



Environment
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Prairie and Northern
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May 7, 2009

Our file Notre référence 4703 003 028

Your file Votre référence 1BR-LTU0608

Phyllis Beaulieu
Manager of Licensing
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU, X0B 1J0

Via Email at licensingadmin@nunavutwaterboard.org

Dear Phyllis Beaulieu,

Re: NWB 1BR-LTU0608 – Transport Canada – LTU Project – Renewal Type B

Environment Canada (EC) has reviewed the information submitted with the above-mentioned application dated April 7, 2009. The following requested specialist advice has been provided pursuant to EC's mandated responsibilities arising from the *Canadian Environmental Protection Act* (CEPA), Section 36(3) of the *Fisheries Act*, and the *Migratory Birds Convention Act*.

It is the understanding of EC that Transport Canada (TC) is applying to renew their water license (1BR-LTU0608 Nunavut Water Board, August 21, 2006) (herein known as "the water license") for water use and waste disposal associated activities in the Qikiqtani region of Nunavut.

TC received a water license from the Nunavut Water Board (NWB) to operate a landfarm in order to treat petroleum hydrocarbon (PHC) contaminated soil at the Iqaluit airport. The water license outlines the terms and conditions for the operations and maintenance of the facility. TC had anticipated the construction of one large Land Treatment Unit (LTU), however the topographic conditions and airport operations made this difficult due to restriction related to the runway, adjacent taxiway and apron. Therefore, TC constructed two smaller LTU cells adjacent to the previously constructed LTU cells that will be decommissioned in the near future.

EC reviewed the original water license application and provided comments to NWB on June 30, 2006 (see attached original letter). EC asked a number of questions, and as of today have not received any response. As such, the comments below under the 'General' section largely stem from our June 30th letter. EC believes they are important to stress again in order to ensure our mandated responsibilities as outlined above are met, and the environment protected.

General

1. EC had requested further information regarding the additional reinforcement at the toe of the sump berm, as indicated in the Technical and Project Team Proposal. The Report states: "since the LTU is to be managed for more than one field season, additional reinforcement will be provided for the berm toe located down-gradient since considerable more pressure can be sustained if the sump area becomes filled with

water after a significant rain event and from snow melt runoff in the spring” (page 12). Any works should ensure that the berm is stable and functioning appropriately to contain the contaminated material. Therefore, EC requests confirmation that the berm is stable and functioning appropriately for all cells on site be included in any monitoring reports.

2. The Technical and Project Team Proposal indicates that the monitoring wells were to be installed at a depth of 0.3 m. Monitoring wells must be installed to a depth that will capture any contaminants of concern at this site, therefore the wells should be verified to ensure they are functioning as intended.
3. The Technical and Project Team proposal indicated that the transformer oil on site is “non-PCB oil”. Generally, industry uses the term “non-PCB oil” to refer to transformer oils that contain less than 50ppm of PCB. EC requested confirmation regarding whether PCBs are present in the oil and if so, in what concentrations? If PCBs are present, the proponent should provide details regarding disposal options. All hazardous wastes, including waste oil, should receive proper treatment and disposal at an approved facility.
4. While information is provided regarding sampling protocols and quality control/quality assurance protocols, information regarding long-term monitoring plans for the LTU do not seem to be included in the application. EC would still recommend that information is submitted to outline the frequency and timing of soil and groundwater well sampling. In addition, EC would appreciate receiving any compiled monitoring results for review.
5. EC notes that the 2008 Annual Report (LTU Annual Report 2008, Transport Canada, March 2009) makes reference to an excavation of contaminated soils in the First Air Cargo Building (Part B Item 2, section i). EC would like to further emphasize the following recommendations made in the original letter of comment for any future excavations:
 - Should water be encountered during excavation, preventative measures should be implemented at the discharge point to minimize erosion and sedimentation.
 - The proponent shall ensure that measures to prevent sedimentation of the downstream environment are employed during excavation.
6. The Technical and Project Team Proposal indicated that a site-specific Spill Contingency Plan would be developed. EC recommended that this plan be developed and submitted for review as soon as possible. The Spill Contingency Plan should provide a clear path of response in the event of spill and address the key areas of prevention, preparedness, response and recovery. Furthermore, the water license included in its general conditions that “An up-to date copy of the Spill Contingency Plan” shall be filed with the Board no later than March 31st of the year following the calendar year. EC is not aware of any such plan being submitted to the Board that contained the conditions as stated in the water license Part H, point 1. EC recommends that this condition be upheld.
7. The Technical and Project Team Proposal makes reference to the use of annual rye grass to help stabilize soils on site and minimize erosion sedimentation. EC

recommends that the proponent use native species if vegetation is going to be used as a preventative measure for erosion and sedimentation.

