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October 15, 2001 File: 0171-095 PIN-3 3.11

Ms. Rita Becker
Licensing Administrator
Nunavut Water Board
P.O. Box 119
Gjoa Haven, NU X0B 1J0

Dear Ms. Becker:

RE: Water Use License Application for the Clean Up of the PIN-3, Lady Franklin Point DEW Line Site

UMA Engineering Ltd. is submitting the attached Water Use License Application for the clean up of the former PIN-3, Lady Franklin Point Distant Early Warning (DEW) Line site, on behalf of Defence Construction Canada and the Department of National Defence. The application includes an abstract in English and Inuktitut, the application form, the remote camp supplemental questionnaire, and supporting background information.

We trust that sufficient information has been provided to process this application. If you require any further information or clarification, please contact the undersigned or Graham Emmerson at (403) 270-9200. Thank you for your consideration of this application.

Sincerely,

UMA ENGINEERING LTD.

Eva Schulz, P.Ag.
Environmental Scientist
eschulz@umagroup.com

EMS:elt

INTERNAL
PC
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Encl. Abstract - English and Inuktitut
Water Use License Application Form
Remote Camp Questionnaire
Annex A - Clean Up of Lady Franklin Point (PIN-3) DEW Line Site
Annex B - DLCU Barrel Protocol
Annex C - POL Spill Contingency Plan
Annex D - Proposed Landfill Monitoring Plan Nunavut Settlement Area - DEW Line Sites, Draft - Revision 4

cc: Suzanne Belanger-Fontaine, DCC
Roland Merkosky/Barry Fedorak/Michelle Rurka, UMA
Amy Dumoulin-Jeromel, ESG

1. BACKGROUND

From 1955 to 1993, the Distant Early Warning System - the DEW Line - provided radar surveillance of the northern approaches to the North American continent. The DEW Line originally consisted of 42 sites but was reduced to half this number in 1963. The 21 sites decommissioned in the 1960's are now the responsibility of the Department of Indian Affairs and Northern Development (DIAND).

In March 1985, Canada and the United States agreed to modernize the North American Air Defence System by closing the remaining 21 DND DEW sites and building the North Warning System (NWS). The PIN-3 DEW Line site has been upgraded to a NWS Long Range Radar (LRR) Site, located on a DND reserve on Federal Crown Lands under the administrative control of Indian and Northern Affairs. A fire had destroyed the module train at PIN-3 in January 2000, and since then, the site has been un-operational.

2. PROJECT LOCATION

PIN-3 (68° 28' N, 113° 13' W) is located on the south coast of Victoria Island in the Kitikmeot Region of the Nunavut Territory. The station is adjacent to the shores of Dolphin and Union Strait near the Coronation Gulf.

3. PROJECT SCHEDULE

The clean up of the PIN-3 DEW Line site is scheduled from 2002 to 2004 (or 2005, depending on when the contractor can mobilize to the site). Clean up activities will begin in 2002, once the contractor has mobilized to the site and set up camp. The expected duration of annual clean up activities on site will be from July to October. During the winter months, work will cease and equipment and facilities on site will be winterized. Completion of the clean up and demobilization of the contractor's facilities and equipment is anticipated for September/October 2004.

4. PROJECT ACTIVITIES

4.1 Demolition of Facilities

All DEW facilities not required for NWS operations will be demolished to the top of the concrete foundations, sorted into non-hazardous and hazardous components, and treated as described in Sections 4.4 and 4.5.

4.2 Development of Borrow Sources

Granular fill is required for closure of landfills, development of new landfills, upgrading of the access road to the main site from the airstrip, backfilling contaminated soil areas and general

site grading purposes. The amount of gravel required is to be quantified upon the completion of the final design.

4.3 Landfill Development

To facilitate the disposal of contaminated soil, non-hazardous wastes and demolition/site debris, new engineered landfills will be constructed. A non-hazardous landfill will be used to dispose of demolition debris and scattered debris collected during the site clean up. A Tier II soil Disposal Facility will be developed for the disposal of Tier II contaminated soil.

4.4 Disposal of Site Debris

All demolished materials will be sorted into hazardous and non-hazardous debris. Hazardous materials will be shipped off-site for disposal. Non-hazardous materials will be placed in an on-site landfill. Creosote treated timbers will be wrapped in plastic and asbestos will be double bagged and disposed of in the non-hazardous landfill. PCB painted materials will be segregated and disposed of separately.

4.5 Disposal of Contaminated Soils

Soils contaminated with metals and hydrocarbons above regulated limits will be removed from the site. There is the potential for the presence of soils exceeding limits specified in the *Chlorobiphenyl Regulations* (i.e., 50 ppm) to exist on-site (called CEPA soil). Quantities will be determined through confirmatory testing.

4.6 Landfill Closure

Four existing landfills requiring closure were identified. Closure typically includes, but is not limited to the following: excavation of contaminated soils, removal of surface debris, placement of a granular cover, and regrading of the area.

4.7 General Site Grading

Areas disturbed during the clean up of the site including landfill areas, excavated soils areas, borrow areas, demolition areas and contractor camp and storage areas will be regraded as part of the final decommissioning of the site.

5. CONTRACTOR SUPPORT ACTIVITIES

Sewage from the camp will be handled with, at minimum, primary treatment (settling tank) and discharged to ground surface. Sewage treatment and disposal will be in accordance with the contractor specifications. Domestic waste will be incinerated and the residual waste disposed of in a landfill on-site. Water usage is estimated at 30,000 litres per day for both camp use and contractor use. Vehicle traffic to work areas is to be supported by the existing access

roads that traverse the site. A spill contingency plan is included in the Environmental Protection Plan, developed specifically for the PIN-3 site, is included in the application. Labour and equipment requirements are anticipated to include a workforce of 35 – 50 personnel, 20 pieces of heavy construction equipment and 6 support vehicles.

6. ABANDONMENT AND DECOMMISSIONING PLAN

The contract documents for the DEW Line Clean Up Project will require that the contractor clean up and remediate the area disturbed by construction activities including borrow pits and quarries. Following the completion of the clean up, all vehicles and equipment, remaining fuel, supplies, personnel, and the construction camp are to be removed from the site by the contractor.

7. SOCIAL IMPACT OF THE PROJECT

Typically, labour required for the clean up includes heavy equipment operators and general labourers, as well as environmental and engineering specialists. Other employment opportunities include cleaning and cooking staff and transportation personnel. Minimum Inuit employment requirements are developed for each DLCU project and the contractor is required to adhere to these employment standards.

Benefits from the clean up will be felt primarily by the community of Kugluktuk. During the clean up there will likely be increased employment and business opportunities for members of the community. As the contract for the clean up of PIN-3 has not been awarded, the requirements of the community are not confirmed.

1. ᖃᓄᐃᓚᐅᕆᐊᒃᓴᖓᓂᒃ ᓯᕗᓂᐊᓂ

1955-ᒥᑦ 1993-ᒧᑦ, ᐅᓇᑕᖅᑐᖃᓕᖅᐸᑦ ᖃᐅᔨᓴᕝᕕᐅᔪᑦ ᓇᐅᑦᑎᖅᑐᕐᕕᐅᔪᑦ - ᑎᐅᓚᓐ - ᐊᑐᐃᓐᓇᐅᑎᑦᑎᖃᑦᑕᓚᐅᖅᐳᑦ ᓈᓚᐅᑎᒃᑯᑦ ᖃᐅᔨᓴᐃᔾᔪᑎᓂᒃ ᐅᑭᐅᖅᑕᖅᑐᒥ ᓄᐊᑦᒪᒥᐊᓕᑲᒧᑦ ᓄᓇᒥᔭᐅᔪᒧᑦ. ᓈᓚᒡᕕᐅᔪᖅ 42-ᓂᒃ ᐃᓂᖃᓚᐅᖅᐳᖅ ᑭᓯᐊᓂ ᓇᑉᐸᖓᓂᒃ ᐅᓄᕐᓂᖃᓕᓚᐅᖅᐳᑦ 1963-ᒥ. 21-ᐃᓂᐅᔪᑦ ᐃᒍᑉᑎᖅᑕᐅᔪᑦ 1960-ᓂ ᑲᒪᒋᔭᐅᒋᐊᖃᓕᖅᐳᑦ ᐃᓄᓕᕆᔨᑐᖃᒃᑯᓐᓄᑦ.

