

Simplified Commissioning and Verification Template

This document outlines the eligibility and requirements for simplified commissioning and verifications plan for small DER Projects. The Applicant should utilize this form for commissioning and verification submission for eligible DER projects. Throughout this document, Kingston Hydro and Utilities Kingston will be used interchangeably when referring to the ownership and management of the Kingston Hydro distribution system.

1. Applicability

The simplified commissioning & verification form is applicable to a proposed DER facility that meets the following criteria:

a) DER nameplate capacity thresholds

- Single-phase DER:
 - > 10 kW and ≤ 30 kW
- Three-phase DER:
 - > 10 kW and ≤ 100 kW

b) Additional criteria

- DER shall be non-exporting type, behind the meter
- DER shall be equipped with Export Limiting Power Control System (PCS)

c) Ineligible feeders

- 44kV feeder M3 (Shared feeder with Hydro One)

2. Process requirements

- a) Before installing equipment and commencing testing of the facility, an applicant must have:
 - i. Fully executed and signed connection cost agreement
 - ii. Submit the complete commissioning and verification form along with commissioning plan
- b) Utilities Kingston (UK) will review the commissioning and verification form along with commissioning plan and respond to its acceptability within 10 business days. To ensure a timely review, the applicant should be prepared to respond to any questions and inquiries promptly.
- c) Utilities Kingston (UK) has the right to witness the commissioning and testing of the connection of DER facilities. The applicant shall notify UK no later than 10 business days prior to scheduled commissioning tests to enable UK to witness the commissioning tests.
- d) All applicable commissioning sections in this form below must be signed by a Professional Engineer (P.Eng) registered in Ontario or a licensed electrical contractor.
- e) The commissioning report shall be submitted for approval before the operation of the DER facility.
- f) Summary of testing results and certificates must be kept on file for a minimum period of 7 years by the applicant.
- g) In situations where site modifications are required, the applicant must notify the distributor to discuss the next steps.
- h) It is the applicant's responsibility to ensure that all requirements are met. Additional requirements may be necessary to address unique situations, and the applicant will be advised of any additional requirements at the appropriate assessment stage.

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Simplified Commissioning and Verification Template

- i) When the Commissioning Report is approved, the final ESA Connection Authorization is received, and the Connection Agreement is signed, Kingston Hydro will authorize connection of the generation facility to the Kingston Hydro distribution system.

3. Project Information

General project and site details			
Project number:			
Project address:			
Project name:			
Nameplate rated capacity (kW/kVA/PF)			
Export rated capacity (kW/kVA/PF)			
Planned in-service date:			
Connecting station and feeder:			
Number of electricity generating or storage device/inverters:			
Manufacturer:			
Model#			

Generator/Inverter model number, quantity, and hardware certification			
1.		5.	
2.		6.	
3.		7.	
4.		8.	

Commissioning contact information		
Applicant name:		
Applicant contact:		
<ul style="list-style-type: none"> Name Title Date Phone number Email 	<div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div>	
		License No.
Design engineer (if applicable)		
Commissioning agent [Licensed Engineer or licensed electrical contractor]		
Notes:		

4. Commissioning and verification plan

- a) Planned commissioning date: _____
- b) Milestone description: Please describe all commissioning and verification tasks the applicant plans to execute on the commissioning date. If the applicant plans to have multiple commissioning dates with

Simplified Commissioning and Verification Template

different milestones, the applicant is to include a milestone description for each commissioning date using the format below.

- Milestone#: _____
- Goal: _____
- Commissioning date: _____
- Tasks: _____

c) Please list any miscellaneous items below:

d) Signature from the commissioning agent [Licensed Engineer or licensed electrical contractor]

Name: _____

Date: _____

Signature: _____

5. Checklist prior to the main commissioning and verification tasks

Following is checklist specified by Kingston Hydro for the commissioning agent. The commissioning agent is to carry out the following checks prior to conducting the main commissioning and verification tasks.

	Results (Yes/No)	Initials	Comments
Power Equipment (Transformer/Cables) is installed as per the single-line diagram (SLD)			
Protection equipment (Fuse/Breakers) is installed as per SLD and protection scheme			
All switches & devices labeled for proper identification			
Nameplate values on the equipment are correct			

Simplified Commissioning and Verification Template

6. Commissioning and verification tasks

a. Cease to Energize

I. Turn off utility-size disconnect switch

Verification	Yes/No	Initials	Date	Notes
Did the DER facility indicate a loss of the utility grid?				
After a loss of the utility grid, is there voltage on the output of the DER facility?				
Did the DER facility shut down as required?				