In addition, EC further recommends the following new recommendations:

8. The proponent submitted an O&M Plan to the NWB on January 1, 2009 (herein known as "the plan"). The plan contains the following elements: a sampling program for soil, nutrient amendments for tiling, leachate management, sampling of monitoring wells, remediation targets and the LTU closure program. EC agrees that these measures should be in place, but also has the additional following recommendations with respect to the general operation of landfarms to be included in the O&M plan. Please note that these recommendations are not intended to serve as a comprehensive set of design and operational specifications.

Design plans and specifications should incorporate the following requirements:

- Inspection and maintenance of the landfarm to ensure its effectiveness;
- Procedure for snow removal /treatment prior to spring melt;
- A means of controlling dust from and precipitation infiltration into the land treatment facility;
- Access to the site should be restricted through fencing or other suitable means and signs warning of the potential hazard;
- Prior to the placement of any contaminated soil in the land treatment facility, the contaminated soil in question should be characterized with respect to the quality and level of contamination and a treatability study carried out to determine the feasibility of remediating the contaminated soil to an acceptable level that meets the appropriate criteria as set forth in Canadian Councils of Ministers of the Environment (CCME) Canadian Soils Quality Guidelines (CSQG) (The proponent is requested to review the information in Appendix A of the attached letter dated June 30, 2006 for details regarding characterization of source soils, and further information on landfarming practices);
- A detailed set of operations procedures should be prepared which identifies the recommended frequency and methods of tillage, microbial population density, moisture content of soil, depth of piles/windrows, and the type and application rate of any land treatment amendments, i.e. water, air, lime, nutrients, or inoculum which may be required; and
- A health and safety plan should be developed which addresses both the site workers and, where applicable, nearby inhabitants.

EC did provide comments on the original submission of the O&M plan (EC letter to NWB, January 31, 2007, see attached original letter); however these recommendations do not appear to be included in the current O&M plan.

9. The proponent indicated that the soil criteria used for this site will be under the CCME Canada Wide Standards for Petroleum Hydrocarbon Contaminated Sites Tier 1, coarse grain soil, industrial site (section A, sampling program of the plan). The NWB is advised that this cleanup criteria renders the soil inappropriate for any future residential or parkland use; the soil's eventual fate should be closely monitored. EC recommends that a condition of the license be that the soil will only be used for commercial/industrial

uses after remediation unless confirmatory sampling indicates that the soil is remediated to residential or parkland criteria.

10. Accurate records should be maintained by the owner/operator which contain the following information:
- A detailed description of the size and location of the land treatment facility;
 - Quantitative and qualitative data on the soil treated at the site;
 - Monitoring data as set forth above;
 - The final destination of the treated soil and its intended use.

Water Quality – *Fisheries Act* Section 36(3)

11. Meeting the requirements of the *Fisheries Act* is mandatory, irrespective of any other regulatory or permitting system. Section 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 legal definition of deleterious substance provided in section 34(1) of the *Fisheries Act*, in conjunction with court rulings, provides a very broad interpretation of deleterious and includes any substance with a potentially harmful chemical, physical or biological effect on fish or fish habitat.

CEPA – Spill Prevention, Preparedness and Response

12. Please note that any spill of fuel or hazardous / deleterious materials, adjacent to or into a water body, **regardless of quantity**, shall be reported immediately to the NWT/NU 24-hour Spill Line, **(867) 920-8130**
13. EC recommends that a secondary containment or a surface liner (drip pans, fold-a-tanks, etc) be placed under all container or vehicle fuel tank inlet and outlet points, hose connections and hose ends during fuel or hazardous substance transfers. This containment should be of adequate size and volume to contain and hold fluids for the purpose of preventing spills (the worst case scenario).
14. EC recommends that the appropriate spill response equipment and clean-up materials (absorbents, containment devices, etc.) be on hand during any transfer of fuel or hazardous substances and at vehicle maintenance areas.

CEPA – Hazardous substances

15. The proponent shall ensure that all hazardous wastes, including waste oil, receive proper treatment and disposal at an approved facility. Furthermore, Spill Contingency Plans should include locations of disposal sites approved to accept wastes and means of storage prior to disposal.
16. If any contaminated and/or hazardous material is to be removed from the site, EC recommends that the proponent provide the information regarding disposal and transportation methods in an up-to date copy of their Spill Contingency Plan.

Wildlife

17. Section 5.1 of the *Migratory Birds Convention Act* prohibits persons from depositing substances harmful to migratory birds in waters or areas frequented by migratory birds or in a place from which the substance may enter such waters or such an area.

If there are any changes in the plan, EC should be notified, as further review may be necessary. Please do not hesitate to contact me at (867) 669-4748 or Stacey.Lambert@EC.gc.ca with any questions concerning the above points.

Yours truly,

Original signed by

Stacey Lambert
Environmental Assessment Coordinator, EPO

cc: Carey Ogilvie (Head, Environmental Assessment North, EPO)
Lisa Perry (Environmental Assessment Coordinator, EPO)
Myra Robertson (Environmental Coordinator, CWS)
Jody Klassen (Contaminated Sites, EPO)