



Inspection Report

License #: 3BM-QIK0712

Inspector: A. Keim

CIDMS # 284593

Client	Municipality of Qikiqtarjuaq		
Mailing Address	Box 4		
Inspection site location	Qikiqtarjuaq, Nunavut		
Contact name	Gill Evans	Title	Municipal works foreman
Last inspection date	July 12, 2007		
Inspection start date	August 17, 2008		
Region	Qikiqtani		



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

Submitted Via E-Mail
Our File: 3BM-QIK0712
Your File: _____
CIDM # 284593

May 25, 2009

Mike Richards
Senior Administrative Officer
Box 4
Qikiqtarjuaq, Nunavut
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munqik@qiniq.com

RE: August 17th, 2008 Municipal Water Licence 3BM-QIK0712

The Inspector would like to thank Mr. Gill Evans, Municipal Works Foreman for the Municipality of Qikiqtarjuaq for taking the time to meet during the inspection period and for acting as guide while conducting the inspection of the potable water source, waste treatment system and waste management areas.

Part A: Scope and Definitions

. During the period of inspection the Municipality of Qikiqtarjuaq was operating under a current Water License issued on May 9th, 2007. The license as issued is a "Type B" license classed as water use and waste disposal for Municipal Undertakings. The current license is a renewal of license NWB3QIK0106 which expired on December 31st 2006

On June 11th, 2006 an application for amendment for the addition of a Land Farm within the Municipality was submitted. Found included were the Technical specifications, Drawings, Plans, and an amendment application and letter of notification to the Nunavut Water Board advising that the Government of Nunavut would be acting on behalf of the Municipality for the remainder of the processing of the application.

On July 24th, 2007 the Nunavut water Board posted public notices asking for comments on the proposed project. On August 1st the Government of Nunavut responded and provided comments. On August 24th Environment Canada provided comments and required that the proponent supply a site specific Operation and Maintenance Manual for the Landfarm Facility that included 9 pages of specific revisions prior to approval and construction.

On August 23rd, 2007 Indian and Northern Affairs Canada also provided comments and recommendations. The reviewer found the application as submitted to be incomplete and noted that the NIRB screening file code for the project's approval was not submitted and could not be found in NIRB offices. This review went on to outline an additional 14 requirements to be addressed prior to the approval of the amendment.

During the period of Inspection on August 17th, 2008 it was noted by the Inspector and confirmed by Mr. Gill Evans that work on the Land farm had not yet been undertaken however it was noted that work on reconstruction of the Town water reservoir was ongoing. This included increased capacity, new liner and intake piping as well as new pumps. As noted by the Inspector a requirement to install a new in-line chlorination system is to be addressed by the licensee.

Also noted during the period of Inspection was the outline and initial work on the installation of a second cell to the waste water lagoon for the community. Ground preparation was on-going during the period of Inspection.



A review of the Nunavut water Board FTP site could not locate an approved amendment for the construction of the Landfarm Treatment unit in Qikiqtarjuaq and noted only that the on-going work within the Municipality on the Reservoir and Waste water lagoon appear to only be reflected in the currently issued license.

Part B: General Conditions

The Municipality of Qikiqtarjuaq is operating under a current water license issued the May 9th, 2007 and scheduled to expire on May 31st, 2012 as appears on the License form as issued by the Nunavut Water Board.

In approving the current license the Nunavut Water Board imposed the requirement to review and update the following Plans as identified within the Licence:

- i. Water Storage Operation and Maintenance (O&M) Plan;
- ii. Sewage Treatment Facility Operation and Maintenance (O&M) Plan;
- iii. Solid Waste Facility Operation and Maintenance (O&M) Plan;
- iv. Environmental Emergency Contingency Plan For Water, Sewage and Solid Waste Operations in the Hamlet of Qikiqtarjuaq, Nunavut; and the
- v. Monitoring Program Quality Assurance/Quality Control Plan

A review of the Nunavut Water Board FTP site conducted during the writing of this report of inspection failed to produce any of these documents as required by the Nunavut Water board under the current water license.

Additionally, 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 current license. The licensee is reminded that pursuant to Section 1 of this Part an Annual Report is required to be filed by March 31st for the year ending December 31st. This report is to include all items noted in this Part under Section 1 (I through viii).

Additionally, the Licensee is strongly encouraged to provide annual reports retroactive to the date of issue of the issuance of the current license.

The Licensee is also reminded that included in the Annual Reports are 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.