II. Turn on utility-size disconnect switch

Verification	Yes/No	Initials	Date	Notes
Did the DER facility turn back on upon reconnection with the utility grid?				
Did the DER facility wait the requisite 300s before returning to normal operation?				
Did the DER facility return to its normal operating state?				

b. Steady-state parameters

The steady-state parameters listed in the table below must be monitored and recorded for a minimum of 5 minutes at the point of supply both prior to energization of the DER facility, and then another minimum 5 minutes while the DER facility is operating.

Parameter	Reference	Results	Notes
Voltage variations at the point of supply are limited to +/- 6% of the normal voltage			
Frequency is operating in the range of 59.3Hz to 60.5Hz			
Maximum output capacity requirement [Clearly identify zero export requirement] is met			

c) Equipment Based Protection & Control

Commissioning agent to review generator/inverter certificates and generator/inverter manufacturer production test reports in order to fulfill the following items.

Simplified Commissioning and Verification Template

Items to be verified	Standards/ References	Results	Notes
Interface protection of the facility ceases to energize under the following conditions: <ul style="list-style-type: none"> Internal faults at the facility External faults on the distributor's distribution system 			
Under-voltage protection is functioning Over-voltage protection is functioning			
Under-frequency protection is functioning Over-frequency protection is functioning			

7. Deficiency List and Resolution

Please use the table below to document if the facility does not meet certain utility requirements. Any operating/ design deficiencies should be corrected before concluding commissioning and verification tasks and before submitting the required commissioning materials to the Kingston Hydro.

Item	Deficiency	Resolution

8. Required supplementary document

Please provide the following document(s) for review upon the completion of the commissioning and verification tasks.

Document	Notes
Connection Authorization issued by Electrical Safety Authority (ESA) (Ontario Electrical Safety Code Article 2-014).	

9. Commissioning and verification signatures

By signing this section, the applicant and the commissioning agent acknowledge that all required commissioning and verifications tasks specified in this form have been completed.

The commissioning agent also acknowledges that the facility meets the following connection requirements:

- i. No power export back to the grid
- ii. Protection and Control Requirements as per section 7(c)

Simplified Commissioning and Verification Template

Applicant	Name:	
	Signature:	
	Date (dd/mm/yyyy):	
Commissioning agent [identify engineer or licensed electrical contractor]	Name:	
	Signature:	
	Date (dd/mm/yyyy):	
	Licence number and seal (if applicable):	

10. Commissioning and verification report:

This section outlines the required items to be included in a commissioning report.

- Section 6: Commissioning and verification tables with all information provided, including test results, dates, initials, and notes.
- Section 7: Information under the deficiency and resolution section
- Section 8: The required supplementary document(s) including applicable test reports
- Commissioning and verification signatures - Complete

11. Submission checklist

Please ensure the following items are completed and included in the submission to the distributor. The applicant will not proceed to the next connection step (Authorization to Generate) if any of these items is omitted or incomplete.

Item	Document
1.	Commissioning report
2.	Required supplementary documents <ul style="list-style-type: none"> - ESA Authorization - Test Reports (Power equipment, protection & control) - Final Single line Diagrams
3.	Commissioning and verification signatures

12. References:

- i. Ontario Energy Board (OEB)
 - [Distributed Energy Resources Connection Procedures](#)
- ii. Kingston Hydro technical documents:
 - [Appendix B – Guide for DER Applicants](#)

Simplified Commissioning and Verification Template

iii. Hydro One technical requirements:

- [Distributed Generation Technical Interconnection Requirements Interconnections At Voltages 50kv And Below](#)

iv. Additional technical requirements:

- Ontario Electrical Safety Code (latest revision)
- Canadian Standards Association (applicable codes)
 - o CSA standard C22.2 No. 257 Interconnecting inverter-based micro-distributed resource to distribution systems;
 - o CSA standard C22.3 No. 9 Interconnection of distributed resources and electricity supply systems
- Institute of Electrical and Electronics Engineers (IEEE)
- Other applicable rules, codes and regulations