



Environment Environnement  
Canada Canada

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February 25, 2010

Our file: 4517 000 025  
NWB file: 1BR-FOD0813

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*Via email: [licensingadmin@nunavutwaterboard.org](mailto:licensingadmin@nunavutwaterboard.org)*

**RE: AECOM Canada Ltd. - 1BR-FOD0813 – FOX-3 Dewer Lakes Operation and Maintenance Plan, Spill Contingency Plan, and Post-Construction Monitoring Plan**

On behalf of Environment Canada (EC), I have reviewed the information submitted with the above-mentioned application. The following specialist advice has been provided pursuant to the *Canadian Environmental Protection Act*, Section 36(3) of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

AECOM Canada Ltd. has submitted an Operation and Maintenance Plan, a Spill Contingency Plan, a Quality Assurance Quality Control Plan (QA/QC), and a Post Construction Monitoring Plan for the FOX-3 Dewer Lakes DEW Line Site, as part of Water License 1BR-FOD0813 from the Nunavut Water Board. The FOX-3 DEW Line site is located at 68°38'99"N 71°13'76"W. Activities at the site include the clean up of physical debris and/or contaminants caused by previous activities. Clean up activities include demolition of existing facilities no longer required, removal of contaminated soils, removal of scattered surface and partially buried debris, restoration of physically disturbed areas, the creation of a new landfill to contain non-hazardous soil and wastes generated during the clean up operations, and the remediation of the existing landfill. Work will commence in late May or early June and an estimated 60 people will be on-site.

Upon review of the three project plans submitted by AECOM Ltd., EC provides the following comments and recommendations for the Nunavut Water Board's consideration:

**Operation and Maintenance (O&M) Plan**

- The O&M plan states that garbage will be incinerated. Please note that EC has developed a Technical Document for Batch Waste Incineration, and is available at the following web link:  
<http://www.ec.gc.ca/drgd-wrmd/default.asp?lang=En&n=82401EC7-1>  
The technical document provides information on appropriate incineration technologies, best management and operational practices, monitoring and reporting.
- The O&M plan should include provisions for dealing with any accumulations of solids or sludges that may occur along the flow path, and how accumulated sludges in the lagoons will be removed, if needed.
- The O&M plan should contain information on how to proceed when active migratory bird nests are found during the demolition of structures in reclamation areas.

- Section 6 (a) of the *Migratory Birds Regulations* states that no one shall disturb or destroy the nests or eggs of migratory birds. In order to minimize the risk of accidentally disturbing or destroying nests or eggs of migratory birds during demolition or remediation activities, Environment Canada recommends the following mitigation measures for migratory birds:
  - Remediation work in known nesting areas should be undertaken either before or after the nesting season. Structures with known nests should be taken down either before or after the nesting season.
  - If other demolition or remediation work occurs during the nesting season, these areas should be inspected for active nests before any demolition or remediation work starts.

#### Post Construction Monitoring Report and QA/QC Plan

- There is no indication of what guideline levels the monitoring program will compare sample values to, it is recommended that either guidelines are developed prior to implementing the monitoring program, or available guidelines (e.g., CCME) are used.

#### Spill Contingency Plan

- A copy of the Plan should be posted where crew members have access to it, and at each fuel cache and refuel station.
- The Plan should include the following statement “**all spills** of oil, fuel, or other deleterious material, **regardless of size**, are to be reported to the NWT-NU 24hr Spill Line (867)920-8130”.
- All sumps, spill basins, and fuel caches should be located in such a manner as to ensure that their contents do not enter any water body, and are to be backfilled and re-contoured to match the surrounding landscape when they are no longer required.
- Refueling shall not take place below the high water mark of any waterbody and shall be done in such a manner as to prevent any hydrocarbons from entering any waterbody frequented by fish.
- A map of the site, including fuel storage and contaminated soil storage area, should be included prior to operational start up.
- The *Reporting* subsection should include reportable spill quantities (see table Schedule 1 below)

