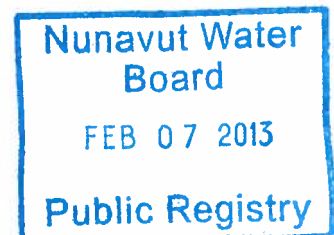




Application Submission Date: 02/15/2012  
Month/Day/Year

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NUNAVUT IMALIRIYIN KATIMAYIT  
NUNAVUT WATER BOARD  
OFFICE DES EAUX DU NUNAVUT



## DOCUMENT MANAGEMENT

Original Document Date: April 2010

### DOCUMENT AMENDMENTS

	Description	Date
(1)	Updated for public distribution as separate document from NWB Guide 4	June 2010
(2)	Updated NWB logos and reformatted table to allow rows to break across page	May 2011
(3)		
(4)		
(5)		
(6)		
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(9)		
(10)		



P.O. Box 119  
GJOA HAVEN, NU X0B 1J0  
TEL: (867) 360-6338  
FAX: (867) 360-6369

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NUNAVUT WATER BOARD  
NUNAVUT IMALIRIYIN KATIMAYIT  
OFFICE DES EAUX DU NUNAVUT

### GENERAL WATER LICENCE APPLICATION (APPLICATION FOR NEW WATER LICENCE)

The applicant is referred to the NWB's Guide 4: *Guide to Completing and Submitting a Water Licence Application for a New Licence* for more information about this application form.

<b>LICENCE NO:</b> (for NWB use only)	
<b>1. APPLICANT (PROPOSED LICENSEE) CONTACT INFORMATION</b> (name, address) Stephen Kerr Qulliq Energy Corporation P.O. Box 580 Iqaluit, Nunavut, X0A 0H0  Phone: 867-979-7540 Fax: 867-979-7548 e-mail: skerr@npc.nu.ca	<b>2. APPLICANT REPRESENTATIVE CONTACT INFORMATION</b> if different from Block 1 (name, address) Richard Cook Knight Piésold Ltd. North Bay, Ontario, P1B 8G5  Phone: 705-476-2165 Fax: 705-747-8095 e-mail: rcook@knightpiesold.com (Attach authorization letter.)
<b>3. NAME OF PROJECT</b> (including the name of the project location) Iqaluit Hydroelectric Project	
<b>4. LOCATION OF UNDERTAKING</b> <b>Project Extents</b> NW: Latitude: ( 63° 13' 28.635" N) Longitude: ( -68° 25' 41.757" W) NE: Latitude: (   °   '   " N) Longitude: (   °   '   " W) SE: Latitude: ( 63° 33' 52.9762" N) Longitude: ( -68° 56' 23.422" W) SW: Latitude: (   °   '   " N) Longitude: (   °   '   " W)  <b>Camp Location(s)</b> Armshow River Camp Latitude: ( 63° 36' 28.409" N) Longitude: ( 68° 51' 10.123" W) Jaynes Inlet Construction Camp Latitude: ( 63° 36' 28.409" N) Longitude: ( 68° 51' 10.123" W)	
<b>5. MAP</b> - Attach a topographical map, indicating the main components of the undertaking.  NTS Map Sheet No.: N-25    Map Name: Armshow River    Map Scale: 1 : 250,000 .	

6. **NATURE OF INTEREST IN THE LAND** - Check any of the following that are applicable to the proposed undertaking (at least one box under the 'Surface' header must be checked).

**Sub-surface**

☐ Mineral Lease from Nunavut Tunngavik Incorporated (NTI)  
Date (expected date) of issuance: \_\_\_\_\_ Date of expiry: \_\_\_\_\_

☐ Mineral Lease from Indian and Northern Affairs Canada (INAC)  
Date (expected date) of issuance: \_\_\_\_\_ Date of expiry: \_\_\_\_\_

**Surface**

☒ Crown Land Use Authorization from Indian and Northern Affairs Canada (INAC)  
Date (expected date) of issuance: December 2015 Date of expiry: \_\_\_\_\_

☐ Inuit Owned Land (IOL) Authorization from Kitikmeot Inuit Association (KIA)  
Date (expected date) of issuance: \_\_\_\_\_ Date of expiry: \_\_\_\_\_

☐ IOL Authorization from Kivalliq Inuit Association (KivIA)  
Date (expected date) of issuance: \_\_\_\_\_ Date of expiry: \_\_\_\_\_

☒ IOL Authorization from Qikiqtani Inuit Association (QIA)  
Date (expected date) of issuance: December 2015 Date of expiry: \_\_\_\_\_

☒ Commissioner's Land Use Authorization  
Date (expected date) of issuance: December 2015 Date of expiry: \_\_\_\_\_

☒ Other: Park Permit \_\_\_\_\_  
Date (expected date) of issuance: December 2015 Date of expiry: \_\_\_\_\_

Name of entity(s) holding authorizations:

Qulliq Energy Corporation

7. **NUNAVUT PLANNING COMMISSION (NPC) DETERMINATION**

Indicate the land use planning area in which the project is located.

