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Qulliq Energy Corporation
Société d'énergie Qulliq
Qulliq Airuyaktuqtunik Ikumatjutiit

Qulliq Energy Corporation

Prospective IPP Application Guideline for
Independent Power Producers

Nunavut

Application Guideline

September 5, 2022

FINAL



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1. PURPOSE AND LIMITATIONS

1.1 Purpose

This document is intended to help Prospective Independent Power Producers (IPP) understand the process they must undergo in order to apply for the connection of a Renewable Generation Facility to one of QEC's Distribution Systems.

The intended use of this document is to:

- a. inform and provide guidelines;
- b. give context of the expectations from the Prospective IPP and QEC;
- c. define the required documentation and information and a sequence of events for the application process.

The guidelines in this document do not address any liability provisions agreed to elsewhere, such as in the Power Purchase Agreement (PPA) between the Prospective IPP and QEC.

The document is also not intended to provide technical requirements for the interconnection of a new Renewable Generation Facility.

1.2 Limitations

The application guideline is a minimum requirement for the application process. The Prospective IPP may also have to meet additional or modified requests to address unique situations as deemed necessary by QEC.

1.3 Liability

Neither QEC nor any of their employees or agents shall be or become agents of the IPP.

QEC's review of the specifications and detailed plans shall not in any way be construed as confirming or endorsing the design or as warranting the safety, durability or reliability of the IPP's facilities nor shall it be construed to be in lieu of the approvals required from the relevant authorities.

QEC, by reason of such review or lack of review, shall not be responsible for the strength, adequacy of design or capacity of equipment built pursuant to such specifications, nor shall QEC, or any of its employees or agents, be responsible for any injury to the public or workers resulting from the operation of IPP Renewable Generation Facilities. This guideline does not absolve the IPP of the responsibility to maintain and protect its own equipment and QEC's equipment, as well as to ensure the safety of its own personnel, QEC's personnel and the general public.



2. TERMS, DEFINITIONS, AND ABBREVIATIONS

2.1 Definitions

“Generator” means a device that produces AC power. In the case of inverters, these Technical Interconnection Requirements use the term Generator to refer to the AC inverter, not the DC source.

“Interconnection Study” is a detailed assessment of a project impact to the grid. The results of this assessment include a technical report outlining the project feasibility, the technical specification needed for the project, and the impacts the project would have on QEC's Power Distribution System.

“IPP” or **“Independent Power Producer”** means the person/entity who has signed a PPA with QEC to design, construct, develop, install, own, operate and maintain a Renewable Generation Facility.

“Person” means an individual, body corporate, firm, partnership, joint venture, trust, legal representative or other legal entity.

“POI” or **“Point of Interconnection”** means the point at which QEC's facilities are connected to the IPP's facilities or conductors, and where any transfer of electric energy between the IPP and QEC takes place. POI is also commonly referred to as the Point of Common Coupling (PCC) in multiple standards.

“Power Distribution System” means the distribution, protection, control and communication facilities in Nunavut that are or may be used in connection with, or that otherwise relate to the distribution of electrical energy at 25 kilovolts or less, and includes all additions and modifications thereto and repairs or replacements thereof.

“PPA” or **“Power Purchase Agreement”** is a legal contract between an IPP and QEC that details each party's legal obligations and rights with respect to the sale of energy from a Renewable Generation Facility to QEC.

“Prospective IPP” means an IPP who is interested in exploring opportunities for renewable energy generation with QEC but has not yet signed a PPA.

“QEC” means Qulliq Energy Corporation, the utility that owns the Power Distribution System that IPP intends to interconnect with and that will buy power produced by the Renewable Generation Facility.

“Renewable Generation Facility” means any independent electric generator of the IPP connected to QEC's Power Distribution System through the Point of Interconnection.



“**SLD**” or “**Single-Line Diagram**” means a simplified electrical representation of the power system that identifies electrical equipment with related interconnections, which will be attached to the PPA(s).

“**TIR**” or “**Technical Interconnection Requirements**” refers to the TIR document, which establishes criteria, requirements, guidelines and standards that must be met in order to ensure that Renewable Generation Facility interconnections do not adversely affect the safety, power quality or reliability of QEC’s Power Distribution System.

2.2 Abbreviations

Abbreviation	Definition
AC	Alternating Current
DC	Direct Current
DG	Distributed Generation
IPP	Independent Power Producer
PCC	Point of Common Coupling
POI	Point of Interconnection
PPA	Power Purchase Agreement
QEC	Qulliq Energy Corporation
SLD	Single-Line Diagram
TIR	Technical Interconnection Requirements

3. GENERAL

It will be the Prospective IPP’s responsibility to ensure that the Renewable Generation Facility is designed for an interconnection that meets the requirements defined in the Technical Interconnection Requirements and Guidelines (TIR) document.

It should be noted that some local QEC Distribution Systems and/or QEC power plants may require upgrades in order to allow interconnecting a Renewable Generation Facility. Some communities have older installations that were not originally designed to accommodate additional generation sources. It will be the IPPs’ responsibility to determine the feasibility and upgrade requirements for their projects and all such costs will be borne by the IPP.

For all interconnections, the Prospective IPP will go through five stages:

- Stage 1 – Exploratory
- Stage 2 – Preliminary Estimates
- Stage 3 – Interconnection Study



- Stage 4 – Agreement
- Stage 5 – Construction and Commissioning

4. INTERCONNECTION APPLICATION STAGE GATES

4.1 Stage 1 – Exploratory

Any proponent developing a Renewable Generation Facility with the intention of selling energy to QEC as a Prospective IPP at any of the 25 communities, shall consult with QEC at the project conceptual stage before making any investment. In order to be considered for interconnection with QEC's Power Distribution System, IPP shall first obtain a written confirmation from QEC that the Prospective IPP's project is feasible.

