



## Inspection Report

**License #:** 3AM-IQA

**Inspector:** A. Keim

**CIDMS #** 282331

Client	City of Iqaluit		
Mailing Address	Box 460		
Inspection site location	Iqaluit, Nunavut		
Contact name	Steve Iyago	Title	Operations Superintendent
Last inspection date	October 10 <sup>th</sup> , 2006		
Inspection start date	July 19, 2008		
Region	Qikiqtani		



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

Submitted Via E-Mail  
Our File: 3AM-IQA0611  
Your File: \_\_\_\_\_  
CIDM # 282331

May 24, 2009

Steven Iyago  
Operations Superintendent  
City of Iqaluit  
Box 460  
Iqaluit, Nunavut X0A 0H0

**RE: July 19 2008 Iqaluit Municipal Water Licence Inspection 3AM-IQA0611**

The Inspector would like to thank the following individuals; Gabriel Gagnier, Director of Public Works, Ray Shipman, Foreman Public Works and Jeff MacMunn, A/Waste Facility Foreman, for taking the time to meet and act as both guides and interpreters during the inspection period. A great deal of information was processed by the Inspector due to the scope and size of the Operations involved in the inspection. This would not have been possible without the assistance of those mentioned above.

**Part A: Scope and Definitions**

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.

The last Inspection of the City was carried out October 10<sup>th</sup> and 11<sup>th</sup>, 2006. On October 10<sup>th</sup> representatives of the City of Iqaluit and the inspector reviewed the terms and conditions of the issued water license and identified a number of inconsistencies and errors in the license. As well, during the review timelines and deadlines for the submission of outstanding plans, manuals and reports were set and agreed to by all parties. As the license was, at that time recently issued it was agreed that the City would have a period of time to comply with all of the terms and conditions contained within the license.

At the time of the current inspection carried out in July of 2008 the City had undergone a number of staffing changes and indicated that they had faced a number of resource hurdles in the interval between the current and last inspection periods, some of which still existed.

The license is classed as water use and waste disposal for Municipal Undertakings as indicated on the license form.

**Part B: General Conditions**

It should be noted that during the period of inspection the City of Iqaluit was operating under a current water license.

A review of the Nunavut Water Board FTP site produced an amendment application filed by the City on October 17<sup>th</sup>, 2006. Supporting documents including a letter to the Nunavut Water Board were submitted by the City on October 22<sup>nd</sup> 2006. On November 30<sup>th</sup>, 2006 the Nunavut Water Board submitted a reply to the City of Iqaluit stating the application material appeared incomplete due to lack of evidence and/or developed discussion for licence term/condition recommendations brought forward on behalf of the City.



The letter went on to outline that the Nunavut Water Board would required a Public hearing on the amendment application, in accordance with section 52(1(a)) of the Nunavut Water and Nunavut Surface Rights Tribunal Act.

It is unclear; as no official documents can be located on the FTP site, whether or not the City of Iqaluit has proceeded with the works outlined in their application or withdrawn their application from consideration.

While not required this year the City of Iqaluit is reminded of their commitment to provide the Inspector and the Nunavut Water Board a complete Water Balance for Lake Geraldine by 2010.

During the same review of the Nunavut Water Board FTP site, the Inspector failed to find the required annual report for 2007 which was to have been filed in accordance with the license. The licensee is reminded that the NWB has imposed on the Licensee, the requirement to produce an Annual Report. These reports are for the purpose of ensuring that the NWB has an accurate annual update of municipal activities during a calendar year. A "*Standardized Form for Annual Reporting*" is to be used by the Licensee and is available from the NWB file transfer protocol (FTP) site under the Public Registry link at the NWB Website. Such an annual report is required to be filed by March 31<sup>st</sup> 2009 for the year ending December 31<sup>st</sup> 2008. Annual reports are to include the results of the Monitoring Program as outlined in Part H of the current license. As per section 2 of this Part the Licensee is required to comply with the Monitoring program and submit the results of samples collected under the monitoring program.

#### **Part C: Conditions Applying Security**

None.

#### **Part D: Conditions Applying to Water Use and Water Management**

A visual inspection of the Municipal reservoir (Lake Geraldine) was conducted during the period of Inspection. No issues were identified at that time. An inspection of the treatment plant and pumping station were also conducted. It was noted that 5 and 10 gallon pails of Chlorine and Hydrofluoric Acid were also stored within the building but not secured. This should be addressed by the period of the next inspection.

Water samples were collected during the Inspection. Results were all within Canadian Council of Ministers of the Environment (CCME) Guidelines for Community Drinking Water.