- |  |   |
|--|---|
| <input type="checkbox"/> North Baffin            | <input type="checkbox"/> Keewatin       |
| <input checked="" type="checkbox"/> South Baffin | <input type="checkbox"/> Sanikiluaq     |
| <input type="checkbox"/> Akunnig                 | <input type="checkbox"/> West Kitikmeot |

Is a land use plan conformity determination required?

- ☐ Yes ☒ No

If Yes, indicate date issued and attach copy \_\_\_\_\_

If No, provide written confirmation from NPC confirming that a land use plan conformity review is not required.

**8. NUNAVUT IMPACT REVIEW BOARD (NIRB) DETERMINATION**

Is an Article 12 Part 4 screening determination required?

☒ Yes ☐ No

If Yes, indicate date issued and attach copy \_\_\_\_\_

If No, provide written confirmation from NIRB confirming that a screening determination is not required.

**9. DESCRIPTION OF UNDERTAKING – List and attach plans and drawings or project proposal.**

See Project Description and attached Figure 1.1

**10. OPTIONS – Provide a brief explanation of the alternative methods or locations that were considered to carry out the project.**

See Project Description for a discussion of alternatives

**11. CLASSIFICATION OF PRIMARY UNDERTAKING - Indicate the primary classification of undertaking by checking one of the following boxes.**

- |   |  |
|---|--|
| <input type="checkbox"/> Industrial   | <input type="checkbox"/> Agricultural                    |
| <input type="checkbox"/> Mining and Milling (includes exploration/drilling/exploration camps) |  |
| <input type="checkbox"/> Conservation   |  |
| <input type="checkbox"/> Municipal (includes camps/lodges)                                    | <input type="checkbox"/> Recreational                    |
| <input checked="" type="checkbox"/> Power   | <input type="checkbox"/> Miscellaneous (describe below): |

See Schedule II of *Northwest Territories Waters Regulations* for Description of Undertakings.

Information in accordance with applicable Supplemental Information Guidelines (SIG) must be submitted with a New Water Licence Application. Indicate which SIG(s) are applicable to your application.

- ☐ Hydrostatic Testing
- ☐ Tannery
- ☐ Tourist / Remote Camp
- ☐ Landfarm & On-Site Storage of Hydrocarbon Contaminated Soil
- ☐ Onshore Oil and Gas Exploration Drilling
- ☐ Mineral Exploration / Remote Camp
- ☐ Advanced Exploration
- ☐ Mine Development
- ☐ Municipal
- ☐ General Water Works
- ☒ Power

**12. WATER USE - Check the appropriate box(s) to indicate the type(s) of water use(s) being applied for.**

- |   |   |
|---|---|
| <input type="checkbox"/> To obtain water for camp/ municipal purposes |   |
| <input type="checkbox"/> To obtain water for industrial purposes      | <input type="checkbox"/> To divert a watercourse                    |
| <input type="checkbox"/> To cross a watercourse                       | <input type="checkbox"/> To modify the bed or bank of a watercourse |
| <input type="checkbox"/> To alter the flow of, or store water         | <input type="checkbox"/> Flood control                              |
| <input checked="" type="checkbox"/> Other: <u>Power Generation</u>    |   |

- 13. QUANTITY AND QUALITY OF WATER INVOLVED** - For each type of water use indicated in Block 12, provide the source of water, the quality of the water source and available capacity, the estimated quantity to be used in cubic meters per day, method of extraction, as well as the quantities and qualities of water to be returned to source.

Name of water source(s) (show location(s) on map):

Armshow mainstream near camp, Armshow river (draining Armshow South Lake), Armshow South Lake, and Jaynes upper lake, main river, or lower lake – see Project Description.

Describe the quality of the water source(s) and the available capacity:

Previous water quality sampling indicates the water is good quality and not impaired. Available capacity well exceeds the volume required.

Provide the overall estimated quantity of water to be used: C – 100; operation 765,000 (both sites together) <sup>3</sup>/day

Provide the estimated quantity(s) of water to be used from each source:

Armshow – 4.75 m<sup>3</sup>/s; Jaynes – 4.1 m<sup>3</sup>/s.

