



Aboriginal Affairs and Northern Development
Government of Canada
Nunavut District
Box 100
Building 918
Iqaluit, NU, X0A 0H0

Submitted Via E-Mail

Our File: 3BC-EUR1116

Your File: _____

CIDM #546746

November 26, 2012

Carl Carroll, FMA/SMA
Environment Canada CSB-Environnement Canada DGSM
335 River Road, RM 190
Ottawa, Ontario K1A 0H3
Tel: (613) 990-8376
Fax/Telecopieur: (613) 949-9017
Carl.Carroll@EC.GC.CA

Mr. Carroll,

Please find attached a report on the Water License Inspection conducted on the Environment Canada, High Arctic Weather Station known commonly as the Eureka Weather Station on July 15 of 2012. Included at the end of the report is a record of observations made during the inspection with respect to issues of Non-compliance or Non-conformity with the issued Water License or the Nunavut Water and Nunavut Surface Rights Tribunals Act.

The role of Aboriginal Affairs and Northern Development in issues related to the use of water or deposit of waste in Nunavut is one of compliance monitoring and enforcement. Our preferred option is to work with clients by identifying instances of non-compliance with their authorizations or the *Act* as well as risks to the environment. These issues are then brought forward to the Licensee to address. The Licensee then has a period of time to comply before further actions are undertaken.

Should you require more information or clarification on any aspect of the enclosed report please contact the undersigned at the coordinates listed below.

I look forward to continuing to work with you and your staff. If you have any questions please do not hesitate to contact our offices here in Iqaluit.

Sincerely,

Andrew Keim
Water Resources Officer
Indian and Northern Affairs Canada
Box 100 Building 918
Iqaluit, Nunavut X0A 0H0
Ph: 1-867-975-4289
Fx: 1-867-979-6445
Andrew.Keim@aandc.gc.ca



Inspection Report

License #: 2BC-EUR1116

Inspector: A.Keim

CIDMS # 546746

Client	Environment Canada – HAWS- High Arctic Weather Station		
Mailing Address	Carl Carroll, FMA/SMA Environment Canada CSB-Environnement Canada DGSM 335 River Road, RM 190 Ottawa, Ontario K1A 0H3 Tel: (613) 990-8376 Fax/Telecopieur: (613) 949-9017 Cell: (613) 282-6618 Carl.Carroll@EC.GC.CA		
Inspection site location	Eureka HAWS – High Arctic Weather Station		
Contact name	John MacIver Eureka Weather Station Manager Eureka, Nunavut Ph: (613) 945-3145 (dial tone) Ext. 4460	Title	Station Manager
Last inspection date	July 31, 2007	July 12th, 2008	July 19 th , 2011
Inspection start date	July 15, 2012		
Region	Qikiqtani		



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RE: Water Licence Inspection July15, 2012

On the 15th of July 2012, a compliance inspection was carried out on the Environment Canada High Arctic Weather Station known commonly as the Eureka Weather Station and facilities located at Latitude 80°00'N and longitude 85°56'W on Ellesmere Island in the Qikiqtani Region of the Nunavut Territory.

The Inspector thanks Mr. John MacIver, Station Manager, for his assistance and time during the inspection.

Part A: Scope and Conditions

At the time of the Inspection the Licensee held a current authorization (Water Licence) and Land Use Permit (N2012N0012) for activities that were on-going at the site. Work to address identified deficiencies from previous inspections was begun in a number of cases.

Part B: General Conditions

A review of the NWB's Public Registry found that the Licensee had prepared and submitted the required 2011 Annual Report. It was noted that Freshwater sampling at the reservoir was not conducted in 2011 however a table of results between 2007 and 2010 were submitted. Water consumption records including a table reflecting annual and monthly consumption records between 2001 and 2011 was provided.

Additionally, it is noted that the Monitoring station from the Solid waste disposal facilities (EUR-2) does not have any results submitted within the Annual report. It had been stated in a past inspection that at the time of sampling there was no flow at the monitoring station. The Inspector suggests that either sampling take place during the period of flow or the location of the sampling site be relocated to optimize the period of flow so that an accurate assessment of any leaching from the solid waste is available for the licensee and regulators to review. This is to be implemented before the period of the next inspection.

