**Customer Instructions for Completing the COVER form**

**PRE-REQUISITE**

Submit design documentation (i.e. single line diagram, intertie protection settings, etc.) required by Hydro One, as identified in the CCRA or by the account executive, for a design compatibility review at least five (5) months prior to the approved energization date.

**STAGE 1: COVER PLAN**

* 1. Complete Facility and Customer Contact Information of the COVER Form by completing the highlighted portions of Sections 1. Identify the tests that will be conducted by completing the highlighted portions (Protection Group and Legend columns) of Sections 2 & 3, where applicable. Submit the draft COVER, with a copy of the commissioning plan as it pertains to the transmission equipment, to the COVER Coordinator by e-mail at least three (3) months prior to the approved energization date.
  2. COVER coordinator will review the proposed documents and respond to the acceptability of the proposed COVER/commissioning plan within ten (10) business days of receiving the draft COVER and prior to pre-energization testing. Hydro One COVER Coordinator approves the proposed COVER/commissioning plan by initialing Section 2G.

**Note 1:** COVER Coordinator will arrange for any participation by Hydro One staff needed to complete the tests such as test tripping, end to end testing, primary disconnect operation etc.

**Note 2:** Customer must apply for an outage at least sixty (60) days prior to the energization date.

**STAGE 2: PRE-ENERGIZATION**

1. Complete all applicable testing in Section 2. Record any deviations from the expected energization plan in the Notes section.
2. Sign off the COVER, in Section 2H, by a Customer P.Eng Representative, and submit it to the COVER coordinator, ten (10) business days in advance of the energization date.
3. The COVER coordinator will review the certified COVER and recommend energization to the Ontario Grid Control Centre (OGCC) by signing Section 2.
4. Section 3 testing can only proceed when all salient comments have been resolved and tests completed for Section 2.
5. The customer will contact the OGCC to request authorization to connect to the grid.
6. The OGCC Controlling Authority will sign off Section 2 upon acceptance of connection.

**STAGE 3: POST-ENERGIZATION**

* 1. Complete and sign Section 3 when all parts of the COVER form are complete and submit it to the COVER coordinator.

Note: online load readings to be performed within five (5) business days of placing the Facility on load. Please note that for load readings to yield meaningful results the facilities’ instrument transformers must be operating in their linear range. This is typically greater than 10% of nameplate capacity. Record any deviations from the expected energization plan in the Notes section.

* 1. The COVER Coordinator will review the completed COVER and respond to the acceptability of COVER within five (5) business days. Upon acceptance, the COVER Coordinator will sign off the appropriate COVER Section 3 Signoff section and will distribute the completed COVER to distribution list found in Section 3.
  2. Summary of testing results and certificates must be kept on file for a minimum period of 7 years by the Customer (as indicated by IESO Market Rules, Chp.4, 5.1.3; and the TSC, Appendix 1, Section 28.1.4). Hydro One may require this information, on an exception basis.

# 

#### Hydro One Networks Inc.

483 Bay Street, 15th Floor, North Tower

Toronto, Ontario, Canada M5G 2P5

**CONFIRMATION OF VERIFICATION EVIDENCE REPORT (COVER)**

**[Transmission]**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Section 1 *(Step 1.1)* | FACILITIES and CONTACT INFORMATION | | | | |
| Name of Customer | |  | | | |
| Hydro One AR# | |  | | | |
| name of facility | |  | | | |
| Connection Types | | New Facility Connection  Modification of Existing Facility:  Protection Replacement  Breaker Replacement  Transformer Replacement  Switch Replacement  Other:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | |
| Type of Facility | |  | | | |
| Energization Date(s) | | For Initial Load Connection (if Applicable) | |  |  |
| Final Facility Connection | |  |  |
| Hydro one Operating designation | |  | | | |
| **Transmitter Identifier** (plan number, operating designation) | |  | | | |
| Circuit Connections | |  | | | |
| Customer Contact | | | Hydro One COVER COORDINATOR CONTACT | | |
| **Print Name:**  **Title:**  **Date:**  **Tel. #:**  **Email:** | | | **Print Name:**  **Title:**  **Date:**  **Tel. #:**  **Email:** | | |