ᒫᑦᓯ 1985-ᒥ, ᑲᓇᑕ ᐊᒥᐊᓕᒃᑲᐃᓪᓗ ᐊᖏᖅᑎᒌᓚᐅᖅᐳᑦ ᓄᑖᙳᖅᑎᕆᓂᐊᕐᓗᑎᒃ ᓄᐊ ᐊᒥᐊᓕᒃᑲᒥ ᐅᓇᑕᖅᑐᒃᓴᓕᕆᔾᔪᓯᕐᓂᒃ ᐅᒃᑯᐊᖅᓯᓗᑎᒃ ᐊᒥᐊᒃᑯᓂᒃ 21-ᓂᒃ ᐅᓇᑕᖅᑐᒃᓴᐃᑦ ᓈᓚᒡᕕᖏᓐᓂᒃ ᐊᒻᒪ ᐃᒡᓗᕐᔪᐊᓂᒃ ᐅᑭᐅᖅᑕᖅᑐᒥ ᐅᓇᑕᖅᑐᖃᓕᖅᐸᑦ ᖃᐅᔨᕝᕕᐅᓇᔭᖅᑐᓂᒃ. PIN-3 ᓇᓚᒡᕕᕕᓂᖅ ᓄᑖᙳᑎᕆᐊᖅᑕᐅᓯᒪᓕᖅᐳᖅ ᐅᑭᐅᖅᑕᖅᑐᒥ ᐅᓇᑕᖅᑐᖃᓕᖅᐸᑦ ᖃᐅᔨᓴᐃᕝᕕᙳᖅᓗᓂ ᖃᓂᑦᑐᒧᑦ ᓈᓚᕖᖃᖅᓗᓂ ᐃᓂᐅᓕᖅᓗᓂ, ᐅᓇᑕᖅᑐᒃᓴᑦ ᓄᓇᖓᓐᓂ ᑲᓇᑕᐅᑉ ᒐᕙᒪᒃᑯᖏᑦᑕ ᓄᓇᕐᑯᑎᖓᓐᓃᑉᐳᖅ ᐊᐅᓚᑕᐅᑉᓗᓂ ᐃᓄᓕᕆᔨᑐᖃᒃᑯᓐᓄᑦ. ᐃᑯᐊᓪᓚᒃᑐᖅᑎᓪᓗᒍ ᓱᕈᖅᑕᐅᓚᐅᖅᐳᖅ PIN-3 ᔭᓄᐊᕆ 2000-ᒥ, ᑕᐃᒪᖓᓂᑦ ᐃᓂᐅᔪᖅ ᐊᐅᓚᑕᐅᓚᐅᖅᓯᒪᔪᓐᓃᖅᐳᖅ.

2. ᐱᓕᕆᐊᖑᔪᑉ ᓇᓃᓐᓂᖓ

PIN-3 (68 ᑎᒍᕆᔅ 28' ᐅᐊᖕᓇᖅ, 113 ᑎᒍᕆᔅ 13' ᐅᐊᓕᓂᖅ) ᕕᒃᑐᐊᕆᔭ ᐊᐃᓚᖕᒦᑉᐳᖅ ᕿᑎᕐᒥᐅᓂ ᓄᓇᕗᒥ. ᐅᖃᐅᓯᐅᔪᖅ ᓯᒡᔭᖓᑕ ᐊᑭᐊᓃᑉᐳᖅ ᑕᐱ ᐊᒻᒪ ᔩᓂᐊᓐ ᓯᑐᕆᑦ ᐃᒪᖏᑦᑕ ᑲᓂᒋᔭᖓᓂ ᑯᐊᕆᓃᓴᓐ ᒫᑉ.

3. ᐱᓕᕆᐊᖑᔪᖅ ᖃᖓ ᑲᔪᓯᑎᑕᐅᓂᐊᕐᓂᖓ

ᓴᓗᒻᒪᖅᓴᖅᑕᐅᓂᖓ PIN-3 ᓈᓚᒡᕕᐅᓚᐅᖅᑐᑉ ᓴᓗᒻᒪᖅᓴᖅᑕᐅᓂᖃᕐᓂᐊᖅᐳᖅ 2002-ᒥᑦ 2004-ᒧᑦ (ᐅᕝᕙᓘᓐᓃᑦ 2005, ᒪᓕᒡᓗᒍ ᖃᖓ ᑳᓐᑐᕋᒃᑎ ᑕᐃᑯᖓ ᐃᓂᒧᐊᕈᓐᓇᕆᐊᒃᓴᖓᓂᒃ. ᓴᓗᒻᒪᖅᓴᖅᑕᐅᔪᑦ ᐱᒋᐊᕐᓂᐊᖅᐳᑦ 2002-ᒥ, ᑳᓐᑐᕋᒃᑎᐅᔪᖅ ᐃᓂᒧᐊᖅᐸᑦ ᐊᒻᒪ ᑕᖕᒫᕐᕕᒃᓴᒥᒃ ᐋᖅᑭᒃᓯᓯᒪᓕᖅᐸᑦ. ᓴᓗᒻᒪᖅᓴᐃᔪᑦ ᓂᕆᐅᒋᔭᐅᔪᑦ ᓯᕕᑐᓂᕆᓂᐊᕋᓱᒋᔭᖏᑦ ᔪᓚᐃᒥᑦ ᐊᒃᑐᐳᕆᒧᑦ. ᐅᑭᐅᒃᑯᑦ ᑕᕿᓂ, ᐃᖃᓇᐃᔭᕈᓯᐅᔪᑦ ᓄᖅᑲᕐᓂᐊᖅᐳᑦ ᓴᓇᕈᑎᑦ ᐱᖁᑎᓪᓗ ᐅᑭᐅᒃᑯᑦ ᐋᖅᑭᒃᑕᐅᓗᑎᒃ ᐱᒪᑐᒃᑕᐅᓂᐊᖅᐳᑦ. ᐱᐊᓂᒃᑕᐅᓇᔭᕐᓂᖓ ᓴᓗᒻᒪᖅᓴᐃᓂᐅᔪᑉ ᐃᒍᑉᑎᕆᓂᐅᔪᑉᓗ ᑳᓐᑐᕋᒃᑎᐅᑉ ᐱᖁᑎᖏᓐᓂᒃ ᓴᓇᕐᕈᑎᖏᓐᓂᒃ ᐃᓱᒪᒋᔭᐅᕗᖅ ᐱᓕᕆᐊᖑᓇᕆᐊᒃᓴᖓᓂᒃ ᓯᑉᑕᒻᐳᕆ/ᐊᒃᑐᐳᕆ 2004-ᒥᐅᓇᔭᕆᐊᒃᓴᖓᓂᒃ.

