

**NIRB Application for Screening #125227**

## 3BC-FOD0919 FOX-3, Dewar Lakes Water Use Licence Renewal/Amendment

<b>Application Type:</b>	New
<b>Project Type:</b>	Water
<b>Application Date:</b>	12/19/2017 10:02:52 AM
<b>Period of operation:</b>	from 0001-01-01 to 0001-01-01
<b>Proposed Authorization:</b>	from 0001-01-01 to 0001-01-01
<b>Project Proponent:</b>	Tamara Vandyck On Behalf of Department of National Defence 180 Kent St., 14th Floor Ottawa Ontario K1P 0B6 Canada Phone Number:: 613-993-2234, Fax Number::

## DETAILS

### Non-technical project proposal description

English: FOX-3, Dewar Lakes3BC- FOD0919Water Licence Renewal and AmendmentThe North Warning System in Canada is a chain of unmanned radar sites that provides aerospace surveillance, established to detect and allow for an early response to potential threats entering North American air space. It is part of Canada's North American Aerospace Defense Command (NORAD) agreement with the United States, and an essential capability in our efforts to maintain Canada's sovereignty. Raytheon Canada Limited has the contract with the Department of National Defence to operate and maintain the North Warning System radar site FOX-3, Dewar Lakes. FOX-3 is situated in Nunavut on Baffin Island north of Dewar Lakes. It is located on a hill top, about 518 m above sea level, in an area of general glacial scouring and eskers. The airstrip in the valley is approximately 152 m above sea level. The closest source of support is FOX-M, Hall Beach to the west. Flight time from FOX-M to FOX-3 is 3 hours (including a half hour refueling stop) by helicopter under normal conditions. FOX-3 is a Long Range Radar Site (LRR) for the North Warning System. FOX-3 is an unmanned site, but it is visited by FOX-M staff on scheduled quarterly preventive and corrective maintenance trips and on an as needed basis. During the months of May to September the site may have an average of 5 to 20 personnel on-site due to seasonal project activity and occasional Third Party visitors. FOX-3 is one of 11 LRRs of the North Warning System; the LRRs are located across the Yukon, Northwest Territories, Nunavut, and down the Labrador coast. The facilities are remotely monitored and controlled from North Bay on a 24/7 basis. The information they receive is automatically sent to the Canadian Air Defence Sector located at 22 Wing, CFB North Bay over a long-haul satellite communications network.

French: n/a

[illegible]

Inuinnaqtun: n/a

**Personnel**

Personnel on site: 5

Days on site: 60

Total Person days: 300

Operations Phase: from 2018-06-01 to 2028-06-01

## Activities

### Activities

Location	Activity Type	Land Status	Site history	Site archaeological or paleontological value	Proximity to the nearest communities and any protected areas
FOX-3, Dewar Lakes Camp Location	Camp	Crown	FOX-3 was built in the 1950's as one of the Distant Early Warning Line (DEW Line) radar sites which stretched from Alaska to Greenland. In the 1980's, the DEW Line in Canada evolved into the North Warning System (NWS) with radar sites extending from the Yukon across the Arctic and down the Labrador coast. FOX-3 was modernized as part of this transition in 1995.	Archeological studies were conducted in 1990 and 2007. Areas of importance have been noted and avoided.	Clyde River, 230 km to the northeast; Qikiqtarjuaq, 320 km to the southeast; Hall Beach, 410 km to the west.
FOX-3, Dewar Lakes Camp Location	Landfarm	Crown	The site for this landfarm is indicated on attached maps. The location was used during the DEW Line Clean up Project for their landfarm facility.	The site of the landfarm has no archeological value	Clyde River, 230 km to the northeast; Qikiqtarjuaq, 320 km to the southeast; Hall Beach, 410 km to the west.

### Community Involvement & Regional Benefits

Community	Name	Organization	Date Contacted
Information is not available			

## Authorizations

### Indicate the areas in which the project is located

South Baffin

### Authorizations

Regulatory Authority	Authorization Description	Current Status	Date Issued / Applied	Expiry Date
Nunavut Water Board	This NIRB submission is required for the renewal / amendment for an existing Water Use Licence (3BC-FOD0919) issued by the Nunavut Water Board.	Not Yet Applied		

### Project transportation types

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Transportation Type	Quantity	Proposed Use	Length of Use
Air	0		

### Project accomodation types

Permanent Camp

## Material Use

### Equipment to be used (including drills, pumps, aircraft, vehicles, etc)

Equipment Type	Quantity	Size - Dimensions	Proposed Use
Excavator	1	10X3X3 m	Digging
Dump Truck	2	3x5x2 m	Moving Aggregate
Loader	2	7x4x2 m	Earthworks
Dozer	1	6x3x4 m	Earthworks
Grader	1	9x2x3 m	Grading
Pickup Truck	1	6x2x2 m	Transportation

### Detail Fuel and Hazardous Material Use

Detail fuel material use:	Fuel Type	Number of containers	Container Capacity	Total Amount	Units	Proposed Use
Aviation fuel	fuel	5	90000	450000	Liters	Power generation
Aviation fuel	fuel	2	692000	1384000	Liters	Power generation
Aviation fuel	fuel	20	246000	4920000	Liters	Power generation
Paint	hazardous	1	205	205	Liters	painting surfaces
Batteries	hazardous	1	205	205	Liters	Power generation