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| Section 2A *(Step 1.1) (Step 2.1)* | VERIFICATION-PROTECTION & CONTROL | | | | | | |
| Protection Group to verify: A, B, or A&B  Legend: R = Test Required  Results: P = Pass, F = Fail, N/A = Not Applicable  NOTE: Tests marked with an asterisks (\*) require Hydro One staff coordination | | Protection Group  To verify | Legend | Results | Initials | Date  mm/dd/yyyy | Note # |
| * Is commissioning in compliance with the submitted Commissioning plans? | | N/A |  |  |  |  |  |
| * Are reviewed relay settings applied? | | N/A |  |  |  |  |  |
| **Confirm that the following protection systems, as applicable, have been verified to function as per the design:** | |  | | | | | |
| * Line Protection | |  |  |  |  |  |  |
| * HV Breaker Failure Protection and Reclose | |  |  |  |  |  |  |
| * LV Breaker Failure Protection and Reclose | |  |  |  |  |  |  |
| * Transformer Differential | |  |  |  |  |  |  |
| * Transformer Backup Protection | |  |  |  |  |  |  |
| * Under and Over Frequency | |  |  |  |  |  |  |
| * Under and Over Voltage | |  |  |  |  |  |  |
| * Transfer Trip / Remote Trip \* | |  |  |  |  |  |  |
| * Dead Zone Test Trips \* | |  |  |  |  |  |  |
| * Line differential protection \* | |  |  |  |  |  |  |
| * Pilot Wire Protection \* | |  |  |  |  |  |  |
| * Blocking Scheme Circuits \* | |  |  |  |  |  |  |
| * Generation Rejection & Load Rejection Circuits \* | |  |  |  |  |  |  |
| * Reverse Power | |  |  |  |  |  |  |
| * Gen. Prot. That trip HV Sync Breakers | |  |  |  |  |  |  |
| * Instrument Transformer (eg. CTS + CCVTs, etc.) | |  |  |  |  |  |  |
| * Monitoring Equipment (eg. DFR, SER, etc.) | |  |  |  |  |  |  |
| * Other (Specify) | |  |  |  |  |  |  |

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| Section 2B *(Step 1.1) (Step 2.1)* | VERIFICATION-TELECOMMUNICATIONS | | | | | | | |
| Protection Group to verify: A, B, or A&B  Legend: R = Test Required  Results: P = Pass, F = Fail, N/A = Not Applicable  NOTE: Tests marked with an asterisks (\*) require Hydro One staff coordination | | Protection Group  To verify | Legend | Results | Initials | Date  mm/dd/yyyy | Note # |
| * Is commissioning in compliance with the submitted Commissioning plans? | | N/A |  |  |  |  |  |
| * Are reviewed provisioning settings applied? | | N/A |  |  |  |  |  |
| **Confirm that the following telecommunication systems, as applicable, have been verified to function as per the design:** | |  | | | | | |
| * Microwave Digital Radio Facilities \* | |  |  |  |  |  |  |
| * Telco Leased Circuit \* | |  |  |  |  |  |  |
| * Fiber Optic Facilities \* | |  |  |  |  |  |  |
| * Power Line Carrier Facilities \* | |  |  |  |  |  |  |
| * Other (Specify) | |  |  |  |  |  |  |

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| Section 2C *(Step 1.1) (Step 2.1)* | TELEMETRY TESTS BEFORE ENERGIZATION AT CUSTOMER OWNED TS Please check  Applicable  Not Applicable | | | | | | |
| **Confirm the following SCADA telemetry quantities, where applicable:**  Legend: R = Test Required; Results: P = Pass, F = Fail  All Parts: N/A = Not Applicable | | Legend | Results | Initials | Date mm/dd/yyyy | Note # |
| * HV MW per transformer | |  |  |  |  |  |
| * HV MVAR per transformer | |  |  |  |  |  |
| * HV Phase to Phase Voltages (R, W, B) | |  |  |  |  |  |
| * LV MW per LV Bus | |  |  |  |  |  |
| * LV MVAR per LV Bus | |  |  |  |  |  |
| * LV Phase to Phase Voltages (R, W, B) | |  |  |  |  |  |
| * HV Under-Load Tap Changer Positions | |  |  |  |  |  |
| * HV Disconnect Switches/HV Circuit Switchers/Breakers Open/Close Status | |  |  |  |  |  |
| * LV Transformer & Bus Tie Breakers Open/Close Status | |  |  |  |  |  |
| * LV Capacitor Breakers Open/Close Status | |  |  |  |  |  |
| * Common Protection Trip Alarm each HV Circuit | |  |  |  |  |  |
| * Other (specify) | |  |  |  |  |  |