4. ᐱᓕᕆᐊᖑᓂᐊᖅᑐᑉ ᐱᓕᕆᐊᖑᔪᓂ

4.1 ᐃᒍᑉᑎᖅᑕᐅᓂᖏᑦ ᐱᓕᕆᐊᖃᕐᕕᐅᔪᑦ

ᑕᒪᐃᓐᓂᒃ ᓈᓚᒡᕖᑦ ᐊᑐᖅᑕᐅᒋᐊᖃᙱᑦᑐᑦ ᖃᓂᑦᑐᒧᑦ ᓈᓚᕖᐅᓗᑎᒃ ᓈᓚᐅᑎᒃᑯᑦ ᐃᓂᒋᔭᐅᓗᑎᒃ ᐊᐅᓚᑦᑎᕝᕕᐅᓗᑎᒃ ᐃᒍᑉᑎᖅᑕᐅᓂᐊᖅᐳᑦ ᖁᓛᓄᑦ ᕿᑯᐃᑦ ᑐᙵᕕᖏᑦᑕ, ᐊᕕᒃᑐᖅᑕᐅᓗᑎᒃ ᐅᓗᕆᐊᓇᙱᑦᑐᓄᑦ ᐅᓗᕆᐊᓇᖅᑐᓄᓪᓗ ᐊᒻᒪᓗ ᐱᓕᕆᐊᖑᓂᐊᖅᐳᑦ ᒪᓕᒡᓗᒋᑦ ᑎᑎᕋᖅᓯᒪᓂᖏᑦ 4.4-ᒥ ᐊᒻᒪᓗ 4.55-ᒥ.

4.2 ᐱᓕᕆᐊᖑᓂᖓ ᐱᐅᕈ ᐃᓗᓕᖏᑦ

ᑐᐊᑦᓴ ᐅᑭᐊᖅᑭᔪᑦᑕᐅᒥᐊᖅᖃᖅᑐᖅ ᐊᑐᑕᖅᑕᐅᐊᖅᖃᓂᓂᐊᖅᓗᖅ ᓴᐅᑭᔪᑦᑕᐅᓪᓗᓂ, ᓄᑦᑕ ᓴᐅᑭᑦᓴᐃᐅᔪᑦᑕ, ᓄᑦᓯᖓᖅᑎᓗᒃᔪᔪᑭᐅᔪᓪᓗ ᐊᑦᖃᐅᑎᓂ ᐃᓂᔪᑦᑕ ᒥᑦᑕᐃᖏᒥᑦ, ᓴᐅᐅᐅᓂᖏᑦ ᐅᓪᓚᓇᖅᑐᖅᖃᖅᑕᓕᓂᕆᐃᑦ ᐊᒻᒪ ᓴᓪᓕᓚᐊᖅᑕᐅᔪᑎᑎᓴᑦ ᐊᑐᖅᑕᐅᒥᐊᖅᖃᓂᓂᐊᖅᓗᖅ. ᐅᓄᖃᓂᖓ ᑐᐊᑦᐅᑦ ᐊᑐᖅᑕᐅᒥᐊᖅᖃᖅᑐᖅ ᓇᓪᓚᐃᖅᑕᐅᓂᐊᖅᓗᖅ ᐊᖏᓂᖓ ᐱᐊᓂᐅᑕᐅᑦᑐᑦ ᑎᑎᕋᐅᖅᑕᐅᔪᒪᓂᖓ ᑭᖑᓪᓕᓂᖅ.

4.3 ᓄᓇ ᓴᐅᐅᐅᔪᑦ ᐱᓕᓚᐊᖑᓂᖓ

ᐱᓕᓚᐊᓚᓂᐊᓴᓗᑦ ᐃᒋᑕᐅᔪᑦ ᐅᓪᓚᐊᓇᖅᑐᖅᖃᖅᑐᓪᓗ ᒪᓂᕆᖅ, ᐅᓪᓴᐸᓇᖅᖏᑐᑦ ᐊᒃᑕᓯᐃᐅᑦ ᐊᒻᒪ ᐃᔪᖅᑎᖅᑕᐅᓂᐊᖅᓗᖅ/ᐃᓂᒥ ᐊᒃᑕᓯᐃᐅᑦ, ᓄᑦᑕ ᐃᐊᓴᓂᐊᓄᑦ ᓴᐅᐅᐅᔪᑦ ᓴᓇᓴᐅᓂᐊᖅᓗᖅ. ᐅᓪᓚᐊᓇᖅᖏᑐᑦ ᓴᐅᐅᐅᓯᐅᑦᑕᐅᔪᑦ ᐃᒋᑦᑎᓴᑦᑕᐅᓪᓚᑎᒃ ᐃᔪᑦᑎᖅᑕᐅᔪᓂᒃ ᐊᒻᒪ ᐊᒃᑕᓯᓂᒃ ᑕᒪᖅᖏᓐᓂᐊᒥᖅ ᑲᑎᕐᓗᑕᖅᑎᓪᓗᑕ. ᖃᓄᐅᓕᖅᑎᑕᐅᓯᒪᔪᖅ II ᒪᓂᕆᔪᓂ ᐊᒃᑕᓯᐃᓇᐅᒧᖅ ᓴᖑᑕᐅᓂᐊᖅᓂᖅ ᐊᒃᑕᓯᐃᓇᐅᓂᐊᖅᓗᓂ ᖃᓄᐅᓕᖅᑎᑕᐅᓯᒪᔪᖅ II-ᒥ ᐊᒃᑕᓯᐃᓇᐅᓂᐊᓕᓴᓗᑦ ᐅᓪᓚᐊᓇᖅᑐᖅᖃᖅᑐᓂᓗ ᒪᓂᕆᔪᒥᑦ ᐱᖃᐅᔪᓂ.

4.4 ᐃᑎᑕᐅᓂᖓᑦ ᐃᓂᒥᑦ ᐊᒃᑕᓯᐃᑦ

ᑕᒪᐃᓐᓂᖅ ᐃᔪᔭᑎᖅᑕᐅᓂᓯᐃᑦ ᐊᑦᔪᖅᑕᐅᓪᓗᑎᒃ ᐅᓪᓚᐊᓇᖅᖃᖅᑐᑦ ᐅᓪᓚᐊᓇᓐᓂᖏᑦᑐᓪᓗ ᐋᖅᑭᒃᓯᖅᑕᐅᓂᐊᖅᓗᖅ. ᐅᓪᓚᐊᓇᖅᖃᖅᑐᑦ ᐊᐅᓚᓇᖅᑕᐅᓂᐊᖅᓗᖅ ᐊᒃᑕᓯᐅᖅᑕᐅᕙᓕᕆᐅᓪᓗᒃ ᐅᓪᓚᐊᓇᓐᓂᖏᑦᑐᑦ ᓄᓇᒥ ᓴᐅᐅᐅᓪᓗᑎᒃ. ᒥᖓᔪᐊᖅᓯᒪᔪᑦ ᖃᐅᔨᐃᑦ ᓯᑲᒃᑐᓂᒃ ᐅᖅᑭᑦᓄᓂᒃ ᓄᖅᑲᖅᑕᐅᓪᓗᑎᒃ ᐃᒋᑕᐅᓂᐊᖅᓗᖅ ᐅᓪᓚᐊᓇᓐᓂᖏᑦᑐᑦ ᐊᒃᑕᓯᐃᓇᐅᔪᓚᐅᑦ ᓴᐅᐅᐅᓪᓗᑎᒃ. ᐱᓕᕆ ᒥᖓᔪᐊᖅᓯᒪᔪᑦ ᐃᓕᓴᐃᖓᓕᖅᖢᓂᐊᖅᓗᖅ ᐃᒋᑕᐅᓪᓚᑎᓪᓗ ᐃᓕᓴᐃᑦ.

