CONFIRMATION OF VERIFICATION EVIDENCE REPORT (COVER)

As per Hydro One's Technical Interconnection Requirements (TIR), the COVER process shall apply to all distribution connected/connecting generator facilities that exceed 12kW and impact NT Power's distribution and/or Hydro One's transmission systems.

The requirements of the COVER may vary depending on generation capacity and the connection requirements associated with upstream impacts dictated by the Connection Impact Assessment (CIA).

General Requirements

a) Before installing equipment and commencing testing of the facility, the DER owner must have an executed Connection Cost Agreement (CCA) with NT Power and must have paid the required Connection Cost Deposit.
b) NT Power will review the commissioning plan and generally respond to its acceptability within 7 business days. To ensure a timely review, the DER Owner should be prepared to respond to any questions and inquiries promptly.
c) NT Power has the right to witness the commissioning and testing of the connection of DER facilities. The DER Owner shall notify the distributor no later than 7 business days prior to scheduled commissioning tests to enable the distributor to witness the commissioning tests.
d) The COVER must be signed by a Professional Engineer (P.Eng) registered in Ontario. The original signed report must be submitted to:

Newmarket-Tay Power Distribution Ltd,
Attn: DER Team
590 Steven Court,
Newmarket, Ontario, L3Y 6Z2,
email: DER@ntpower.ca

e) The COVER shall be submitted for approval before the operation of the DER facility.
f) The DER Owner shall, at NT Power's request, provide NT Power with a summary of testing results, including any certificates of inspection or other applicable authorizations or approvals certifying that any of the DER Owner's new, modified or replacement facilities have passed the relevant tests and comply with all applicable instruments and standards referred to in the code. The DER Owner shall keep this information on file for a period of (7) years.
g) In situations where modifications to the approved single-line diagram are required, the DER Owner must notify NT Power to discuss the appropriate next steps.
h) It is the DER Owner's responsibility to ensure that all requirements are met. Additional requirements may be necessary to address unique situations, and the DER Owner will be advised of any additional requirements at the appropriate assessment stage.
i) Upon completion of the commissioning steps, NT Power will initiate discussions regarding the Connection Agreement.

Section 1 – Facility Information

Name of Facility	
Address	
Nameplate Rated Capacity	
Export Rated Capacity	
Planned In-Service Date	
Upstream Station	
Connecting Feeder	
Number of inverters	
Manufacturer	

Section 2 – Inverter Model Number, Quantity, and Hardware Certification

1.		5.	
2.		6.	
3.		7.	
4.		8.	

Section 3 – Commissioning Contact Information

DER Owner Name		
Title		
Date		
Phone Number		
Email		
		License Number
Design Engineer		
Commissioning Engineer		

Notes:

Section 4 – Pre-Commissioning Checklist

The commissioning engineer is to carry out the following checks prior to conducting the main commissioning and verification tasks. Results: Y = Yes, N = No	Results	Initials	Note #
Conductors are per the single-line diagram (SLD) (type, size and length)	______	______	______
Fusing is installed as per SLD and protection scheme	______	______	______
All switches & devices labeled for proper identification	______	______	______
Nameplate values on the equipment are correct	______	______	______

Section 5 – Protection & Control			
Commissioning engineer to review generator/inverter certificates and generator/inverter manufacturer production test reports in order to fulfill the following items. Results: P = Pass, F = Fail	Results	Date mm/dd/yyyy	Note #
HV Breaker Failure Protection	_____	_____	_____
LV Breaker Failure Protection	_____	_____	_____
Transformer Main and Backup Protection	_____	_____	_____
Under and Over Frequency	_____	_____	_____
Under and Over Voltage	_____	_____	_____
Anti-islanding Protection	_____	_____	_____
Interface protection of the facility ceases to energize under the following conditions: • Internal faults at the facility • External faults on the distributor's distribution system	_____	_____	_____

Section 6 – Cease to Energize			
Results: P = Pass, F = Fail	Results	Date mm/dd/yyyy	Note #
Disconnect from the utility grid			
Verify that the Embedded Generation Facility indicates a loss of the utility grid	_____	_____	_____
Confirm no output from the Embedded Generation Facility after a loss of the utility grid	_____	_____	_____
Test that the Embedded Generation Facility shuts down as required	_____	_____	_____
Reconnect to the utility grid			
Confirm that the Embedded Generation Facility resumes operation upon reconnection with the utility grid	_____	_____	_____
Confirm that the Embedded Generation Facility waits the required 300 seconds before returning to normal operation	_____	_____	_____
Verify that the Embedded Generation Facility returns to its normal operating state	_____	_____	_____