The Licensee is reminded that all sampling stations are to be sampled at the times and in the frequency outlined in the License. These results are to be submitted in the Annual Report.



Part C: Conditions Applying to Water Use

Raw / Potable water samples were collected from the reservoir during the Inspection. Sample Parameters returning values in excess of guideline or license criteria are as follows;

<u>Parameter</u>	<u>Location</u>	<u>Sample Result</u>	<u>Guideline</u>
Lead	Reservoir	21.7 µg/L	10 µg/L ¹
Aluminum	Reservoir	709µg/L	<100 µg/L ¹
Iron	Reservoir	1860 µg/L	300≤µg/L ¹
Manganese	Reservoir	62.8 µg/L	50 µg/L ¹
Turbidity	Reservoir	59.1	1 NTU ³

¹ Canadian Council of Ministers of the Environment Guideline for Community Drinking Water

² NWT Limits for Effluent Parameters for Specific Discharges (adopted for Nunavut)

³ Turbidity is an aesthetic objective and measures the lack of clarity of water caused by biotic and abiotic suspended or dissolved substances.

Potable water is collected by pump from Station Creek. Inspection of the reservoir noted a high silt load within the water column. This was documented during sampling. Water from Station creek is surface runoff and melt-water from spring freshet. Water from the reservoir is run through a system of filters, a UV system, and a water softening filter along with reverse osmosis for drinking water prior to use within the facility. All equipment was found in good order and in operation during the period of Inspection, a meter was noted and the reading was recorded.

During the period of Inspection the amount of erosion along the side of Station Creek and other hill sides and slopes in the vicinity of the camp was noted. Large vertical faces have been exposed as the surface active layers calve off the hillsides exposing the ice core (permafrost) beneath. This erosion has greatly increased the amount of sediment flowing downstream into the creek and into the pumps for transfer into the reservoir.

Under the terms and conditions of the licence, the allocation for all uses of water is up to a maximum of 10,000 cubic meters annually.

Part D: Conditions Applying to Waste Disposal

As per Section 1 of this Part, the Licensee shall locate areas designated for waste disposal, a minimum distance of thirty (30) metres from the ordinary high water mark of any water body such that the quality, quantity or flow of water is not impaired, unless otherwise authorized by the Board.

The Licensee was to have taken steps to address location of the lagoon and to submit for approval to the Board the plans for the construction of a new waste water treatment facility. This has yet has not been completed by the Licensee. A review of the NWB Public Registry provides an Abandonment and Restoration Plan for the lagoon as submitted in 2009 but as yet no plans for the construction of a new facility.

Given this, the Inspector seeks clarification from the Licensee on their immediate and midterm plans to address this issue.

At the time of the Inspection the Lagoon had already undergone a spring Decant, completed between July 4th and 7th, 2012. The licensee committed to providing sample results during the period of Inspection and e-mailed their results within 72 following the Inspection.

As relates to Solid Waste Management on site the Inspector noted the following;



- Land filling at the East end of the runway continues.
- A sampling location has been marked but there was no flow noted during the period the sample was to be collected.
- The area was found recently covered over with new signage on site.

As relates to the Barrel crushing area the inspector noted the following;

- At the time of the Inspection there were approximately 2000 assorted drums from both the Licensee and other sources waiting to be crushed on site.
- The Licensee was to have installed a self contained drum washing and crushing system to facilitate the cleaning and removal of drums from the site however at the time of inspection this was not yet on site. The licensee notified the Inspector prior to the Inspection that funding had not been approved for the acquisition and transportation of the unit. The inspector has advised the Licensee that this is not acceptable and to ensure that the unit is purchased and on site by next season or it will be considered a compliance issue and a Direction may be imposed on the Licensee.
- Adjacent to this area a Containment structure (yellow short-walled secondary containment berm) with hydrocarbon contaminated soils was noted in the same location as previous years. These contaminated soils are not being treated and must either go into a treatment facility or be removed from site.

