Indian and Northern Affairs Canada | Affaires indiennes et du Nord Canada

# Inspection Report

**License #:** **3BM-GRA**

**Inspector:** **A. Keim**

**CIDMS #** **296466**

| | | | |
|---|---|---|---|
| Client | Municipality of Rankin Inlet | | |
| Mailing Address | Bag 002 | | |
| Inspection site location | Rankin Inlet, Nunavut | | |
| Contact name | Ralph Ruediger | Title | Regional Director-Dept. of C&GS |
| Last inspection date | September 10, 2007 | | |
| Inspection start date | July 22, 2008 | | |
| Region | Kivalliq | | |

Indian and Northern Affairs Canada
Affaires indiennes et du Nord Canada

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

Submitted Via E-Mail
Our File: 3BM-GRA0207
Your File:_____
CIDM # 296466

May 26,2009

Mr. Ralph Ruediger
Regional Director
Department of Community and Government Services
Bag 002
Rankin Inlet, NU X0C 0G0
E-mail: rruediger@gov.nu.ca

**RE: Municipal Water Licence Inspection July 22nd, 2008 3BM-GRA0207**

The Inspector would like to acknowledge the assistance of Joe Strickland, Facilities Manager –Kivalliq Region, Department of Community and Government Services, Government of Nunavut for taking the time to assist the Inspector during the inspection of the Potable water source and distributions systems as well as the waste water treatment system within the community of Rankin Inlet.

**Part B: General Conditions**

During the period of inspection the Department of Community and Government Services, Government of Nunavut was found to be conducting municipal water and waste water operations under an expired water license. The license was initially issued on December 1st, 2002 and expired on November 30th, 2007. A review of the Nunavut Water Board FTP site during the writing of this report could not locate an application or any supporting documents for the renewal of the license.

The licensee is reminded that NWB imposed on the Government of Nunavut 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. Annual reports are required to be filed by March 31st for the year ending December 31st. The annual report **must** include but not be limited to those items listed in Section 1 (i) through (vii) inclusive, of this part as well as any information required by the Inspector. It was noted during the period of Inspection and subsequently during the development of this report that no annual reports have been filed with the Nunavut Water Board since the issuance of the now expired license.

During the same review of the Nunavut Water Board FTP site the Inspector could not locate an Operation and Maintenance Plan. The Plan was to have been submitted by December 1, 2003.

The Licensee is also reminded that signage must be maintained to the satisfaction of an Inspector at all of their facilities.

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

Raw water from the potable source (Nipissar Lake) is pumped through the intake line into an underground line that transfers water into the community of Rankin Inlet. Raw water is then chlorinated and transferred into the Utilidor system within the community. All appeared to meet the requirements of the license during the inspection, chlorination residual records were not noted in the pumping station during the period of Inspection.

A visual inspection of the in-take pipe line and intake facilities was conducted during the period of inspection on July 22nd, 2008. On June 30th of 2008 a spill of fuel oil occurred at the Nipissar Lake Pump house. It appears that vandals, in an attempt to access the roof of the building broke a feeder line into the station. This resulted in the release of an unknown but substantial quantity of fuel around the building and along the foreshore of the lake. Spill

report 2008-316 was filed on July 2nd 2008. As this is the potable water source for the community it should have been an INAC lead however Canadian Coast Guard is listed as lead agency and no record of the faxed copy can be found in the INAC office at the time of writing this report.

Investigation into the incident during the period of Inspection noted the following;

- A diesel fuel spill was discovered during a routine pump house inspection on June 30th, 2008
- A pipe leading from the diesel fuel storage tank, north of the pump house building, was discovered to be damaged and leaking product onto the ground
- A hydrocarbon sheen was reportedly visible on the lake
- The leaking pipe was repaired to prevent additional release of product, and sorbent boom socks were reportedly placed on the beach and along the lake shore to capture free floating hydrocarbon product
- 26 loads of impacted soil were removed by an 8 cubic meter capacity truck, and deposited at the Hamlet's landfill to await transport to a land farm

Representatives of Community and Government services were reminded of the requirement under Part F section 4 to provide a written report of any unauthorized discharge of waste within 30 days to the Inspector.

This report was subsequently received by the inspector on September 22nd 2008. This report was reviewed at the time and reviewed again during the writing of this report.

It was noted that the pump house and surrounding areas required backfill to remediate the foreshore around the location of the release. No sheen was visible on the water during the period of Inspection.

Water samples were taken near the intake pipe from the source lake. Samples collected returned no values in excess of the Canadian Council of Ministers of the Environment (CCME) guidelines for Community Drinking Water;

**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 Concentration** |
|---|---|
| Faecal Coliform : | 1X $10^6$ CFU/100mL |
| 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.

The issued license in Sections 3,4 and 5 of this part refer to the presence of a Lagoon facility within the scope of the License. This is in contrast to the current system in operations within the community of Rankin Inlet where sewage is run through a Rotating Drum Screen which provides only primary treatment.

The treatment system currently in place within the community was initially installed in 1984. Given this it is unclear why the water license references the use of a lagoon system as treatment for the waste water generated within the community. Additionally, as the waste water is receiving only primary treatment and is then discharged directly into the ocean the Inspector has concerns that none of the appropriate approvals appear to be in place or have been reviewed in the issuance of the now expired license.

The inspector calls upon both the licensee and the Nunavut water board to provide clarity to this matter and to have addressed these outstanding issues before the period of the next inspection.

It was noted during the period of Inspection that the Rotating Drum was not functioning and was in fact off-line. Further investigation into the matter found that the Drum had in fact stopped operating earlier in the month and had been not working since. The result of which is the discharge of the raw untreated sewage into the ocean for a period of at least three weeks. A review of the Nunavut water Board FTP site could not locate any notification of modification or notice to the board that this had occurred contrary to the current, albeit expired license.

