FORM B

CONNECTION IMPACT ASSESSMENT APPLICATION
DISTRIBUTION

This Application Form is for Generators applying for a:
- Connection Impact Assessment (CIA)
- Project size greater than 10 kW

This Application Form is required for:
- New Generators applying for a CIA
- New Generators applying for a revision to their original CIA
- Generators applying for a CIA after rescinding a previous CIA. Please include your previous CIA Project ID # below.
- Existing Generators to verify information related to a current connection to the Burlington Hydro system. It is part of the overall (Distribution) Connection Agreement.

The Cost of performing the Connection Impact Assessment is $5,000.00 plus HST

IMPORTANT: All fields below are mandatory, except where noted. Incomplete applications may be returned by Burlington Hydro Inc (BHI)

If you have any questions, please email generation@burlingtonhydro.com

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

Burlington Hydro Inc
1340 Brant St
Burlington On
L7R 3Z7

Or Fax to 905-332-0684

NOTE 1: Applicants are cautioned NOT to incur major expenses until BHI approves to connect the proposed generation facility.

NOTE 2: All technical submissions (Form B, single line diagrams, etc.) must be signed and sealed by a licensed Ontario Professional Engineer (P.Eng.).

Date: _____ (dd / mm / yyyy)
Application Type: ☐ New CIA Application ☐ CIA Revision/Rework

1. **Original CIA Project ID# (if applicable):** _____
   Project Name: _____

2. **Independent Electricity System Operator (IESO) Feed-In Tariff (FIT) Contract Number:** _____

3. **Proposed In- Service Date**: _____(dd / mm / yyyy)

4. **Project Size:** Number of Units _____
   Nameplate Rating of Each Unit _____ kW
   Generator connecting on ☐ single phase ☐ three phase
   Existing Total Nameplate Capacity _____ kW
   Proposed Total Nameplate Capacity _____ kW

5. **Project Location:** Address _____
   City / Town / Township _____
   Lot Number(s) _____
   Concession Number(s) _____

6. **Project Information:**
   Choose a Single Point of Contact: ☐ Owner ☐ Consultant

	Generator *(Mandatory)*	**Owner** *(Mandatory)*	**Consultant** *(Optional)*
Company/Person			
Contact Person			
Mailing Address Line 1			
Mailing Address Line 2			
Telephone			
Cell			
Fax			
E-mail			

Preferred method of communication with Burlington Hydro:
☐ E-mail ☐ Telephone ☐ Mail ☐ Fax

7. **Program Type:**

   A. Net Metering ☐

   B. Load Displacement ☐

   C. Other (Please specify) …… ☐

8. Fuel Type:

☐ Wind Turbine ☐ Hydraulic Turbine ☐ Steam Turbine ☐ Solar/ Photovoltaic
☐ Diesel Engine ☐ Gas Turbine ☐ Fuel Cell ☐ Biomass
☐ Co-generation/CHP (Combined Heat & Power) ☐ Bio-diesel
☐ Anaerobic Digester ☐ Other (Please Specify) ____

8.1. For Solar (Photovoltaic) only:

Number of series connected cells……	Number of parallel strings ……

9. Customer Status:

Existing Burlington Hydro Inc Customer? ☐ Yes ☐ No
If yes, Burlington Hydro Account Number: _____
Customer name registered in this Account: _____
Are you a HST registrant? ☐ Yes ☐ No
If yes, provide your HST registration number: _____ - _____ RT _____

10. Connection to Burlington Hydro 's Distribution System:

In the following items, Point of Connection means the point where the new Generator's connection assets or new line expansion assets will be connected to the existing Burlington Hydro's distribution system.

Point of Common Coupling" or "PCC" or "Point of Supply" means the point where the Generator's facilities are to connect to Burlington Hydro's distribution system.

The Point of Connection and the PCC may be the same, especially if the Generator's facilities lie along the existing Burlington Hydro distribution system; or the PCC may be located somewhere between the Point of Connection and the Generator's facilities if new line will be owned by Burlington Hydro.

(a) Proposed or existing Connection voltage to Burlington Hydro's distribution system: _____ kV
(b) Station: _____
(c) Feeder: _____

**LDC applications only: TS feeder is entirely LDC owned ☐ Yes ☐ No

(d) GPS coordinates of the following:
(Please give GPS co-ordinates in following format: Longitude, Latitude - Degree Decimal Format: * e.g. 49.392, -75.570)

Point of Connection: _____

PCC: _____

Generator facilities: _____

(e) Distance from the Point of Connection to the PCC _____ 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 PCC, provide the following:

Distance and conductor size of tap line on the Generator's side of the PCC, 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 PCC:
3-phase short circuit _____ MVA;

(h) Does your project require to establish joint use on Burlington Hydro poles? (i.e. generator's collector lines attached to Burlington Hydro poles on municipal right or way?
☐ Yes ☐ No

(i) If you answer "No" to "h" above, is your project going to own Poles and wires on municipal right of way? ☐ Yes ☐ No

11. Generator's Facilities and New Line Map:

On a cut-out from the Burlington Hydro DOM (distribution operating map) provide location of Generator's facilities with proposed line routings for connection to Burlington Hydro distribution system. It should identify the Point of Connection, the PCC, and the location (i.e. on private property or public road right-of-ways) of new lines between the Generator's facilities and the Point of Connection.

Drawing / Sketch No. _____, Rev. _____

12. Single Line Diagram ("SLD"):

Provide a SLD of the Generator's facilities including the PCC.