4.5 ᐃᒋᑕᐅᓂᖓᑦ ᐅᓪᓚᐊᓇᖅᑐᖅᖃᖅᑐᑦ ᓚᓂᕆᐃᑦ ᐃᑦᔪᐃᑦ

ᐃᑦᔪᐃᑦ ᐅᓪᓚᐊᓇᖅᑐᖅᖃᖅᑐᑦ ᓴᐱᖓᓂᒃ ᐅᖅᓯᐊᓪᓚᕐᓴᓂᓪᓗ ᖃᐅᔨᒪᓕᖅᑐᐅᔪᑦ ᐅᖓᑖᑦᖃᓂᐊᔪᑦ ᐱᖅᑕᐅᓂᐊᖅᓗᖅ. ᐃᓂᒥᑦ. ᐃᓯᒪᖓᓇᓪᓚᐅᖅᓴᖅ ᐅᓪᓚᐊᓇᖅᑐᖅᖃᖅᑐᓂ ᐊᐅᔨᒪᖑᓂ (ᓯᑦᓗ , 50 ppm)-ᓂᒃ ᓇᓴᐅᑎᓪᓕ ᐃᓂᒥᑦᐸᑕ (ᑕᐃᔨᐅᔪᑦ CEPA ᐃᑦᓗᔪᖅᑐᖅᑐᑦ). ᐊᖏᓂᖓᑦ ᓇᓪᓚᐃᖅᑕᐅᓂᐊᖅᓗᖅ ᖃᐅᔨᓴᖅᑕᐅᓂᒃᓯᑦ

4.6 ᓄᓇ ᐳᐊᑦᓚᔨᖅᑕᐅᓯᒪᔪᖅ ᐅᒃᔨᐊᖅᑕᐅᓂᖓ

ᑕᓪᓕᒪᑦ ᐳᐊᑦᓚᔨᕐᓂᐊᓯᒪᔪᑦ ᐅᒃᔨᐊᖅᑕᐅᒥᐊᖅᖃᓂᓂᐊᖅᓗᖅ. ᐅᒃᔨᐊᖅᓯᓂᖅ ᐃᓕᐅᑎᑦᑎᐅᖅ, ᐲᓪᓕᖅᑲᖅᑎᑦᑎᓪᓚᕐᓂᓪᓗ ᐅᑭᓂᖓ; ᐳᐊᑦᓚᔨᖅᑕᐅᓯᒪᓂᖓᓐᓂᒃ ᐋᓐᓂᐊᑦᓇᖅᑐᖅᖃᖅᑐᑦ ᐅᓪᓚᐊᓇᖅᑐᖅᑕᓕᓂᕆᑦ ᒪᓂᕆᔪᖅ, ᐱᖅᑕᐅᓂᖓᑦ ᒪᓂᕆᐅᑦ ᖃᐅᔨᒪᓂ ᐊᒃᑕᓯᐃᑦ, ᓴᐅᐅᐅᓂᖏᑦ ᑐᐊᑦᓴᖓᑎᒃ, ᐊᒻᒪ ᓴᓇᔨᐅᒃᖃᓐᓂᐅᓂᖓᑦ ᐃᓂᒥᑦ.

4.7 ᐃᓂᐃᑦ ᓴᓇᔨᐅᓂᖓᑦ

ᐃᓂᐅᔪᑦ ᐊᒃᑐᖅᑕᐅᔪᑦ ᓴᓪᓕᒪᖅᓴᖅᑕᐅᑎᓪᓗᓂᑦ ᓴᓪᓕᒪᖅᓴᖅᑕᐅᔪᑦ ᐃᓂᓂ ᐃᓕᐅᓪᓗᑦ ᐳᐊᑦᓚᔨᐃᑦᕕᖅᑐᑦ, ᐳᐋᓚᔨᖅᑕᐅᓯᒪᔪᑦ ᒪᓂᕆᐃᑦ ᐃᓂᖓᑦ, ᐃᓪᓕᐳᖅᑎᖅᑕᐅᓯᒪᔪᑦ, ᐃᔪᑦᑎᓂᖅᓴᖅᕕᖅᑐᑦ ᐊᒻᒪ ᑲᑐᖅᑎᑎᐅᑦ ᐃᓂᒥᓕᐅᖅᑕᖅᓄᑦ ᑐᖓᔪᖅᓯᒪᓕᕆᓂᐊᖅᖢᖓᓂᖓᑦ ᓴᓪᓕᒪᖅᓴᖅᑕᐅᑎᓪᓗᑕᖅᑐᖅᑐᓂᓴᓂᐊᖅᓗᖅ ᑭᖑᓪᓕᖅᑲᖅᑎᓪᓗᑎᒃ ᐃᔪᑦᑎᖅᑕᐅᓯᒪᔪᑦ ᓴᓪᓕᒪᖅᓴᖅᑕᐅᓪᓗᑎᒃ.

5. ᑲᓪᑐᖅᑎᑎᓂ ᐃᑲᔪᖅᑐᐃᓂᖓᓂᑦ ᐱᓕᓚᐊᓂᒃ

ᓴᓂᕐᓴᐃᑦ ᑕᖓᒪᓴᖅᑭᑦ ᐱᓕᓚᐊᖅᖢᓂᐊᖅᓗᖅ, ᒥᑭᓪᓗᒃ, ᓴᓪᓕᒪᖅᑕᐅᑎᐅᓯᖅᑲᓴᖅᑕᐅᓪᓚᑎᒃ (ᐃᓂᓕᓴᑎᓚᖅᑲᖅᑭᒃ ᓂᐃᓯᓴᖅᑲᖅᑲᓴᖅᑎᑎᒃ ᐊᒻᒪᓗ ᒪᓂᕆᔪᖅ ᓴᓪᓕᒪᖅᓴᖅᑕᐅᓪᓗᑎᒃ. ᓴᓂᕐᓴᐃᑦ ᓴᓪᓕᒪᖅᓴᖅᑕᐅᑎᓪᓗᑕᖅᑐᖅᑐᓂᓴᓂᐊᖅᓗᖅ ᓄᓇ ᐊᑐᖅᑕᐅᒥᐊᖅᖃᓂᓂᐊᖅᓗᖅ ᐊᒻᒪᓗ ᒪᓂᕆᔪᖅ ᓴᓪᓕᒪᖅᓴᖅᑕᐅᓪᓗᑎᒃ. ᐊᖏᓂᖓᓇᓪᓚᐅᖅᓴᖅᑕᐅᔪᑦ