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| Section 2D *(Step 1.1) (Step 2.1)* | TELEMETRY TESTS BEFORE ENERGIZATION AT CUSTOMER OWNED GS Please check  Applicable  Not Applicable | | | | | | |
| **Confirm the following SCADA telemetry quantities, where applicable**  Legend: R = Test Required; Results: P = Pass, F = Fail  All Parts: N/A = Not Applicable | | Legend | Results | Initials | Date mm/dd/yyyy | Note # |
| * MW Flows and Directions | |  |  |  |  |  |
| * MVAR Flow and Directions | |  |  |  |  |  |
| * Phase to Phase Voltages | |  |  |  |  |  |
| * HV switchers/HV breakers/Bus Tie Breakers Open/Close Status | |  |  |  |  |  |
| * HV Line Disconnect Switches Open/Close Status | |  |  |  |  |  |
| * Synchronizing Breakers Open/Close Status | |  |  |  |  |  |
| * AVRs, PSSs status | |  |  |  |  |  |
| * Generation Rejection Selection Status | |  |  |  |  |  |
| * LV Breakers/Switchers, Open/Close Status | |  |  |  |  |  |
| * LV Synchronizing Breakers, Open/Close Status | |  |  |  |  |  |
| * Protection Trip Alarms | |  |  |  |  |  |
| * Other (specify) | |  |  |  |  |  |

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| Section 2E *(Step 1.1) (Step 2.1)* | | CONFIRMATION OF VERIFICATION-POWER EQUIPMENT | | | | | |
| Legend: R = Test Required, W = Witness, T = To attach required document  Result: P = Pass, F = Fail  All Parts: N/A = Not Applicable  *\*Note that Hydro One staff witnessing is required when the test is performed.* | | Legend | Result | Initial | Date mm/dd/yyyy | Note # | |
| * **Verify the HV disconnect switches/circuit switchers are suitable as an isolation point per Utility Work Protection Code. \* Attach document (see Appendix A – witnessing form)**   NOTE: Any future modifications to the isolation device(s) used to provide supporting guarantees to Hydro One staff under the Utility Work Protection Code must be re-witnessed by Hydro One personnel. | | W |  |  |  |  |
| * **Name of Hydro One Staff Witness** | | Name: | | | | |
| * Confirm correct operation of the HV disconnect switches/circuit switchers/breakers | |  |  |  |  |  |
| * Is closing time within manufacturer’s specification? | |  |  |  |  |  |
| * Is opening time within manufacturer’s specification? | |  |  |  |  |  |
| * Are the specified HV surge arrestors installed? | |  |  |  |  |  |
| * Confirm the power transformer Doble test results are within specification | |  |  |  |  |  |
| * Confirm power transformers connected correctly as per the design. | |  |  |  |  |  |
| * Confirm the DC system installed (i.e. battery, charger, dc panel, dc monitoring). | |  |  |  |  |  |
| * Does the HV equipment (i.e. disconnect switches, circuit switchers, breakers, CVTs, CTs) have the appropriate voltage class and current ratings as per the submitted Single Line Diagram? | |  |  |  |  |  |
| * Other (specify) | |  |  |  |  |  |