During the period of inspection the Inspector also noted that as a direct result of the work being conducted on the Reservoir, water was being taken directly from the River and treated in the trucks after intake. The Inspector noted also that there did not appear to me a meter or volumetric measuring system installed on the truck intake system and records for water were to be based on estimated truck volumes. The licensee is required to address this in the Annual Report due on March 31st.

Part C: Conditions Applying to Water Use

The raw water from Tulugak River is pumped via pipeline to a holding reservoir. From the reservoir the water is taken into the pumping station where it is chlorinated before being piped into the water delivery trucks for the community. Work to increase the overall capacity of the community reservoir was on-going during the period of Inspection. It was noted that a new Chlorination pump, mixer and tubing was required within the pumping station.

A visual inspection of the in-take pipe line was conducted during the period of inspection. No issues were noted. Water samples were collected from where water from the river was being drawn by the water trucks.

Part D: Conditions Applying to Waste Disposal

Sewage treatment;

The Licensee is responsible for ensuring that effluent entering the environment meets the following standards;



Parameter:	Max Average Concentration
Faecal Coliform	1X 10 ⁽⁶⁾ CFU/dl
BOD	120 mg/L
TSS	180 mg/L
Oil & Grease	No visible sheen
PH	Between 6 and 9

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 Municipality.

During the period of inspection it was noted that the Licensee is required to use steam or hot water thaw the discharge pipe for decanting. Mr. Evans stated that the decanting process for this year would begin in a couple of week's time.

The review conducted of the Nunavut Water Board FTP site could not locate a Sewage Sludge Management Plan required to be submitted by the Licensee pursuant to Section 6 of this Part. The same review also could not locate the following documents required under this Part;

- A Wetland Treatment Area assessment which includes;
 - Final, as built plans/drawing;
 - Identify the Final Discharge Point;
 - An ecological/vegetative assessment;
 - Verification of the total area utilized including a description of the gradient and holding capacity; and
 - An assessment of the potential effects of the release of any leachate from the Solid Waste Disposal Facilities to the Wetland Treatment Area, including migration measures.

Solid Waste Management Area;

During the Period of Inspection the Inspector noted the following in the Solid Waste Management Area;

- Large discrete piles of hydrocarbon contaminated soils (6) from large spills of fuel originating within the community.
- Spills of waste oil and other drums of unidentified substances had spilled both within and outside containment.
- The Waste Management area was not properly segregated and hazardous materials were mixed throughout the site.
- No fencing was established as required.

Part E: Conditions Applying to Modifications and Construction

No issues were identified by the Inspector during the period of Inspection

The Licensee is reminded that the Inspector seeks clarification on the status of the proposed construction of the Land Farm and the application for amendment currently on file with the Nunavut Water Board.

As work in the community was on-going during the period of Inspection the Inspector reminds the Licensee to provide as built drawings and reports on Modifications during construction to the Board in the form of a Final Construction Report as required by Section 9 of this Part.

Part F: Conditions Applying to Operation and Maintenance

As noted in the 2007 Inspection report and echoed again here, a review of the Nunavut Water Board FTP site was conducted during the writing of this report. The reviewer was unable to locate the following documents;

- Revised Water Storage Operation and Maintenance Plan – Feb 2006.



- Sewage Treatment Facility Operation and Maintenance Plan – Feb 2006
- Solid Waste Facility Operation and Maintenance Plan – Feb 2006.
- An Inspection report from a Geotechnical Engineer on all engineered facilities related to the management of water and waste which was to have been carried in July. Additionally, a covering letter from the Licensee outlining an implementation plan addressing each of the Engineer's recommendations was also not located.
- The revised Environmental Emergency Contingency Plan for Water, Sewage and Solid Waste Operations in the Hamlet of Qikiqtarjuaq, Nunavut.

The licensee is reminded that it is the responsibility of the licensee to ensure that any documentation submitted by the licensee to the Nunavut Water Board is acknowledged by the Manager of Licensing. Failure to file the required reports as outlined in the license is a violation of the Act and will subject the licensee to the enforcement measures and penalties provided for under the Act.

Additionally, 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 current license. The licensee is reminded that pursuant to Section 1 of this Part an Annual Report is required to be filed by March 31st for the year ending December 31st. This report is to include all items noted in this Part under Section 1 (I through viii).

Part G: Conditions Applying to Abandonment and Restoration

A search the Nunavut Water Board FTP site was not able to locate any documents related to any section of this Part.

