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Submitted Via E-Mail
Our File: 3BC-EUR0611
Your File: _____
CIDM #183195

November 27, 2007

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RE: Water License Inspection – Eureka Weather Station – Environment Canada - July 31st 2007

The Water Resources Officer (WRO) appreciates the assistance and cooperation provided by Rai Le Cotey Station Program Manager, who accompanied the Inspector during the inspection.

The following report is based on observations made at the time of the inspections at Eureka Weather Station on July 31st 2007. A review of the terms and conditions of the water license was completed with the above after the inspection.

Immediately following the inspection an Industrial Water Use Inspection Report outlining areas of concern was signed off with the Inspector.

Part A: Scope and Conditions

No issues were found with respect to the location of the camp as it relates to the information contained within the current license. The current license is a renewal issued on February 6th, 2006 to Environment Canada.

The license, as issued, remains a Type “B” license classed for Water use, Waste Disposal and fuel storage and handling activities at the facility.

It is noted that the Water License issued to Environment Canada, operator of the Eureka Weather Station expired in 2004. Records then indicate that the licensee did not apply for a renewal until February 21st of 2005. The Licensee is reminded that the Nunavut Water Board requires a minimum of 90 days to review and assess all applications for renewal and that the use of water or deposit of waste without a current License is an offence under the Nunavut Waters and Nunavut Surface Rights Tribunals Act.

The licensee is cautioned that further instances of non-compliance of this nature will be viewed as a violation of the Act and will subject the licensee to the enforcement measures and penalties provided for under the Act.

Part B: General Conditions

The issues of water use fees and security were not included within the context of this inspection.



A review of the Nunavut Water Board FTP – Public Registry was undertaken during the writing of this report. An annual report for the 2000 annum was the only annual report that could be located and reviewed. Annual reports are a requirement of an issued license under section 2 of this Part.

The Licensee is reminded that an annual report is to be filed by March 31st 2008 for the year ending December 31st 2007. The annual report must include but should not be limited to those items listed in Section 2 (i through xi) of this part as well as any information required by the Inspector or as outlined further in the issued license 3BC-EUR0611.

Failure to file a complete report 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.

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.

The Licensee is reminded that proper signage is required at the water supply and waste disposal facilities.

A water meter was noted on the intake system.

Part C: Conditions Applying Water Use

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

During the period of inspection the water in-take and purification system was inspected. All appeared in good order, a meter was noted and the reading was recorded.

During the period of inspection it was noted that the water supply facilities did not have an average freeboard of 1 meter along the road side berm. This was brought to the attention of Mr. LeCotey who stated that the reservoir is filled to capacity to ensure sufficient reserves for the year and that the capacity of the reservoir was just sufficient as is. A review of the Nunavut Water Board FTP site could not locate an inspection certificate or approval from the Nunavut Water Board allowing or approving the encroachment on the 1 meter freeboard. The Licensee is required to provide this inspection report as an addendum to the annual report for the 2007 year.

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.

Given this the Inspector seeks clarification from the Licensee and the Nunavut Water Board on the constructed sewage lagoon. The location of which is well within the 30 m set-back from water.

A review and examination of the Nunavut Water Board FTP site could not located a document providing specific approvals for the location of the constructed lagoon and as such it is the opinion of the inspector that the site of the lagoon is contrary to the issued license.

The Inspector requires the Nunavut Water Board provide clarity on this issue and if an approval has been granted under a previous license or project review to publish it immediately.

During the inspection of the Eureka camp site and air strip the following items were noted and brought to the attention of Mr. LeCotey.



- Very little secondary containment for drummed and stored fuel product was found on-site.
- Drummed product from the Government of Nunavut and other agencies was noted on site without any secondary containment.
- No secondary containment at fuel transfer areas (helicopter and vehicle) was noted
- Obvious fuel spills were noted at the fuel transfer area on the Airstrip. Trenches had been dug and absorbent booms were visible on site. Information collected during the Inspection is that the spilled product originated from a bladder on site owned by DND. No spill report can be located and clean up work was not complete.
- Open burning contrary to the issued license was noted.
- Large bulk wastes are being deposited over the edge of a hill at the Station Creek Drainage basin. Materials noted on site included, insulation, barrels, tires, old fuel tanks, Burned fuel and oil filters, Batteries and other hazardous materials.
- Land filling/ practice of crushing and burying old drums should be reviewed and a plan submitted to address the numerous bury sites in the general area.

