



Form B

Connection Impact Assessment Application Form Distribution System

This Application Form is for Generators applying for Connection Impact Assessment (“CIA”).

It is important that the Generator provides all of the information requested below. Failure to comply may result in the non-acceptance of this application by Enersource Hydro Mississauga. All technical documents must be signed and stamped by a Professional Engineer.

Date: _____(dd / mm / yyyy)

1. Project Name: _____

2. Project Size:

Number of Units _____
 Nameplate Rating of Each Unit _____ kW
 Generator connecting on single phase three phases
 Proposed Total Nameplate Capacity _____ kW

3. Project Location:

Address _____

 Postal Code _____
 GPS Coordinates _____
 Existing EHM Account _____
 Contract with Energy Retailer [Yes/No] _____
 IESO Reference # (if applicable) _____

4. Project Information:

Generator Single Point of Contact Person _____
 Proposed Start of Construction _____
 Proposed Energization Date _____

	Generator	Owner	Consultant
Company/Person			
Contact Person			
Mailing Address			
Telephone			
Fax			
Email			

5. Project Type:

- Wind Turbine
 Hydraulic Turbine
 Steam Turbine
 Solar
 Diesel Engine
 Gas Turbine
 Fuel Cell
 Biomass
 Co-generation/CHP (Combined Heat & Power)
 Other (Please Specify) _____

6. Single Line Diagram (“SLD”):

Provide a SLD of the Generating Facility including the Interface Point/Point of Common Coupling (“PCC”) to Enersource Hydro Mississauga’s distribution system.

SLD Drawing Number: _____, Rev. _____

7. Machine Characteristics (Not required for Inverter Based Generation):

Machine Starting Inrush Current _____

Rotating Machine Type (if known): Synchronous Induction Other (Please Specify) _____

Generator Characteristics:

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 Other (Please Specify) _____

Generator connecting on: single phase three phases

Limits of range of reactive power at the machine output:

Lagging (over-excited) _____ kVAR power factor _____

Leading (under-excited) _____ kVAR power factor _____

Limits of range of reactive power at the PCC:

Lagging (over-excited) _____ kVAR power factor _____

Leading (under-excited) _____ kVAR power factor _____

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

For Synchronous Units:

Nominal machine voltage: _____ kV

Minimum power limit for stable operation: _____ kW

Unsaturated reactances on: _____ kVA base _____ kV base

Direct axis sub transient reactance, Xd'' _____ pu

Direct axis transient reactance, Xd' _____ pu

Direct axis synchronous reactance, Xd _____ pu

Zero sequence reactance, X0 _____ pu

Provide a plot of generator capability curve

(MW output vs MVAR)

Document Number: _____, Rev. _____

For Induction Units:

Nominal machine voltage: _____ kV

Unsaturated reactances on: _____ kVA base _____ kV base

Direct axis sub transient reactance, Xd'' _____ pu

Direct axis transient reactance, Xd' _____ pu

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

8. Location and Site Plan:

Provide Site Plan with approximate line routings for connection to nearby Enersource Hydro Mississauga's facilities. The Site Plan should include roads, concession and lot numbers and nearby power lines.

Drawing / Sketch No. _____, Rev. _____

9. Connection to Enersource Hydro Mississauga’s Distribution System (if known):

Proposed connection voltage to Enersource Hydro Mississauga’s distribution system: _____ kV

Station: _____

Feeder: _____

10. Transformer Information:

Interface Step-up Transformer Characteristics (if applicable):

Transformer rating: _____ kVA
Nominal voltage of high voltage winding: _____ kV
Nominal voltage of low voltage winding: _____ kV
Transformer type: single phase three phases
Impedances on: _____ kVA base _____ kV base
R _____ pu, X _____ pu

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

Low voltage winding connection: delta wye
Grounding method of star connected high voltage winding neutral:
 Solid Ungrounded Impedance: R _____ ohms X _____ ohms

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

Intermediate Transformer Characteristics (if applicable):

Transformer rating: _____ kVA
Nominal voltage of high voltage winding: _____ kV
Nominal voltage of low voltage winding: _____ kV
Transformer type: single phase three phases
Impedances on: _____ kVA base _____ kV base
R _____ pu X _____ pu

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

Low voltage winding connection: delta wye
Grounding method of star connected high 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.

11. Load information (if known):

Maximum load of the facility: _____ kVA _____ kW
Maximum load current (referred to the nominal voltage
at the connection point to Hydro One system): _____ A
Maximum inrush current (referred to the nominal voltage
at the connection point to Enersource Hydro Mississauga system): _____ A

Attached Documents:

Item No.	Description	Reference No.	No. of Pages
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Attached Drawings:

Item No.	Description	Reference No.	No. of Pages
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Appendix A - Load Displacement Facilities

	Load (kW)	Load (kVAR, lead or lag)	Generator output (kW)	Generator output (kVAR, lead or lag)
Minimum load				
Maximum load				