It is also noted that no response to the request for clarification submitted in the 2007 Inspection Report, on the requirement to provide an A&R plan in relation to the current work on the new Reservoir and lagoon system, was provided by either the Licensee or the Nunavut Water Board.

The Licensee is reminded that the Nunavut water Board has included this section of the License. Failure to comply with the terms and conditions of the license is a violation of the Act.

Part H: Conditions Applying to the Surveillance Network Program (Monitoring Program)

The Licensee, in accordance with the terms of the current water license (3BM-QIK0712) is required to sample, QIK-6, QIK-7 and QIK-12 once at the beginning, middle and near the end of discharge.

Parameters

Biochemical Oxygen Demand - BOD	Faecal Coliforms
Total Suspended Solids	pH
Conductivity	Nitrate-Nitrite
Oil and Grease (visual)	Total Phenols
Magnesium	Calcium
Sodium	Potassium
Chloride	Sulphate
Total Hardness	Total Alkalinity
Ammonia Nitrogen	Total Zinc
Total Cadmium	Total Iron
Total Cobalt	Total Manganese
Total Chromium	Total Nickel
Total Copper	Total Lead
Total Aluminum	Total Arsenic
Total Mercury	Total Organic Carbon (TOC)

The Licensee is also required to sample at QIK-8 (Run-off from the Solid Waste Disposal Facility) prior to any discharge. Samples shall be analyzed for the following parameters;



Parameters

Biochemical Oxygen Demand - BOD	Faecal Coliforms
Total Suspended Solids	pH
Conductivity	Nitrate-Nitrite
Oil and Grease (visual)	Ammonia Nitrogen
Magnesium	Calcium
Potassium	Total Alkalinity
Sodium	Sulphate
Total Hardness	Total Phenols
Total Cadmium	Total Iron
Total Chromium	Total Nickel
Total Copper	Total Lead
Total Arsenic	Total Mercury

The Licensee is reminded that pursuant to Section 6 of this Part and upon Completion of construction and prior to any use, the Licensee shall provide a Temperature Monitoring Program and Implementation Plan for the collection of ground temperatures within each berm structure and foundation through the installation of thermistors.

The Licensee shall also annually sample ground water at monitoring stations QIK 13, 14, and 15. Samples shall be analyzed for all of the parameters listed above in Section four but also for the following;

- TPH (Total Petroleum Hydrocarbons)
- PAH (Polycyclic Aromatic Hydrocarbons)
- BTEX (Benzene, Toluene, Ethylbenzene, Xylene)

These samples are to be collected and analysed in accordance with a Quality Control / Quality Assurance plan. The outline of which was to be provided to the Board within 60 days of the issuance of this license by the Nunavut Water Board. There is no indication that the required plan was submitted to the Nunavut Water Board by the licensee found on the FTP site.

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

Issues with a known or anticipated human health impacts;

- Address concerns identified by the Inspector concerning installation of a new Chlorination system.
- Address concerns identified by the Inspector concerning treatment of water drawn directly from river.

Issues where there is a known or anticipated environmental impairment;

- Develop a Solid Waste Disposal Operations and Maintenance Manual.
- Collect and submit for analysis the samples required on the Monitoring Program.
- Submit required QA/QC program.
- Construct required fencing around Waste Management Area.

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

- Submit required Annual reports.
- Revised Water Storage Operation and Maintenance Plan – Feb 2006.
- Sewage Treatment Facility Operation and Maintenance Plan – Feb 2006.
- Solid Waste Facility Operation and Maintenance Plan – Feb 2006.
- An Inspection report from a Geotechnical Engineer on all engineered facilities related to the management of water and waste which was to have been carried in July. Additionally, a covering letter from the Licensee outlining an implementation plan addressing each of the Engineer's recommendations was also not located.



- The revised Environmental Emergency Contingency Plan for Water, Sewage and Solid Waste Operations in the Hamlet of Qikiqtarjuaq, Nunavut.

The Municipality of Qikiqtarjuaq continues to operate in Non-conformity with those terms and conditions of the Water License issued in 2007 and expiring in 2012.

A. Keim

Inspector's Name

Inspector's Signature

Attached under separate cover;
Photos taken during Inspection of August 17, 2008

Cc:

Peter Kusugak - Manager Field Operations section- Indian and Northern Affairs Canada
Phyllis Beaulieu – Manager licensing – Nunavut Water Board















Water License Inspection Photos Qikiqtarjuaq August 17 2008 : CIDM # 335937







