



**Indian and Northern  
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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 (N7L3-1619)**

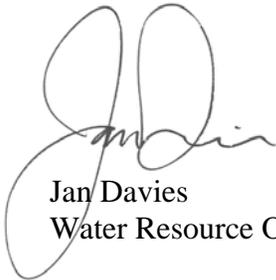
Dear Mr. Harlow,

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)

What Goes Up Must Come Down - Open Burning of Garbage Is Harmful  
to Your Health and the Environment Document



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February 21, 2011

Hamlet of Paulatuk  
P.O. Box 98  
Paulatuk, NT, X0E 1N0

**Attn: Debbie Gordon-Ruben**

**RE: Municipal Water Licence (N7L3-1619)**

Dear Ms. Gordon-Ruben,

An inspection was conducted of the Municipal Water Supply and Waste Disposal Facilities on September 14, 2010. Enclosed is a copy of the Municipal Water Licence Inspection Report.

The Hamlet is to be commended on their efforts to improve the maintenance and operation of the Waste Disposal Facilities such as signage, segregation and the disposal of fuel storage containers. There were a number of violations as depicted on page three of the Inspection Report. Please review and address 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.

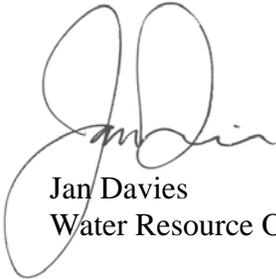
Please note the document titled "What Goes Up Must Come Down - Open Burning of Garbage Is Harmful to Your Health and the Environment" by Environment Canada, for your reference. As discussed previously open burning of non-segregated Municipal Solid Waste (MSW) remains an unacceptable option for the management of MSW. According to the GNWT Department of Environment and Natural Resources, MSW suitable for open burning are paper products, paperboard packaging and untreated wood wastes only.

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, please contact me at 867-777-8909.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jan Davies', with a large, stylized flourish extending from the bottom left.

Jan Davies  
Water Resource Officer

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

Enclosure: Water Licence Inspection Report (4 pages)  
What Goes Up Must Come Down - Open Burning of Garbage Is Harmful  
to Your Health and the Environment Document



## WATER LICENCE INSPECTION FORM

<b>DATE:</b>	September 14, 2010	<b>COMPANY REP:</b>	Debbie Gordon-Ruben
<b>LICENCEE:</b>	Hamlet of Paulatuk	<b>LICENCE #:</b>	N7L3-1619

### WATER SUPPLY

Source:	New Water Lake	Quantity Used:	8,338 m3
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Owner/Operator: Hamlet of Paulatuk

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

Intake Facilities	A	Storage Structures	N/A	Treatment Systems	A	Chem. Storage	A <sup>1</sup>
Flow Meas. Device	A	Conveyance Lines	A	Pumping Stations	A		

Comments:

Concerns:

1. There are a lot of empty chlorine containers that need to be sent out for proper disposal and/or properly cleaned (rinsed etc) and disposed of in the landfill.
2. See Fuel Storage Section for additional concerns.

Notes:

- Continue to ensure the heat trace on the intake pipe and the water truck fill pipe are well maintained as it can cause further problems that can then lead to emergencies and contingency measures end up being used.
- The Water Supply Facility (WSF) will be getting a gated entrance with fencing for the front area of the WSF.
- A reminder that the WSF(including the generator room and Water Treatment Plan) needs to be secure against unauthorized access.
- The Hamlet has put boulders in one area along the edge of the Lake bordering the intake line for the WSF to provide protection for the intake line against damage. If the boulders were used further they could line the whole area the Hamlet is trying to restrict access to. This also protects against potential spills that could damage the Hamlet's water supply.
- According to Hamlet staff in about 2 years time the WSF will be replaced with one similar to Ulukhaktok.
- WSF and surrounding area were clean, continue to ensure the generator room is clean despite routine maintenance.

