



Indian and Northern
Affairs Canada

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Submitted Via E-Mail
Our File: 1BR-DYE0409
Your File: _____
CIDM #185424

November 27, 2007

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DEW Line Clean Up
Defence Construction Canada
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RE: Water License Inspections- Dye M Clean Up - July 11th and August 22nd , 2007

The Water Resources Officer (WRO) appreciates the assistance and cooperation provided Ms. Asha-Rani Boucher-Sharma, Site supervisor - Defence Construction Canada, who accompanied the Inspector during both the first and second inspections of the site and Mr. Douglas Craig, Environmental Officer for Defence Construction Canada (DCC) who was present for the second inspection.

The following report is based on observations made at the time of the inspections at Dye –M on July 11th 2007 and then again on August 22nd in follow up. Items outlined during the first Inspection with Ms. Boucher-Sharma were then reviewed with Mr. Craig on an on-going basis until the inspection of the 22nd of August. A review of the terms and conditions of the water license was completed with both parties following the individual inspections.

Immediately following the inspection (s) an Industrial Water Use Inspection Report outlining the concerns of the inspector was signed off by the parties 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 was issued May 6th , 2004 to Defence Construction Canada subject to the submission of a Spill Contingency Plan, Monitoring Program and Quality Assurance / Quality Control Plan for sampling.

The license, as issued, is a Type “B” license classed as Camp Mobilization, Operation, Site Remediation and Associated Uses.

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 conducted during the writing of this report. An annual report for the 2006 annum, completed by UMA Engineering was located. This report is a requirement under the terms and conditions of the Water License. The annual report must include but should not be limited to those items listed in Section 1 (i) through (vi) of this Part.



Upon review of the report it was noted that a portable sewage treatment unit was present onsite. The unit was to provide primary treatment of effluent before discharging to the lagoon, however, the unit was not functioning properly. Consequently the results of some sampled parameters collected during the active period of the camp were in excess of the allowable license limits. The Licensee is required to ensure that equipment is functioning properly and that violations of this nature are avoided in the future.

Additionally, as per section 1(iv) of this Part, the Annual Report was to include as-built drawings of structures constructed including but limited to the “ *Water Supply and Solid Waste Disposal Facilities, including all associated structures;*” A review of the Report could not locate the As-Built drawings as required. The Licensee is directed to submit these drawings as an addendum to the 2007 annual report.

The proponent is reminded that an annual report is required to be filed by March 31st 2008 for the year ending December 31st 2007. The annual report **must** include but not be limited to those items listed in Section 1 (i) through (xvi) inclusive, of this part as well as any information required by the Inspector.

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.

Part C: Conditions Applying To Water Use

At the time of the inspection the licensee was allocated the use of 150 Cubic meters of water per day for all purposes. Water of all uses is to come from the designated Water Supply Lake.

The Inspector is satisfied that the Licensee has undertaken the required measures to prevent the deposition of dust or Sediment into the Water Supply Lakes.

During the period of inspection the Inspector noted that the source for water intake, the location sampled, had an obvious flow and current. When questioned, the licensee stated the water intake is a freshet or melt stream from higher elevations and this was the intake location for the water. The Inspector seeks clarification from the Nunavut Water Board on the use of this stream as the water source.

Part D: Conditions Applying to Sewage Disposal

During the inspections of the camp the following items were noted and brought to the attention of either Ms. Boucher-Sharma during the first inspection or Mr. Douglas Craig during the period of the second inspection.

- Inspection of the Sewage Lagoon and surrounding area conducted during the August 22nd 2007 inspection revealed seepage from the sewage lagoon and flow path leading away from the lagoon. The inspector noted signs of algae growth, a green color and a smell of sewage emanating from the flow outside the lagoon. This water was sampled.
- Dried matter / slurry commonly found in lagoon systems was found in a pathway leading away from a previously used lagoon indicating a past release originating from within the lagoon system. No record of a spill or release was available during the inspection.

Part E: Conditions Applying To Solid Waste Disposal

Evidence of open burning was found and documented during both inspection visits. It should be noted that during the period of the second inspection the Inspector was told that the material being burned was old explosives found on site and that this was the recommended procedure for disposal.



During the period of both inspections a walk around the site confirmed the locations and construction of both the Solid Waste Disposal Facilities and the Land Farm Facilities.

(It should be noted that immediately prior to visiting the site the first time the Inspector received two spill Reports from the spill line detailing two spill events at the site.)

Spill #1 – June 29th, 2007 a report of a hydrocarbon spill within the land farm possibly originating from a fuel tanker over wintered in the containment area. Estimated volume on the spill report was approximately 3000 Litres on the form.

Spill #2 - July 8th, 2007 a storage tank containing hydrocarbon contaminated water failed releasing approximately 52,000 Litres over 2,200 square meters of ground. This occurred outside a contained area.

During the period of the first inspection on July 11th, 2007 the Inspector noted the presence of a pump on the wall of the Land Farm Facility. Further investigation noted evidence of a discharge hose running over the side of the bank and exiting the Land Farm facility. Additionally, it was noted during the inspection that stress cracks and sloughing of the North-east corner of the containment were visible and photographed.