The Licensee is reminded to include in the 2007 annual report due on March 31st 2008 a list of hazardous materials shipped out of the camp, the treatment received, and the location of the approved treatment facility to which they were sent. All of the foregoing is required information to be included in the annual report. Shipping and receiving invoices are not required so long as the records are available for inspection during the 2008 inspection season.

The capability of the incinerator found on site to meet the Canada-wide Standards for Dioxins and Furans and the Canada-wide Standard for Mercury Emissions was not reviewed with the proponent. The licensee is reminded that this standard must be met by the date of the next inspection if not already achieved.

The Licensee is reminded that as per Section 8 of this Part the Licensee is required to provide notification to the Inspector prior to conducting a discharge from the Sewage lagoon. This notification will be provided 10 days in advance of the discharge and include an estimate of volumes to be discharged as well as the location of the receiving environment. All discharges shall be sampled by the licensee twice. Once near the beginning of the discharge period and once near the end. These results are to be provided to the Inspector upon receipt.

The licensee is reminded that any discharge not meeting the criteria set out in the license will be viewed as a separate violation of the Act for each day the discharge continued and will subject the licensee to the enforcement measures and penalties provided for under the Act.

During the period of Inspection the removal of sludge from the lagoon was discussed however at the time there were no action plans in place to address this issue. The Licensee is reminded that prior to any undertaking to remove sludge from the lagoon a disposal plan must be submitted to the Nunavut Water Board for approval.

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.

Part F: Conditions Applying To Modifications and Construction

As per section 1 of this Part;

1. *Prior to construction or modification of any dams, dykes or structures intended to contain, withhold, divert or retain water or wastes, the Licensee shall submit to the Board for approval design drawings stamped by a qualified Engineer.*



A review of the Nunavut Water Board FTP site could not locate an approval for the work conducted on the seaward retaining wall of the sewage lagoon. This work was completed in 2006 as noted during the inspection. This work included building up of the seaward wall as both the interior and exterior slopes showed signs of sloughing. Upon completion of the work visible stress lines running parallel to wall were still in evidence.

If the Licensee has already submitted plans and received approvals for the work undertaken as per Section 1 of this Part as noted above, the Inspector calls upon the Nunavut Water Board to publish this notification.

If this work has not already been approved the Licensee is directed to provide to the Nunavut water Board and the Inspector As-built drawings signed and stamped by a qualified engineer as well as a copy of the latest Geotechnical inspection of the Lagoon site.

This should be provided as an addendum to the 2007 annual report. The Licensee is reminded that failure to file the required reports or comply with an Inspectors Direction is a violation of the Act and will subject the licensee to the enforcement measures and penalties provided for under the Act.

The Licensee is also reminded that as per section 7 of this Part the Licensee was to have submitted within 6 months of the date the license was issued (Due August 6, 2006) the historical as-built plans and drawings for the existing Water Supply Facilities, the Sewage Treatment Facilities, the Petroleum, Oil, and Lubricant Storage Facilities.

A review of the Nunavut Water Board FTP site failed to locate these documents. If the Licensee has already submitted these plans and drawings, the Inspector calls upon the Nunavut Water Board to publish this notification immediately.

If the requirements of Section 7 of this part have not been met the Licensee is directed to provide the required historical information as an appendix to the 2007 annual report due on March 31st 2007. The Licensee is reminded that failure to file the required reports or comply with an Inspectors Direction is a violation of the Act and will subject the licensee to the enforcement measures and penalties provided for under the Act.

Part G: Conditions Applying To Operations and Maintenance

As per section 1 of this Part,

- 1. The Licensee shall, within sixty (60) days of the issuance of this License, submit to the Board for approval, an Operation and Maintenance Manual in accordance with the "Guidelines for Preparing an Operation and Maintenance Manual for Sewage and Solid Waste Disposal Facilities", October 1996. The scope of the Plan shall be expanded to include the operation and maintenance of the Water Supply Facilities.*

This manual was submitted to the Board on the 23rd of November and is pending the Boards approval at this time.

The Licensee is reminded that failure to file the required reports or comply with an Inspectors Direction is a violation of the Act and will subject the licensee to the enforcement measures and penalties provided for under the Act.



