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

6. Primary Intent of the Generation System

☐ On-site Use of Power ☐ Net Metering ☐ Commercial power sales to a third party

☐ Participate in IESO 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. Nameplate Rating, Electricity Use, production and Purchases

Nameplate rating of generation facility (ie: Total of all inverters AC output) _____ kW

(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

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 IESO FIT contract? ☐ Yes ☐ No IESO 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 IESO FIT contract? ☐ Yes ☐ No IESO 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

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	($X0_v$ %)	Zero sequence reactance – unsaturated	($X0_i$ %)
Negative sequence reactance - saturated	($X2_v$ %)	Negative sequence reactance - unsaturated	($X2_i$ %)

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		**Inverter for DC Generator**	
Manufacturer		Manufacturer	
Rating		Rating	
Model Number		Model Number	
Automatic or Manual Synchronizer		Line or Self Commutated Inverter	

15. Protective Equipment

Protective Device 1		Protective Device 2	
Range of Available Settings		Range of Available Settings	
Trip Time		Trip Time	
Manufacturer		Manufacturer	
Trip Set Point		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 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)		Describe operation for disconnecting the generator or inverter in the event of a distribution system short circuit (three phase and single phase to ground)	

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 _____

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 by 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.