Further discussion with the Licensee and representatives of the contractor on site noted the following information;

1. Water volumes within the containment area had reached an elevation that it was believed that the integrity of the earthen berm wall was in question.
2. Hydrocarbons (free product) were noted on the water to a depth of 4 cm in some places.
3. Water pumps were installed and in conjunction with resident underflow dams approximately 12,700 cubic meters of hydrocarbon contaminated contact water was pumped out of the containment area.
4. No spill report was filed for the release of the contact water from within the containment area however a note was included in the report noted above (Spill #1) that water from within the land farm was being pumped out as a precaution.
5. Sampling had been conducted throughout the event and subsequently carried on after the release.
6. Additional sampling was ordered by the inspector.

The Licensee was required to provide the Inspector written reports on the incidents and additional sampling was required. All of the above were complied with and results of sampling did not conclusively prove hydrocarbon contamination from the release existed beyond the land farm facility.

It is the responsibility of the licensee to take steps to ensure this does not occur again. If the licensee proposes to make such changes such that they make material effect on the approved terms and conditions of the current Water License, then the licensee is reminded to submit those changes as modifications to the Nunavut Water Board for approval subject to Part H of the current License.

The proponent is reminded to include in the 2007 annual report due on March 31st 2008 a list of hazardous materials (Polychlorinated Biphenyls) shipped out of the camp, 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.



Part F: Conditions Applying to the Undertaking

During the period of Inspection the licensee was referred to Section 1 of this Part. The licensee stated that the current construction parameters were all in accordance with the issued license and plans submitted to the Nunavut Water Board. These Plans were not found on a search of the Nunavut Water Board FTP site.

The Licensee is reminded that the activities of the contractor conducting the work on site must conform to the terms and conditions of the issued Water License.

Part G: Conditions Applying To Spill Contingency Planning

A review of the Water Board FTP site could not locate the approved 2003 Spill Contingency Plan which as per Section 2 of this part was to have been revised within 30 days of the issuance of the current license.

If the required Plan has been submitted to the Nunavut Water Board for approval, the Licensee is directed to provide a copy of the plan as well as a copy of the approval from the Nunavut Water Board to the Inspector within 30 days of receipt of this Inspection Report.

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.

If an approved plan is not completed, the Licensee is directed to provide, as an addendum to the 2007 Annual report, due on March 31st 2008 a revised copy of the 2003 Spill Contingency plan that includes, but is not limited to, those items found in section 2 (i through iv) of this Part.

The Licensee is reminded that as per Section 5 (iii) of this Part the Licensee is required to submit a detailed report on each spill occurrence no later than 30 days following the initial event.

Part H: Conditions Applying to Modifications

No mention of modifications to the existing license was discussed during the period of inspection. The licensee is reminded that all modifications need to be consistent with the terms and conditions of the existing license and if not then will require the Nunavut Water Boards approval as set out in Section (1) of this Part.

The Licensee is reminded that Section 3 of this Part requires that the licensee provide as-built drawings, stamped by an engineer within 90 days of completion of any approved modifications.

Part I: Conditions Applying To Abandonment And Restoration

As noted in the current License issued by the Nunavut Water Board the licensee is required to submit Abandonment and Restoration Plans 6 months prior to the completion of on site activities.

Part J: Conditions Applying To Monitoring Programs

As per Section 1 of this Part the Licensee was to submit for approval a monitoring program to the Nunavut Water Board within 6 months of the issuance of the current license. A review of the Nunavut Water Board FTP site could not locate the required Monitoring program or an approval from the Nunavut Water Board.

Additionally, as outlined in Section 5 of this Part the Licensee was to have submitted a Quality Control/ Quality Assurance Plan to the Nunavut Water Board for approval 30 days prior to sampling. This plan could also not be located on the Nunavut Water Board FTP site.



If the required Plan(s) has been submitted to the Nunavut Water Board for approval, the Licensee is directed to provide a copy of the Monitoring and (QA/QC) plans as well as a copy of approvals from the Nunavut Water Board to the Inspector within 30 days of receipt of this Inspection Report.

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.

If an approved Monitoring plan is not completed, the Licensee is directed to provide, as an addendum to the 2007 Annual report, due on March 31st 2008 a Monitoring plan to the Nunavut Water Board for approval that includes, but is not limited to, those items found in Section 1 (i through v) of this Part.

The Licensee is reminded that failure to file a the required Plans 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.

Non-Compliance:

During the inspection a number of items were noted and discussed with Ms. Boucher-Sharma during the first inspection and then with Mr. Douglas Craig. These issues required corrective action to be undertaken prior to the date of the next inspection. The submission of a record showing these activities had been completed was requested.

Specifically these concerns were;

- Open burning of garbage and hazardous materials noted during the first inspection – Addressed
- Location of the treatment facility where hazardous wastes generated or marshalled on site are to be shipped.
- Submission of a plan to address erosion of berm wall at the Land farm's Northeast corner and northern perimeter wall.
- Lack of secondary containment at fuel transfer areas.
- Submission of spill reports to Inspector – Addressed.
- Report on sewage release from lagoon site.
- Plan to address the needed increase in Lagoon capacity. If a new lagoon is to be constructed an application for modifications is to be submitted to the Nunavut Water Board for approval and must include a reclamation plan for the existing lagoon sites.
- Installation of metering system to accurately record water use.

Andrew Keim
Inspector's Name

Inspector's Signature

Attached under separate cover;
Photos taken during Inspection of July 2nd, 2007

Cc:

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