#### Schedule 1 – Reportable Quantities

TDG Class	Substance	Reportable Quantities for NWT/NU 24-Hour Spill Reports
1.0 2.3 6.2 6.2 7.0 None	Explosives Compressed gas (toxic/corrosive) Infectious substances Sewage and wastewater (unless otherwise authorization) Radioactive materials Unknown substance	Any amount
2.1 2.2	Compressed gas (flammable) Compressed gas (non-corrosive, non-flammable)	Any amount of gas from containers with a capacity greater than 100 L
3.0	Flammable liquid	≥ 100 L
4.1 4.2 4.3	Flammable solid Substances liable to spontaneously combustible Water reactant substances	≥ 25 kg
5.1	Oxidizing substances	≥ 50 L or 50 kg
5.2 9.0	Organic peroxides Environmentally hazardous substances intended for disposal	≥ 1 L or 1 kg

6.1 8.0 9.0	Toxic substances Corrosive substances Miscellaneous Products, Substances or Organisms	≥ 5 L or 5 kg
9.0	PCB mixtures of 5 or more parts per million	≥ 0.5 L or 0.5 kg
None	Other contaminants, e.g., crude oil, drilling fluid, produced water, waste or spent chemicals, used or waste oil, vehicle fluids, wastewater, etc.	≥ 100 L or 100 kg
None	Sour natural gas (i.e., contains H <sub>2</sub> S)	Uncontrolled release or sustained flow of 10 minutes or more
3.0	Sweet natural gas	
None	Flammable liquid	≥ 20 L
	Vehicular fluid	When released on a frozen water body used as a working surface

**Report releases/potential releases of any size that:**  
**are near or into an open water body;**  
**are near or into a designated sensitive environment or sensitive habitat;**  
**pose an imminent threat to human health or safety; or**  
**pose an imminent threat to a listed species at risk or its critical habitat.**

**Note:** L = litre; kg = kilogram; PCB = polychlorinated biphenyls; ppm = parts per million.

Previous comments and recommendations submitted by C. Spagnuolo on March 20, 2006 relating to the FOX-3 Dewar Lakes Project would still apply (see attached). If there are any changes in the proposed project, EC should be notified, as further review may be necessary. Please do not hesitate to contact me with any questions or comments with regards to the foregoing at (867) 975-4631 or by email at paula.c.smith@ec.gc.ca

Yours truly,

***Original signed by***

Paula Smith  
Environmental Assessment Coordinator  
Environmental Assessment – North  
Environmental Protection Operations

Cc: Carrie Spavor, (Environmental Assessment Coordinator, Iqaluit, NU)  
Carey Ogilvie (Head, EA-North, EPO, Yellowknife, NT)  
Ron Bujold (Environmental Assessment Technician, EPO, Yellowknife, NT)  
Myra Robertson (EA Coordinator, Canadian Wildlife Service, EPO, Yellowknife, NT)  
Mirey Lopez (Contaminated Sites Officer, Environment Canada, Calgary, AB)

#### References

CCME. 1999. Canadian Water Quality Guidelines for the Protection of Aquatic Life. Retrieved from <http://www.ccme.ca/publications/>.



**Environment Environnement  
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March 20, 2006

Our file: 4517 000

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*Via Email at [licensing@nwb.nunavut.ca](mailto:licensing@nwb.nunavut.ca)*

**RE: NWB 1BR-FOD – Defence Construction Canada – FOX-3, Dewar Lakes Project – Site Investigation**

On behalf of Environment Canada (EC), I have reviewed the information submitted with the above-mentioned application. The following specialist advice has been provided pursuant to Environment Canada's mandated responsibilities for the enforcement of the *Canadian Environmental Protection Act*, Section 36(3) of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

Defence Construction Canada (DCC) is applying for a water license to allow for site investigation activities at the FOX-3 (Dewar Lakes) DEW Line Site. Information acquired from this site investigation will be used to design the remediation plan for the site, scheduled to commence in 2010 and be completed in 2013. The FOX-3 DEW Line Site is located at 68°40'N, 71°14'W and is approximately 180 km north of Clyde River, NU. Work to be completed includes the establishment of a temporary camp, collection of soil samples (surface and subsurface), water samples (surface water and groundwater), waste inventories, collection of structural materials samples, geophysical surveys to determine potential locations for disposal facilities, and identification of potential borrow material areas. Defence Construction Canada intends to conduct the site investigation from July to August 2006.

