

Iqaluit Bulk Fuel Storage Tank Farm Upgrade

Application Type:	New
Project Type:	Fuel
Application Date:	1/24/2018 11:24:00 AM
Period of operation:	from 0001-01-01 to 0001-01-01
Proposed Authorization:	from 0001-01-01 to 0001-01-01
Project Proponent:	Maurice Guimond QEC Box 580 Bldg 243 Iqaluit Nunavut X0A 0H0 Canada Phone Number:: (867) 979-7526, Fax Number:: (867) 979-7519

DETAILS

Non-technical project proposal description

English: The Iqaluit power plant currently consumes 16 million to 20 million liters of fuel per year. QEC requires multiple fuel transfers throughout the year to ensure adequate volumes of fuel for the required consumption rates. This directly results in an extra cost to the KWh of generated electrical power and the unreliable power supply to the city of Iqaluit. To meet the shortfall in required diesel fuel storage capacity and comply with legislative regulations and codes, QEC plans to construct one additional tank (Tank#2) with a storage capacity of 5.7 million litres in the existing fuel tank farm and replace the farm liner within the berm area which was built in 1993 including the future tank#2 foundation Pad. The proposed upgrade will increase the diesel fuel storage capacity from 5.6 to 11.3 million liters. The tank will require hydrostatic testing as per the API 650 standard prior to being commissioned for use by August 31, 2018. The newly constructed 5.7 million litre tank will be filled with water for the purpose of checking the integrity of the welded joints. The tank will be filled at a rate of 299 m3/day. This application is for the use of 5.7 million litres of water from natural water ponds near the QEC power plant and city's Geraldine Lake to perform hydrostatic testing on the fuel tank. The water will remain in the tank for at least 24 hours once the tank is filled to detect any leaks. After hydrostatic testing, the proposed plan is to discharge the test water into a stream adjacent to the power plant where it will flow out into the ocean.

French: La centrale électrique d'Iqaluit consomme actuellement 16 à 20 millions de litres de combustible par an. La Société d'énergie Quilliq (SEQ) doit procéder à de nombreux transferts de combustible tout au long de l'année, afin de s'assurer que les volumes entreposés satisfont adéquatement la consommation de combustible. Cela se traduit par une augmentation du coût du kilowattheure d'électricité produite et un manque de fiabilité du réseau de distribution d'électricité de la ville d'Iqaluit. Pour répondre à la nécessité d'augmenter la capacité de stockage de gazole et se conformer aux réglementations et législations, la SEQ prévoit de construire un réservoir supplémentaire (réservoir no 2) d'une capacité de stockage de 5,7 millions de litres dans l'enceinte du dépôt de combustible actuel et de remplacer le revêtement interne du réservoir situé dans la zone remblai construite en 1993, y compris la dalle de fondation du futur réservoir no 2. Les travaux recommandés permettront d'augmenter la capacité de stockage de combustible, laquelle passera ainsi de 5,6 à 11,3 millions de litres. Le réservoir devra subir des essais hydrostatiques pour respecter la norme API 650 avant sa mise en service, d'ici au 31 août 2018. Le nouveau réservoir de 5,7 millions de litres sera rempli d'eau, afin que l'étanchéité des soudures soit vérifiée. Le débit de remplissage du réservoir sera de 299 m³/jour. Un volume total de 5,7 millions de litres d'eau sera prélevé dans les mares d'eau naturelle avoisinant la centrale électrique de la SEQ et dans le lac Geraldine, et ce afin de procéder aux essais hydrostatiques sur le réservoir de combustible. L'eau sera retenue dans le réservoir pendant au moins 24 h après la fin du remplissage pour détecter d'éventuelles fuites. Une fois les essais hydrostatiques terminés, il est prévu de vider tout le contenu du réservoir dans un ruisseau adjacent à la centrale électrique, pour que l'eau puisse s'écouler vers l'océan.

[illegible]

Post-Closure Phase: from to

Activities

Activities

Location	Activity Type	Land Status	Site history	Site archaeological or paleontological value	Proximity to the nearest communities and any protected areas
Iqaluit Power Plant Fuel Farm	Fuel and chemical storage	Commissioners	The fuel tank farm has existed since 1964 and has since then been used to store diesel fuel to power electrical generators. An upgrade was done in 1994 to expand the berm in anticipation of installing another fuel tank.	N/A	North of Iqaluit and 500m from residential area subdivision.
1st water source	Other	Crown	No past activities have been identified in this area. This lake lies on un-surveyed crown land within the Iqaluit municipal boundary.	N/A	west of the power plant and slightly south of the Road to Nowhere subdivision.
2nd water source	Other	Crown	same as 1st water source. This could be a potential 2nd choice for drawing water.	N/A	West of power plant and slightly north of Plateau Subdivision.

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	May require a water license to draw water from a nearby natural water source. Nature of license is unknown at this time.	Not Yet Applied		

Project transportation types

Transportation Type	Quantity	Proposed Use	Length of Use
Land	0	Transport equipment through city to mobilize and	

		demobilize. Crew will travel daily by pickup truck to plant site.	
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Project accomodation types

Community

Material Use

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

Equipment Type	Quantity	Size - Dimensions	Proposed Use
Excavator	1	Large	Civil work to gravel berm
Crane	1	20 meters	Hoisting steel into place
Water pump	1	15 m3/hr	Draw water for hydrostatic testing
Welding machine	2	2m3	Weld plate steel together

Detail Fuel and Hazardous Material Use

Detail fuel material use:	Fuel Type	Number of containers	Container Capacity	Total Amount	Units	Proposed Use
Diesel	fuel	1	205	205	Liters	Run excavator, crane and pump

Water Consumption

Daily amount (m3)	Proposed water retrieval methods	Proposed water retrieval location
299	Pump a total of 5700 m3 direct from natural ponds using a gas powered water pump. Continuously monitored by qualified personnel.	There are two natural ponds near the power plant which may be used to retrieve water for hydrostatic testing. One is down gradient south of the road to nowhere subdivision and one north of the plateau

Waste

Waste Management

Project Activity	Type of Waste	Projected Amount Generated	Method of Disposal	Additional treatment procedures
Information is not available				

Environmental Impacts:

N/A

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

The project is located on an existing tank farm. The infrastructure consists of a 5.7 M litre steel tank within a lined gravel berm. The potential water sources are fed by annual snow melt and rain, are not significant in the surrounding watershed and are not connected to the watershed which feeds Lake Geraldine (city potable water source)

Description of Existing Environment: Biological Environment

The potential water sources are not known to contain fish or any other substantial wildlife.

Description of Existing Environment: Socio-economic Environment

The existing tank farm holds the total fuel for the production of electricity for the city. The potential water sources do not substantially contribute to community social, sporting or recreational activities.

Identification of Impacts and Proposed Mitigation Measures

Possible spill risk will be mitigated by lined secondary containment berm. Contractor will have extensive spill response equipment on hand. Positive impacts include a better fuel handling capacity with fewer transfer operations. Potential water sources hold well beyond the volume required for testing purposes.

Cumulative Effects

Over time extended fuel storage will save money and time and eventually affect future power costs.

Impacts

Identification of Environmental Impacts

Construction																									
Other		-	-	-	-	N	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-
Fuel and chemical storage		-	P	N	-	-	-	-	-	N	-	-	-		-	-	-	N	-		P	-	-	-	-
Operation																									
Fuel and chemical storage		-	P	P	-	-	-	-	-	N	-	-	-		-	-	-	-	-		P	-	-	-	-
Decommissioning																									
-		-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-		-	-	-	-	-

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