Section 7 – Monitoring & Control

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. Results: P = Pass, F = Fail	Results	Date mm/dd/yyyy	Note #
Monitoring			
kW, kVAR Flows and Directions	_____	_____	_____
Verify that the maximum output capacity requirement specified in Section 1 is met.	_____	_____	_____
Phase to Phase or Phase to Neutral Voltages	_____	_____	_____
Voltage variations at the point of supply are limited to +/- 6% of the normal voltage	_____	_____	_____
Three Phase Currents	_____	_____	_____
Power Factor	_____	_____	_____
Frequency is operating in the range of 59.3Hz to 60.5Hz	_____	_____	_____
Power Quality	_____	_____	_____
HV Breakers/Switches Status (OPEN/CLOSE)	_____	_____	_____
LV Breakers/Interrupters/Switchers Status (OPEN/CLOSE)	_____	_____	_____
Protection Alarms (TT receive from NT Power/Hydro One, DGEO send, failure of interface protection, breaker failure, connection status, etc.)	_____	_____	_____
Generator Connected Status (ON/OFF)	_____	_____	_____
Unsolicited Responses (Section 6.2 of the CIA)	_____	_____	_____
Control			
Remotely dispatch the Embedded Generation Facility (ON/OFF)	_____	_____	_____

Comment: At this time, NT Power is upgrading its SCADA communication network and is unable to test and commission the monitoring and control of the Embedded Generation Facility with its SCADA control room. NT Power intends to return to the Embedded Generation Facility to complete this work within 2 years. For this COVER, the DER owner is asked to provide documentation demonstrating the above monitoring and control testing requirements.

Section 8 – Power Equipment

Results: P = Pass, F = Fail	Results	Date mm/dd/yyyy	Note #
Confirm the installation aligns with the approved single-line electrical diagram	_____	_____	_____
Confirm the installed electrical equipment is appropriately rated for the system voltage	_____	_____	_____
Inverters, isolation device(s) and protective relays are functioning correctly	_____	_____	_____
Confirm correct operation and time settings of protective devices	_____	_____	_____
Inverters, isolation device(s) and protective relays are within Thermal Loading Limits	_____	_____	_____
Inverter and related equipment are UL1741, IEEE 1547, and CSA certified	_____	_____	_____
Confirm a single line, permanent and legible diagram of the DER facility near the disconnect switch	_____	_____	_____
Confirm a warning sign ("WARNING – TWO POWER SOURCE – PARALLEL SYSTEM") on the point of disconnection, DER switchboard feeder cell and/or switch room door to warn people of the presence of the DER	_____	_____	_____
Confirm disconnecting device is located at or near to the ownership demarcation point of connection of the DER facility to the distribution system, is readily accessible, and has a visible indication of the open main current-carrying path	_____	_____	_____

Section 9 – Deficiency & Resolution

Please use the table below to document if the Embedded Generation Facility doesn't meet certain NT Power's requirements, such as the kVA requirement.

Any operating/design deficiencies should be corrected before concluding commissioning and verification tasks and before submitting the required commissioning materials to NT Power.

Item	**Deficiency**	**Resolution**

Section 10 - Supplementary Documentation

Please provide the following documents for review upon the completion of the commissioning and verification tasks. Legend: Y = Yes, N = No	Legend	Date mm/dd/yyyy
Certificate of Inspection from ESA	_____	_____
ESA Connection Authorization	_____	_____
As-constructed single-line electrical diagram of the Embedded Generation Facility	_____	_____
A letter, signed and sealed by a Professional Engineer registered in the province of Ontario, stating that the equipment and installation used in this Embedded Generation Facility meet CSA and/or other applicable electrical safety standards prior to the In-Service Date	_____	_____

Notes – For Section 3, 4, 5, 6, 7, 8

#	Comments	Date Action Resolved mm/dd/yyyy	Initials	Date mm/dd/yyyy
______		______	______	______
______		______	______	______
______		______	______	______
______		______	______	______
______		______	______	______
______		______	______	______
______		______	______	______
______		______	______	______
______		______	______	______
______		______	______	______
______		______	______	______
______		______	______	______
______		______	______	______
______		______	______	______
______		______	______	______
______		______	______	______
______		______	______	______
______		______	______	______
______		______	______	______
______		______	______	______
______		______	______	______
______		______	______	______
______		______	______	______

Signatures

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

The commissioning engineer also acknowledges that the Embedded Generation Facility meets the following connection requirements:

a) Hydro One's Technical Interconnection Requirements (TIR)
b) IEEE 1547
c) CSA C22.2 No. 107.1

________________________________ Signature of DER Owner Print Name: __________________ Email: _______________________ Date (mm/dd/yyyy): _____________	
________________________________ Signature of Engineer Certifying report Print Name: __________________ P.Eng Title: _______________________ Email: ______________________ Date (mm/dd/yyyy): _____________	(P.Eng Seal)

Submission Checklist

Please ensure the following items are completed and included in the submission to NT Power. The Embedded Generation Facility cannot proceed to energization if any of these items is omitted or incomplete.

1) Commissioning Report
2) Required supplementary document
3) Commissioning and verification signatures