

# **Connection Impact Assessment (CIA) Application**

This Application Form is for proponents applying for Connection Impact Assessment ("CIA") and for proponent with a project size >10 kW, including:

- New Generators applying for revisions to their original CIA
- Generators applying for a CIA after rescinding a previous CIA. <u>Note:</u> Please include your previous CIA Project ID # below.
- <u>Existing</u> Generators to verify information related to current connection to the Qulliq Energy Corporation system. It is part of the overall Distribution Connection Agreement.

# Please return the completed form, fees and other required documents by mail to:

Qulliq Energy corporation. Attn: Engineering Department Generation Connection Application 243 Umiaq Crescent, PO Box 250 Iqaluit, NU. X0A 0H0

If you have any questions, please e-mail Qulliq Energy Corporation at servicedesk@qec.nu.ca

#### NOTES:

- 1) Applicants are cautioned NOT to incur major expenses until Qulliq Energy Corporation approves connection for the proposed generation facility.
- 2) All technical submissions (Form B, single line diagrams, etc.) must be signed and sealed by a licensed NAPEG Professional Engineer (P.Eng.).
- 3) All fields below are mandatory, except where noted. Incomplete applications shall be returned by Qulliq Energy Corporation.

Da	te: (dd / mm / yyyy)	
Ар	plication Type:	CIA Revision/Rework
1.	Original CIA Project ID# (if applicable):_	Project Name:
2.	Proposed In- Service Date:(do	i / mm / yyyy)
3.	Project Size: Nameplate Capacity	kW



Lot Nur Block N	own / Township					
5. Project Inform Choose a Singl	ation: e Point of Contact:	☐ Owner	☐ Consultar	nt		
Informatio	on Ow	ner (same as G	enerator)	Con	sultant	
Company/Person						
Contact Person						_
Mailing Address L						_
Mailing Address L	ine 2					_
Telephone Cell						$\dashv$
Fax						$\dashv$
E-mail						$\dashv$
Preferred method of communication with QEC:						
Existing Qu	ılliq Energy Corpora	ition. Customer?		☐ Yes ☐ No		
_	q Energy Corporation					
Customer r	name registered in t	his Account:				
Are you a C	SST registrant?		☐ Yes ☐	] No		
If yes, prov	ide your GST regist	ration number:		_RT		
8. Fuel / Renewab	le Energy Type:					
	Biomass	Solar	□Water	□Wind	I	
	☐ Diesel Engine	☐ Gas Turbine				
	Other (Please	Specify)				
	□ Other (Flease (	<u></u>				
9. Connection to	Qulliq Energy Co	rporation. Distri	bution Syste	m:		
<ul><li>a. Proposed of</li><li>b. Power Plan</li><li>c. Feeder:</li></ul>	or existing Connection of / Station:	•	C distribution	system:kV		
	inates of the following GPS co-ordinates		nat: Longitude	, Latitude - Degre	e Decimal Format	:: * e.g



75.570)

		Point of Connection:  Generation facility:
	e.	Distance from the Generation Facility to the Point of Connection_km
	f.	Generator's Collector Lines or Tap Line Facilities If the Generator's facilities include collector lines or a tap line on the Generator's side of the POC, provide the following:
		Distance and conductor size of tap line on the Generator's side of the POC, or equivalent distance for Generator's collector lines on the high-side of interface transformer(s): km;  Conductor size:
	g.	Fault contribution from Generator's facilities, with the fault location at the POC:
		☐ Three phase generators: 3-phase short circuitMVA;
		☐ Single-phase generators: 1-phase short circuitMVA;
10.	·	If this project requires line expansion work between the Point of Connection and Generation facility, Qulliq Energy Corporation will provide a cost estimate to construct any line located on public road right-of-way. The cost estimate will include a breakdown of Uncontestable work (i.e., overbuild to existing line) that can only be performed by Qulliq Energy Corporation, as well as Contestable work (i.e., new construction/green-field) that can be performed by the Generator/their contractor or QEC. (Both Uncontestable work and Contestable work require Qulliq Energy Corporation design & engineering. Qulliq Energy Corporation will become the owner.)  For Generator-owned line, the Generator may choose to apply for installation of the line on existing Qulliq Energy Corporation owned poles. This is known as an application for Joint Use (JU) of poles. If the application is accepted, Qulliq Energy Corporation will provide the Generator with information on initial connection costs, annual pole-space rental and emergency service (ES) fees, and required JU & ES Agreements.
		ovide a SLD of the Generator's facilities including the POC. SLD
	Dra	awing Number:, Rev
11.	Ge	nerator Characteristics
	a.	Characteristics of Existing Generators  If Generator's facilities include existing generators, provide details as an attached document.
	b.	Characteristics of New Generators:
		NOTE: Please provide the manufacturer's technical data (electrical) for the generator or inverter.
		Number of generating unit(s):  Manufacturer / Type or Model No: /



f.