ᐊᒃᑕᑰᖅᑕᐅᔪᑦ ᐊᒃᑕᑰᖅᑕᐅᓂᐊᖅᐳᑦ (ᓱᕐᑯᓯᙱᓪᓗᒋᑦ, ᐅᑉᕙᓘᓐᓃᑦ ᐃᑯᐊᓚᑎᐅᓂᐊᖅᐳᑦ ᒪᓕᒡᓗᒍ ᓄᓇ ᐊᑐᖅᑕᐅᓂᖓᓄᑦ ᐱᔪᓐᓇᐅᑕᐅᔪᖅ) ᓄᓇᒥ ᓴᐅᔭᐅᓯᒪᔪᒥ. ᐃᒪᐅᑉ ᐊᑐᖅᑕᐅᓂᖓ ᓇᓗᓇᐃᖅᑕᐅᕗᖅ 30,000-ᓂᒃ ᓖᑕᓂᒃ ᖃᐅᑕᒫᑦ ᑕᒪᐃᓐᓂ ᑕᖕᒫᕐᕕᖕᓂ ᑳᓐᑐᕐᒃᑎᐅᑉᓗ ᐊᑐᖅᑕᖕᒐᓂ. ᓄᓇᓯᐅᑎᑦ ᐱᓕᕆᐊᖃᕐᕕᖕᓂ ᐃᑲᔪᖅᑕᐅᓂᖃᕐᓂᐊᖅᐳᑦ ᒫᓐᓇ ᐊᑉᖁᑕᐅᔪᓂ ᐃᓂᒋᔭᐅᔪᒥ ᐊᑐᖅᑕᐅᖃᑦᑕᖅᑐᓂ. ᑯᕕᔪᖃᕐᔭᖅᐸᑦ ᐸᕐᓇᒍᑕᐅᔪᑦ ᐃᓚᐅᑎᐅᕗᖅ ᐊᕙᓗᒥᐅᑕᐃᑦ ᓴᐳᓐᓂᐊᖅᑕᐅᓂᖏᓐᓄᑦ ᐸᕐᓇᒍᑎᒥᒃ, ᓴᕿᑕᐅᔪᖅ ᐊᑐᖅᑕᐅᔪᒃᓴᐅᓂᐊᖅᓗᓂ PIN-3-ᒥ ᐱᓗᐊᕿᔪᖃᕐᔭᖅᐸᑦ, ᐊᒻᒪ ᐃᓚᐅᑎᑕᐅᕗᖅ ᑐᒃᓯᕋᐅᑎᒥ. ᓴᓇᓂᕐᒧᑦ ᐱᖁᑎᓪᓗ ᐊᑐᖅᑕᐅᒋᐊᖃᖅᑐᑦ ᐃᓱᒪᒋᔭᐅᕗᑦ ᐃᓚᐅᑎᑕᐅᓇᔭᕆᐊᒃᓴᖏᓐᓂᒃ ᐃᖃᓇᐃᔭᖅᑎᑦ 35 - 45 ᖑᓇᔭᖅᑐᑦ, 20 ᓴᓇᕈᑎᑦ ᐳᐊᕆᑎᓕᑦ ᐊᓯᖏᓪᓗ ᐊᒻᒪ ᐊᕐᕕᓂᓖᑦ ᓄᓇᓯᐅᑦ ᐃᑲᔪᕆᐊᕈᑎᑦ.

6. ᕿᒪᐃᓂᕐᒧᑦ ᐃᒍᑉᑎᕆᓂᕐᒧᓪᓗ ᐸᕐᓇᒍᑕᐅᔪᖅ

ᑳᓐᑐᕐᒍᓯᐅᔪᖅ ᑎᑎᖅᑲᐅᑎᑦ ᓴᓗᒻᒪᖅᓴᐃᓂᐊᕐᓂᕐᒧᑦ ᓈᓚᒡᕕᕕᓂᕐᓂ ᐱᓕᕆᐊᖑᔪᒥ ᑳᓐᑐᕐᒃᑎᒧᑦ ᓴᓗᒻᒪᖅᓴᖅᑕᐅᒋᐊᖃᕐᓂᐊᖅᐳᑦ ᐊᒻᒪᓗ ᓴᓗᒻᒪᖅᓴᐃᓗᑎᒃ ᐃᓂᐅᔪᒥᒃ ᐊᕕᒃᑐᖅᑕᐅᓯᒪᔪᒥᒃ ᓴᓇᔭᐅᓂᒃᑯᑦ ᐱᓕᕆᐊᖑᔪᒃᑯᑦ ᐃᓚᐅᓗᒋᑦ ᐳᐊᕐᕆᔭᖅᑕᐅᓯᒪᔪᑦ ᐃᓗᑐᔪᑦ ᑐᐊᐸᒃᑕᕐᕕᐅᔪᓪᓗ. ᐱᐊᓂᒃᑕᐅᑎᓪᓗᒍ ᓴᓗᒻᒪᖅᓴᖅᑕᐅᔪᖅ, ᑕᒪᐃᓐᓂᒃ ᓄᓇᓯᐅᑎᑦ ᐱᖁᑎᓪᓗ, ᐅᖅᓱᐊᓗᐃᑦ, ᓱᓇᒃᑯᑖᑦ, ᐃᖃᓇᐃᔭᖅᑎᑦ, ᑕᖕᒫᕐᕕᐅᔪᑦ ᐲᖅᑕᐅᒋᐊᖃᕐᓂᐊᖅᐳᑦ ᐃᓂᐅᔪᒥᑦ ᑳᓐᑐᕐᒃᑎᐅᔪᒥᑦ.

7. ᐃᓄᐃᑦ ᐃᒃᐱᒋᔭᖃᖅᑎᐅᓂᖏᑦ ᓴᓇᔭᐅᔪᒥᑦ

ᐃᒪᓐᓇᐃᑉᐳᖅ, ᓴᓇᓂᐅᔪᑦ ᓴᓗᒻᒪᖅᓴᐃᓂᐅᑉᓗᑎᒃ ᐊᑐᖅᑕᐅᒋᐊᖃᖅᑐᑦ ᐃᓚᖃᖅᐳᑦ ᐳᐊᕐᕆᑎᓕᖕᓂᒃ ᓴᓇᔨᓂᓪᓗ, ᐊᒻᒪᓗ ᐊᕙᒥᐅᑕᓄᑦ ᐃᐊᓐᔭᓂᐊᓄᑦ ᐱᓕᕆᐊᖅᑎᓄᑦ ᐱᓕᕆᐊᖑᓂᐊᖅᓗᑎᒃ. ᐊᓯᖏᑦ ᐃᖃᓇᐃᔭᕐᕕᒃᓴᐃᑦ ᐃᓚᖃᖅᐳᑦ ᓴᓗᒻᒪᖅᓴᐃᔨᐅᓂᕐᒥᒃ ᐃᒐᔨᐅᓂᕐᒥᒃ ᐃᖏᕐᕋᑦᑕᖅᑐᓕᕆᔨᐅᓂᕐᒥᒃ. ᐃᓄᐃᓴᒃᑐᑦ ᐃᓄᐃᑦ ᐃᖃᓇᐃᔭᕐᓂᖏᑦ ᓴᕿᑕᐅᖃᑦᑕᖅᐳᑦ ᓴᓗᒻᒪᖅᓴᖅᑕᐅᑉᕕᐅᔪᓂ ᓈᓚᒡᕕᕕᓂᕐᓂ ᐱᓕᕆᐊᖑᔪᓂ ᑳᓐᑐᕐᒃᑎᐅᔪᕐᓗ ᒪᓕᒋᐊᖃᖅᐳᖅ ᐃᖃᓇᐃᔭᖅᑎᖃᕐᓗᓂ ᐃᓄᖕᓂᒃ ᐃᖃᓇᐃᔭᖅᑎᖃᕐᓂᕐᒧᑦ ᒪᓕᒃᑕᒃᓴᓂᒃ ᒪᓕᒡᓗᓂ ᐃᖃᓇᐃᔭᖅᑎᖃᕆᐊᖃᖅᐳᖅ.