The City, pursuant to Section 5 of this Part was required to have a Dam Safety inspection completed between July and September of 2008. It is unclear if this inspection took place and no mention of it was made during the period of Inspection. The report on the Dam Safety Inspection along with a plan to implement any recommendation contained within the Inspection report is to be submitted to the Nunavut Water Board and the Inspector by November 30<sup>th</sup>, 2008.

#### **Part E: Conditions Applying to Waste Disposal and Waste Management Plans.**

Sewage treatment;

The Licensee is responsible for ensuring, subject to Section 3 (b) of this Part, 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.		



Samples collected during the period of Inspection returned the following results in excess of the *NWT Limits for Effluent Parameters for Specific Discharges*.

Parameter	Result	Guideline
Manganese	58.7 µg/L	50 µg/L

It was also noted that results returned a positive value for Hexane Extractable Materials (oil and grease); while a visible sheen was not noted during the Inspection period this result indicates the presence of this material in a detectable quantity.

Note: Although note referenced under the currently issued license Fecal and Biological Oxygen Demand samples exceeded the time restrictions on testing. Results could not be returned from the lab.

The Licensee is reminded that these parameters are set by the Nunavut Water Board and are included in the terms and conditions of the issued water license. Compliance with these terms is an obligation of the Licensee.

However again, as was initially noted in the October 10<sup>th</sup>, 2006 meeting with the City, the Nunavut Water Board has set these criteria based on the premise that effluent being discharged from the treatment plant was subject to secondary treatment. The treatment plant currently provides primary treatment (removal of solids and sludge) only and thus it is unreasonable to expect compliance with the terms and conditions as set out within the current license.

Further, pursuant to section 4 of this Part the City is required to ensure that all effluent (discharged from the Wastewater Treatment Plant) shall be non-acutely toxic under the "Rainbow Trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Biological Test Method EPS/1/RM/13)".

As noted previously and not responded to by the Nunavut Water Board, Section 5 of this Part states that any discharges from the back-up Sewage Lagoon shall be considered emergency discharges and shall require authorization from an Inspector in accordance with "...Part E, Item 20 and 21". This section takes effect upon the commissioning of the Wastewater Treatment Plant. However Sections 20 and 21 do not exist within the current text of the issued license. Clarification from the Nunavut Water Board was sought by the licensee however a review of the Nunavut Water Board FTP site conducted during the development of this report could not locate a clarification to this issue.

Section 6 of this Part requires the Licensee to submit an Operations and Maintenance Manual for the Wastewater Treatment Facilities by December 31, 2007. The manual shall be prepared in accordance with the "*Guidelines for the Preparation of an Operation and Maintenance Manual for Sewage and Solid Waste Disposal Facilities in the Northwest Territories* (GNWT 1996)". The manual shall also cover the operation and maintenance of the Sludge Management Facility. This manual could not be located during the same review of the Nunavut Water Board FTP site.

In reviewing correspondence on file and during the review of the Nunavut Water Board FTP site the Inspector was unable to locate the required quarterly updates on the Sludge management program as committed to by the City of Iqaluit staff During the October 2006 meeting. Also missing was a report on the progress and success of the Sludge management program which pursuant to section 7 of this Part was required within 30 days of the issuance of the license but was to have been delayed until December 31<sup>st</sup>, 2006.

#### Solid Waste Management Area;

An inspection conducted at the solid waste management area found that the Licensee has undertaken a program to segregate hazardous materials including batteries and waste oils from the non-hazardous materials collected within the Bulk solid waste facilities.



During the inspection samples were collected from the runoff stream located behind the waste metals area of the Bulk waste facility.

Sampling results collected from runoff / from the Bulk wastes area returned results within Canadian Council of Ministers of the Environment (CCME) Guidelines.

Finally, it again is noted that Section 16 of this Part required the Licensee to retain all leachate within the West 40 landfill. As noted in the October 10<sup>th</sup> meeting of 2006 and in the Inspection report dated November 1<sup>st</sup> 2006, which reads;

*"Sections 16 through 19 were then reviewed. This review falling on the heels of recently issued Inspectors Direction to the City requiring them to have completed work on a retention pond in the West 40 area prior to any discharge or movement of standing water from the waste management facility. It should be noted that this work, according to the City staff present at the time of this meeting was all part of the original scope of work contained in the land fill expansion project as approved and incorporated under the terms and conditions of the water license."*

This being the case the Inspector calls upon the Nunavut Water Board and the licensee to define such areas as are consistent with the application and the License for inclusion within the Solid Waste Management area and the West 40 landfill.

#### **Part F: Conditions Applying to Construction.**

During the October 2006 meeting the City of Iqaluit committed to providing the Engineered Drawings as soon as possible. During the writing of the report a review of the Nunavut water Board FTP site could not locate any as-built drawings for any work undertaken under the authority of the issued license.