### 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)			Land		
	Seasonal Disch.	N/A	Wetlands Treatment		✓	Trench		N/A
Solid Waste	Owner/Operator:	Hamlet of Paulatuk						
	Landfill	✓	Burn & Landfill		Conditionally acceptable	Other		N/A

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

Discharge Quality	A <sup>13</sup>	Construction	N/A	Disch. Meas. Dev.	A	Freeboard	N/A
Decant Structures	N/A	O&M Plan	U <sup>8,9</sup>	Dams, Dykes	N/A	Seepages	N/A
Dyke Inspections	N/A	A&R Plan	N/A	Erosion	U <sup>1,3</sup>	Spills	U <sup>2,3</sup>
Periods of Discharge	Continuous		Effluent Discharge Rate		Natural Outflow		

Comments:

Concerns:

1. Large amount of erosion from the back of the sewage discharge chute (see Figure 1). This material that is being eroded away is being deposited back into the sewage lagoon which decreases efficiency and costs the Hamlet to repair it and material to replace it. Sewage discharge chute needs to be extended. Great work by Hamlet staff on the front to line it up and utilize tire stops to decrease sewage bypassing the front of the discharge chute.
2. There is a clear indication that many drums/containers are leaking. There needs to be regular checks at the Solid Waste Disposal Facility (SWDF) for leaks and subsequent repairs including containment of leaking containers/materials to prevent spills and further contamination of the environment (see Figure 2). Ensure drums and fuel tanks are secure, contained, properly segregated and fluids are unable to leak from containers (strong drum/tank, bung in place, no holes). If required, fluids should be transferred to secure and approved containers.

Currently there are many barrels and batteries present at the SWDF that need to be in a bermed temporary storage area as per Part D: Conditions Applying to Waste Disposal, Section 9, of the Water Licence.. It might be prudent for Hamlet Staff to build a berm around the few large groups of hazardous waste such as barrels, batteries etc. and contain them where they are as this material is located throughout the landfill. This would save on time and work involved to move

all the material. In the containment/storage areas these materials need to be collected, consolidated, prepared and either shipped to an approved facility for disposal or burned in approved equipment. This will ultimately maintain the SWDF in a well managed state that encourages public participation and assistance.

