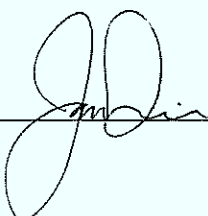
Part E: Conditions Applying to Operation and Maintenance, Item 1,

"The Licensee shall submit to the Board for approval by January 31, 2011 a Spill Contingency Plan in accordance, for example, with the Guidelines for Spill Contingency Planning, April 2007, developed by INAC-Water Resources Division."

Part E: Conditions Applying to Operation and Maintenance, Item 4,

"The Licensee shall implement the Spill Contingency Plan, the Sewage Treatment Plan, and the Municipal Solid Waste Operations and Maintenance Plan as and when approved by the Board."

Inspector's Signature:





WATER LICENCE INSPECTION REPORT Pg. 4

(Continued)

Date:	September 3, 2010	Licence #:	N7L3-0714
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Inspection Images:

Figure 1

Fuel and oil leaks were present on and by the pump for the sewage decant and need to be prevented/cleaned up.



Figure 2

There was a lot of garbage present in the water, containers floating including used oil containers which need to be removed and properly disposed of.



Figure 3

A Caterpillar excavator piece of equipment located in the lagoon for the SWDF. This kind of material and garbage in amongst the water is unacceptable and needs to be removed.



Figure 4

Propane and welding tanks present which present a hazard and need to be disposed of properly.



4

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