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RE: NIRB 04DN001 / NWB5DYE – UME Engineering Ltd. – Site Remediation, DYE-M Cape Dyer DEW Line Site

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*.

UMA Engineering Ltd., on behalf of Defense Construction Canada and the Department of National Defense, has applied for a water license application, land use permit, and quarry permit for the clean-up of the DYE-M Cape Dyer DEW Line site. The DYE-M DEW Line site is located on the easternmost point of Baffin Island. Existing facilities no longer required for the North Warning System will be demolished, contaminated soils will be excavated and properly disposed of, new landfills will be created to contain non-hazardous wastes, and existing landfills will be remediated. The duration of the work is anticipated to be approximately 4 months, not including winter shutdown, over a period of eight (8) years.

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

Landfills

- Environment Canada requests additional information regarding why soils exceeding Tier I contamination criteria, but not classified as Tier II contaminated soils will be disposed of in the Non-hazardous Landfill rather than the Tier II Disposal Facility. According to the application, Tier I Soils are those soils containing concentrations of lead from 200 – 500 ppm, and PCBs from 1 – less than 5 ppm. Soils with concentrations of lead and PCBs higher than these amounts are classified as Tier II. Therefore, EC requests clarification

regarding why soils exceeding Tier I contamination criteria, but not classified as Tier II contaminated soils will treated as non-hazardous.

- The application states that although leachate was identified in the West and Central lobes of the West Landfill, only a portion of the west lobe is to be excavated. Environment Canada requests that justification be submitted outlining why only this portion of the landfill is to be excavated.
- Contaminated soils have been identified at the Crossroads and Foundation Landfills. However, the application states that these landfills are to be graded and closed rather than excavated. Environment Canada recommends that the contaminated soils be removed from the landfills and remediated prior to the landfill's closure.
- Environment Canada recommends that, similar to the procedure in place for asbestos disposal, the location of the creosote treated lumber within the Non-Hazardous Landfill be recorded on the "as-built" drawings.
- If not already included in the plans, EC recommends that the any new perimeter collection system ditches be lined with an impermeable liner to prevent further soil and groundwater contamination.
- The application makes reference to the presence of drainage collection ditches within the site boundaries. Environment Canada recommends that prior to their closure, the proponent ensure that the sediment within the ditches is not contaminated. If testing shoes contamination, EC recommends that the proponent ensure the proper treatment and/or disposal of the soil according to the level of contamination.
- Environment Canada requests that the height of the perimeter containment berms in the non-hazardous waste landfill and the Tier II Soil Disposal facility be submitted.

Tier II Disposal Facility

- Environment Canada requests information regarding the thickness of the cover material that will be used on the Tier II Soil Disposal Facility.

Hydrocarbon Soil Treatment Facility

- Environment Canada recommends that monitoring wells be installed at the Hydrocarbon Soil Treatment Facility to ensure that contamination of the groundwater does not occur.

Sewage Treatment

- Environment Canada requests information regarding the criteria that will be met during the monitoring of the discharge from the sewage lagoon. The proponent is reminded of the "Guidelines for Effluent Quality and Wastewater Treatment at Federal Establishments" that were published by EC, and it is recommended that these guidelines be mirrored in the water license.
- Environment Canada requests information regarding the timing of the discharge from the sewage lagoon, and the location of the final water quality monitoring station.
- Environment Canada recommends that the proponent maintain a minimum of a 1 metre freeboard in the sewage lagoon at all times.
- Environment Canada recommends that the location of the sewage lagoon be indicated with appropriate signage.
- Environment Canada recommends that the proponent develop an operations and maintenance manual for the lagoon to help prevent the deposition of deleterious substances into the environment.
- Environment Canada requests information regarding the abandonment and restoration plans for the sewage treatment facility.

Spill Contingency

- If not currently in place, EC recommends that the proponent develop and implement a comprehensive spill contingency plan for the site. This should include a clear path of response in the event of a spill, including marine spills, and should clearly indicate that all spills are to be documented and reported to the 24 hour Spill Line at (867) 920-8130. The

spill contingency plan should also address the location of all spill response equipment, including the name and location of where equipment not kept on site can be obtained.
- Environment Canada commends the proponent for the use of secondary contaminant with impervious liners for the storage of fuel tanks. Additionally, EC also recommends the use of secondary contaminant, such as self-supporting insta-berms, when storing barreled fuel on location. Additionally, fuel caches 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.
- Environment Canada recommends the use of drip pans, or other similar preventative measure, when refueling equipment on site.

General

- Information regarding the watercourse that is to be diverted. Specifically, EC is interested in methods that will be utilized to prevent sedimentation during the diversion.
- The Project Description makes reference to "ground preparation" which may be required to facilitate treatment options. Environment Canada requires additional information regarding where any overburden which is removed will be stored and what measures will be taken to prevent sedimentation and erosion from occurring.
- Environment Canada requests information regarding how materials painted with PCB amended paints below CEPA criteria will be disposed of.
- Once available, EC would like further information regarding the proponent's proposed updates to the landfill monitoring program which was originally agreed upon in the DND/NTI agreement.
- Environment Canada requests information regarding the disposal and/or treatment of the water used to flush and clean the fuel storage tanks and pipes prior to their demolition.
- Environment Canada recommends the use of an approved incinerator for the disposal of combustible wastes.
- The Project Description included with the application identifies the "expert" federal departments that have been contacted during the development of the project definition. Environment Canada recommends that the proponent contact Health Canada, as they may also be able to provide input to the project.
- Environment Canada recommends that the proponent take measures to prevent erosion and sedimentation during site grading and excavation, especially near the intertidal zone.
- The proponent shall not store materials on the surface ice of lakes or streams, except that which is for immediate use.
- In order to help prevent the degradation of the permafrost regime, EC recommends that the proponent any excavated materials be stored on gravel pads.
- The proponent shall not deposit, nor permit the deposit of sediment into any water body. It is recommended that an undisturbed buffer zone of at least 100 metres be maintained between any proposed quarry operations and the normal high water mark of any water body.

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.meloche@ec.gc.ca.

Yours truly,

Original signed by

Colette Meloche
Environmental Assessment Specialist

cc: (Mike Fournier, Northern Environmental Assessment Coordinator, Environment Canada, Yellowknife)