



Your file - Votre référence
8AC-ALT----

August 26, 2016

Our file - Notre référence
IQALUIT-#1093468

Licensing Department
Nunavut Water Board
P.O. Box 119
GJOA HAVEN, NU, X0B 1J0

Sent via email: licensing@nwb-oen.ca

Re: Completeness Assessment of Type 'A' Water Licence Application – Canadian Forces Station Alert (Water Licence 8AC-ALT----)

To Whom It May Concern,

Thank you for the Nunavut Water Board's July 21, 2016 notice of the above mentioned Water Licence application. A memorandum is provided for the Nunavut Water Board's consideration. Comments and recommendations have been provided pursuant to Indigenous and Northern Affairs Canada's mandated responsibilities under the *Nunavut Waters and Nunavut Surface Rights Tribunal Act* and the *Department of Indian Affairs and Northern Development Act*.

Please do not hesitate to contact me by telephone at 867-975-3877 or email at Amanda.Winegardner@aandc-aadnc.gc.ca for further information.

Sincerely,

Amanda Winegardner
Water Management Specialist
Water Resources Division
Resource Management Directorate
Indigenous and Northern Affairs Canada
P.O. Box 100
IQALUIT, NU X0A 0H0

Encl.

Cc. Ian Parsons, A/Manager, Water Resources Division- INAC, Nunavut Regional Office (NRO)
Karen Costello, Director, Resource Management Directorate – INAC, NRO
Andrew Keim, A/Manager, Field Operations – INAC, NRO

Memorandum

To: Licensing Department, Nunavut Water Board

From: Amanda Winegardner, Water Management Specialist, Indigenous and Northern Affairs Canada, Nunavut Regional Office (NRO)

Cc: Ian Parsons (INAC; NRO), Karen Costello (INAC; NRO), Andrew Keim (INAC; NRO)

Date: August 26, 2016

Re: Completeness Assessment of Application for Type 'A' Water Licence No. 8AC-ALT----

Applicant: Department of National Defence
Applicant

Representative: Colonel Kevin G. Horgan, Commander Real Property Operations Group

Project: Canadian Forces Station Alert

Region: Qikiqtani

A. Background

On July 21, 2016, the Nunavut Water Board (NWB or Board) distributed the Department of National Defence's (DND; the Licensee) Application for a new Type 'A' Water Licence, 8AC-ALT----, to interested parties for a completeness assessment. This Type 'A' Water Licence Application is meant to regulate water use, waste disposal and land farm activities at Canadian Forces Station (CFS) Alert, located on northern Ellesmere Island. The Application was originally submitted by the DND as an amendment and renewal for 3BC-ALT1015 and has been re-classified as a Type 'A' Application as daily water use at CFS Alert is in excess of 300 m³/day. Daily water use exceeds the threshold for a Type 'B' Water Licence, largely due to the re-circulation of source water through distribution pipes to prevent freezing. Interested parties were originally asked to perform their completeness review of this Application by August 19, 2016; however an extension was requested by Indigenous and Northern Affairs Canada and granted by the NWB to August 26, 2016.

CFS Alert is a remote military installation operated by the DND, in continuous operation since 1958. The site includes facilities that support a year-round population ranging from 50-100 people, with the summer population increasing to ~200 people. Military exercises held at CFS Alert can see total population increase to as much as 400 people at one time.

Interested parties were asked to submit comments on the completeness of the Application, Information Requests (IRs) to be submitted to the NWB and the type of Technical Meeting (TM)

and Pre-Hearing Conference (PHC) to be held. The Application included the following documents available on the NWB's public registry:

- Cover letter
- Water Licence Application for renewal and amendment of 3BC-ALT1015 (now 8AC-ALT----
- Supplemental Information Guideline for land farms
- Operation and Maintenance Plan for CFS Alert, including the following Appendices:
 - Copy of 3BC-ALT1015
 - Hazardous Materials Management Plan
 - Spill Contingency Plan
 - Quality Assurance/Quality Control Plan
 - Thermal Oxidizer Report
- Compliance Plan for CFS Alert
- Executive summary of the Application in both English and Inuktitut
- Order in Council regarding land use permits
- Water usage reports for CFS Alert (2013 and 2014)
- As-built drawings for several site facilities
- Request for Licensee name change
- Notifications on submission to Nunavut Planning Commission and on retraction of previous (2014) amendment application

In addition to the re-classification of this Water Licence to a Type 'A', the Licensee is requesting a licence term of 5-10 years and an amendment to the expired 3BC-ALT1015 to include an additional land farm for contaminated soil remediation that was constructed in 2013.

B. Results of review

On behalf of INAC's Water Resources Division, the following comments and recommendations are provided for consideration:

General Comments

1. Application completeness

INAC considers the Application to be complete with the exception of some recommendations and Information Requests outlined in this memorandum. The requirements of the NWB's *Guide #4: Completing Submitting Water Licence Application* (NWB 2010) appear to have been satisfied. Additionally, the Licensee has completed the NWB's *Supplemental Information Guideline I3: Industrial Supplemental Information Guideline for Hydrocarbon Impacted Soil Storage and Landfarm Treatment Facilities* (NWB 2010).

2. Proposed water use

Source:

- 1) 8AC-ALT1015 Application for Water Licence Renewal, Section 13: Quantity of Water Involved
- 2) 8AC-ALT1015 Water Usage 2013 Results
- 3) 8AC-ALT1015 Water Usage 2014 Results

Comment: The Licensee has requested authorization for daily allowable use of 700 m³; for camp purposes as well as re-circulation of source water in order to prevent the freezing of pipes. INAC notes however that water usage summaries for 2013 and 2014 include months with maximum daily use amounts in excess of 700m³/day, even when average daily use amounts were below 700 m³. In 2013, maximum daily usage exceeded 700m³ in all months except for October and December in 2013. Maximum daily usage also exceeded 700m³ in September of 2014.