Indicate the estimated quantities to be used for each purpose (camp, drilling, etc.)

100 cu.m./day for camp and drilling during construction

4.1 to 4.75 cu.m./second will pass through the operating turbines and Jaynes Inlet and Armshow River hydroelectric facilities during operation, respectively.

Describe the method of extraction(s): Water lines equipped with a mesh to prevent entrapment of fish during construction. Intake structures with gate/mesh during operation.

Estimated quantity(s) of water returned to source(s) C – 100; O – 765,000 m<sup>3</sup>/day

Describe the quality of water(s) returned to source(s): During construction, water returned to watercourses will be effluents (drilling effluents, treated sewage effluent, etc. During operation, the water quality discharged from the powerhouse will not be impaired.

- 14. WASTE** – Check the appropriate box(s) to indicate the types of waste(s) generated and deposited.

☒ Sewage

☒ Solid Waste

☐ Hazardous

☐ Bulky Items/Scrap Metal

☐ Animal Waste

☐ Other (describe): \_\_\_\_\_

☐ Waste oil

☒ Greywater

☐ Sludges

☐ Contaminated soil and/or water

- 15. QUANTITY AND QUALITY OF WASTE INVOLVED** – For each type of waste indicated in Block 14, describe its composition, quantity in cubic meters/day, method of treatment and method of disposal.

Type of Waste	Composition	Quantity Generated	Treatment Method	Disposal Method
Sewage	Human	15 m <sup>3</sup> /day during constr.	Sewage plant, incinerating toilet, or pit latrine	Pit latrine or incinerating toilet

Greywater	Unknown	4 m <sup>3</sup> /day during constr.	Sewage plant or sumps	Buried sump
Solid Waste	Unknown	Unknown	None	Incineration/Off-site disposal in the Iqaluit landfill

- 16. OTHER AUTHORIZATIONS** – In addition to the sub-surface and surface land use authorizations provided in Block 6, indicate any other authorizations required in relation to the proposed undertaking. For each provide the following:

Authorization: Land use license / Land use permit

Administering Agency: QIA, AANDC and Government of Nunavut

Project Activity: Construction, operation and maintenance of hydroelectric facility

Date (expected date) of issuance: December 2015 Date of expiry: renewals sought at expiry

- 17. PREDICTED ENVIRONMENTAL IMPACTS OF UNDERTAKING AND PROPOSED MITIGATION MEASURES** - Describe direct, indirect, and cumulative impacts related to water and waste.

*See Project Description*

- 18. WATER RIGHTS OF EXISTING AND OTHER USERS OF WATER**

Provide the names, addresses and nature of use for any known persons or properties that may be adversely affected by the proposed undertaking, including those that hold licences for water use in precedent to the application, domestic users, in-stream users, authorized waste depositors, owners of property, occupiers of property, and/or holders of outfitting concessions, registered trapline holders, and holders of other rights of a similar nature.

Advise the Board if compensation has been paid and/or agreement(s) for compensation have been reached with any existing or other users.

*There are no other users that have been identified.*

- 19. INUIT WATER RIGHTS**

Advise the Board of any substantial affect of the quality, quantity or flow of waters flowing through Inuit Owned Land (IOL), and advise the Board if negotiations have commenced or an agreement to pay compensation for any loss or damage has been reached with one or more Designated Inuit Organization (DIO).

*QEC plans to discuss this matter with the DIO – the Qikiqtani Inuit Association*

- 20. CONSULTATION** – Provide a summary of any consultation meetings including when the meetings were held, where and with whom. Include a list of concerns expressed and measures to address concerns.

*See Project Description*

- 21. SECURITY INFORMATION**

Provide an estimate of the total financial security for final reclamation equal to the total outstanding reclamation liability for land and water combined sufficient to cover the highest liability over the life of the undertaking. Estimates of reclamation costs must be based on the cost of having the necessary

reclamation work done by a third party contractor if the operator defaults. The estimate must also include contingency factors appropriate to the particular work to be undertaken.

Where applicable, the financial security assessment should be prepared in a manner consistent with the principals respecting mine site reclamation and implementation found in the *Mine Site Reclamation Policy for Nunavut*, Indian and Northern Affairs Canada, 2002.

- To be calculated with the development of a preliminary abandonment and reclamation plan in the future

## 22. FINANCIAL INFORMATION

Provide a statement of financial responsibility.