3. Drums and waste vehicles located in the water and in amongst the drainage areas provides a source of contamination (see Figure 3). There was also erosion noted throughout the Solid Waste Disposal Facility. Waste especially those with possible contaminants present need to be moved away from the water, erosion and drainage areas.
4. The Hamlet foreman mentioned an engineer will be coming to assist with locating a place to put another solid waste cell as the current one is close to capacity. There might need to be a letter of Notification sent to the Northwest Territories Water Board if a new cell is being created depending on the location and the current Operation and Maintenance Plan. It would be a pro-active measure just to ensure the Board is aware of the Hamlet's plans.
5. Waste segregation continues to be needed. This will ultimately keep the area clean and encourage the public to segregate waste properly. Improvements are noted such as household waste, honey bags and bulky metal waste signage being present. This is great to see but more is needed specifically for various waste streams but not limited to the following : waste tires, waste appliances(washers/dryers, etc.), wood waste, waste vehicles and skidoos, empty drums, and hazardous waste(waste oil, batteries etc) to help the public further segregate waste. The Solid Waste Disposal Facility (SWDF) and the Sewage Disposal Facility (SDF) still need signs to further increase public awareness.
6. Much wind blown debris is present. Regular covering with fill material is needed to control windblown debris and deter birds etc. High berms and fencing at the SWDF are an effective way to control windblown materials. Debris needs to be cleaned up as it is a part of regular maintenance. A clean and organized facility in which the public provides assistance is further aided by cleaning up and preventing windblown debris.
7. Burning is evident. A designated burning area for these materials is recommended to ensure proper control. The Hamlet needs to segregate waste suitable for open burning such as paper products, paperboard packaging and untreated wood wastes according to the document from the GNWT-Department of Environment and Natural Resources (ENR) titled 'Municipal Solid Wastes Suitable for Open Burning'. Burning of non-segregated waste is dangerous because of the unknowns in the waste material but also hazardous due to the air emissions which are a serious risk, refer to Environment Canada's document titled 'What Goes Up Must Come Down - Open Burning of Garbage Is Harmful to Your Health and the Environment'.
8. The current Operation and Maintenance Plan by Dillon Consulting Limited was dated August 2004. An updated Municipal Solid Waste Operations and Maintenance Plan was due by November 30, 2010 as per Part E: Conditions Applying to Operation and Maintenance, Item 3, of the Water Licence.
9. It is apparent that components of the Operation and Maintenance Plan(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 approved O&M Plan and that it is being properly implemented. A copy of the approved O&M Plan must be onsite and readily available.
10. To prevent water ponding on the surface of the SWDF cells, contouring is needed and this will also help against water contamination and leachate issues (see Figure 4).
11. The Hamlet needs to comply with Part D: Conditions Applying to Waste Disposal, Section 8 of the Water Licence and provide proper containment for the contaminated soil present at the SWDF. There needs to be a berm to prevent migration of contaminants into water and should include a geotextile/liner under the contaminated soil pile.
12. A Spill Contingency Plan was due on November 30, 2010 for the Northwest Territories Water Board as per Part E: Conditions Applying to Operation and Maintenance, Item 1, of the Water Licence.
13. SDF discharge sampled by Environment Canada in 2009. Discharge quality was acceptable from the limited analysis that was completed according to Surveillance Network Program (SNP) requirements in the Water Licence. The Hamlet has not sampled on a regular basis as per SNP requirements. See Surveillance Network Program section.

Notes:

- The sewage lagoon had a dark green colour which was different than the lighter green colour seen before. - It was asked about how to deal with the various waste like white metal waste (appliances etc.) and other waste streams. Refer to the O&M Plan, GNWT- ENR Guidelines for various waste disposal procedures (which are available online), staff from Municipal and Community Affairs and the GNWT-ENR specialized in Solid Waste Management.
- **A Sewage Treatment Plan is due November 30, 2011.**

**FUEL STORAGE**

Owner:	Hamlet of Paulatuk	Operator:	Hamlet of Paulatuk	Condition of tanks:	Good
Berms & Liners	Good	Water within Berm:	Yes <sup>2</sup>	Evidence of Leaks:	None
Drainage Pipes	None present	Pump Station and Catchment Berm	N/A		
Pipeline Condition	Good <sup>1</sup>	Not Applicable:	N/A		

Comments:

Concerns:

1. It appears that the flex pipe is in a similar position as in previous inspections. There was no flex pipe on the return pipeline from the generator to the fuel tank. Continue to monitor for any further changes to the fuel tank and associated piping which is critical to preventing failure in the future. In regards to fuel storage at the Water Supply Facility (WSF)any spill related to structural failure would be an immediate risk to the Hamlet's Water Supply.
2. There was water present in the metal berm surrounding the outside fuel tank for the WSF. The Hamlet foreman inquired about installing a drainage pipe. They are currently using a bucket to empty water out of the berm. I cautioned that any water removal needs to occur with the highest care to ensure no hydrocarbons present as any water will flow into the water supply. Fuel contamination issue will need to be addressed when dealing with the water.  
Currently with precipitation, water in the berm is an issue. Steps need to be taken to minimize the amount of water collected in the berm. As a preventative measure it is recommended that regular snow removal and/or a possible removable cover could be used to protect against snow and rain.