Following the initial contact by the Prospective IPP seeking to interconnect a Renewable Generation Facility with the QEC Power Distribution System, a QEC representative shall be designated to work with the Prospective IPP throughout the interconnection process. The assigned QEC representative shall act as the primary contact and coordinate all communications and correspondence between the Prospective IPP and QEC.

During this stage, the following activities shall be performed:

1. The Prospective IPP shall submit to QEC the proposed Renewable Generation Facility specifications, including:
 - a. Location of the proposed Renewable Generation Facility;
 - b. Generator capacity, type (wind, solar, hydro, geothermal, etc.), energy output profile;
 - c. Proposed SLD of generator interconnection; and
 - d. Proposed POI.
2. The Prospective IPP shall submit an initial grid impact study;
3. The QEC representative shall review the Prospective IPP technical proposal;
4. QEC and the Prospective IPP shall hold an exploratory meeting to discuss:
 - a. The application process and interconnection request;
 - b. The proposed Renewable Generation Facility;
 - c. The proposed interconnection:
 - i. Technical requirements;



- ii. Electrical permits and inspection; and
- iii. PPA and Operating Procedures.
- d. The power purchase process and agreements:
 - i. Terms of payment;
 - ii. Compensation during pre-commercial testing; and
 - iii. Metering.

As part of the exploratory stage, QEC, in its sole discretion, will determine the suitability and acceptability of the Prospective IPP's proposed interconnection and grant permission to continue with the proposed installation. The above discussions will also help guide the Prospective IPP and better approximate the cost that the Prospective IPP will pay to interconnect.

4.2 Stage 2 – Preliminary estimates and interconnection study

Once it has received permission to move forward from QEC, the Prospective IPP shall provide a written notice to QEC of its decision to proceed. This decision will then prompt QEC to begin estimating the preliminary interconnection costs to be incurred by the Prospective IPP.

The written notice from the Prospective IPP shall also include the following information:

1. Agreed upon Renewable Generation Facility location;
2. Single-Line Diagram ('SLD');
3. Agreed upon Generator capacity, type (wind, solar, hydro, geothermal, etc.), energy output profile;
4. Agreed upon POI;
5. Energy output profile of the Renewable Generation Facility; and
6. Interconnection study.

Once submitted to QEC, any change in the Renewable Generation Facility design or location will be considered a new interconnection inquiry and may be returned to Stage 1 for further analysis by QEC.

Within 120 calendar days of receiving the written request, QEC shall review the Interconnection Study results and provide preliminary estimates of the construction costs to interconnect the Prospective IPP Renewable Generation Facility.



QEC retains the right to perform a Connection Impact Assessment, should it determine that the results of the study are insufficient to demonstrate without any doubt that the proposed Renewable Generation Facility is safe to operate on the QEC Distribution Network without causing adverse effects. If this is the case, QEC will provide a Connection Impact Assessment Application Form to the Prospective IPP, requesting technical details of the proposed Renewable Generation Facility. All costs for this assessment will be borne by the Prospective IPP. After payment has been made, QEC will complete the assessment and provide the preliminary estimates of the construction costs to interconnect within 180 calendar days.

The Prospective IPP shall, within a reasonable time after receipt of all information from QEC as contemplated in this Stage, advise QEC in writing that it intends to proceed to Stage 3 (the "Agreement Stage").

4.3 State 3 – Agreement

QEC may permit the Prospective IPP to delay proceeding to the Agreement Stage for up to 60 days following receipt by the Prospective IPP of the Interconnection Study and cost estimates for the interconnection, provided that the delay does not materially affect the interconnection request. If QEC determines, in its sole discretion, that the interconnection request is materially affected by the delay, the interconnection request shall be rejected. If the Prospective IPP subsequently wishes to proceed with the interconnection, it must return to Stage 1 of these interconnection procedures.

Within 90 days of the written notification by the Prospective IPP that it intends to proceed, QEC will forward the PPA to the prospective IPP.

The details to be found in the PPA shall include, among other things, the construction responsibilities of the Prospective IPP, obligations related to operating and maintaining the Renewable Generation facilities, insurance requirements, creditworthiness requirements and delineates the rights of the parties on termination of the interconnection.

4.4 Stage 4 – Construction and commissioning

It shall be the responsibility of the Prospective IPP to undertake and complete all activities related to the construction and commissioning of the Renewable Generation Facility while complying with the applicable codes and standards and ensuring compatibility between the Renewable Generation Facility and QEC systems. The Prospective IPP shall, at least two weeks prior to final inspection of its facility, notify QEC that such inspection will be taking place. QEC shall have the right to have a representative present at the final inspection.



Immediately prior to commissioning and every five years thereafter, performance data (as defined in the TIR) of the Renewable Generation Facility shall be provided to QEC by the Prospective IPP, which will be verified against the Interconnection Study.

5. ADHERENCE TO TIMELINES

If QEC is unable to complete the review of the required Interconnection Study or Agreements within a reasonable time, QEC shall notify the Prospective IPP and provide an estimated completion date along with an explanation as to why additional time is required.

The Prospective IPP may also request reasonable extensions of any deadline set forth in these interconnection procedures. A reasonable extension shall be granted if in the judgment of QEC the extension does not cause any additional burden/costs to QEC. Any request for an extension shall be made in writing by the Prospective IPP to the QEC representative through RenewableEnergy@qec.nu.ca .