



# Inspection Report

**License #:** 3BM-PAN

**Inspector:** A. Keim

**CIDMS #** 276007

Client	Municipality of Pangnirtung		
Mailing Address	Box 253		
Inspection site location	Pangnirtung , Nunavut		
Contact name	Ron Mongeau	Title	SAO
Last inspection date	July 16,2007		
Inspection start date	August 17, 2008		
Region	Qikiqtani		



INAC, Nunavut District  
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Submitted Via E-Mail  
Our File: 3BM-PAN0207  
Your File: \_\_\_\_\_  
CIDM # 276007

May 24, 2009

Ron Mongeau  
Senior Administrative Officer  
Box 253  
Pangnirtung, Nunavut  
XOA ORO

**RE: August 17, 2008 Municipal Water Licence**

The Inspector would like to thank SAO Ron Mongeau for taking the time to meet during the inspection period and for acting as guide while conducting the inspection of the Water and waste management systems within the Municipality of Pangnirtung.

**Part B: General Conditions**

At the time of inspection the Municipality of Pangnirtung the Municipal water license had recently been issued an emergency amendment for the discharge of raw sewage to the Duval River along the shoreline of Pangnirtung Fiord. The amendment was issued in response to heavy rains and early snow melt in the area causing a rare flood event on the Duvall River which separates the Hamlet of Pangnirtung from its water and waste-water facilities. Rising waters damaged bridge infrastructure such that hamlet sewage and water trucks could no longer traverse the river to access facilities on the other side.

The Hamlet of Pangnirtung, at the direction of the Government of Nunavut, undertook emergency measures to protect human health in the community which included the dumping of raw sewage into the Duvall River.

The Hamlet's water licence had expired. The past licence did not include emergency management provisions thus the Nunavut Water Board requested the consent of the Minister of Indian and Northern Affairs to issue an emergency amendment to Pangnirtung's water license, extending its term and allowing the release of raw sewage into the Duvall River near the tidal edge.

A review of the files on record conducted during the period of Inspection indicate; an application for renewal was submitted on November 20, 2007 and was in process pending clarifications requested by the Nunavut Water Board on April 17, 2008. On May 14<sup>th</sup> and 15<sup>th</sup>, 2008 the Government of Nunavut Department of Community and Government services, acting on behalf of the Licensee provided responses to these requests.

Based on the information provided and the request to the Minister's office the Board decided to proceed with the issuance of the License and on August 13<sup>th</sup>, 2008 issued the renewal license 3bm-PAN0810.

During the same review of the Nunavut Water Board FTP site the Inspector failed to find any of the required annual reports which were to have been filed in accordance with the previous license. The licensee is reminded that 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. This report is to include all items noted in this Part under Sections 1. (a) to (i).

During the inspection it was also noted that the license holder has not installed signage at many of the stations noted under the Surveillance Network Program.



### **Part C: Conditions Applying to Water Use**

Historically raw water from the Duval River was pumped through a pipeline to the holding reservoir annually to provide the community drinking water. This process will most likely remain in place however a new location for the water in-take will have to be found because of the instability in the river banks created during spring freshet this year. The Licensee is required to provide notification to the Nunavut Water Board when a new location is chosen.

Water is then stored in the reservoir and chlorinated on its way into the water truck. The chlorine residual is measured twice daily. All appeared to meet the requirements of the license during the inspection.

A visual inspection of the in-take pipe line and intake facilities was conducted during the period of inspection. No issues were noted. Water samples were collected downstream of the newly constructed bridge where it was safe to approach the river bank. Water samples collected did not return any values exceeding of the Canadian Council of Minister's of the Environment Guidelines on Drinking Water.

Metres and records were observed during the inspection inside the pumping station.

### **Part D: Conditions Applying to Waste Disposal**

#### **Sewage treatment;**

The Licensee is responsible for ensuring that effluent discharged from the Waste Water Treatment Plant in the community at Monitoring station Pan-3 and entering the environment does not exceed the following standards;

<b>Parameter:</b>	<b>Max Concentration</b>
Faecal Coliform	1X 10 <sup>3</sup> CFU/100 m/L
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.

Sampling collected during the period of inspection returned one value which exceeded the NWT/NU Limits for Effluent Parameters for specific Discharges.

<b>Parameter:</b>	<b>Result</b>	<b>Discharge limit</b>
Iron	1540µg/L	300 µg/L

Municipality has not completed remediation work on the old sewage outfall area adjacent to the new sewage treatment plant as was outlined to the SAO of the Municipality during the 2006 and 2007 Inspections.

The Licensee is reminded that as per the terms and conditions of the new license and specifically section 3 of this Part, the Licensee is required to provide sampling results that demonstrate that effluent discharged from the Waste Water Treatment Plant is non-toxic. This evidence shall be provided in the form of the following tests;

- a. Acute lethality to Rainbow Trout, *Oncorhynchus mykiss* (as per Environment Canada's Environmental Protection Series Biological Test Method EPS/1/RM/13); and
- b. Acute lethality to the crustacean, *Daphnia magna* (as per Environment Canada's Environmental Protection Series Biological Test Method EPS/1/RM/14)

Testing is to be completed once annually and results submitted with the Annual report due by March 31<sup>st</sup> 2009 and 2010 in accordance with the Part B Section (1) of the current license.