A report on the status of the Rotating drum treatment system was provided the Inspector on September 19th, 2008. To date, no follow up or confirmation from the licensee regarding the unit has been received.

**Part E: Conditions Applying to Modification and Construction**

A review of the Nunavut Water Board FTP site could not locate any drawings, plans or construction reports having been submitted by the licensee.

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

**Part F: Conditions Applying to Operation and Maintenance**

The Inspector was not able to find any information concerning the Operations and Maintenance Plan that was to be submitted by December 1st, 2003 pursuant to Section 1 of this Part.

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

A review of the Nunavut water Board FTP site conducted during the writing of this report was not able to locate the required submissions from the Licensee or agent/ contractor. As such, and as required by Section 1 of this Part the Licensee is reminded that at least six (6) months in advance of such a project being undertaken shall submit to the Board for approval an Abandonment and Restoration Plan prior to abandoning any facilities.

Any future plan must incorporate the following information, as required;

i. water intake facilities;
ii. the water treatment and waste disposal sites and facilities;
iii. petroleum and chemical storage areas;
iv. any site affected by waste spills;
v. leachate prevention;
vi. an implementation schedule;
vii. maps delineating all disturbed areas, and site facilities;
viii. consideration of altered drainage patterns
ix. type and source of cover materials;
x. future area use;
xi. hazardous wastes; and
xii. a proposal identifying measures by which restoration costs will be financed by the Licensee upon abandonment.

**Part H: Conditions Applying to the Monitoring Program**

The Licensee, as required by Section 2 of this Part is required to collect samples of effluent discharged from the facility during the months of May through August.

Samples collected shall be analyzed for the following parameters:

The licensee, subject to Section3 of this Part is required to sample run off from the Solid Waste Disposal Facility annually during periods of runoff or seepage.

Samples shall be analyzed for the following parameters;

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

These samples are to be collected and analysed in accordance with a Quality Control / Quality Assurance plan to be submitted with the Operation and Maintenance Plan required under Section1 of Part F of the current license.

The licensee is reminded that pursuant to Section 11 of this part the Licensee shall include all of the data and information required by the "Monitoring Program" in the Licensee's Annual Report, as required *per* Part B, Item 1, or as requested by an Inspector.

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

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

- Sewage treatment in the community appears to be not covered by the now expired license.
- Collect and submit for analysis the samples required under the Monitoring Program.
- Submit required reports and substantive information as required by the Nunavut Water Board to complete the application necessary to bring the Licensee into compliance with the ACT.
- Undertake such works as are necessary to ensure the Waste Water treatment system is operating as intended and designed.

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

- Undertake such works so to mitigate and remediate such lands and waters as were effected by the effluent spilled from the Sewage lift station in 2008.
- Waste Management and control in the community is not as noted within the now expired license. The discharge of raw sewage to the environment is a violation of the Nunavut Water and Nunavut Surface Rights Tribunal Act and poses a risk to both human and environmental health and safety.

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

- Failure to submit Operations and Maintenance Plans.
- Failure to submit Sampling Results under the monitoring program.
- Failure to submit Abandonment and Restoration Plan.s
- Failure to submit Annual reports.

It is noted that immediately following the inspection of the Government of Nunavut, Department of Community and Government Services' Water and Waste Water Operations with in the community of Rankin Inlet an INSPECTOR'S DIRECTION was issued pursuant to the ACT.

**The Government of Nunavut, Department of Community and Government Services within the community of Rankin Inlet continues to operate in Non-conformity with the terms and conditions of their now expired Water License and the Nunavut Water and Nunavut Surface Rights Tribunal Act.**

**A. Keim**
**Inspector's Name**

**Inspector's Signature**

Attached under separate cover;
Photos taken during Inspection of July 22, 2008

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

Water License Inspection Photos Rankin Inlet –GN- July 22 2008: CIDM # 336203

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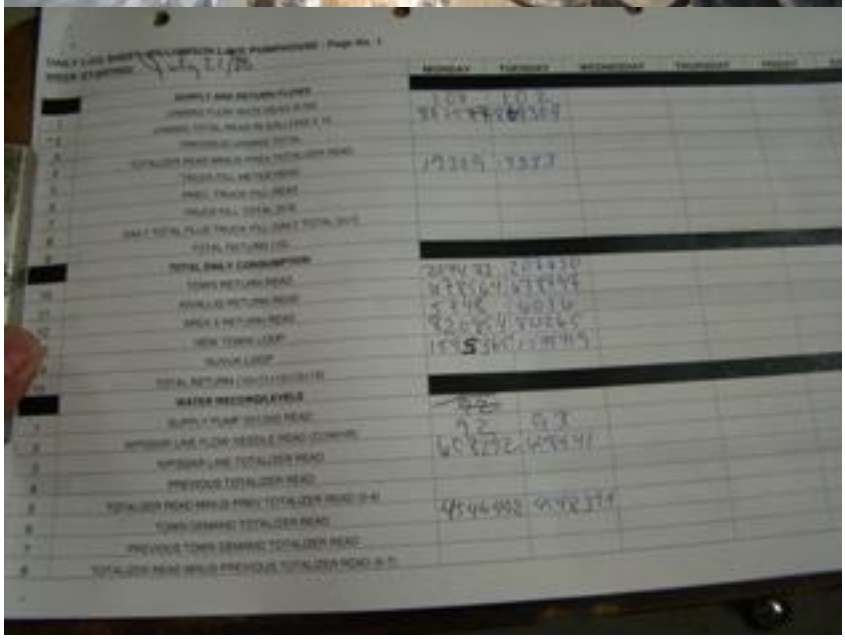

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