Environmental Protection Operations Directorate
Prairie and Northern Region (PNR)
5019 52nd Street, 4th Floor
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Yellowknife NT X1A 2P7

June 21, 2013

EC file: 4105 006 454
NWB file: 3BC-ALT1015

Phyllis Beaulieu, Manager of Licensing
Nunavut Water Board
P.O. Box 119
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Via e-mail: licensing@nunavutwaterboard.org

Attention: Ms. Beaulieu

RE: 3BC-ALT1015 Request for Modification and Construction

Environment Canada (EC) has reviewed the above-mentioned request submitted to the Nunavut Water Board (NWB). The following specialist advice is provided pursuant to the *Canadian Environmental Protection Act 1999*, the pollution prevention provisions of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

The Department of National Defence (DND) has submitted a notification of proposed modifications and construction for CFS Alert's Fuel System and Waste Disposal Facility. The proposed modification involves the replacement of the existing Fuel Day Tank Compound and connecting fuel pipelines. The new Compound will be situated in the same location as the existing Compound, and it will include a new fuel storage tank and secondary containment berm. As well, the proposed modification to CFS Alert' s Waste Disposal Facility involves constructing a new engineered landfarm facility adj acent to the ALT- 10 location.

Based on a review of the license application and supporting materials, EC provides the following comments for the NWB's consideration:

1. Subsection 36(3) of the Fisheries Act specifies that, unless authorized by federal regulation, no person shall deposit or permit the deposit of deleterious substances of any type in water frequented by fish, or in any place under any conditions where the deleterious substance, or any other deleterious substance that results from the deposit of the deleterious substance, may enter any such water. The definition of a deleterious substance (Subsection 34(1) of the Fisheries Act) includes "any water that contains a substance in such quantity or concentration, or that has been so treated, processed or changed, by heat or other means, from a natural state that it would, if added to any other water, degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water." Subsection 36(3) makes no allowance for a mixing or dilution zone at the point of deposit.

2. The Federal Guidelines for Landfarming Petroleum Hydrocarbon Contaminated Soils (SAIC, 2005) should be consulted as they contain landfarming specifics including minimum distances from landfarms to surface waters (500 m). Reference: SAIC Canada. 2005. *Federal guidelines for landfarming petroleum hydrocarbon contaminated soils*.

3. With respect to the remediation of petroleum hydrocarbon contaminated soils, please note that EC has a number of documents available that references design, siting, operation, monitoring, sampling and analytical methods, decommissioning and closure as well as record keeping and reporting for cold climate land farming/bioremediation facilities. Please contact this office if you wish a copy of any of these:
    - *Federal Guidelines for Landfarming Petroleum Hydrocarbon Contaminated Soils*. SAIC Canada (Science Applications International Corporation), December 2005;
    - *Bioremediation of Petroleum Hydrocarbons in Soil and Groundwater Under Cold Climate Conditions: A Review, Implications for Applications in Canada*. Dale Van Stempvoort and Pamela Grande, National Water Research Institute in Burlington, December 2005; and
    - *Cold Climate Bioremediation: A Review of Field Case Histories*. Pamela Rogers, Research Assistant, Department of Civil & Environmental Engineering, University of Alberta, July 2005.

4. Please refer to the *Canadian Environmental Protection Act (CEPA) Storage Tank System for Petroleum Products and Allied Petroleum Products Regulations*. These Regulations apply to both outside, aboveground and underground storage tank systems (including the piping and other tank associated equipment) under federal jurisdiction containing petroleum and allied petroleum products that have a capacity greater than 230 litres. This includes tanks located on federal or Aboriginal lands. Exceptions are pressurized tanks, mobile tanks, tanks regulated by the National Energy Board, and outdoor, aboveground storage tank systems that have a total combined capacity of 2500 litres or less and are connected to a heating appliance or emergency generator. All storage tank system owners must identify their tank systems to EC and installation of new systems must comply with the regulation's design requirements. Further information on these regulations can be found at www.ec.gc.ca/st-rs.

Should you require further information, please do not hesitate to contact me at 867-669-4746 or jane.fitzgerald@ec.gc.ca.

Sincerely,

Jane Fitzgerald
Environmental Assessment Coordinator

cc: Yongshu Fan, Senior Environmental Assessment Coordinator, Environmental Assessment and Marine Programs-PNR, EC