**SURVEILLANCE NETWORK PROGRAM**

Samples Collected Hamlet	No records of any samples taken as per SNP requirements. <sup>1</sup>		
Samples Collected DIAND	Yes, samples were taken during inspection at SNP 1619-2 and ponded water on the north end of the sewage lagoon (small drainage area input into it, located by vehicles)		
Signs Posted: SNP	N/A- No map has been submitted. <sup>2</sup>	Warning	Present at Water Supply Facility. Signage needed to warn public of Solid Waste Disposal Facility (SWDF) and Sewage Disposal Facility (SDF). <sup>3</sup>
Record & Reporting	2009 Annual Report submitted. 2006 – 2008 Annual Reports due as per Water Licence Criteria. <sup>4</sup>		
Geotechnical Inspection	N/A		

Comments:

Concerns:

1. Water quality from the outflow of the SDF and run-off from the SWDF are to be monitored by the Hamlet of Paulatuk as per Surveillance Network Program criteria Part B: General Conditions, Item 2, of the Water Licence.
2. A map or drawing indicating the location of the SNP sampling locations is still required as per Part B: General Conditions, Item 4, of the Water Licence.
3. Signage is needed to warn the public and promote awareness at the Solid Waste Disposal Facility and Sewage Disposal Facility as per Part B: General Conditions, Item 5, of the Water Licence.
4. Annual Reports from 2006-2008 need to be submitted as per Part B: General Conditions, Item 1, of the Water Licence. If data is limited, Annual Reports should be sent with what information is known so there are records available.

Note:

- Environment Canada (Mary Kelly) sampled the Sewage Disposal Facility (SDF) discharge for a study during July 23-27 and September 17-21, 2009. Due to limitations at the time Total Suspended Solids and Ammonia-Nitrogen were the only parameters listed in the Surveillance Network Program (SNP) that were sampled in addition to a whole range of other physical and chemical parameters including carbonaceous biochemical oxygen demand (cBOD) and a wide variety of nutrients, major ions and metals. Discharge quality was acceptable from the limited analysis that was completed according to SNP requirements in the Water Licence.

**Violations of Act of Licence:**

Part B: General Conditions, Item 1,

“The Licensee shall file an Annual Report with the Board every year, not later than April 30<sup>th</sup> of the year following the calendar year reported...”

Part B: General Conditions, Item 2,

“The Licensee shall comply with the “Surveillance Network Program” annexed to this Licence, and any amendment to the said “Surveillance Network Program” as may be made from time to time, pursuant to the conditions of this Licence.”

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 and Waste Disposal Facilities. All postings shall be located and maintained to the satisfaction of an Inspector.”

Part D: Conditions Applying to Waste Disposal, Section 8,

“The Licensee shall contain all contaminated soil in such a manner as to minimize the potential for migration of contaminants into any Waters, to the satisfaction of an Inspector.”

Part D: Conditions Applying to Waste Disposal, Section 9,

“The Licensee shall segregate and store hazardous Waste in a temporary storage area, to the satisfaction of an Inspector.”

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

“The Licensee shall submit to the Board for approval by November 30, 2010, a Spill Contingency Plan in accordance with the Guidelines for Spill Contingency Planning, April 2007 developed by INAC-Water Resources Division.”

Part E: Conditions Applying to Operation and Maintenance, Item 3,

“The Licensee shall submit to the Board for approval by November 30, 2010 an updated Municipal Solid Waste Operations and Maintenance Plan...”

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 14, 2010	Licence #:	N7L3-1619
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**Inspection Images:**

**Figure 1**

Large amount of erosion from the back of the sewage discharge chute. The chute needs to be extended as this material is going into the sewage lagoon and can decrease its efficiency, while costing the Hamlet to replace/repair it.



**Figure 2**

There needs to be regular checks at the Solid Waste Disposal Facility (SWDF) for leaks and subsequent repairs including containment of leaking containers/materials to prevent spills and further contamination of the environment.



**Figure 3**

Drums and waste vehicles located in the water and in amongst the drainage areas provides a source of contamination



**Figure 4**

To prevent water ponding on the surface of the SWDF cells, contouring is needed and this will also help against water contamination and leachate issues.

