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/5 February 2010

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NWB File: 3BM-ALT
CIDMS #: 375180

RESPONSE TO INAC TECHNICAL REVIEW
MEMORANDUM DATED 22 DECEMBER 2009

Further to your letter of 22 December 2009, the following information is provided:

Question 12 of the water license application asks for a list of contractors and sub-contractors. The proponent should clarify if there are no contractors or sub contractors or if this question is not applicable. The question should not be left unanswered.

Response: The Department of National Defence (DND) employs numerous contractors to conduct work in the North. However, any contractor conducting work on behalf of the DND is directly supervised, therefore, DND is responsible to ensure that the contractor abides by all Federal and Provincial/Territorial requirements. Recently, Canadian Base Operators has been contracted to supply services (catering, cleaning, and general maintenance) for the Alert facility.

Question 13 of the water license application asks for a list of studies undertaken to date. Again, if there are no studies or if the question is not applicable, then it should be stated.

Response: The National Research Council of Canada Biotechnology Research Institute (NRC-BRI) has been conducting studies at Alert on behalf of the DND for the past three years (2006, 2007, and 2008). Copies of the reports are included with this submission.

Part III Water Supply – Modifications Question 1 of the water license supplemental Questionnaire for Municipalities asks if there any changes planned for the water supply

system; if yes please attach a copy of the plan, or describe changes. Provide information on the implementation schedule.

The question was answered yes, however, the only description given was that there are several initiatives and building renovations planned. The proponent should describe these changes in more detail.

Response: As indicated in the submission, DND is considering a modernization of the existing facility in Alert. The modernization could include building renovations as discussed in the submission. However, more specific to the water licence, DND is considering replacement of the existing water pipeline leading from Upper Dumbell Lake to the water treatment facility which was installed approximately 30 years ago. The replacement could be conducted as early as 2011. No increase in water draw is anticipated with the new piping system.

Part VI Inspection and Monitoring – Question 4 of the water license Supplemental Questionnaire for Municipalities asks have any spills occurred in the past five years. If yes, describe and show on a map the locations of the spills. What action has been taken to clean the affected areas?

The proponent answered yes to this question, and went on to state there have been several minor spills and one major spill along the pipeline joining the upper and lower tank farms. No map locations of these spills were given and no remedial actions were described for the minor spills.

The proponent should include map locations including coordinates (GPS, UTM) of where exactly these spills occurred along the pipeline and remedial actions taken to clean up the minor spills.

Response: The pipeline linking the upper and lower tank farms at Alert extends more than a kilometer in length. The major spill occurred immediately adjacent to the lower tank farm while the minor spills occurred at pipe joints between the two tank farms. UTM/GPS coordinates were not taken of the spill sites and are therefore not available. Minor spills were immediately cleaned up by either collection of the snow or superficial soils. Soils removed are taken to the land farm for remediation.

Remedial actions taken regarding the major spill included the construction of an earthen berm to contain the fuels from reaching the inlet. Any liquid fuels remaining were collected in a sump excavated in the spill area and removed. Following the removal of the liquid product, excavation of impacted soils down to the permafrost layer was conducted. Soil samples were collected from the limits of the investigation for submission for laboratory analysis. Soils from the excavation were placed in the land farm for remediation.

Part VI Inspection and Monitoring – Monitoring Program Question 1a) of the water license Supplemental Questionnaire for Municipalities asks to briefly describe how samples are taken and sent to the laboratory.

The proponent fails to answer this question, the proponent states what parameters are tested, but never describes how the samples are taken or sent to the laboratory for analysis.

Response: Samples are collected following the criteria provided in the Health Canada publication entitled Guidelines for Canadian Drinking Water Quality. The collection of samples is conducted by civilian personnel certified in water and wastewater treatment, or by Military QL5 Water Fuel and Environment Technicians. Samples collected are submitted to qualified laboratories in laboratory supplied containers, shipped in a sealed cooler, with completed chain of custody documents. The samples are flown out of Alert via military transport.

Part VI Inspection and Monitoring – Monitoring Program Question 1e) of the water license Supplemental Questionnaire for Municipalities asks are any changes planned in the water quality-monitoring program? If yes, describe.

The proponent answers this question yes, however fails to give any description.

Response: As indicated in the question **Part III Water Supply – Modifications Question 1**, there are plans to make modifications to the potable water supply to the Station. As such, there could be changes to where samples are collected, however the methodology as indicated in the question above, for sampling will not change.

Part IX Technical Information Questions 1&3 of the water license supplemental questionnaire for municipalities asks for contact information.

This information was not addressed.

Response: Contact Information for CFS Alert is as follows:

Contact: Commanding Officer Alert
Phone: 1 613 945 3145 (ext 3201)
Fax: 1 613 945 3145 (ext 3394)

Part IX Technical Information – Hydrology Question 2 of the water license Supplemental Questionnaire for Municipalities asks to describe the characteristics of the drainage basin, including vegetation, soil type, lakes, swamps and permafrost areas.

This information was not addressed.

Response: Section 2.2 of the Supplemental Information supplied with the application provided a very general description of the drainage basin. Although a detailed

geological assessment of the basin has not been conducted by DND, the drainage basin soils mainly consist of coarse grained silts, and sands, with trace clay within the active area of the soils. The active area (the soils between grade and the continuous permafrost) is approximately a foot in thickness. Vegetation in and around the general vicinity of CFS Alert is very sparse due to the semi-arid climate and the short duration of the warmer summer season. As indicated in the application, Upper and Lower Dumbell Lakes, the source of potable water for CFS Alert, are located southwest of Alert.

Other Concerns:

At this time, there is untreated sewage being released to the environment, this issue should be addressed before a water license is issued. As well, there are several non-compliances in the inspector's report which should be addressed before issuing a water license.

CFS Alert has been in operation since 1952, as a Canadian Forces Base contributing to the sovereignty of our country. Sewage throughout the far North is a problem; however, through discussions with the Territory, a solution for the Alert site has already been addressed. Included with the application were drawings indicating revisions to the existing system to create an overland flow treatment system (terraces to direct and slow flow of the effluent) which has been approved for the treatment of effluent. These revisions to the system are expected to be implemented during the summer of 2010, bringing the system to compliance with the requirements of the Territory.

Should you have any other questions or concerns, please contact the undersigned at (204) 833-2500 extension 5250.



R.C. Baker
Colonel
Director A4 Construction Engineering