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NUNAVUT WATER BOARD
NUNAVUT IMALIRIYIN KATIMAYINGI
OFFICE DES EAUX DU NUNAVUT

EXPLORATION/ REMOTE CAMP SUPPLEMENTARY QUESTIONNAIRE

Applicant: **Defence R&D Canada (DRDC)** **Licence No:** _____
(For NWB Use Only)

ADMINISTRATIVE INFORMATION

1. Environment Manager: **Nelson McCoy** Tel: **902-426-3100 ext 236** Fax: **902-426-9654** E-mail: **nelson.mccoy@drdc-rddc.gc.ca**

2. Project Manager: **Nelson McCoy** Tel: **902-426-3100 ext 236** Fax: **902-426-9654** E-mail: **nelson.mccoy@drdc-rddc.gc.ca**

3. Does the applicant hold the necessary property rights? **Yes**

4. Is the applicant an 'operator' for another company (i.e., the holder of the property rights)? **No**
If so, please provide letter of authorization.

5. Duration of the Project
   - ☐ One year or less — Start and completion dates:
   - ☑ Multi Year:

   If Multi-Year indicate proposed schedule of on site activities
   Start: **August 2008** Completion: **September 2010**
   Note: Field trials are to take place over three week periods from Mid-August to Mid-September, annually, from 2008 to 2010.

CAMP CLASSIFICATION

6. Type of Camp
   - ☐ Mobile (self-propelled)
   - ☐ Temporary
   - ☑ Seasonally Occupied: **mid-August to mid-September**
   - ☐ Permanent
   - ☐ Other:_____

7. What is the design, maximum and expected average population of the camp?

The camp currently consisits of six (6) nonpermanent structures that were built in the 1980's. One (1) new 16 foot by 16 foot sleeping quarters and one (1) new 8 foot by 12 foot shelter will be constructed to house personnel and equipment for the NWTD project. About 20 people will occupy the camp for the duration of each trial (about 500 man days). Two (2) temporary structures, an 8 foot by 12 foot shed and a 4 foot by 8 foot shed, will be constructed at Cape Liddon to house equipment and provide a shelter for personnel during data collection activities.

The two locations will be connected by a wireless data link. DRDC personnel will travel to the site in early August 2008 to complete the above construction. Approximately 20 people will occupy the camp during the field trials.

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

From the late 1970's until 1996, the Gascoyne Inlet camp was used by DRDC as a shore station for underwater acoustic research. All research equipment was removed in the 1996 and the camp has since seen occasional use by the Resolute Bay Hunters and Trappers Association.

CAMP LOCATION

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

The camp is located at Gascoyne Inlet at latitude of 74° 39'40" N and longitude of 91° 16' 40" W. There will be land based sensors set up at Cape Liddon, approximately 8 km from the camp. See the attached map, sheet No. 58E/12. The camp is located on the shore of Barrow Strait, north of the Brodeur Peninsula (Baffin Island). Resolute Bay is located approximately 110 km west of the site, across the Wellington Channel. The terrain is composed mostly of loose rock/gravel ground cover. There is a melt-water stream located near the camp.

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 at Gascoyne Inlet was selected for several reasons:

- **The NWTD project was initiated to identify and characterize combinations of sensors and systems for cost effective surveillance of the unique maritime environment of the Canadian Arctic and the . Gascoyne inlet is a good test site as it is one of the choke points in the North West Passage and, if a remote network is installed, choke points are key to "catching" all the traffic.**
- **Existing infrastructure at the site from its history as an underwater acoustic research site (such as a foreshore, existing huts and air strip) make the Gascoyne Inlet site a simpler and more cost effective place to set up than at a site with no science history.**
- **The close proximity to Resolute Bay simplifies logistics.**

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

☑ Crown Lands Permit Number (s)/Expiry Date: **INAC Land Use Permit application has been submitted concurrently with this application**

☐ Commissioners Lands Permit Number (s)/Expiry Date: **n/a**

☐ Inuit Owned Lands Permit Number (s)/Expiry Date: **n/a**

12. Closest Communities (direction and distance in km):

Resolute Bay is located approximately 110 km west of the site, across the Wellington Channel.