ᐃᑲᔫᑕᐅᔪᑦ ᓴᓗᒻᒪᖅᑕᐅᔪᓂᑦ ᐃᓱᒪᒋᔭᐅᕗᑦ ᓄᓇᒋᔭᐅᔪᒥᑦ ᑰᒑᕐᔪᖕᒦᓐᓇᔭᕆᐊᒃᓴᖓᓂᒃ. ᓴᓗᒻᒪᖅᓴᐃᑎᓪᓗᒋᑦ ᐃᓱᒪᖕᓇᖅᐳᖅ ᐃᓚᕚᓪᓕᕐᔭᕆᐊᒃᓴᖏᓐᓂᒃ ᐃᖃᓇᐃᔭᖅᑐᑦ ᐱᓇᓱᐊᒐᕆᔭᐅᔪᓂᓗ ᐱᓕᕆᐊᖃᖅᑐᑦ ᓄᓇᒋᔭᐅᔪᒥ. ᑳᓐᑐᕐᒃᑎᓪᓗᒋᑦ ᓴᓗᒻᒪᖅᓴᖅᑕᐅᓂᖓᓄᑦ ᐱᓕᕆᐊᖑᓂᐊᖅᑐᖅ PIN-3 ᓱᓕ ᑐᓂᔾᔪᑕᐅᓯᒪᙱᑎᓪᓗ, ᓄᓇᖃᖅᑐᑦ ᖃᓄᐃᓕᐅᕆᐊᖃᕈᓯᕆᔭᖏᑦ ᓱᓕ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᙱᓚᑦ.

P.O. Box 119
Gjoa Haven, NU X0E 1J0
Tel: (867) 360-6338
Fax: (867) 360-6369
KATIMAYINGI

ᓄᓇᕗᑦ ᐃᒪᓕᕆᔨᑦ ᑲᑎᒪᔨᖏᑦ
NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN

WATER LICENCE
APPLICATION FORM

Application for: (check one)

✓**New** ___ **Amendment** ___**Renewal** ___**Assignment**

LICENCE NO:
(for NWB use only)

1. NAME AND MAILING ADDRESS OF APPLICANT/LICENSEE

Suzanne Belanger-Fontaine, DLCU Environmental Officer
Defense Construction Canada Ltd.
Place de Ville, Tower B
112 Kent Street, 17th Floor
Ottawa, Ontario K1A 0K3

Phone: 613-991-9358
Fax: 613-998-1061
e-mail: BELANGSU@dcc-cdc.gc.ca

as administered by:
Eva Schulz, P.Ag., Environmental Scientist
UMA Engineering Ltd.
Calgary, Alberta T2N 3S3

Phone: 403-270-9200
Fax: 403-270-0399
e-mail: eschulz@umagroup.com

2. ADDRESS OF CORPORATE OFFICE IN CANADA (if applicable)

Phone:_____
Fax: _____
e-mail: _____

3. LOCATION OF UNDERTAKING (describe and attach a topographical map, indicating the main components of the Undertaking)

PIN-3, Lady Franklin Point is one of the 21 DND DEW Line sites to be cleaned up under the DEW Line Clean Up Project. PIN-3 is located on the south coast of Victoria Island in the Kitikmeot Region of the Territory of Nunavut. The station is adjacent to the shores of Dolphin and Union Strait near the Coronation Gulf. The closest communities are Kugluktuk (formerly Coppermine), approximately 115 km to the southwest, and Cambridge Bay, 325 km to the southeast. The former PIN-3 DEW Line site is located on a Department of National Defence (DND) reserve on Crown lands.

Latitude: 68°28'N Longitude: 113°13'W NTS Map No. 87A Scale 1:250,000

4. DESCRIPTION OF UNDERTAKING (attach plans and drawings)

The purpose of the project is to complete the environmental cleanup of the former PIN-3, Lady Franklin Point DEW Line site. The main components of the undertaking include the following:

- Demolish and remove existing facilities that are not required for the operation of the North Warning System;

- Remove contaminated soils from the Arctic food chain;
- Remediate existing landfills;
- Clean up surface debris; and,
- Physically restore the unused portion of the site to as natural a state as possible.

Sections 3-6 of the document in Annex A provide a description of the work to be completed at PIN-3.

5. TYPE OF UNDERTAKING (A supplementary questionnaire must be submitted with the application for undertakings listed in **"bold"**)

___ Industrial	✓ **Remote/Tourism Camps**
___ **Mine Development**	___ **Municipal**
___ **Advanced Exploration**	___ Power
___ **Exploratory Drilling**	___ Other (describe): please see attached.

6. WATER USE

✓ To obtain water	___ To divert a watercourse
___ To modify the bed or bank of a watercourse	___ Flood control
___ To alter the flow of , or store, water	✓ Other (describe): see below
___ To cross a watercourse	

The South Landfill (see Section 5.2.2 of the report in Annex A for a description of the South Landfill) at the site is located in close proximity to the ocean and will therefore be excavated. In addition, because the landfill is close to the ocean, the area is quite wet and the excavation area must be dewatered during construction. Dewatering will consist of creating a drainage trench and temporary sump to keep water out of the excavation.

7. QUANTITY OF WATER INVOLVED (litres per second, litres per day or cubic metres per year, including both quantity to be used and quality to be returned to source)

It is estimated that the quantity of water to be used for running the camp, including contractor use, will be 30,000 litres/day. The camp requirements are approximately 12,000 litres/day, and contractor use is estimated at 18,000 litres/day. Contractor use will vary depending on daily activities. Water from the existing water supply lake will likely be pumped into a water tank on a truck using a portable pump and then transferred to a water storage tank at the Camp. As the contract for the work has not yet been awarded, the size of the tank is not available. No water will be returned to the source.

8. WASTE (for each type of waste describe: composition, quantity, methods of treatment and disposal, etc.)

✓ Sewage	___ Waste oil
✓ Solid Waste	✓ Greywater
___Hazardous	___ Sludges
✓ Bulky Items/Scrap Metal	___ Other (describe):_____

Camp sewage will be buried on site a minimum of 100 metres from the camp, any natural drainage course or water body. Greywater from camp operations will be discharged to a pit and buried a minimum of 30 metres from the camp, or any natural drainage course or water body. Domestic garbage will be incinerated and the residual waste buried in an on-site landfill. All excess fuels, camp equipment and facilities will be removed from the site after completion of the clean up activities. It is not anticipated that the clean up activities will generate any hazardous wastes. Hazardous wastes already existing at the site will be dealt with according to Sections 4.15 of the Environmental Protection Plan in Appendix III of the

report in Annex A. Empty barrels and fuel drums will be disposed of according to the DEW Line Clean Up – Barrel Protocol, a copy of which has been included in Annex B.

9. PERSONS OR PROPERTIES AFFECTED BY THIS UNDERTAKING (give name, mailing address and location; attach if necessary)

Land Use Permit

DIAND	✓ Yes	___ No	If no, date expected _____
Regional Inuit Association	___ Yes	___ No	If no, date expected _____
Commissioner	___ Yes	___ No	If no, date expected _____

10. PREDICTED ENVIRONMENTAL IMPACTS OF UNDERTAKING AND PROPOSED MITIGATION MEASURES *(direct, indirect, cumulative impacts, etc.)*

NIRB Screening ✓ Yes ___ No If no, date expected.
A project description/environmental screening report has been submitted to NIRB.

Sections 9-10 of the report in Annex A provide a list of the potential environmental impacts of the undertaking and the proposed mitigation measures.

11. INUIT WATER RIGHTS

Will the project or activity substantially affect the quality, quantity, or flow of water flowing through Inuit Owned Lands and the rights of Inuit under Article 20 of the Nunavut Land Claims Agreement?

No.

11. (Continued)

If yes, has the applicant entered into an agreement with the Designated Inuit organization to pay compensation for any loss or damage that may be caused by the alteration. If no compensation agreement has been made, how will compensation be determined?

12. CONTRACTORS AND SUB-CONTRACTORS (name, address and functions)

The contract for the clean up work has ot yet been tendered or awarded. Therefore, the names, addresses and functions of the contractors and sub-contractors involved in the clean up of the PIN-3 DEW Line site are not available at this time.

