

HALTON HILLS HYDRO INC.
Generator Connection Assessment Review Form
10 kW to 10 MW



1. Applicant Contact Information (the party that will be contractually obligated for this generating facility)

Company Name _____
Street Address _____
Mailing Address (if different) _____
Representative Name _____
Representative Title _____
Phone Number (Main) _____ Cell _____
Fax Number _____ Email _____

2. Facility Contact Information (where the generating facility will be installed)

Company Name _____
Street Address _____
Mailing Address (if different) _____
Representative Name _____
Representative Title _____
Phone Number (Main) _____ Cell _____
Fax Number _____ Email _____
Hydro Account Number (if any) _____

3. Project Design / Engineering (where the generating facility will be installed)

Company _____
Street Address _____
Mailing Address (if different) _____
Representative Name _____
Representative Title _____
Phone Number (Main) _____ Cell _____
Fax Number _____ Email _____

4. Electrical Contractor

Company _____
Street Address _____
Mailing Address (if different) _____
Representative Name _____
Representative Title _____
Phone Number (Main) _____ Cell _____
Fax Number _____ Email _____

5. Applicant's Ownership Interest in the Generation System

Owner Co-owner Lease Other

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6. Primary Intent of the Generation System

- On-site Use of Power Net Metering Commercial power sales to a third party
- Participate in OPA or other government incentive program

If on-site use of power, please describe the mode of operation:

Peak shaving/demand management _____

Primary power/base load _____

If load displacement (new or existing) _____

Combined heat and power or cogeneration _____

Standby/emergency/backup _____

Other: _____

7. Interconnection Request is for:

- A proposed new generation facility An increase in generation capacity or a material modification of an existing facility

8. Type of Interconnection Operation

- Parallel Operation Momentary Parallel Operation Isolated Operation
(if checked, no application necessary)

9. Electricity Use, production and Purchases

(A) Anticipated annual electricity consumption of the facility or site _____ kWh

(B) Anticipated annual electricity production of the generation system. _____ kWh

(C) Anticipated annual electricity exports (i.e. (B) minus (A)) _____ kWh

Value will be negative if there are no net sales to the distribution system.

10. Estimated Construction Start and Completion Dates

Start Date _____

Target in-service date _____

11. Electricity Use, production and Purchases

(a) Provide single line schematic diagram of the system: show generator size and all protective relaying and control equipment using IEEE or Hydro One terminology and symbols.

(b) AC & DC Control Schematics: for projects with induction or synchronous generators show the detailed wiring and device numbers of all protective relays and control functions and which devices they operate using IEEE or Hydro One terminology and symbols.

(c) Site Plan: show major equipment, electric service entrance, electric meter, location of distributed generation and interface equipment, location of disconnect switch, adjoining street name, and street address of distributed generation.

12. Design Requirements

(a) Has the proposed distributed generation paralleling equipment been certified?

- Yes No

(b) If not certified does the proposed distributed generator meet the operating limits defined in your LDC's technical specifications?

- Yes No

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For items 12(a) and 12(b), if your answer is yes, please furnish details (e.g., copies of manufacturer's specifications).

If your answer is no, please either contact the equipment manufacturer and determine the status of certification or advise of your plans to demonstrate compliance.

13. Generator Information (complete for each generator)

Generator No. 1

Manufacturer _____ Model No. _____

Version No. _____ Serial No. _____

Generation Type:

Single Phase Three Phase Synchronous Induction Inverter Other: _____

Prime Mover / Energy Source:

Wind Water Sun Biomass Natural Gas Steam Other: _____

Eligible for OPA FIT contract? Yes No OPA FIT Contract No.: _____

Ratings: Prime _____ Standby _____ kW _____ kVA _____ volts (output)

Rated Current _____ amps Frequency _____ hertz Rated Power Factor _____ %

Power Factor Adjustment Range: _____ Min _____ Max

If three-phase, winding configuration: 3 wire delta 4 wire wye

Generator No. 2

Manufacturer _____ Model No. _____

Version No. _____ Serial No. _____

Generation Type:

Single Phase Three Phase Synchronous Induction Inverter Other: _____

Prime Mover / Energy Source:

Wind Water Sun Biomass Natural Gas Steam Other: _____

Eligible for OPA FIT contract? Yes No OPA FIT Contract No.: _____

Ratings: Prime _____ Standby _____ kW _____ kVA _____ volts (output)

Rated Current _____ amps Frequency _____ hertz Rated Power Factor _____ %

Power Factor Adjustment Range: _____ Min _____ Max

If three-phase, winding configuration: 3 wire delta 4 wire wye

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Neutral grounding system used:

- Ungrounded Solidly grounded ground resistor (ohms)

For synchronous generators (per unit rated KVA base)

Note: If information requested is not applicable, indicate by marking N/A

Synchronous reactance - saturated _____ (X_{dv} %)	Synchronous reactance - unsaturated _____ (X_{di} %)
Transient reactance - saturated _____ (X'_{dv} %)	Transient reactance - unsaturated _____ (X'_{di} %)
Sub-transient reactance - saturated _____ (X''_{dv} %)	Sub-transient reactance - unsaturated _____ (X''_{di} %)
Zero sequence reactance – saturated _____ (X_{0v} %)	Zero sequence reactance – unsaturated _____ (X_{0i} %)
Negative sequence reactance - saturated _____ (X_{2v} %)	Negative sequence reactance - unsaturated _____ (X_{2i} %)

For induction generators (per unit rated KVA base):

Locked rotor current _____ (amps)	Stator leakage resistance _____ (R_s %)
Rotor resistance _____ (R_r %)	Rotor leakage resistance _____ (R_l %)

For generators greater than 1 MW:

M1 (momentum constant) _____	M2 (momentum constant) _____
Field Current _____	Field Voltage _____
Rotor reactance _____ (X_r %)	Stator reactance _____ (X_s %)
Short circuit reactance _____ (X_d "%)	Magnetizing reactance _____ (X_m %)

Note: If there are more than 2 generators, attach an additional sheet describing each.

14. Interface Information

Generator Synchronizer

Manufacturer _____

Rating _____

Model Number _____

Automatic or Manual Synchronizer _____

Inverter for DC Generator

Manufacturer _____

Rating _____

Model Number _____

Line or Self Commutated Inverter _____

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15. Protective Equipment

Protective Device 1 _____ Range of Available Settings _____ Trip Time _____ Manufacturer _____ Trip Set Point _____ Describe operation for disconnecting the generator or inverter in the event of a distribution system outage: _____ Describe operation for disconnecting the generator or inverter in the event of a distribution system short circuit (three phase and single phase to ground) _____	Protective Device 2 _____ Range of Available Settings _____ Trip Time _____ Manufacturer _____ Trip Set Point _____ Describe operation for disconnecting the generator or inverter in the event of a distribution system outage: _____ Describe operation for disconnecting the generator or inverter in the event of a distribution system short circuit (three phase and single phase to ground) _____
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Complete all applicable items. Add separate sheets if necessary for more devices.

16. Short Circuit Current Contribution of the Proposed Generating Facility

Distributed Generator Short Circuit Current (filled out by applicant)	Assumption of Distribution System Short Circuit Current (filled out by LDC)
Single Phase to Ground _____ amps	Single Phase to Ground _____ amps
Three-Phase Symmetrical _____ amps	Three-Phase Symmetrical _____ amps
Three-Phase Asymmetrical _____ amps	Three-Phase Asymmetrical _____ amps

17. Short Circuit Interrupting Rating of Interconnection Disconnection Device

_____ amps (asymmetrical) _____ amps (symmetrical)

18. Does the Proposed Generating Facility start with the aid of grid power?

Yes No If yes, what is the inrush current _____ amps (inrush current)

19. Will the Proposed Generating Facility have a dedicated transformer?

Yes No If yes, please describe:

Rating KVA _____

Primary Volts _____

Secondary Volts _____

Impedance _____

Type of transformer connection _____

Available fixed taps _____

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20. Metering Configuration and Connection

Series Parallel Direct

21. Liability Insurance

Carrier _____
Limits _____
Agent Name _____
Phone Number _____

22. Other Comments, Specifications and Exceptions (attach additional sheets if needed)

23. Applicant and Project Design / Engineering Signature

To the best of my knowledge, all the information provided in this Application Form is complete and correct.

Applicant Signature

Date (yyyy/mm/dd)

Project Design / Engineering

Date (yyyy/mm/dd)

24. Release of Personal Project Related Information (check applicable)

- I hereby grant Halton Hills Hydro Inc. permission to correspond with, meet, and release project related information to the installer of my project.
- I hereby request that once prepared, Halton Hills Hydro Inc. sends the Connection Cost Agreement, Offer to Connect, and Connection Agreement to my installer rather than myself.

Applicant Signature

Date (yyyy/mm/dd)

This form and all other technical documents made with this submission (single line diagram, site plan, load details, etc...) must be signed and sealed by a Professional Engineer licensed by the Professional Engineers of Ontario.

Please complete and return this form to Halton Hills Hydro Inc., Engineering Department.