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| Section 2F *(Step 1.1) (Step 2.1)* | | PRE-ENERGIZATION CONNECTION AUTHORIZATION | | | |
| Legend: R = To attach required document, N/A = Not Applicable  Prior to energizing any new or modified load or portions of generator facilities, the Customer must provide either Temporary Connection Authorization *or* Grid Connection Authorization, along with supporting documentation. | | Legend | Date mm/dd/yyyy | Note # |
| 1. Temporary Connection Authorization issued by Electrical Safety Authority (ESA) (Ontario Electrical Safety Code Article 2-014). 2. *Confirmation Letter of Isolation* signed and stamped by a Professional Engineer registered in the province of Ontario stating that their equipment to be energized has passed ESA inspection. **(see Appendix B – Confirmation Letter of Isolation)** 3. A single line diagram identifying portions of load and/or generator facilities to be energized and the isolation point(s). | |  |  |  |
| 1. Grid Connection Authorization issued by Electrical Safety Authority (ESA) (Code Article 2-012). Attach document. | |  |  |  |

**SECTION 2 NOTES:**

|  |  |  |  |
| --- | --- | --- | --- |
| #: | Comments: | COVER Coordinator Concurrence To Connect: | Date Action Resolved:  (mm/dd/yyyy) |
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| Section 2G *(Step 1.2)* | COVER REVIEW SIGN OFF | |
| **Hydro One’s COVER Coordinator approves the proposed checks, verifications, tests and notes submitted by the customer for the scheduled COVER.** | | Initials of Hydro One COVER Coordinator  Print Name:  Date: |

|  |  |  |
| --- | --- | --- |
| Section 2H *(Step 2.2)* | SIGN OFF FOR ENERGIZATION | |
| **By signing\* this form, the customer acknowledges the following:**   * **All required verifications specified in Section 2 have been completed.** * **The customer facility design and operation meets the minimum standards for customer facilities connected to a transmission system, as per the Transmission System Code.** * **The equipment and installation meet CSA and/or other applicable safety standards.** | | Signature of Customer Representative  (Note: Must be P. Eng licensed in Ontario)  Print Name:  Title:  Date:  Must affix P.Eng seal (stamp here): |
| \*After signing the COVER, the customer shall submit it to the COVER coordinator with a copy to the Account Executive/COVER coordinator. | | |

|  |  |
| --- | --- |
| **Hydro One’s COVER Coordinator has reviewed the customer’s Approved COVER document and the customer’s facility may be connected to the grid, subject to OGCC’ final review.**  *(Step 2.3)* | Signature of Hydro One COVER Coordinator  Print Name:  Title:  Date: |
| The COVER coordinator shall forward (email/scan/fax) the completed document to the Controlling Authority OGCC to initiate the connection.  The COVER coordinator shall contact (email/phone) the Controlling Authority OGCC ISP Coordinator during normal hours or shift Manager after hours, to notify him/her of the completed COVER. | |

|  |
| --- |
| **OGCC CONTROLLING AUTHORITY COVER ACCEPTANCE OF CONNECTION**  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Signature of System Control Authority Dated**  *(Step 2.6)* |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Section 3A *(Step 1.1) (Step 3.1)* | POST ENERGIZATION VERIFICATION | | | | | |
| Legend: R = Test Required  Result: P = Pass, F = Fail  All Parts: N/A = Not Applicable  **\*Note:** Test will require Hydro One staff coordination | | Legend | Result | Initial | Date mm/dd/yyyy | Note # |
| Live Zone Test Trips \* | |  |  |  |  |  |
| Are phasor (X-Watt meter) readings completed and analyzed by the customer for the Protections listed in **Section 2A**? | |  |  |  |  |  |
| Are phasor (X-Watt meter) readings completed and analyzed by the customer for SCADA quantities listed in **Sections 2C or 2D**? | |  |  |  |  |  |
| On load SCADA values confirmed for Hydro One NMS consistent with test(s) performed in **Section 2C or 2D**\*? | |  |  |  |  |  |

|  |  |  |
| --- | --- | --- |
| **GENERATOR CONNECTION AUTHORIZATION** | | |
| Legend: SD = Supporting Document, N/A = Not Applicable | Legend | Date mm/dd/yyyy |
| * Hydro One requires the Customer to provide an Electrical Safety Authority (ESA) GRID Connection Authorization if and only if it has not been provided in Section 2. **Attach document.** |  |  |