- QEC is a Crown Corporation of the Government of Nunavut; annual reports are posted on [nunavutpower.com](http://nunavutpower.com) (see Figures C to G in the 2011/12 Annual Report)

If the applicant is a business entity, provide a list of the officers of the company.

- Peter Mackey – President/CEO
- Richard McQuarrie – Chief Financial Officer
- Cal Clark – Legal Counsel
- David Clark – Director of Operations
- Stephen Kerr – Director of Engineering
- Catherine Cronin – Director of Human Resources
- Ryan Ramaglia – Director of Information Technology
- Edward Rideout – Director of Corporate Affairs

If the applicant is a business entity attach a copy of the Certificate of Incorporation or evidence of registration of the company name.

- QEC was created by legislation.

## 23. STUDIES UNDERTAKEN TO DATE - List and attach copies of studies, reports, research, etc.

- Environmental baseline studies were undertaken in 2006 through 2009.
- Desktop engineering studies completed in 2006.
- All reports are available on [nunavutpower.com](http://nunavutpower.com), under 'Hydro'

## 24. PROPOSED TIME SCHEDULE – Indicate the proposed start and completion dates for each applicable phase of development (construction, operation, closure, and post closure).

### Construction

Proposed Start Date: 01/2016 Proposed Completion Date: 09/2018  
(month/year) (month/year)

### Operation

Proposed Start Date: 07/2018 Proposed Completion Date: 12/2093  
(month/year) (month/year)

### Closure

Proposed Start Date: \_\_\_\_\_ Proposed Completion Date: \_\_\_\_\_  
(month/year) (month/year)

### Post - Closure

Proposed Start Date: \_\_\_\_\_ Proposed Completion Date: \_\_\_\_\_  
(month/year) (month/year)

For each applicable phase of development indicate which season(s) activities occur.

### Construction

☐ Winter ☐ Spring ☐ Summer ☐ Fall ☒ All season

### Operation

☐ Winter ☐ Spring ☐ Summer ☐ Fall ☒ All season

### Closure

☐ Winter ☐ Spring ☐ Summer ☐ Fall ☐ All season

### Post - Closure

☐ Winter ☐ Spring ☐ Summer ☐ Fall ☐ All season



**25. PROPOSED TERM OF LICENCE**

Number of years (maximum of 25 years): 25 years

Requested Date of Issuance: March 2016 Requested Expiry Date: March 2041  
(month/year) (month/year)

(The requested date of issuance must be at least three (3) months from the date of application for a type B water licence and at least one (1) year from the date of application for a type A water licence, to allow for processing of the water licence application. These timeframes are approximate and do not account for the time to complete any pre-licensing land use planning or development impact requirements, time for the applicant to prepare and submit a water licence application in accordance with any project specific guidelines issued by the NWB, or the time for the applicant to respond to requests for additional information. See the NWB's *Guide 5: Processing Water Licence Applications* for more information)

**26. ANNUAL REPORTING** – If not using the NWB's *Standardized Form for Annual Reporting*, provide details regarding the content of annual reports and a proposed outline or template of the annual report.

- QEC will utilize NWB's annual report format.

**27. CHECKLIST** – The following must be included with the application for the water licensing process to begin.

Written confirmation from the NPC confirming that NPC's requirements regarding land use plan conformity have been addressed.

☐ Yes ☒ No If no, date expected There is no South Baffin Regional Land Use Plan

Written confirmation from the NIRB confirming that NIRB's requirements regarding development impact assessment have been addressed.

☐ Yes ☒ No If no, date expected December 2015

Completed General Water Licence Application form.

☒ Yes ☐ No If no, date expected \_\_\_\_\_

Information addressing Supplemental Information Guideline (SIG) , where applicable (see Block 11)

☒ Yes ☐ No If no, date expected \_\_\_\_\_

English Summary of Application.

☒ Yes ☐ No If no, date expected \_\_\_\_\_

Inuktitut and/or Inuinnaqtun Summary of Application.

☒ Yes ☐ No If no, date expected \_\_\_\_\_

Application Fee of \$30.00 CDN (Payee Receiver General for Canada).

☒ Yes ☐ No If no, date expected \_\_\_\_\_

Water Use Fee Deposit of \$30.00 CDN (Payee Receiver General for Canada). The actual water use fee will be calculated by the NWB based upon the amount of water authorized for use in accordance with the Regulations at the time of issuance of the licence.

☒ Yes ☐ No If no, date expected \_\_\_\_\_

**28. SIGNATURE**

Stephen Kerr Director, Engineering S.K. Jan 28/2013  
Name (Print) Title (Print) Signature Date