



GN-01: Closure, Wildlife and Vegetation Impacts

1. Develop and implement protection and mitigation measures to ensure that construction and operation has limited adverse effects to:

- a. Wildlife and wildlife habitat; and
- b. Soil and vegetation.

- i. The budget is not assigned for this project yet, so the scope of work for design has not been created as of this date. Requirements for the designer to use the Best Available Technology and adhere to federal and territorial environmental regulations will be included in the Request for Proposal at the tendering stage.
- ii. For the design and construction stages, QEC will ensure that the most reliable, and cost effective technology is to be used in the new power plant and that it will meet federal and territorial environmental regulations.
- iii. We have no detailed information for construction of the renewable energy sources that will be assigned for this power plant, therefore we have no design assumptions. It is expected that a solar array will be installed along with a battery system to supplement power to the new diesel generating station.

2. Provide a description of closure and remediation plans for the existing power plant site.

- i. QEC has standardized its approach to plant decommissioning and has so far removed equipment from two plants in Qikiqtarjuaq and Taloyoak subsequent to new plants being built in those communities. The majority of the decommissioned equipment was packed into sea-containers and shipped south for disposal. The fuel system decommissioning reports were submitted to Environment and Climate Change Canada who in turn closed those files.

3. Provide rationale for selected power output of the proposed power plant and confirm consideration of best practices for the plant design. Describe associated facilities and activities (e.g. upgrade or construction of additional power lines).

- i. The proposed generating capacity of the new plant is proposed to be 2600KW. This is a nominal capacity, and normally engines work at 80 to 90% capacity to get the highest fuel consumption efficiency and life cycle. A power plant of this capacity will meet Kugluktuk's peak load projections for 40 years following project completion. This takes into consideration future growth of the Kugluktuk community, including some of the planned developments including a new health care centre and a jail.
- ii. The conceptual model was submitted with the initial NIRB application.



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- iii. The new power plant will have access to the existing Airport Highway. No additional permanent or temporary roads will be required.
- iv. There is one existing power line along the main road through the Hamlet. The new power plant will tie-in to this line. Two more feeders will be required and will be mapped out this summer to bring the three feeder system back to town.
- v. Fuel will be supplied from the PPD tank farm through a newly installed pipeline.

4. Describe expected emissions and confirm compliance with the applicable environmental standards or industry best practices.

- i. The plant is expected to use more efficient engines with less fuel consumption, by incorporating current technologies. The expected fuel savings from the new plant will be 164,000 litres per year.
- ii. The plant will also generate less air pollution than the current plant industrial scrubbers will be incorporated into the design.
- iii. The new plant will use hospital-grade silencers on the exhaust which QEC has used in the last four recently constructed plants in Taloyoak, Qikiqtarjuaq, Cape Dorset and Grise Fiord. This allows for normal speech when a person is standing next to the plant.
- iv. All product storage areas (drums) will be designed in a lined area to guard against hazardous material entering the environment. As well, all product transfer areas are designed with secondary containment. The fuel system will be designed with redundant systems for fuel overfill protection and spill prevention (Figure 1).
- v. Please see the QEC Common Spill Contingency Plan as well as the Kugluktuk Site Specific plan in the application Documents tab. This will be modified to match the new plant when the new design is issued.

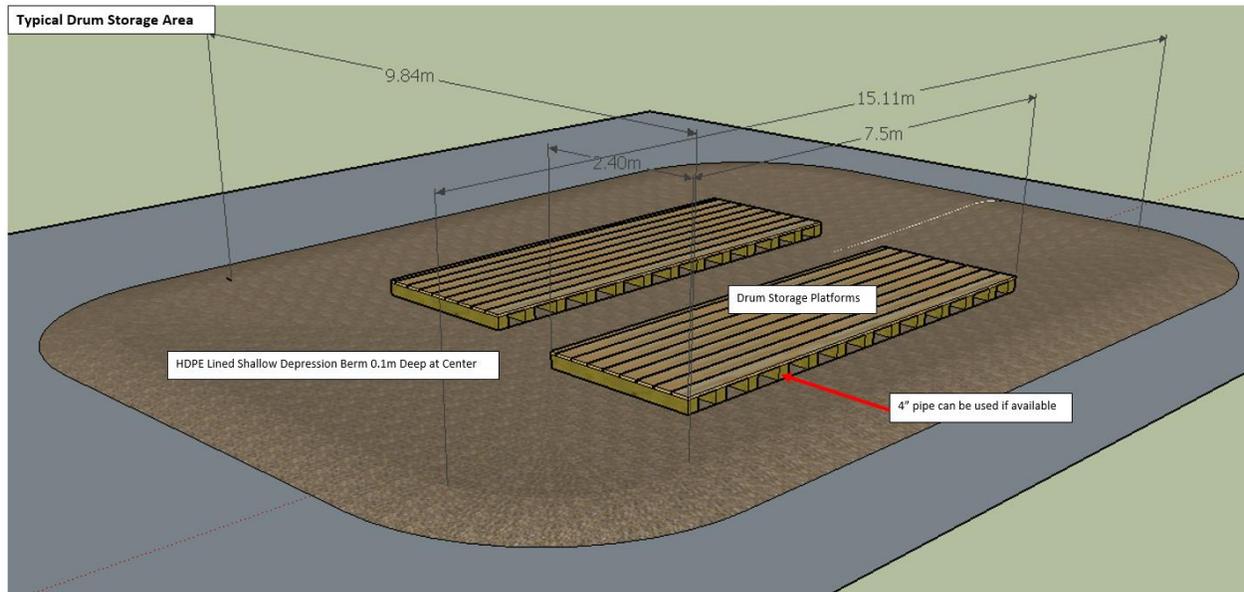


Figure 1: Typical Drum Storage Area

GN-02: Archaeological Resources

5. Culture and Heritage recommends that:

- The proponent confines activities within the proposed project footprint.
- The proponent avoids conducting activities in the vicinity (50 m buffer zone) of archaeological/historical sites. If archaeological sites or features are encountered, activities should immediately be interrupted and moved away from this location. Each site encountered needs to be recorded and reported to Territorial Archaeology office.
 - i. The proposed plant is located on a former rock quarry which has been previously disturbed, QEC will not conduct an archeological assessment prior to construction. Construction will be restricted to the industrial lots 459 – 462.