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**SECTION 3 NOTES:**

|  |  |  |  |
| --- | --- | --- | --- |
| #: | Comments: | COVER Coordinator Concurrence: | Date Action Resolved:  (mm/dd/yyyy) |
| 1. |  |  |  |
| 2. |  |  |  |
| 3. |  |  |  |
| 4. |  |  |  |

|  |  |
| --- | --- |
| Section 3B *(Step 3.1)* | SIGN OFF TO CONNECT AS A GENERATOR |
| I/we acknowledge the completion of the COVER from all the sections from Section 1 to 3 and the deficiencies identified in the “NOTES” section have been resolved.  I/we acknowledge, in accordance with the Transmission System Code, Appendix 1, Section 28.2.3, the Customer shall, at Hydro One's request, provide Hydro One with a summary of testing results, including any certificates of inspection or other applicable authorizations or approvals certifying that any of the Customer's new, modified or replacement facilities have passed the relevant tests and comply with all applicable instruments and standards referred to in the code. This information will be kept on file for period of seven (7) years by the Customer.    Signature of Customer Representative (Note: Must be P. Eng licensed in Ontario)  Print Name:  Title:  Date:  Must affix P.Eng. seal (stamp here): | |

|  |  |
| --- | --- |
| **The COVER Coordinator has reviewed the customer’s Certified COVER document (Sections 1 –through 3) and confirms the customer’s facility meets the requirements to be connected to the Grid.**  *(Step 3.2)* | Signature of COVER Coordinator  Print Name:  Title:  Date: |
| The COVER coordinator shall forward (scan/fax) the completed document to the Network Operating Division OGCC on Shift Manager to post the completed COVER.  The COVER coordinator shall contact (phone) the OGCC on shift Manager, to notify him/her of that the COVER process for the connection is now complete. | |

|  |
| --- |
| **Distribution List (when all sections are completed):**    Transmitter (Customer Business Relations)  Network Operating Division  Customer  Agent  Transmitter Record (original)  *(Step 3.2)* |



Disconnect Switch Confirmation

Project ID Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Project Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Disconnect Switches: \_\_\_\_\_\_\_\_\_\_\_\_

This is to confirm that disconnect-switches installed on this project, are suitable as an isolation point per Hydro One Utility Work Protection Code (UWPC).

Hydro One Witness Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

***Instructions****: The letter is to be provided on Customer company letterhead by an employee or agent acting on behalf of the company. The letter needs to be signed by a Professional Engineer registered in the Province of Ontario.*

**Attention Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Hydro One Inc.**

**Networks Operating Division**

**System Controller**

**Confirmation Letter of Isolation**

**For** [Insert Project name: \_\_\_\_\_\_\_\_\_\_ and Proj#\_\_\_\_\_\_]

[Insert Company name] is applying for connection as a load for the purposes of commissioning and testing.

In addition to the submitted partial COVER and ESA Temporary Connection Authorization,

[Insert Company name] hereby declares that all the equipment to be energized has passed ESA inspection and the attached single line diagram identifies the portions of generator facilities to be energized. The generation will be isolated by opening the following device(s) which is/are shown in the submitted single line diagram (attached SLD):

|  |
| --- |
|  |
|  |
|  |

The above devices will also be tagged and locked, where available, to prevent inadvertent operation. The locks and tags will not be removed unless authorized by Hydro One.

[Insert Company name] will apply for Final connection as a generator by submitting the completed COVER up to Section 3 of the COVER and ESA final Connection Authorization at a later date.

Please reference the project data below for your operational schedules.

|  |  |
| --- | --- |
| Name of Facility |  |
| Hydro One Operating Designation (NCxxxx) – shown in the COVER |  |
| Supply Circuit(s) Designation |  |
| Generator Site Legal Address |  |
| Generator 24 hours contact name |  |
| Generator 24 hours phone number |  |

Regards,

|  |
| --- |
| Signature |
| Name |
| Title/Position |

# PEO ID (if applicable)

Attachment: Single Line Diagram