### **Solid Waste Management Area;**

Within the Solid Waste disposal facilities the Inspector noted the following recurring areas of concern;

- Sewage Sludge (bagged) from the treatment facility was piled within the facility adjacent to an overflowing pit of fish processing wastes. The sludge bags, many of which were broken, appear to be intermingled with some of the fish wastes and sludge from the area was noted flowing West along the North wall.
- Commercial Fish wastes, as per the terms of the Water License are to be stored in a pit that has been excavated below the level of the permafrost thus to facilitate encapsulation of these wastes. This has not taken place as was evidenced by the inspectors.
- Segregation of materials within the dump was also nonexistent.
- Signage within and around the facility has not yet been installed.

**The above noted deficiencies have repeatedly been included in Inspector's reports since 2006. Continued failure to address these issues as required by the Nunavut Waters and Nunavut Surface Rights Tribunal Act and issued License(s) will result in enforcement actions in accordance with section 87 of the Act.**

### **Part E: Conditions Applying to Modifications and Construction**

No notification of any omission has been received by this office from the Nunavut Water Board.

### **Part F: Conditions Applying to Maintenance**

As required in Section 1 of this Part the Licensee shall submit to the Nunavut Water Board by November 13<sup>th</sup>, 2008 an Operations and Maintenance Manual, 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; 1996*". The Manual shall contain the following plans:

- a. Water Distribution Facility Operation and Maintenance (O&M) Plan;
- b. Waste Water Treatment Plant Operation and Maintenance (O&M) Plan;
- c. Fish Process Plant Waste Management Plan;
- d. Sewage Sludge and Screenings Management Plan;
- e. Solid Waste Disposal Facility Operation and Maintenance (O&M) Plan;
- f. Spill Contingency Plan; and
- g. Monitoring Program Quality Assurance/Quality Control Plan (QA/QC Plan).

In accordance with Section 3 of this Part the Licensee is required by October 31<sup>st</sup> to submit to the Nunavut Water Board an engineer's report including a covering letter from the Licensee outlining an implementation plan and addressing each of the Engineer's recommendations.

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

In accordance with the newly issued license the Licensee is required to provide by February 13<sup>th</sup>, 2009 an Abandonment and Restoration Plan for the old sewage pump out station.

As no new plans were available for review on the Nunavut Water Board FTP site the Inspector concludes that no new construction of facilities to replace existing ones has been undertaken by the licensee.



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

The Inspector identified in both 2007 and 2006 and again in this inspection that there is a lack of signage and warnings at all of the SNP stations within the Municipality. The licensee is encouraged to address this matter by the next inspection to avoid future compliance actions being undertaken.

The Licensee, according to the terms of the water license, is required to sample at monitoring station PAN-3 (Effluent discharge from Waste Water Treatment facility) monthly for the following 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)

Samples are to be collected and analysed in accordance with a Quality Control / Quality Assurance plan. Sampling results shall be submitted to the Nunavut Water Board in accordance with Part B section (1).

The Licensee is also required, in accordance with Section (3) of this Part, sample at Monitoring Program Stations PAN-4 (Runoff from sludge disposal area) and PAN-5 (Runoff from Solid Waste Disposal area) once at the beginning, middle and near the end of the season when flow is observed. Samples shall be analyzed for the parameters listed in Part H, Item 2 above.

The Licensee is reminded that as per Section (14) of this Part the Licensee shall submit to the Board for review and approval by February 13<sup>th</sup>, 2009, a report identifying any additional Final Discharge Point from the Waste Water Treatment Plant. The report shall include all Plans, specifications, geographic coordinates and a general description of each Final Discharge Point and direction of flow; and a description of how each Final Discharge Point is designed and maintained, if required; and a description of the receiving environment.

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

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

- Failure to segregate and properly dispose (bury) wastes in the bulk waste facility continues to pose significant risks.
- Locate and install a new water in-take facility within the community and notify the Nunavut water Board once complete.

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

- Failure to consolidate and segregate Sewage Sludge from the Waste Water Treatment Facility stored in the Solid Waste Management Facility.
- Failure to take steps to control and mitigate runoff from the Solid Waste Management Facility.



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

- Submit required Annual reports.
- Maintain the appropriate signage, and Surveillance Network Program (SNP).
- Implement the requirements listed under the Monitoring Program.
- Operation and Maintenance Manual for the Water Supply Facilities and the Solid Waste Disposal Facilities.

**The Municipality of Pangnirtung continues to operate in Non-conformity with those terms and conditions of the Water License issued in 2008.**

**A. Keim**

**Inspector's Name**

**Inspector's Signature**

Cc:

Peter Kusugak – Manager Field Operations - Indian and Northern Affairs Canada

Phyllis Beaulieu – Manager licensing – Nunavut Water Board

















Water License Inspection Photos Pangnirtung August 17 2008 : CIDM # 335650



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