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

Members of the Northern Watch project conducted a site visit of Gascoyne Inlet and Cape Liddon in July 2007. During that visit, the project director, the two project managers, and the logistics coordinator met with the mayor of Resolute, Susan Salluviniq, on July 11th and provided an overview of the project and the field trials that would be conducted as part of it. It

was an informal impromptu meeting held in the Resolute town office. The mayor was positive about the project.

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?

The project is not expected to have negative impacts on traditional water use areas or local fish and wildlife habitats.

PURPOSE OF THE CAMP

15.
- ☐ Mining (includes exploration drilling)
- ☐ Tourism (hunting, fishing, wildlife observation, adventure/expedition, etc.) (Omit questions # 16 to 21)
- ☑ Other **Technology Demostration/Scientific Research (Omit questions #16 to 22)**

16. Activities (check all applicable)

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

17. Type of deposit (exploration focus):

- ☐ Lead Zinc
- ☐ Diamond
- ☐ Gold
- ☐ Uranium
- ☐ Other: _____

DRILLING INFORMATION

18. Drilling Activities

- ☐ Land Based drilling
- ☐ Drilling on ice

19. Describe what will be done with drill cuttings?

20. Describe what will be done with drill water?

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.

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

SPILL CONTINGENCY PLANNING

23. The proponent is required to have a site specific Spill Contingency Plan prepared and submitted with the application This Plan should be prepared in accordance with the *NWT Environmental Protection Act, Spill Contingency Planning and Reporting Regulations, July 22, 1998* and *A Guide to the Spill Contingency Planning and Reporting Regulations, June 2002.* Please include for review.

Please see the attached Spill Contingency Plan.

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

There will be at least two (2) spill kits on site. One will be stored in the generator shelter and the other will be kept at the fuel storage/refuelling area.

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

The following fuel types will be stored on the site:

Fuel	Number of Containers and Capacity of Containers	Total Amount of Fuel (in Litres)	Proposed Storage Methods
Diesel	5 (205L)	1025 L	Drums, on a tarpaulin in a depression.
Gasoline	2 (205L)	410 L	Drums, on a tarpaulin in a depression.
Aviation fuel	10 (205L)	2, 050 L	Drums, on a tarpaulin in a depression.
Propane	5 (100 lb)	500 lb	Cylinders.

Fuel will be stored in approved safety cans bearing the Underwriter's Laboratory of Canada or Factory Mutual seal of approval. DRDC personnel will comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding employee training, use, handling, storage and disposal of hazardous materials, and regarding labelling and provision of Material Safety Data Sheets (MSDS) as required by WHMIS legislation.

WATER SUPPLY AND TREATMENT

26. Describe the location of water sources.

Freshwater will be drawn from a melt-water stream located approximately 150 m from the camp.

27. Estimated water use (in cubic metres/day):

- ☑ Domestic Use: **0.5** Water Source: **Melt-water stream**
- ☐ Drilling: _____ Water Source: _____
- ☐ Other: _____ Water Source: _____

28. Describe water intake for camp operations? Is the water intake equipped with a mesh screen to prevent entrapment of fish? (see *DFO 1995, Freshwater Intake End-of-Pipe Fish Screen Guideline*) Describe:

Water will be transferred to the site via a gravity feed overland water intake pipe equipped with a small mesh screen to remove any debris that may be present in the water. There are no fish in the stream.

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

Due to the lack of wildlife and other potential sources of contamination in the area, drinking water drawn from the stream will not be tested for quality. This has been the practice in previous years

30. Will drinking water be treated? How?

No

31. Will water be stored on site?

Water will be stored on site using a 205 drum fed by gravity feed. Domestic water will be drawn form the drum for use in the camp using a small horse power pump.

