



## Inspection Report

License #: 3AM-IQA

Inspector: A. Keim

CIDMS # 365457

Client	City of Iqaluit		
Mailing Address	Box 460		
Inspection site location	Iqaluit, Nunavut		
Contact name	Chris Callahan Paul Clow	Title	Director operations. City Engineer
Last inspection date	July 19, 2008		
Inspection start date	October 13, 2009	July 30, 2009	
Region	Qikiqtani		



INAC, Nunavut District  
P.O. Box 100  
Building 918  
Iqaluit, NU, X0A 0H0

Submitted Via E-Mail  
Our File: 3AM-IQA0611  
Your File: \_\_\_\_\_  
CIDM # 365457

November 5, 2009

Chris Callahan  
A/ Director of Public Works  
City of Iqaluit  
Box 460  
Iqaluit, Nunavut X0A 0H0  
867-975-5653

**RE: Iqaluit Municipal Water Licence Inspections conducted July 30<sup>th</sup> and October 13<sup>th</sup> 2009**

The following inspection report was generated on two inspections conducted to determine compliance with the terms and conditions of the renewal Water License issued to the City of Iqaluit by the Nunavut Water Board (NWB). The report references the water license and the findings observed at the time of Inspection. During the writing of this report a review was undertaken of the documents located on the Nunavut Water Board's FTP site.

The Inspector would like to thank the following individuals; Chris Callahan, A/Director of Public Works, Robert Hogan, Foreman Utilidor and Jeff MacMunn, A/Waste Facility Foreman, for taking the time to meet and provide their input and comments during the Inspections.

**Previous findings:**

During the period of Inspection the City of Iqaluit was operating under a Water license issued May 15<sup>th</sup>, 2006 and is set to expire on May 15<sup>th</sup>, 2011.

It is noted that following the issuance of the current license the City of Iqaluit applied on May 20<sup>th</sup>, 2006 for an amendment to the terms and conditions of the current license. The application, as submitted, was found to be incomplete by the Nunavut Water Board and supplementary information was requested.

Further supplementary information was provided by the City of Iqaluit to the Nunavut Water Board on October 22, 2006. On November 30<sup>th</sup>, 2006 the Nunavut Water Board rejected the application as incomplete but held the file pending further submissions by the City.

On May 20<sup>th</sup> of 2009 the Nunavut Water Board, in response to a new submission from the City of Iqaluit on October 8<sup>th</sup> of 2008, made available all submitted documents and correspondence to interveners for comment and recommendation on the request for amendment. Comments were to have been submitted to the Nunavut Water Board by June of 2009. To date no decision or recommendations have been issued by the Nunavut Water Board.

At the time of Inspection on July 30<sup>th</sup> the following were the reoccurring issues of non-compliance within the Municipality;

- Annual reports have not been submitted as required.
- Failure to implement the Monitoring program as outlined in Part I of the current license.
- Failure to submit a QA/QC Plan
- Failure to submit Operation and maintenance manual.
- Failure to submit the Final Assessment of the Sludge Management Pilot Project



- Failure to submit a report on the options available to the Licensee to address the issue of collection, treatment and release West 40 Landfill Waste Water.
- Failure to submit As-built drawings as required for the Waste Water Treatment Plant.
- Failure to install Filter mesh on the Intake at Lake Geraldine.
- Failure to develop and implement a “General Monitoring program with monthly submissions to the Nunavut Water Board.
- Failure to submit the required conceptual A&R Plan as required by Part J item 3 of the License.
- Sewage treatment does not meet and can not meet the criteria set out in the license.
- Licensee is required address leaks in Dam.
- Licensee is required to segregate and store hazardous materials and chemicals.
- The Licensee has failed to address Part E item 15. (Storage of Hazardous Materials)

At the time of the October 13<sup>th</sup>, 2009 Inspection the following issues were being addressed by the Licensee;

- In response leaks identified in the Dam a safety inspection was scheduled and conducted. The report is pending.
- In response to the unsafe storage of hazardous chemicals the Licensee removed them to a new location and put in place specific steps as reported to the inspector to augment their Spill Contingency Plan. This addendum is to be submitted to the Nunavut Water Board for approval with the Annual report.
- In response to concerns over the handling of contact water the municipal land fill and a subsequent loss of containment ( Spill 09-431) the Licensee has hired a contractor to suggest modifications and improvements to the Operations and Management of water within the Iqaluit Landfill. This report and recommendations are to be submitted to the Nunavut Water Board upon completion.
- In response to issues related to the treatment of the potable water and equipment malfunctions and replacement the Licensee has ordered and installed new a UV system and is replacing one of their computer hardware systems to ensure redundancy.
- In response to issues identified in the July Inspection with respect to the operation of the Salstis ( Waste Water Treatment – Solids removal system) Machine and the need to have sufficient parts and supplies on hand to address the regular maintenance issue and breakdowns which occurred during the preceding year and resulted in the use of the Emergency lagoon. The Licensee has ordered and has in place sufficient parts to reduce the overall time required to discharge to the Emergency lagoon in the event of such a failure.