Environment Canada recommends that the following conditions be applied throughout all stages of the project:

- The proponent shall not deposit, nor permit the deposit of any fuel, chemicals, wastes, or sediment into any water body. According to the Fisheries Act, Section 36(3), the deposition of deleterious substances of any type in water frequented by fish or 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, is prohibited.
- The application indicates that collected samples may be stored on site until the project reclamation work begins in 2010. Collected samples which have chlorobiphenyl (PCB) concentrations in excess of 50 parts per million must be stored in accordance to the Regulations Respecting the Storage of Material Containing Chlorobiphenyls as specified in the *Canadian Environmental Protection Act*. Environment Canada can provide DCC with guidance in the application of these regulations.
- The application also states that excess fuels will be stored on site for use or disposal during the site clean-up. Given the lack of personnel on-site during the interim period between the site investigation and the scheduled remediation project, EC strongly recommends that any



- fuels or hazardous materials left on site until 2010 be stored in a secure area with adequate secondary containment.
- Given the number of people associated with the camp, EC encourages the use of incinerator toilets rather than relying on sumps for the disposal of camp sewage.
  - Environment Canada recommends that erosion control measures be implemented at gray water discharge points.
  - Environment Canada recommends the use of an approved incinerator for the disposal of combustible camp wastes.
  - All sumps shall be located above the high water mark of any water body and in such a manner as to prevent the contents from entering any water body frequented by fish. Further, all sumps shall be backfilled upon completion of the field season and contoured to match the surrounding landscape.
  - All fuel caches shall be located above the high water mark of any water body. Further, EC recommends the use of secondary containment, such as self-supporting insta-berms, when storing barreled fuel on location rather than relying on natural depressions.
  - Drip pans, or other similar preventative measures, shall be used when refueling equipment on site.
  - The Spill Contingency Plan for the FOX-3 site should be updated to include contact information for the Environment Canada office in Iqaluit, NU. James Noble Jr. is the Enforcement and Emergencies Officer for Nunavut. He can be reached at (867) 975-4644. Environment Canada also operates a 24 hour Emergencies Pager which can be contacted outside of office hours at (867) 920-5131. The proponent should note that all spills are to be documented and reported to the 24-hour Spill Line at 867-920-8130.

The Canadian Wildlife Service (CWS) of Environment Canada has reviewed the above-mentioned submission and makes the following comments and recommendations pursuant to the *Migratory Birds Convention Act* (the *Act*) and *Migratory Birds Regulations* (the *Regulations*), and the *Species at Risk Act* (SARA).

- Section 6 (a) of the Migratory Birds Regulations states that no one shall disturb or destroy the nests or eggs of migratory birds. If active nests (i.e. nests containing eggs or young) are encountered during project activities, the area should be avoided until nesting is complete (i.e. the young have left the vicinity of the nest).
- EC recommends that aircraft used in conducting project activities (i.e., travel to and from the Dew Line Site) maintain a flight altitude of at least 610 m during horizontal (point to point) flight to avoid disturbing nesting birds, and a vertical distance of 1000 m and minimum horizontal distance of 1500 m from any observed concentrations (flocks / groups) of birds in order to reduce disturbance to resting, feeding, or moulting birds.
- Section 35 of the Migratory Birds Regulations states that no person shall deposit or permit to be deposited, oil, oil wastes, or any other substance harmful to migratory birds in any water or any area frequented by migratory birds.
- All mitigation measures identified by the proponent, and the additional measures suggested herein, should be strictly adhered to in conducting project activities. This will require awareness on the part of the proponents' representatives (including contractors) conducting operations in the field. Environment Canada recommends that all field operations staff be made aware of the proponents' commitments to these mitigation measures and provided with appropriate advice / training on how to implement these measures.
- Implementation of these measures may help to reduce or eliminate some effects of the project on migratory birds, but will not necessarily ensure that the proponent remains in compliance with the *Migratory Birds Convention Act* (the *Act*) and *Migratory Birds Regulations* (the *Regulations*). The proponent must ensure they remain in compliance with the *Act* and *Regulations* during all phases and in all undertakings related to the project.



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If there are any changes in the proposed project, EC should be notified, as further review may be necessary. Please do not hesitate to contact me with any questions or comments with regards to the foregoing at (867) 975-4639 or by email at [colette.spagnuolo@ec.gc.ca](mailto:colette.spagnuolo@ec.gc.ca).

Yours truly,

***Original signed by***

Colette Spagnuolo  
Environmental Assessment / Contaminated Sites Specialist

cc: (Stephen Harbicht, Head, Assessment and Monitoring, Environment Canada, Yellowknife)