### Water Consumption

Daily amount (m3)	Proposed water retrieval methods	Proposed water retrieval location
40	Water from a natural fresh water lake is pumped into a water truck; the water intake is equipped with a mesh screen. The water is then transferred to the four raw water tanks located at the station; w	Water Lake (local)

## Waste

### Waste Management

Project Activity	Type of Waste	Projected Amount Generated	Method of Disposal	Additional treatment procedures
Camp	Hazardous	<5 m3/ season	Waste paint, tank cleaning effluent, fuel, batteries, oily rags, and glycol soaked rags and pads are packaged and shipped to a licensed disposal facility every one or two years.	none
Camp	Hazardous waste	2.5 m3 /season	Waste oil is packaged and shipped to a licensed disposal facility.	none
Camp	Other, Solid Waste	10 m3 /season	Currently all solid waste is packaged and shipped to Hall Beach for disposal. There are future plans to develop an on-site alternative; whereby paper products and packaging, untreated wood and natural fiber textiles would be segregated and incinerated on-site. This alternative would implement the use of an	none

			appropriate incinerator as outlined in the Government of Nunavut, Guideline for the Burning and Incineration of Solid Waste.	
Landfarm	Other, Hydrocarbon impacted soil	290 m3 for one season only (2018)	Treatment in an on-site landfarm.	none
Camp	Sewage (human waste)	50 m3 / season	Sewage (blackwater) and greywater are combined in the sewage system. The sewage system comprises a sump, holding tank, and masticating pump within the building train. Sewage is not discharged daily. When the septic tank nears or reaches capacity, the sewage is discharged out the sewage outfall pipe to the receiving sump.	There is no additional treatment.

**Environmental Impacts:**

Please see attached Environmental Protection Plan

## **Additional Information**

### **SECTION A1: Project Info**

### **SECTION A2: Allweather Road**

### **SECTION A3: Winter Road**

### **SECTION B1: Project Info**

### **SECTION B2: Exploration Activity**

### **SECTION B3: Geosciences**

### **SECTION B4: Drilling**

### **SECTION B5: Stripping**

### **SECTION B6: Underground Activity**

### **SECTION B7: Waste Rock**

### **SECTION B8: Stockpiles**

### **SECTION B9: Mine Development**

### **SECTION B10: Geology**

### **SECTION B11: Mine**

### **SECTION B12: Mill**

### **SECTION C1: Pits**

### **SECTION D1: Facility**

### **SECTION D2: Facility Construction**

### **SECTION D3: Facility Operation**

### **SECTION D4: Vessel Use**

### **SECTION E1: Offshore Survey**

### **SECTION E2: Nearshore Survey**

### **SECTION E3: Vessel Use**

### **SECTION F1: Site Cleanup**

## **SECTION G1: Well Authorization**

## **SECTION G2: Onland Exploration**

## **SECTION G3: Offshore Exploration**

## **SECTION G4: Rig**

## **SECTION H1: Vessel Use**

## **SECTION H2: Disposal At Sea**

## **SECTION I1: Municipal Development**

### **Description of Existing Environment: Physical Environment**

FOX-3 is situated in Nunavut on Baffin Island north of Dewar Lakes. It is located on a hill top, about 518 m above sea level, in an area of general glacial scouring and eskers. The airstrip in the valley is approximately 152 m above sea level. The geographical coordinates are: 68 40' 48" N, 71 14' 48" W. The hill top (about 518 m above sea level) is in an area indicating general glacial scouring. Surface materials include bedrock, till and fluvial materials, with till being the most common. The area is strewn with boulders up to 1 meter across. The airstrip area features fluvial deposits of gravels, sands, and silts. Vegetation is relatively scarce with some patches of wood rush, grass, and wildflowers. The wetter areas may consist of sedges and moss. The most prominent topographical features include rolling hills, separated by broad intervening depressions, and an interconnecting lake system running through a deep valley.

### **Description of Existing Environment: Biological Environment**

Vegetation is sparse and more suitable for birds than larger grazing mammals. However, a small group of caribou from the Baffin Island herd occasionally wanders through the Dewar Lakes area, although the herd is generally located farther west. Arctic foxes and wolves are also occasionally seen at FOX-3. Waterfowl that nest in small shallow ponds in the area include the red-throated loon, tundra swan, greater snow goose, king eider and oldsquaw. To the south and west of the site are colonies of Sabine's gulls.

### **Description of Existing Environment: Socio-economic Environment**

### **Identification of Impacts and Proposed Mitigation Measures**

Please see attached Environmental Protection Plan

### **Cumulative Effects**



Impacts

Identification of Environmental Impacts

Construction																								
-		-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-
Operation																								
Camp		-	-	-	-	-	-	-	-	-	-	-	N		-	-	-	-	-		-	-	-	-
Landfarm		-	-	-	-	-	-	-	-	-	-	-	N		-	-	-	-	-		-	-	-	-
Decommissioning																								
-		-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-

(P = Positive, N = Negative and non-mitigatable, M = Negative and mitigatable, U = Unknown)