Part H: Conditions Applying to Spill Contingency Planning

A review of the Water Board FTP site found a Spill Contingency Plan titled Eureka Fuel Spill Plan, Parts 1 & 2 dated from 2002.

As per section 1 (i through xi) The licensee was to have submitted to the Nunavut Water Board, within 60 days of the issuance of the current license an addendum to address deficiencies in the filed report. The review could not locate the required addendum or a specific approval from the Nunavut Water Board indicating acceptance of any further documents from the licensee.

This plan was submitted to the Board on the 23rd of November 2007 and is pending the Boards approval at this time.

The Nunavut Water Board will either accept or reject the noted plan as per the terms and conditions of the issued license.

The Licensee is reminded that as per section 4 of this Part, the Licensee is required to ensure that no chemical, petroleum products or wastes enter water and that they are not located within 30 meters of the ordinary high water mark of any water body. The Inspector again notes that there are concerns with the location of the sewage lagoon having been installed immediately adjacent to Slidre Fiord and well within the required 30 meter setback.

The Licensee is reminded that as per Section 6 (iii) of this Part the Licensee is required to submit a detailed report to the Inspector on each spill occurrence no later than 30 days following the initial event.

Part I: Conditions Applying to Abandonment and Restoration

A review of the Nunavut Water Board FTP site could not locate the any documentation relating to the abandonment or restoration of the Eureka site. The Licensee was to have submitted the required Interim report within 9 months of the issuance of the current license.

The Licensee is directed to provide the required information (Plan) to the Nunavut Water Board within 30 days of receipt of this report. The Licensee is reminded that failure to file the required reports or comply with an Inspectors Direction is a violation of the Act and will subject the licensee to the enforcement measures and penalties provided for under the Act.

Additionally, and as above, a report on the Reclamation of the West Airstrip Landfill was not located during the review of the FTP site. This report was also due within 9 months of the issuance of the current license.

Part J: Conditions apply to the Monitoring Program

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

No meters or other means were in use to record quantities of effluent deposited in the lagoon.

A review of the Nunavut Water Board FTP site could not locate a request or review from the licensee regarding any changes to the proposed monitoring plan. This plan was submitted to the Board on the 23rd of November and is pending the Boards approval at this time.

Non-Compliance:



During the inspection a number of items were noted and discussed with Mr. LeCotey. These issues required corrective action to be undertaken prior to the date of the next inspection. The submission of a record indicating the successful completion of the activity was requested at the time of the inspection.

Specifically the areas of concern the licensee is required to address before the date of the next inspection or within the time lines listed in this report are as follows;

- Marshalling of hazardous materials/ shipping off site- record keeping
- Fuel storage (barrels) require secondary containment
- Location and verification of treatment for land farming of hydrocarbon contaminated materials
- Submission of the Land Fill Strategy as well as the required Operation and Maintenance plans and manuals
- Submission of As-built plans and Drawings related to the Construction and Modifications having occurred on site including; Water Supply Facilities, Sewage Treatment Facilities, Land Farms and Land Fill Facilities as well as any petroleum, oil, lubricant or other hazardous chemical storage facilities.
- Submission of required Geotechnical Inspections as outlined in the current license
- Location and approval acknowledgement of the treatment facility where hazardous wastes generated on site are shipped.
- Erosion and seepage control measures – Plan to address and mitigate at sewage lagoon
- Submission of other outstanding reports, plans and documents for approval as required.

During the writing of this report a review of the Nunavut Water Board FTP site located a letter dated November 6th, 2006 from the Nunavut Water Board to Environment Canada noting the above deficiencies in document submission and in-general the lack of compliance with the terms and conditions of the current Water License.

On November 23rd 2007, the Nunavut Water Board received the following documents from the Licensee;

- 1) EUREKA - Operation and Maintenance procedures for sewage, solid waste disposal and waste treatment facilities
- 2) EUREKA - Oil Pollution Emergency Plan for land spills
- 3) EUREKA - Proposal for revision and update of the surveillance network monitoring program
- 4) EUREKA - Quality assurance (QA) and Quality Control (QC) Program

Andrew Keim
Inspector's Name

Inspector's Signature

Attached under separate cover;
Photos taken during the Inspection of July 31st, 2007

Cc:

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