Recommendation 1: INAC recommends that the Licensee confirm their estimated daily water use and that they should amend their Application to include higher daily water use, i.e. to allow water use higher than their daily maximum usage. For example, since recent years show maximum daily usage amounts of up to 850 m³/day, applying for water usage of 875 m³/day would be more proactive.

3. Upcoming comments on sewage treatment system

INAC advises the NWB and the Licensee that comments at the Technical Review stage will likely focus on the current sewage treatment system, including: the design, efficacy and monitoring of the terraced sewage treatment system, high levels of Total Suspended Solids in effluent from the terraced sewage system, potential erosion into water bodies from the flow of sewage overland, as well as the lack of a mechanical Wastewater Treatment Plant. A thorough Technical Review of the Licensee's 2014 'Wetland Report' (Balch et al. 2015) and parameter exceedances reported in the Licensee's Annual Reports are also expected.

4. Lack of specific information in management plans

The Licensee has submitted and had approved (under 3BC-ALT1015), several management plans including a Hazardous Materials Management Plan and a Spill Contingency Plan. INAC notes however, that these plans do lack some specific site information, for example the frequency of hazardous material shipment off of site and detailed (site-specific) plans for spill response on snow, ice and open-water. INAC expects to make additional comments on these plans during the Technical Review.

5. Licence term

The Licensee has requested a Water Licence term of 5-10 years for this renewal. INAC would support a Water Licence term of 10 years, pending resolution of any issues

identified during the Technical Review stage.

Information Requests

Outstanding reports and plans required from 3BC-ALT1015

1. The Licensee's Abandonment and Restoration should be updated to fully reflect Part I: 'Conditions Applying to Abandonment and Restoration or Temporary Closing' of 3BC-ALT1015.

Context: The Licensee has submitted a general Abandonment and Restoration for CFS Alert; however Part I, 1 of expired 3BC-ALT1015 requires an Abandonment and Restoration Plan for any landfills or on-site facilities no longer in use. As such, INAC suggests that the Licensee provide more specific Abandonment and Restoration plans for any waste disposal areas that are not currently being used so that these can be fully assessed in the technical review stage of the Water Licence Application process.

2. The Licensee's Operations and Maintenance Manual should be updated to include a sludge management procedure, as specified in Part H: 'Conditions Applying to Operations and Maintenance' of 3BC-ALT1015.

Context: The sewage treatment section of the Licensee's current Operations and Maintenance Manual does not explicitly cover the management of sludge along the flow of sewage of the terraced sewage system. This deficiency has been noted by intervenors during past technical review processes.

3. The Licensee should ensure that all management plans are submitted as stand-alone plans and not just as Appendices to the Operations and Maintenance Manual.

Context: The majority of the Licensee's management plans have already been partially formatted to be stand-alone plans and can simply be re-named as such with the inclusion of additional introductory material. All additional plans should be submitted as stand-alone plans. This ensures that plans can be used efficiently without the need to consult or search other documentation.

4. The Licensee should submit an Annual Report and supporting documentation for 2015.

Context: Annual Reports for 3BC-ALT1015 from 2010-2014 are available on the NWB's public registry. The 2015 Annual Report is required to assess any progress made between 2014 and 2015.

Additional plans required for 8AC-ALT----

5. The Licensee should prepare and submit a stand-alone Fuel Management Plan to complement the existing Spill Contingency Plan.

Context: CFS Alert has experienced at least two major spills of fuel in recent years, and large amounts of fuel are stored continuously on site. A fuel management plan is a standard requirement for other Type 'A' Water Licences.

6. The Licensee should prepare and submit a stand-alone Water Management Plan to complement their existing Operations and Maintenance Manual.

Context: The Licensee's current Operations and Maintenance Manual includes descriptions of the water intake and distribution systems as well as sewage treatment, landfill and land farm operations. However information is lacking on water flow across the site as well as water quality at different stages of the re-circulation process.

Efficacy and monitoring of the sewage terrace system

7. The Licensee should provide any results or reports undertaken on the relationship between site-specific Chemical Oxygen Demand (COD), Carbonaceous Biochemical Oxygen Demand (cBOD) and Biochemical Oxygen Demand (BOD₅) for the sewage treatment terrace.

Context: The Licensee has experienced difficulty in meeting holding time requirements for the testing of BOD₅ and has suggested in the past that they were willing to undertake research to determine site-specific relationships between COD and cBOD and BOD₅ in order to support recommendations that Water Licence effluent criteria include COD as the regulated parameter as opposed to cBOD or BOD₅. As exceedance of criteria for BOD₅ continue to be problematic for this site, any information on the site specific relationships for these parameters would be useful at the technical review stage.

C. Type of Technical Meeting, Pre-Hearing Conference and Public Hearing

INAC is not opposed to a Technical Meeting and Pre-Hearing Conference held by teleconference and will accommodate any decision made by the NWB regarding these meetings. Additionally, INAC will make arrangements to participate in any format for the Public Hearing as chosen by the NWB.

D. Works cited

Bach, G.C., Broadbent, H., Sheppard, M., Rawlings, K., Paul, J., and Wootton, B.C. (2015). Centre for Alternative Wastewater Treatment, *CFS Alert Wetland Report 2014*. March 2015.

NWB. (2010). Nunavut Water Board, *Industrial Supplemental Information Guideline for Hydrocarbon Impacted Soil Storage and Landfarm Treatment Facilities (I3)*. February 2010.

NWB. (2010). Nunavut Water Board, *Guide #4: Completing Submitting a Water Licence Application*. April 2010.