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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI

File: 1BR-HAL

March 7, 2007

Douglas Craig, M.Sc.
Environmental Officer
DEW Line Clean Up
Defence Construction Canada Ltd.
Constitution Square, Suite 1720
350 Albert Street
Ottawa, Ontario K1A 0K3
Email: Douglas.Craig@dcc-cdc.gc.ca

Subject: NWB review of the submitted Water Licence Amendment Application for the FOX-Main DEW Line Site Remediation

Dear Mr. Craig,

The Nunavut Water Board (NWB) requests further clarity on issues related to the Water Licence Amendment Application for the FOX-Main DEW Line Site Remediation. The following documents were consulted for the review.

Primary Document Reviewed

- i. **Amendment to Water Use Licence 1BR-HAL0308** – Defence Construction Canada Limited – *FOX-Main DEW Line Remediation, Hall Beach* (dated: January 31, 2007; received: January 31, 2007)

Secondary Documents Reviewed

- i. **2005 Annual Report: Water Use Licence NWB5HAL0308** – UMA Engineering Limited – *FOX-Main DEW Line Remediation, Hall Beach* (dated: March 31, 2006; received: March 31, 2006)
- ii. **Water Licence Amendment Application, FOX-M, Hall Beach** – Defence Construction Canada Limited – *FOX-Main DEW Line Remediation, Hall Beach* (dated: February 2006; received: February, 2006)
- iii. **2004 Annual Report for Water License No. NWB5HAL0308** – UMA Engineering Limited – *FOX-Main DEW Line Remediation, Hall Beach* (dated: April 5, 2005; received: April 11, 2005)
- iv. **Landfill Monitoring Program, FOX-M, Hall Beach** – UMA Engineering Limited – *FOX-Main DEW Line Remediation, Hall Beach* (dated: April 2005; received: April 4, 2005)
- v. **2003 Annual Report for Water License No. NWB5HAL0308** – UMA Engineering Limited – *FOX-Main DEW Line Remediation, Hall Beach* (dated: March 31, 2004; received: March 31, 2004)
- vi. **Water Use Licence Application for the Clean Up of FOX-M, Hall Beach** – Defence Construction Canada Limited – *FOX-Main DEW Line Remediation, Hall Beach* (dated: January 20, 2003; received: February 22, 2003)

After a review of the above listed correspondence it has been determined that additional information and clarity is needed. The NWB requests additional information regarding the following listed items.

1. **General** – For a project of this scope, the Water Licence Amendment Application Form serves to provide introductory information only. More detailed information is required to identify the qualitative and quantitative effects of the proposed project activities to water. Is there a reason why the proponent couldn't have provided a stand alone document that presented this information? Furthermore, a Project Summary in Inuktitut was not provided with the application.

2. **Water Use** – The application form does not indicate the intended water use. The original 2003 Licence Application and the 2005 Licence Amendment Application indicate only that water will be used for dust suppression and granular material wetting. Will the use of water remain the same for this current amendment? Are there any additional water uses for the project? What is the breakdown of estimated water quantity used for different project components?
3. **Waste Disposal** – The application form provided indicates that the proposed remediation work for this project is beyond the scope of the original licence application. It is understood that the additional remedial work will generate waste in excess of the original estimated quantity. Is there sufficient capacity available in the existing disposal facilities (i.e. Non-Hazardous Waste Landfill, Tier II Landfill, and Landfarm) to accommodate the increased volume of waste generated from the expanded cleanup? How did the proponent determine this? Is there a waste volume analysis or calculations showing that the existing on-site disposal facilities have the capacity to accommodate this increased volume of waste? If not, what aspects or components of the original design of each disposal facility allow for this additional waste to be disposed of properly? The NWB requests that the proponent submit signed and sealed engineering design drawings for each disposal facility constructed at the FOX-Main DEW Line site.
4. **Past Performance** – The following concerns were identified with the information in the public registry.
 - a. **Design Drawings** – The drawings provided with the original 2003 Licence Application were not signed or sealed by a professional engineer. The NWB requests that the proponent submit signed and sealed engineering design drawings for each disposal facility constructed at the FOX-Main DEW Line site.
 - b. **Disposal Facilities Design** – The technical support for the choice of waste containment is unclear from the design drawings alone. The NWB requests a design report or summary identifying the limitations, discussing the suitability, and analyzing the effectiveness (i.e. in terms of structural integrity, containment, and contaminant migration) of each of the waste disposal facilities constructed.
 - c. **Modeling** – The original application identifies the proposed thermal monitoring schedule for each disposal facility. However, it is unclear from the materials and information provided what the goal of this monitoring is. It is assumed that freezing of the waste disposal facilities is relied on as a means of containment. The NWB requests a report or discussion detailing the modeling performed to predict the thermal behaviour of each of the waste disposal facilities constructed. If thermal modeling was not completed, what is the rationale for each of the chosen configurations for the disposal facilities constructed? Is there a proven precedent that the chosen designs will perform their desired functions?
 - d. **Annual Report** – As past performance is also examined as part of any water licence application, the 2003, 2004, and 2005 Annual Reports for the FOX-Main Hall Beach DEW Line remediation project were reviewed. The information provided does not always detail sufficiently the progress of the project. For example, for instances when information was absent due to the project stage (e.g. mobilization, construction, post-construction, abandonment and restoration) or due to the proponent not performing a specific optional exercise (e.g. trenches or sumps excavated, revisions to the Spill Contingency Plan or Operation and Maintenance Plan, supplementary studies performed, etc.), as identified in the conditions of the licence, the proponent preferred not to provide any information at all. As a reviewer, it is difficult to determine whether certain aspects of the project were not completed during the reporting year or whether they were mistakenly left out. In light of the current licence amendment application, does the proponent have a suggested format for future Annual Reports that would more clearly describe the development of the project?
 - e. **Post-Construction** – The NWB requests that as-built drawings of the waste disposal facilities constructed as part of the original remediation project be provided with the amendment application

In summary, the Board requests a formal response to each of the above enquiries. Sufficient detail should be provided in submitting response materials to the listed enquiries. If you require any assistance whatsoever, please feel free to contact me at (867) 360-6338 or tech5@nunavutwaterboard.org.

Sincerely,

Original signed by:

Matthew Hamp, BSc.
Technical Advisor

cc:

Eva Schulz, P.Ag., UMA Engineering Ltd., Eva.Schulz@uma.aecom.com
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