As per the October 2006 meeting the following schedule was developed and agreed to by all participants. Specifically as follows;

1. Water supply - As built drawings for work completed at lake Geraldine.
2. Wastewater- As built drawings for the Waste treatment facility & work done on the Old sewage lagoon
3. Solid Waste- Design and As built drawings

All of the above to be submitted as per the criteria set out in the license by January 15<sup>th</sup> 2007.  
All safety inspections would also be completed and reports submitted by December 15<sup>th</sup> 2006.

The Licensee is reminded that these documents (plans, reports signed and stamped drawings etc) are required under the terms and conditions of the current license. Failure to file the required documents as required is a contravention of the issued license and the Act.

#### **Part G: Conditions Applying to Modifications.**

One notification of Modification was submitted by the licensee during the period between the last inspection and 2008. The Modification included the replacement of an existing culvert and was reviewed by Indian and Northern Affairs Canada, Fisheries and Oceans Canada and the Nunavut Water Board.

A review of the approvals and correspondence found the Nunavut Water Board FTP site found all terms and conditions as listed in compliance with the current license.





#### **Part H: Conditions Applying to Contingency Planning**

A number of spills occurred during the last year. The licensee was noted to have implemented the listed plans as required.

The Licensee is reminded that annual reviews and updates are required and that any changes should be noted and supplied to the Nunavut Water Board in the Annual report.

#### **Part I: Conditions Applying to the Monitoring**

In June of 2008 the City of Iqaluit (Licensee) submitted a Monitoring program developed by Earthtech. On July 8<sup>th</sup>, 2008 the Nunavut Water Board distributed the Plan for comment.

On August 15<sup>th</sup>, 2008, Mr. David Abernathy, Regional Coordinator for INAAC in Iqaluit provided comments on the submission. These comments have been posted on the Nunavut Water Board FTP site.

On September 8<sup>th</sup>, 2008, Ms. Savanna Levenson, Environmental Assessment Coordinator also provided comments back to the Nunavut Water Board and they as well have been posted on the FTP site.

It is unclear at this time if the Nunavut Water Board will accept the Plan as submitted or request changes or amendments as required.

It is noted that the Plan was to have been submitted by March 31<sup>st</sup> 2007.

During the development of this report and pursuant to Section 11 of this Part the inspector could not locate a "Monthly General Monitoring Report" of all data and information required under Schedule C, including the results of the QA/QC program. The Licensee is reminded that this monthly report forms part of the current license and is a requirement that is to be complied with. Failure to do so is a contravention under the Act.

#### **Part I: Conditions Applying to Abandonment and Restoration**

Discussion and review of this section of the Water license between the participants during the October 2006 meeting resulted in the following action items being agreed to by all participants;

- A. Conceptual plans are to be completed and submitted to the Inspector and the Nunavut Water Board within 6 months of the filing of this report.
- B. Item 3 was reviewed and a date of 2010 was set.

A review of the Nunavut Water Board FTP site and Documents on file could not locate any conceptual Plans as agreed to. The Licensee is reminded that failure to provide plans and reports as required is a contravention of the issued license and Act.

**Non-Compliance:** Issues identified during the inspection and/or review of relevant material

The Municipality is required to undertake the following to ensure compliance with the Act.

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

- Ensure sampling as listed in the Monitoring Program and appended schedule to the issued license are collected and results reported as required.
- Ensure proper segregation of hazardous wastes in the west 40 land fill.
- Proper monitoring of activities within the Municipality where hazardous wastes are found.



**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 Bulk wastes management facility.
- Ensure run off and leachate from the West 40 land fill area is tested and if required treated prior to discharge to Koojessie Inlet.
- Store chemicals in the water treatment facility in a safe location.

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

- The Municipality has not submitted, as directed, the Operation plans.
- Submit the required Annual report for 2007.
- Install and maintain the appropriate signage, and Surveillance Network Program (SNP).
- Develop and submit for approval a Quality Assurance/ Quality Control Plan (contact the Nunavut Water Board).
- Submit the required conceptual Abandonment and Restoration plans.

**The Municipality of Iqaluit continues to operate in Non-conformity with the terms and conditions of the Water License.**

A. Keim

Inspector's Name

\_\_\_\_\_  
Inspector's Signature

Attached under separate cover;  
Photos taken during Inspection of July 19<sup>th</sup>, 2008

Cc:

Peter Kusuagk – Manager Field Operations Section- Indian and Northern Affairs Canada  
Phyllis Beaulieu – Manager Licensing – Nunavut Water Board