SLD Drawing Number: ____, Rev. ____

13. Generator Characteristics

(a) Characteristics of Existing Generators

If Generator's facilities include existing generators, provide details as an attached document.

(b) Characteristics of New Generators:

Number of generating unit(s): _____

Manufacturer/Type or Model No: _____ / _____

Rated capacity of each unit: _____ kW _____ kVA

If unit outputs are different, please fill in additional sheets to provide the information.
Rated frequency: _____ Hz

Rotating Machine Type:

☐ Synchronous ☐ Induction ☐ Inverter ☐ Other (Please Specify) _____
(If the machine type is "Other", please provide values equivalent to a Synchronous or Induction type Generator)

Generator connecting on: ☐ single phase ☐ three phase

Limits of range of reactive power at the machine output:

i. Lagging (over-excited): _____ kVAR power factor _____
ii. Leading (under-excited): _____ kVAR power factor _____

Limits of range of reactive power at the PCC:

iii. Lagging (over-excited): _____ kVAR power factor _____
iv. Leading (under-excited): _____ kVAR power factor _____

Starting inrush current: _____ pu (multiple of full load current)

Generator terminal connection: ☐ delta ☐ star

Neutral grounding method of star connected generator:

☐ Solid ☐ Ungrounded ☐ Impedance: R _____ ohms X _____ ohms

For Synchronous Units:

i. Nominal machine voltage: _____ kV

ii. Minimum power limit for stable operation: _____ kW

iii. Unsaturated reactances on: _____ kVA base _____ kV base

Direct axis subtransient reactance, Xd'' _____ pu
Direct axis transient reactance, Xd' _____ pu
Direct axis synchronous reactance, Xd _____ pu
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 reactances on: _____ kVA base _____ kV base
Direct axis subtransient reactance, Xd'' _____ pu
Direct axis transient reactance, Xd' _____ pu

iii. Total power factor correction installed: _____ kVAR
- Number of regulating steps _____
- Power factor correction switched per step _____ kVAR
- Power factor correction capacitors are automatically switched off when generator breaker opens ☐ Yes ☐ No

14. Interface Step-Up Transformer Characteristics:

(a) Transformer rating: _____ kVA
(b) Nominal voltage of high voltage winding: _____ kV
(c) Nominal voltage of low voltage winding: _____ kV
(d) Transformer type: ☐ single phase ☐ three phase
(e) Impedances on: _____ kVA base _____ kV base
R: _____ pu, X: _____ pu
(f) High voltage winding connection: ☐ delta ☐ star

Grounding method of star connected high voltage winding neutral:

☐ Solid ☐ Ungrounded ☐ Impedance: R: _____ ohms X: _____ ohms

Nameplate rating and impedance values of High Voltage Grounding Transformer (If applicable):
Voltage:_____ V Rating: _____KVA R:_____ pu X:_____pu

(g) Low voltage winding connection: ☐ delta ☐ star

Grounding method of star connected low voltage winding neutral:
☐ Solid ☐ Ungrounded ☐ Impedance: R:_____ ohms X:_____ ohms

NOTE: The term 'High Voltage' refers to the connection voltage to Burlington Hydro's distribution system and 'Low Voltage' refers to the generation or any other intermediate voltage.

15. Intermediate Transformer Characteristics (optional):

☐ No intermediate transformer (if chosen, parts a. to h. below are ***optional)***

(a) Transformer rating: _____ kVA
(b) Nominal voltage of high voltage winding: _____ kV
(c) Nominal voltage of low voltage winding: _____ kV
(d) Transformer type: ☐ single phase ☐ three phase
(e) Impedances on: _____ kVA base _____ kV base
R _____ pu X _____ pu

(f) High voltage winding connection: ☐ delta ☐ star
Grounding method of star connected high voltage winding neutral:
☐ Solid ☐ Ungrounded ☐ Impedance: R:_____ ohms X:_____ ohms

(g) Low voltage winding connection: ☐ delta ☐ star
Grounding method of star connected low voltage winding neutral:
☐ Solid ☐ Ungrounded ☐ Impedance: R:_____ ohms X:_____ ohms

NOTE: 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.

16. Load information:

(a) Maximum load of the facility: _____ kVA _____ kW
(b) Maximum load current (referred to the nominal voltage at the connection point to Burlington Hydro system): _____ A
(c) Maximum inrush current (referred to the nominal voltage at the connection point to Burlington Hydro system): _____ A

Attached Documents:

Item No.	Description	Reference No.	No. of Pages
1			
2			
3			
4			
5			

Attached Drawings:

Item No.	Description	Reference No.	No. of Pages
1			
2			
3			
4			
5			

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

- □ Completed Connection Impact Assessment Application Form B, must be stamped by a Professional Engineer
- □ Payment in full including applicable taxes (by cheque or money order payable to "Burlington Hydro Inc.")
- □ Single Line Diagram (SLD) of the Generator's facilities, must be stamped by a Professional Engineer

By submitting a Form B, the Proponent authorizes the collection by Burlington Hydro Inc. ("Burlington Hydro"), of any agreements and any information pertaining to agreements made between the Proponent and the Independent Electricity System Operator from the Independent Electricity System Operator, the information set out in the Form B and otherwise collected in accordance with the terms hereof, the terms of Burlington Hydro's Conditions of Service, Burlington Hydro's Privacy Policy and the requirements of the Distribution System Code and the use of such information for the purposes of the connection of the generation facility to Burlington Hydro's distribution system