WASTE TREATMENT AND DISPOSAL

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

☐ Camp Sewage (blackwater)

There will be no blackwater generated at the camp. All sewage is to be incinerated using propane powered toilets. The resulting ash will be treated as solid waste and flown back to Resolute Bay for disposal.

☑ Camp Greywater

Camp greywater will consist primarily of wastewater generated from the kitchen and shower. The estimated flow from this wastewater stream is 500 l/day per day. This water will be screened to remove solid materials and allowed to drain into the loose rock/gravel ground cover at the camp site.

☑ Solid Waste

Non-hazardous solid waste will be collected and flown to Resolute Bay for disposal. There are flights between the camp and Resolute Bay planned daily.

☐ Bulky Items/Scrap Metal Not applicable

☐ Waste Oil/Hazardous Waste Not applicable

☑ Empty Barrels/Fuel Drums

Empty fuel drums will be removed from the site at the end of each field trail period.

☐ Other: **Not applicable.**

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

Other than propane powered toilets, there will be no incineration system on site.

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

Non-combustible solid waste generated from the camp operations will be stored in a secure waste disposal bin. The contents of the waste disposal bin will be transported by air to Resolute Bay for disposal.

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

Not applicable.

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

No leachate monitoring will be undertaken.

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?

Water supply and waste disposal methods have been used by DRDC personnel at the Gascoyne Inlet site in the past, and have proven effective.

ABANDONMENT AND RESTORATION

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

At the conclusion of the project in mid-September 2010, all sensor, communications, and data collection equipment will be removed from the Gascoyne Inlet camp and the Cape Liddon site. All water collection and storage equipment will be removed. All fuel storage containers and unused fuel will be removed with the exception of two (2) drums of diesel fuel, which will be left on site for use in the generator. The Resolute Bay Hunters and Trappers will be given the choice of which buildings will remain at the Gascoyne Inlet camp – the others will be removed. The portable structures at Cape Liddon will be removed.

BASELINE DATA

39. Has or will any baseline information be collected as part of this project? Provide bibliography.

- ☐ Physical Environment (Landscape and Terrain, Air, Water, etc.)
- ☐ Biological Environment (Vegetation, Wildlife, Birds, Fish and Other Aquatic Organisms, etc.)
- ☐ Socio-Economic Environment (Archaeology, Land and Resources Use, Demographics, Social and Culture Patterns, etc.)
- ☐ Other: _____

REGULATORY INFORMATION

40. At a minimum, you should ensure you have a copy of and consult the documents below for compliance with existing regulatory requirements:

- ✓ ARTICLE 13 – *NCLA -Nunavut Land Claims Agreement*
- ✓ NWNSRTA – *The Nunavut Waters and Nunavut Surface Rights Tribunal Act, 2002*
- ✓ *Northwest Territories Waters Regulations, 1993*
- ✓ NWB - Water Licensing in Nunavut - Interim Procedures and Information Guide for Applicants
- ✓ NWB - Interim Rules of Practice and Procedure for Public Hearings
- ✓ RWED – *Environmental Protection Act, R-068-93- Spill Contingency Planning and Reporting Regulations, 1993*
- ✓ RWED A Guide to the Spill Contingency Planning and Reporting Regulations, 2002
- ✓ NWTWB - Guidelines for Contingency Planning
- ✓ *Canadian Environmental Protection Act, 1999 (CEPA)*
- ✓ *Fisheries Act, RS 1985* - s.34, 35, 36 and 37
- ✓ DFO - Freshwater Intake End of Pipe Fish Screen Guideline
- ✓ NWTWB - Guidelines for the Discharge of Treated Municipal Wastewater in the NWT
- ✓ Canadian Council for Ministers of the Environment (CCME); Canadian Drinking Water Quality Guidelines, 1987
- ✓ Public Health Act - Camp Sanitation Regulations
- ✓ Public Health Act - Water Supply Regulations
- ✓ *Territorial Lands Act* and *Territorial Land Use Regulations*; Updated 2000