	Rated capacity of each unit:	kW	kVA
	If unit outputs are different, please fill in addition		ne information.
	Rated frequency:	Hz	
	Type:		
	Synchronous Induction Inverter	Other (Please Sne	acify)
			to a Synchronous or Induction type Generator)
	Generator connecting on: single phase		three phase Limits of
	range of reactive power at the machine output:	S	_ tiree pridee Elimite or
	i. Lagging (over-excited):	kVAR	power factor
	ii. Leading (under-excited)		
	Limits of range of reactive power at the POC:		
	iii. Lagging (over-excited):	kVAR	power factor
	iv. Leading (under-excited)	kVAR	power factor Starting
	inrush current:	pu (multiple of full	l load current) Generator
	terminal connection:	delta star	
	Neutral grounding method of star connected		
	Solid Ungrounded Impedance	e: Rohms	Xohms
	For Synchronous Units:		
	<ul><li>i. Nominal machine voltage:</li></ul>	kV	
	ii. Minimum power limit for stable operation:	kW	
	iii. Unsaturated reactance on:	kVA base	kV base
	Direct axis sub-transient reactance, Xd"	pu	
	Direct axis transient reactance, Xd'	pu	
	Direct axis synchronous reactance, Xd		
	Zero sequence reactance, X0	pu	
	iv. Provide a plot of generator capability		
	curve (MW output vs MVAR)		
	Document Number:	, Rev	
	For Induction Units:		
	i. Nominal machine voltage:	kV	
	ii. Unsaturated reactance on:	kVA base	kV base
	Direct axis sub-transient reactance, Xd"	pu	
	Direct axis transient reactance, Xd'	 pu	
	iii. Total power factor correction installed:	kVAR	
	<ul> <li>Number of regulating steps</li> </ul>		
	<ul> <li>Power factor correction switched per st</li> </ul>	tep kVAR	
	<ul> <li>Power factor correction capacitors are</li> </ul>		
	•	☐ Yes Ó☐ No	
12.	Interface Step-Up Transformer Characteristics:		
a.	Transformer ownership:	☐ Customer /	QEC
b.	Transformer rating:	kVA	
C.	Nominal voltage of high voltage winding:	kV	
d.	Nominal voltage of low voltage winding:	kV	
e.	Transformer type:	single phase	three phase
f.	Impedances on:	kVA base	kV base R:
	· 	X:	 pu
α.	High voltage winding connection:		
g.	High voltage winding connection: Grounding method of star connected high voltage w	☐ delta ☐ star	
		inding neutral: ::ohms X	:ohms Nameplate rating



		impedance values of High Voltage Groundin age:V Rating:KVA		J			
h.	Grou	voltage winding connection: Inding method of star connected low voltage Solid Ungrounded Impedance:		hms			
13.	Inter	mediate Transformer Characteristics (if a	oplicable):				
b. c. d.	Nom Nom Trans	sformer rating: inal voltage of high voltage winding: inal voltage of low voltage winding: sformer type: dances on:	kVAkVkVsingle phase				
f.	Grou	voltage winding connection: inding method of star connected high voltage Solid  Ungrounded  Impedance:	•	ohms			
g.	g. Low voltage winding connection:						
<b>NOTE:</b> The term 'High Voltage' refers to the intermediate voltage that is input to the interface step-up transformer and the 'Low Voltage' refers to the generation voltage.							
14.	Load	l information:					
b.	a. Maximum load of the facility:  b. Maximum load current (referred to the nominal voltage at the connection point to QEC System):  c. Maximum inrush current to loads (referred to the nominal voltage at the connection point to QEC system): A						
	Atta	ched Documents:					
Iten No.		Description	Document No.	No. of Pages			
2							
2							
Iten		ched Drawings:  Description	Document No.	No. of			

Item No.	Description	Document No.	No. of Pages
1			
2			
3			



## SUBMISSION CHECKLIST

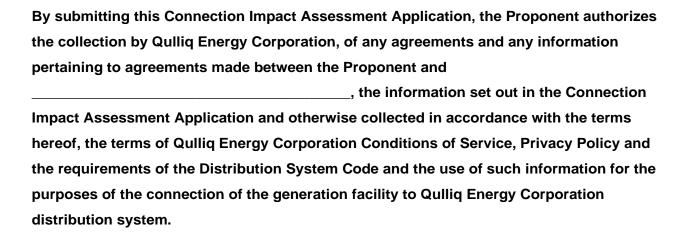
Please ensure the following items are completed prior to submission. Your application will not be processed if any part is omitted or incomplete:

	Payment in full including applicable taxes (by check payable to "Qulliq Energy Corporation.")			
	Completed Form B stamped by a Professional Engineer			
	Signed Study Agreement (original signature is required)			
	Single Line Diagram (SLD) of the Generator's facilities, must be stamped by a NAPEG Professional Engineer			
	Distribution Operating Map (DOM) /CAD Map			
	Load Displacement Generation Facility's load and generation schedules (if applicable	e)		
	Load Displacement Generation Facility's mode of operation (if applicable)			
	Energy Storage Facility operating strategy description and parameters (if applicable)			
	Emergency Backup Generation Facility's mode of operation (if applicable)			
SECTION Q: CIA APPLICATION FEE CHECKLIST  Please ensure the following items are completed prior to submission. Your application will not be processed if any part is omitted or incomplete. Check all that apply:  Applicable CIA Fee Please enter the amount indicated for Connection Impact Assessment.				
	Third party Customer Impact Assessment (CIA) Fee (if applicable)	\$		

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### NOTE:





### **APPENDIX A - FIGURES & DIAGRAMS**

**Figure A: Generator Owns Entire Tap Line** 