It is noted that improvements have been made in the following areas;

- Secondary Containment has been brought to site and while there are still a number of gaps at fuel transfer facilities operated by the Polar Continental Shelf Project (Natural Resources Canada) the majority of stored fuel on site is housed within Secondary Containment.
- Signage throughout the facility has been up-graded and installed as required.
- Open burning on site has not continued.
- Hazardous wastes have been shipped off site in larger numbers. It is noted that the licensee must be able to produce the hazardous wastes shipping / transportation manifests with the signature of the licensed facility where disposal occurred for the period of the next inspection.
- The installation and operations of the new Incinerator on site has greatly reduced the amount of kitchen and other wastes accumulating on site.
- The replacement of hoses and the installation of a secondary containment at the bulk fuel storage facility.

Part E: Conditions Infrastructures Access And Operations

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 and those changes to the operations and maintenance of the facility that occur are submitted to the board.

Part F: Conditions Applying To Modifications and Construction

The Licensee has committed to submitting any outstanding documents to the Nunavut Water Board. It is noted that the old Eureka facility remains on site and that plans to rehabilitate the facility or remove it have not been undertaken by the Licensee. The Inspector seeks clarification from the Licensee on their short and longer term plans for these facilities.



Part G: Conditions Applying To Operations and Maintenance

The Inspector noted on the Nunavut Water Board's Public registry that an Operations and Maintenance manual has been submitted as part of the License renewal application. It is unclear if this document has been approved by the board at this time.

Part H: Conditions Applying to Spill Contingency Planning

The Inspector noted on the 2011 Annual Report found on the Nunavut Water Board's Public registry that an updated Spill Contingency Manual is being worked on and will be submitted as part of the License renewal application. It is unclear if this document has been submitted for approval to the board at this time. It is noted however that an Emergency Plan for Petroleum and Allied Petroleum Products, dated April 1st, 2010 is on the Public Registry but has not yet been up-dated.

Part I: Conditions Applying to Abandonment and Restoration

A document titled "INTERIM ABANDONMENT & RESTORATION PLAN - Eureka High Arctic Weather Station" and dated March 2011 was found attached to the 2011 Annual Report submitted to the Licensee. The document has not yet been approved by the NWB.

Part J: Conditions Applying to the Monitoring Program

Meters were noted in the intake facilities during the inspection. Quantity records were available for review during the inspection period.

The Licensee is reminded that all locations outlined in the monitoring programs sampling regime are to be sampled.

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

The Inspector noted the following deficiencies or instances of non-compliance with either the current water licence or the Nunavut Waters and Nunavut Surface Rights Tribunal Act.

- Secondary Containment is required for fuel storage, and for areas where the transfer of fuel is undertaken. The Licensee has installed secondary containment throughout the facility however other government departments or operators on site must conform to the same requirement. The Licensee is required to maintain this standard under their current authorizations. This is an on-going issue and is to be addressed prior to the next inspection.
- Hydrocarbon contaminated soils should be stored in such a manner as to prevent runoff and contamination of surrounding soils and water.
- The Sewage lagoon is located within the minimum 30 meter required setback from water.
- Records of backhaul of waste both hazardous and non hazardous must be available for review during the period of inspection. Hazardous waste transportation records with signatures from the licensed facility who received the hazardous waste for treatment and eventual disposal are to be available on site during the period of the next inspection.



The Inspector noted that a great deal of work to address outstanding issues with the site has been undertaken over the last year by the licensee. The Licensee has indicated that plans to address remain outstanding compliance issues will be submitted and once approved implemented in the coming year.

A. Keim
Inspector's Name

Sent by E-Mail
Inspector's Signature

Attached under separate cover;
Photos taken during Inspection of July 15, 2012.

Cc:
Phyllis Beaulieu – Manager Licensing – Nunavut Water Board

Contact:

Andrew Keim
Water Resources Officer
Indian and Northern Affairs Canada
Box 100 Building 918
Iqaluit, Nunavut XOA OHO
Ph: 1-867-975-4289
Fx: 1-867-979-6445
Andrew.Keim@aandc.gc.ca