NIRB File No. 13UN006
NWB File No.: 4AH-IHP----

March 21, 2013

Stephen Kerr
Qulliq Energy Corporation
P.O. Box 580
Iqaluit, NU X0A 0H0

Sent via Email: SKerr@npc.nu.ca

Re: Notice of Part 4 Screening for Qulliq Energy Corporation's "Iqaluit Hydroelectric" project proposal

Dear Mr. Kerr:

On February 25, 2013 the Nunavut Impact Review Board (NIRB or Board) received Qulliq Energy Corporation (QEC) "Iqaluit Hydroelectric" project proposal from the QEC. On March 19, 2013 the NIRB received a referral to screen the project proposal from the Nunavut Water Board (NWB, File No. 4AH-IHP----). The NIRB has assigned this project proposal file number 13UN006. Please reference this file number in all future correspondence related to this project proposal.

The proposed project is located near Iqaluit in the South Baffin region. The proposed project involves the construction, operation, maintenance and decommissioning of two hydroelectric dams located at Jaynes Inlet and Armshow South, as well as connecting power transmission lines to Iqaluit and ancillary facilities. The two dams and power transmission lines are being proposed as the primary source of electricity for the city of Iqaluit. Diesel generators are proposed as the eventual secondary source. Each proposed dam site would be constructed over a 3-year period, the proposed construction of the Jaynes Inlet dam is targeted for 2016-2018 and the construction of the Armshow South site is targeted to be between 2027 and 2035.

The proposed project activities include:

- Construction, operation and decommissioning of barge landing sites at both of the Jaynes Inlet and Armshow South locations;
- Shipment of equipment, materials and fuel during construction phase (open water season);
- Development and decommissioning of laydown areas to store equipment and materials;
- Development and decommissioning of access roads to support construction and operation at the Jaynes Inlet and Armshow South sites;

- Construction, operation and decommissioning of a temporary 75-person camp at or near the coast of Jaynes Inlet and the Bay of Two Rivers during the construction phase at the Jaynes Inlet and Armshow South site, respectively. The proposed camp would include:
    - Storage of approximately 550,000 liters (L) of fuel every construction season. Diesel (400,000 L) and gasoline (100,000 L) to be stored in double-walled iso-containers. Aviation fuel (41,000 L) is to be stored in drums;
    - Disposal of sewage (15 cubic metres per day (m^3/day)) using a packaged sewage treatment plant;
    - Disposal of greywater (6 m^3/day) and drilling brine (1 m^3/day) through a sump; and
    - Disposal of solid waste through incineration in a camp incinerator and/or transportation to Iqaluit for disposal.
- Equipment proposed to be brought onsite for the construction phase includes:
    - Bell B2 A-Star helicopter (1) – transportation, move drills and field surveys;
    - Large transport helicopter (1) – transport crew and sling larger materials;
    - Snowmobiles (2) – move personnel;
    - Rock coring drills (2) – drilling holes/geotechnical investigation;
    - Dozers (3) – earthmoving;
    - Front end loader (1) – earthmoving;
    - Zoom-boom (1) – move seacans and iso-containers;
    - Haul trucks (4) – earthmoving; and
    - Crusher (1) – develop aggregate for construction.
- Construction, operation and decommissioning of a 10 to 14.6 Megawatt (MW) storage hydroelectric facility at **Jaynes Inlet** will consist of:
    - 30 m high reservoir at the outlet of the upper lake;
    - Concrete gravity buttress and intake structure;
    - 5.7 kilometre (km) long surface penstock;
    - Powerhouse with two Pelton turbines (each rated at 5 to 7.5 MW). The powerhouse will have a gate that opens for the discharge of water to the stream during the open water season;
    - 3.2 km long tailrace to discharge water from the powerhouse to the lower lake during the winter. The tailrace outfall structure would be fitted with an energy diffuser;
    - Permanent operator accommodation facility, workshop and accommodation facilities for maintenance crews; and
    - Access road from powerhouse to barge landing.
- Construction, operation and decommissioning of a 6 to 8.8 MW storage hydroelectric facility at the **Armshow South** site will consist of:
    - 25 m high dam at the outlet of upper lake;
    - 5.96 km long surface penstock;
    - Powerhouse with two Pelton turbines (each rated at 3 to 4.4 MW). The powerhouse will have a gate that opens for the discharge of water to the stream during the open water season;
    - 0.6 km long tailrace to discharge water from the powerhouse to the lower lake during the winter. The tailrace outfall structure will be fitted with an energy diffuser;

    - Permanent operator accommodation facility, workshop and accommodation facilities for maintenance crews; and
    - Access road from powerhouse to barge landing.
- The volume of daily water utilized at the intake of the hydroelectric dams is expected to be 765,000 m^3;
- Construction, operation and decommissioning of a 69 kV transmission line approximately 84 km long, from the powerhouse at Jaynes Inlet to a substation adjacent to the QEC main diesel generating plant in Iqaluit;
- Construction, operation and decommissioning of a 69 kV transmission line will cross the Armshow River near the powerhouse at Armshow South. This transmission line will be tied in to the line at the proposed Jaynes Inlet site which will connect to Iqaluit; and
- Possible construction, operation and decommissioning of a small airstrip at each proposed dam site to facilitate site access.

All documents received and pertaining to this project proposal can be obtained from the NIRB's ftp site at http://ftp.nirb.ca/01-SCREENINGS/ACTIVE%20SCREENINGS/13UN006-QEC%20Jaynes%20Inlet%20Hydro/01-APPLICATION/ including:

- *NIRB Part 1 Summary Application Form in English and Inuktitut*
- *Project Fact Sheet in English and Inuktitut*
- *Maps*
- *Iqaluit Hydroelectric Project: Project Proposal*

Pursuant to Part 4, Article 12 of the Nunavut Land Claims Agreement (NLCA), the NIRB shall proceed to screen this project proposal. The NIRB may request additional information at any time during the process. The NIRB will copy you on screening process related correspondence and upload related documents to the above ftp site for public access.

Please be advised that the NIRB is copying parties and municipalities potentially affected by this project proposal. Interested parties are encouraged to comment directly to the NIRB by **April 11, 2013**.

The NIRB would like parties to provide comments regarding:

- Whether the project proposal is likely to arouse significant public concern; and if so, why;
- Whether the project proposal is likely to cause significant adverse eco-systemic and socio-economic effects; and if so, why;
- Whether the project is of a type where the potential adverse effects are highly predictable and mitigable with known technology (please provide any recommended mitigation measures); and
- Any matter of importance to the Party related to the project proposal.

Please send your comments to the NIRB at info@nirb.ca or via fax at **(867) 983-2594**.

If you have any questions or concerns, please contact the Jaswir Dhillon, Technical Advisor at 867-983-4609 or jdhillon@nirb.ca.

Sincerely,

Jaswir Dhillon, P.Eng (Ont.), M.Eng
Technical Advisor
Nunavut Impact Review Board

cc: Distribution List
Richard Cook, Knight Piesold Consulting
Phyllis Beaulieu, Nunavut Water Board
Bernie MacIsaac, Qikiqtani Inuit Association
Jeff Mercer, Aboriginal Affairs and Northern Development Canada
Tracy McCaie, Aboriginal Affairs and Northern Development Canada
Nick Burnaby, Government of Nunavut-Parks and Special Places
Georgina Williston, Department of Fisheries and Oceans
Elizabeth Patreau, Department of Fisheries and Oceans
Meighan Andrews, Transport Canada

Enclosures (2): Comment Forms (English and Inuktitut)