



July 8, 2011

Our reference  
IQALUIT-#471113

Sent by email: [licensingadmin@nunavutwaterboard.org](mailto:licensingadmin@nunavutwaterboard.org)

Richard Dwyer  
Licensing Administrator  
Nunavut Water Board  
Gjoa Haven, Nunavut  
X0E 1J0

Your reference  
3BC-NWT0810

**Re: Type 'B' Water Licence No. 3BC-NWT0810, Renewal Application – Northern Watch Technology Research Project – Defence Research and Development Canada – Qikiqtani Region**

Dear Richard,

Thank you for your May 10, 2011 request for written representations on the above referenced water licence application.

A Technical Review Memorandum is provided for the Board's consideration.

Please do not hesitate to contact me by telephone at 867 975-4555 or email at [David.Abernethy@inac-ainc.gc.ca](mailto:David.Abernethy@inac-ainc.gc.ca) to discuss this submission.

Regards,

David W. Abernethy  
Water Resources Regional Coordinator  
Operations Directorate  
Nunavut Regional Office  
Iqaluit, Nunavut  
X0A 0H0

Encl.

c.c.: T. Trenholm, A/Manager of Water Resources  
K. Robertson, A/Manager of Field Operations

## Technical Review Memo

<b>TO</b>	Richard Dwyer Licensing Administrator Nunavut Water Board	OUR REFERENCE File #9545-2-3.3BC.NWTA IQALUIT-#471113
<b>FROM</b>	David Abernethy Water Resources Regional Coordinator Aboriginal Affairs and Northern Development Canada	YOUR REFERENCE 3BC-NWT0810  DATE July 8, 2011
<b>SUBJECT</b>	<b>Type 'B' Water Licence No. 3BC-NWT0810, Renewal Application – Northern Watch Technology Research Project – Defence Research and Development Canada – Qikiqtani Region</b>	

### A. PROJECT DESCRIPTION

On June 10, 2011 the Nunavut Water Board (the Board or NWB) provided notification of an application that was submitted by Defence Research and Development Canada (DRDC) to renew their Northern Watch Technology Research Project's Type B Water Licence. This licence allows for the use of water and disposal of waste during camp activities and research operations. The applicant has requested a six year renewal.

The Northern Watch Technology Research Project is situated approximately 110 km east of the Hamlet of Resolute on Devon Island, north of the Brodeur Peninsula. Project activities consist of operating arctic marine environment surveillance systems (underwater and land-based) from mid- July to mid-September annually with the aim of carrying out year round operations in 2014. Project personnel are accommodated in a camp that is supported by an airstrip. This camp can accommodate twenty (20) people but will be expanded to accommodate twenty-five (25) research scientists and additional support staff. Freshwater will continue to be drawn from a melt-water stream located approximately 150 m from the camp for domestic purposes. Defence Research and Development Canada anticipates that they will require 1 m<sup>3</sup> of water per day while the camp is in use. Grey water will be directed to sumps for disposal, sewage will be incinerated on-site, and solid waste materials will be delivered to Resolute for disposal.

A revised Spill Contingency Plan was included in the submitted application.

## **B. RESULTS OF REVIEW**

On behalf of the Aboriginal Affairs and Northern Development Canada (AANDC) Water Resources Division, I am providing the following comments/ recommendations for the Board's consideration. This advice is being provided pursuant to AANDC's mandated responsibilities for the enforcement of the *Nunavut Waters and Nunavut Surface Rights Tribunal Act (NWNSRTA)* and the *Department of Indian Affairs and Northern Development Act*.

### **1. General**

- AANDC notes that DRDC's licence term has expired (as of September 30, 2010) and as stated in their water licence, "if the Licence expires before the NWB issues a new one, then water use and waste disposal must cease, or the Licensee will be in contravention of the *Nunavut Land Claims Agreement* and the NWNSRTA. However the expiry or cancellation of a licence does not relieve the holder from any obligations imposed by the licence." Furthermore, the licence states, "The NWB recommends that an application for the renewal of this Licence be field at least three months prior to the Licence expiry date." DRDC should follow these instructions as they concern the expiry of their Licence and the submission of any future renewal applications so as to respect the Board's water licensing process.

### **2. Waste Management**

- The submitted application states that garbage generated by project activities will be brought to the Hamlet of Resolute for proper disposal. DRDC should provide a letter issued by the Hamlet confirming that they will accept project waste materials. This letter should indicate the types of waste that will be accepted.
- The submitted application states that sewage will be incinerated on-site using diesel powered toilets. The AANDC Water Resources Division recommends that any incineration of waste materials be carried out in accordance with Environment Canada's "Technical Document for Batch Waste Incineration." This document provides information on appropriate incineration technologies, best management and operational practices, monitoring, and reporting.

### **3. Spill Prevention and Contingency Planning**

- DRDC should revise their Spill Contingency Plan to include the following information,

- A copy of a detailed, topographic map in an appropriate scale depicting camp infrastructure, nearby water bodies, spill kits, fuel caches, and other relevant information;
  - Materials Safety Data Sheets for all hazardous materials mobilized to the project area including aviation fuel, diesel fuel, and gasoline.
  - The contact information for AANDC's Manager of Field Operations in the Spill Contingency Plan's Contact List. The Manager can be contacted by telephone at 867 975-4295 and facsimile at 867 975-6445.
- All fuel storage areas should be equipped with secondary containment provisions capable of accommodating any spills/ leaks.
  - Fuel transfers or refueling operations must be carried out in an area that is equipped with drip pans and/ or secondary containment, a spill kit, and a copy of the project's Spill Contingency Plan. All transfer and refueling operations must be performed by trained staff.
  - Waste oil storage should conform to the same requirements as fuel storage. Containers and tanks must meet specifications and secondary containment must be provided.
  - The General Procedures Section of the project's Spill Contingency Plan (page 9 of 12) states that "sodden earth and stone (as a result of any spills) will be removed and placed onto an impermeable sheet for drying (note that the intention at the time of revision is to burn it off if required). Soil and rock will then be returned to the site once fuel is no longer present (either through drying or burn off)." The AANDC Water Resources Division recommends that any soil and rock contaminated by petroleum hydrocarbon spills be delivered to an approved treatment facility and that there be no burning of spilled fuels without specific terms and conditions specified by the Board. If DRDC decides to treat petroleum hydrocarbon contaminated soil and rock on-site they should submit a landfarm facility operations and maintenance plan and associated design drawings to the Board for approval. Environment Canada's December 2005 *Federal Guidelines for Landfarming Petroleum Hydrocarbon Contaminated Soils*, the Canadian Council of Minister's January 2008 *Canada-wide Standards for Petroleum Hydrocarbons (PHC) in Soil*, and any other applicable reference materials should be taken into consideration when designing this facility. Furthermore, effluent discharge criteria consistent with other licensed landfarms should be followed.
  - The Reporting Section of the project's Spill Contingency Plan (page 7 of 12) states that DRDC will consult a document titled *ED 4003-1: Spill Reporting* to determine when it is necessary to report a hazardous material spill. DRDC should familiarize themselves with Nunavut's *Spill Contingency Planning and Reporting Regulations* as they provide the criteria for spill reporting requirements.

#### **4. Abandonment and Reclamation Planning**

- The AANDC Water Resources Division recommends that DRDC submit a revised project specific Abandonment and Restoration Plan as their current plan is dated May 29, 2008. Any changes to project activities should be incorporated into this plan.

Prepared by David Abernethy

c.c.: T. Trenholm, A/Manager of Water Resources  
K. Robertson, A/Manager of Field Operations