13. STUDIES UNDERTAKEN TO DATE (list and attach copies of studies, reports, research, etc.)
During the radar upgrade program in the early 1990's, prior to the start of the DEW Line Clean Up, a number of environmental and engineering investigations were conducted at the DEW Line sites. The objectives of these studies were as follows:

- To identify the nature and extent of chemical contamination at the sites;
- To determine the possible impact of these contaminants on the Arctic ecosystem in general and the food chain in particular; and

- To develop practical environmental clean up strategies appropriate for the Arctic.

See Section 1.4 of the report in Annex A for the previous investigations and Section 14 for the complete list of information sources.

14. THE FOLLOWING DOCUMENTS MUST BE INCLUDED WITH THE APPLICATION FOR THE REGULATORY PROCESS TO BEGIN

Supplementary Questionnaire (where applicable: see section 5) ✓ Yes ___ No If no, date expected _____

Inuktitut/English Summary of Project ✓ Yes ___ No If no, date expected _____

Application fee $30.00 (c/o of Receiver General for Canada) ✓ Yes ___No If no, date expected _____

15. PROPOSED TIME SCHEDULE

___ Annual (or) ✓ Multi Year

Start Date: July 2002 Completion Date: September 2004

Eva Schulz	**Environmental Scientist**	Eva Schulz	Oct. 19, 2004
Name (Print)	**Title (Print)**	**Signature**	**Date**

For Nunavut Water Board use only

APPLICATION FEE **Amount: $**_____ **Receipt No.:**

WATER USE DEPOSIT **Amount: $**_____ **Receipt No.:**

P.O. Box 119
Gjoa Haven, NT X0E 1J0 ᓄᓇᕗᑦ ᐃᒪᓕᕆᔨᑦ ᑲᑎᒪᔨᖏᑦ
Tel: (867) 360-6338 NUNAVUT WATER BOARD
Fax: (867) 360-6369 NUNAVUT IMALIRIYIN KATIMAYINGI

EXPLORATION/ REMOTE CAMP SUPPLEMENTARY QUESTIONNAIRE

Applicant: Defence Construction Canada **Licence No:** _____
(For NWB Use Only)

ADMINISTRATIVE INFORMATION

1. Environment Manager: Eva Schulz, P.Ag. Tel: 403-270-9200 Fax: 403-270-0399 E-mail: eschulz@umagroup.com

2. Project Manager: Suzanne Belanger-Fontaine Tel: 613-998-9523 Fax: 613-998-1061 E-mail: BELANGSU@dcc-cdc.gc.ca

3. Does the applicant hold the necessary property rights?

The former PIN-3 DEW Line site is located on a DND reserve on federal Crown lands under the administrative control of Indian and Northern Affairs. A DIAND Land Use Permit has been applied for.

4. Is the applicant an 'operator' for another company (i.e., the holder of the property rights)? If so, please provide letter of authorization.

N/A

5. Duration of the Project
   [ ] Annual
   [✓] Multi Year:
   If Multi-Year indicate proposed schedule of on site activities
   Start: July 2002 Completion: September 2004

CAMP CLASSIFICATION

6. Type of Camp
   [ ] Mobile (self-propelled)
   [ ] Temporary
   [✓] Seasonally Occupied: summer months only
   [ ] Permanent
   [ ] Other:_____

7. What are the design population of the camp and the maximum population expected on site at one time? What will be the fluctuations in personnel?

The camp will be able to accommodate up to 50 people, with an average of 35 people on site at a time. Peak time for maximum number of people on site is mid-July to the end of August.

8. Provide history of the site if it has been used in the past.

The site was former Distant Early Warning (DEW) Line site, which was used from 1955 to 1993 to provide radar surveillance of the northern approaches to the North American continent. This now inactive chain of radar stations, at approximately 70 degrees latitude, stretches several thousand kilometres across the breadth of the Arctic. The DEW Line originally consisted of 42 sites in Canada, but was reduced to half of this number in 1963. The 21 sites decommissioned in 1963 are now the responsibility of the Department of Indian Affairs and Northern Development. The remaining 21 sites are the responsibility of the Department of National Defence.

In March 1985, Canada and the United States agreed to moderize the North American Air Defence System by closing the 21 remaining DND DEW Line sites and building the North Warning System (NWS). The DEW Line Clean Up (DLCU) focuses on closing out the former DEW Line sites, including the remediation of chemically contaminated soils, the stabilization of landfill areas and the demolition/disposal of surplus infrastructure and debris. A monitoring program will be carried out after the clean up has been completed.

CAMP LOCATION

9. Please describe proposed camp location in relation to biogeographical and geomorphological features, and water bodies.

Please see Section 7 of the report in Annex A for a description of the biogeographical and geomorphological features, and water bodies..

10. How was the location of the camp selected? Was the site previously used? Was assistance from the Regional Inuit Association Land Manager sought? Include maps and/or aerial photographs.

The camp and/or associated storage areas are to be located in areas of previous disturbance to minimize damage to previously undisturbed areas. The exact location of the camp will not be available until the contract has been awarded.

11. Is the camp or any aspect of the project located on:

[✓] Crown Lands Permit Number (s)/Expiry Date: _____
[ ] Commissioners Lands Permit Number (s)/Expiry Date: _____
[ ] Inuit Owned Lands Permit Number (s)/Expiry Date: _____

12. Closest Communities (distance in km):

The closest communities are Kugluktuk (formerly Coppermine), approximately 115 km to the southwest and Cambridge Bay, approximately 325 km to the southeast.

13. Has the proponent notified and consulted the nearby communities and potentially interested parties about the proposed work?

A community meeting was held in Kugluktuk on April 25, 2001 to discuss the clean up work at PIN-3. Representatives of the Department of National Defence, as well as approximately 20 residents of Kugluktuk attended the meetings. The meeting included an information session and a question and answer period. Details of the community consultation process are provided in Section of and Appendix V of the report in Annex A.

14. Will the project have impacts on traditional water use areas used by the nearby communities? Will the project have impacts on local fish and wildlife habitats?

See Sections 9-10 of the report in Annex A for the potential project impacts.

PURPOSE OF THE CAMP

15.
- O Mining
- O Tourism (hunting, fishing, wildlife observation, adventure/expedition, etc.) (Omit questions # 16 to 21)
- ✓ OOther Environmental Cleanup (Omit questions # 16 to 22)

16.
- O Preliminary site visit
- O Prospecting
- O Geological mapping
- O Geophysical survey
- O Diamond drilling
- O Reverse circulation drilling
- O Evaluation Drilling/Bulk Sampling (also complete separate questionnaire)
- O Other: _____

N/A

17. Type of deposit:
- O Lead Zinc
- O Diamond
- O Gold
- O Uranium
- O Other: _____

N/A

DRILLING INFORMATION

18. Drilling Activities
- O Land Based drilling
- O Drilling on ice

N/A

19. Describe what will be done with drill cuttings?

N/A

20. Describe what will be done with drill water?

N/A

21. List the brand names and constituents of the drill additives to be used? Includes MSDS sheets and provide confirmation that the additives are non-toxic and biodegradable.

N/A

22. Will any core testing be done on site? Describe.

N/A

SPILL CONTINGENCY PLANNING

23. Does the proponent have a spill contingency plan in place? Please include for review.

A contingency plans are included in Section 7 of the Environmental Protection Plan (EPP) in Appendix III of the report in Annex A. The EPP forms part of the contract document shared with the successful contractor, which means they must adhere to all parts of the EPP. In addition, there is a POL Spill Contingency Plan provided by the North Warning System Office in Annex C.