**With respect to the sampling conducted by the Inspector during the Inspections;**

**Sewage treatment;**

The Licensee is responsible for ensuring, subject to Section 3 (b) of Part E, that effluent discharged from the Wastewater Treatment Plant and entering the environment meet the following standards;

Parameter	Maximum Average Concentration	Maximum Concentration of Any Grab Sample
Biological Oxygen Demand (5 day) - BOD5	30 mg/L	45 mg/L
Total Suspended Solid	30 mg/L	45 mg/L
Oil and Grease	No visible sheen	
All Effluent discharges shall have a pH between 6 and 9.		

The following samples collected on July 30<sup>th</sup> and October 13<sup>th</sup> returned results in excess of the either the license criteria or the *NWT Limits for Effluent Parameters for Specific Discharges*.



July 30 <sup>th</sup> , 2009	Parameter	Result	Guideline
	Total Suspended Solid	82 mg/L	45 mg/L ( License)
	Manganese	131 µg/L	50 µg/L
	Copper	305 µg/L	200 µg/L
	Iron	632 µg/L	300 µg/L
Trace amounts of Toluene ( 0.006 mg/L) and Cyanide (0.002) were also recorded.			

October 13 <sup>th</sup> , 2009	Parameter	Result	Guideline
	Total Suspended Solid	156 mg/L	45 mg/L ( License)
	Manganese	119 µg/L	50 µg/L
	Copper	217 µg/L	200 µg/L
	Iron	598 µg/L	300 µg/L
Trace amounts of Toluene (0.005 mg/L) and Cyanide (0.002) were also recorded.			

**As no criteria exists for the discharge of contaminated contact water ( leachate) from the West 40 landfill the Inspector has forwarded to the Licensee for review and comment all results from sampling. This is to assist the Licensee to come into compliance with Part E (17).**

**Non-Compliance:** Issues identified during the October 13<sup>th</sup>, 2009 inspection and/or review of relevant material

The City of Iqaluit is required to undertake the following to ensure compliance with the Act.

**Issues with a known or anticipated human health impacts;**

- Ensure complete samples as listed in the Monitoring Program and appended schedule to the issued license are collected and results reported as required.
- Proper segregation of hazardous wastes in the West 40 landfill.
- Effluent discharge from the Waste Water Treatment facility does not meet criteria. The discharge of untreated sewage to the marine environment immediately adjacent to the community must be addressed.

**Issues where there is a known or anticipated environmental impairment;**

- Undertake the required operations to ensure proper segregation and containment of hazardous materials within the West 40 Landfill. This is to include the management of sewage sludge generated by the Waste Water Treatment facility.
- Ensure run off and leachate from the West 40 landfill area is properly contained and is tested prior to discharge. Leachate is to be contained and not discharged to Koojessie Inlet.
- Store hazardous chemicals in a safe manner. This would include ensuring containment and that a spill contingency plan is in place and has been approved by the Board.

**Issues where there is a known or suspected violation of a requirement of the Water License;**

- Failure to file annual reports as required. Part B (1)
- Failure to implement the Monitoring program as outlined in Part I of the current license.
- Failure to submit a QA/QC Plan. Part I (7)
- Failure to submit required Operation and Maintenance Manuals. Part E (6)
- Failure to submit a Final Assessment of the Sludge Management Pilot Project. Part E (7)
- Failure to submit As built drawings as required for the Waste Water Treatment Plant. Part F(14)
- Failure to develop and implement a “General Monitoring program with monthly submissions to the Nunavut Water Board. Part I (11)
- Failure to submit the required conceptual A&R Plan as required by Part J item 3 of the License.
- Failure to meet the Effluent discharge criteria assigned in the License by the Nunavut Water Board.



Indian and Northern  
Affairs Canada

Affaires indiennes  
et du Nord Canada

- The Licensee has failed to address Part E item 15. ( Storage of Hazardous Materials)

**The Municipality of Iqaluit continues to operate in Non-conformity with the terms and conditions of the Water License issued in 2006. The licensee is strongly encouraged to contact the Nunavut Water Board and the Inspector to determine what is required to achieve and maintain compliance with the issued license and the Act.**

A. Keim

Inspector's Name

Inspector's Signature

Cc:

Peter Kusuagk – Manager Field Operations Section- Indian and Northern Affairs Canada

Phyllis Beaulieu – Manager Licensing – Nunavut Water Board















WATER TREATMENT PLANT LOG WEEK ENDING July 16 09

TIME	AM	PM	SATURDAY	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	TOTAL
TEMPERATURE			11.5	11.5	11.5					
CHLORINE (TOTAL)			1.0	1.0	1.0					
CHLORINE (FREE)			1.0	1.0	1.0					
CHLORIDE			1.0	1.0	1.0					
CHLORIDE CYL WEIGHT			1.0	1.0	1.0					
CHLORINE FLOW RATE %			1.0	1.0	1.0					
PH/ORTHOPHOSPHATE			1.0	1.0	1.0					
PH WATER TEMP			1.0	1.0	1.0					
RESERVOIR LEVEL (1)			1.0	1.0	1.0					
RESERVOIR LEVEL (2)			1.0	1.0	1.0					
PH/LITRE DAY			1.0	1.0	1.0					
POWER %			1.0	1.0	1.0					
WATER METER (CURR. LHM)			1.0	1.0	1.0					
WATER METER (PREV. LHM)			1.0	1.0	1.0					
CONSUMPTION			1.0	1.0	1.0					
LOW TO TOWN MLD			1.0	1.0	1.0					
OTES			1.0	1.0	1.0					
STALS			1.0	1.0	1.0					













