24. How many spill kits will be on site and where will they be located?

The spill kit will be located within the camp and will consist, at minimum, of the following items:

- Absorbent, oil (7kg bag) – 12
- Salvage drum (85 gal) – 2
- Shovel – 2
- Gloves, rubber lined – 1 pair
- Wheelbarrow - 1

A more detailed list of spill kit items will be available after award of the clean up contract.

25. Please describe the types, quantities, and method of storage of fuel and chemicals on site, and provide MSDS sheets.

A variety of fuels and other hazardous materials may be in use at the PIN-3site during clean up. The greatest volumes will likely involve Arctic diesel fuel. Other substances such as acids, solvents, lubricants, hydraulic fluid, antifreeze, fuel additives and engine coolants also pose potential environmental and safety hazards. As chemicals are usually stored and transferred in barrels of 205 litres or smaller, potential spill quantities are small.

Material Safety Data Sheets will be made available by the Contractor, after award of the contract. The Contractor is required to comply with the requirements of Workplace Hazardous Materials Information System (WHMIS), which includes the provision of MSDS information.

WATER SUPPLY AND TREATMENT

26. Describe the location of water sources.

Please see Drawing 101 in Appendix IV of the report in Annex A for the location of the existing Water Supply Lake at PIN-3.

27. Estimated demand (in L/day * person):

- Domestic Use: 12,000 L/day (340 L/day/person). Water Source: Water Supply Lake
- Drilling Units: n/a Water Source: _____
- Other: 18,000 L/day – Contractor Use Water Source: Water Supply Lake

28. Describe water intake for camp operations? Is the water intake equipped with a mesh screen to prevent entrapment of fish? Describe:

Water will be pumped into a truck equipped with a holding tank from the Water Supply Lake and transferred to a tank at the camp area. Water withdrawal rates are not to exceed 10 percent of the existing stream flow or 10 percent of the total water body volume. All water intake hose will be equipped with screens with a mesh size of 2.5 millimetres or less to prevent the intake of fish.

29. Will drinking water quality be monitored? What parameters will be analyzed and at what frequency?

Drinking water will be monitored on a monthly basis for potability parameters, which typically include: Chlorine, sodium, potassium, magnesium, calcium, iron, manganese, conductivity, hardness, nitrate, nitrite, sulphate, pH, total coliforms, and E. Coli.

30. Will drinking water be treated? How?

If required, drinking water will be treated in accordance with the Health Canada Guidelines for Canadian Drinking Water Quality. Iodine, chlorination and/or thermal heat treatment are common on-site drinking water treatments.

31. Will water be stored on site?

Water will be stored at the camp in a mobile tank.

WASTE TREATMENT AND DISPOSAL

32. Describe the characteristics, quantities, treatment and disposal methods for:

O Camp Sewage (blackwater)
Sewage will be buried on-site a minimum of 100 metres away from the camp and any natural drainage course or water body and 450 metres away from any water body that supports aquatic life.

O Camp Greywater
Greywater from camp operations will be discharged to a pit and buried a minimum of 30 metres from the camp or any natural drainage course or water body.

O Solid Waste
Domestic and other non-hazardous waste will be incinerated and the residue will be buried in an on-site landfill.

O Bulky Items/Scrap Metal
All excess fuels, camp equipment and facilities will be removed from the site after the completion of the clean up activities.

O Waste Oil/Hazardous Waste
It is not anticipated that the clean up activities will generate any hazardous wastes. Hazardous wastes already existing at the site will be dealt with according to Section 4.15 of the Environmental Protection Plan in Appendix III of the report in Annex A.

O Empty Barrels/Fuel Drums
Empty barrels and fuel drums will be disposed of according to the DEW Line Clean Up Barrel Protocol, a copy of which has been included in Annex B.

O Other:

33. Please describe incineration system if used on site. What types of wastes will be incinerated?

Domestic, non-hazardous waste will be incinerated in an enclosed container, and the residues will be disposed of in an on-site landfill. The container will be located at least 100 metres away from the camp, any site facilities, natural water courses or water bodies. A fire extinguisher will be provided at the incineration site.

34. Where and how will non-combustible waste be disposed of? If in a municipality in Nunavut, has authorization been granted?

Non-combustible, non-hazardous wastes will be disposed on in an on-site landfill.

35. Describe location (relative to water bodies and camp facilities) dimensions and volume, and freeboard for sumps (if applicable).

N/A

36. Will leachate monitoring be done? What parameters will be sampled and analyzed, and at what frequency?

Leachate monitoring will be conducted as part of the proposed Landfill Monitoring Plan, a copy of which is included in Annex D

OPERATION AND MAINTENANCE

37. Have the water supply and waste treatment and disposal methods been used and proven in cold climate? What known O&M problems may occur? What contingency plans are in place?

The water supply and treatment systems have been used during the cleanup of six DEW Line sites, all of which are either completed, or will be completed this year. No outstanding problems were discovered during the clean up of these sites. Contingency plans for fuel and hazardous material spills, wildlife encounters and discovery of heritage resources are provided in Section 7.0 of the Environmental Protection Plan in Appendix III of the report in Annex A.

ABANDONMENT AND RESTORATION

38. Provide a detailed description of progressive and final abandonment and restoration activities at the site.

The aim of the DEW Line Clean Up Project is to decommission those facilities used by the former DEW Line which have been declared surplus to the requirements of the new North Warning System and to restore the sites to an environmentally safe condition. Environmental restoration includes the setting of remediation objectives that are designed to preclude the continued migration of contamination (and hence biomagnification) into the Arctic ecosystem/ food chain. To accomplish this, remediation will include:

- The excavation of soils in cases where parameters exceed those that have been set for the project (i.e., believed to cause significant input into the lower levels of the food chain, for example, higher plants and detritus); and,
- The remediation of landfills which may serve as a source of water contamination and may enter the lower levels of the marine food chain (i.e., algae).

Site decommissioning activities, when the clean up is completed, will involve the demobilization of all contractor equipment, camp infrastructure (if used), and materials no longer required at the site. The requirement for the contractor to undertake these decommissioning activities will be a contractual obligation written into the project specifications.

BASELINE DATA

39. Has or will any baseline information be collected as part of this project? Provide bibliography.
    - O Physical Environment (Landscape and Terrain, Air, Water, etc.)
    - O Biological Environment (Vegetation, Wildlife, Birds, Fish and Other Aquatic
    - O Organisms, etc.)
    - O Socio-Economic Environment (Archaeology, Land and Resources Use,
    - O Demographics, Social and Culture Patterns, etc.)
    - O Other:

Baseline information has been collected as part of this project. Please see Section 14 of the report in Annex A for the bibliography. No further baseline information will be collected.

REGULATORY INFORMATION

40. Do you have a copy of

✓ O Article 13 - Nunavut Land Claims Agreement
✓ O NWB - Water Licensing in Nunavut - Interim Procedures and Information Guide for Applicants
✓ O NWB - Interim Rules of Practice and Procedure for Public Hearings
✓ O NWTWB - Guidelines for the Discharge of Treated Municipal Wastewater in the NWT
O NWTWB - Guidelines for Contingency Planning
✓ O DFO - Freshwater Intake End of Pipe Fish Screen Guideline
O Fisheries Act - s.35
✓ O RWED - Environment Protection- Spill Contingency Regulations
✓ O Canadian Drinking Water Quality Guidelines
✓ O Public Health Act Camp Sanitation Regulations
✓ O Public Health Act Water Supply Regulations
✓ O Territorial Land Use Act and Regulations

You should consult the above document, guidelines, and legislation for compliance with existing regulatory requirements.