

## **Halton Hills Hydro Inc. – Connection Agreement, 10kW or less**

In consideration of Halton Hills Hydro Inc. (HHH) agreeing to allow you to connect your 10 kW name-plate rated capacity or smaller generation facility to HHH's distribution system, you hereby agree to the following terms and conditions:

### **1.0 Eligibility**

- 1.1 You agree that your generation connection shall be subject to all applicable laws and bound by the terms and conditions of HHH's Conditions of Service as amended from time-to-time, which have been filed with the Ontario Energy Board (OEB) and are available on request and at [www.haltonhillshydro.com](http://www.haltonhillshydro.com).
- 1.2 You agree that the power produced by this generation facility shall be only for your own use and which may be distributed into Halton Hills Hydro's distribution system.

### **2.0 Technical Requirements**

- 2.1 You represent and warrant that you have installed or will install prior to the connection of your generation facility to HHH's distribution system, an isolation device satisfying Section 84 of the Ontario Electrical Safety Code and agree to allow HHH's staff access to and operation of this as required for the maintenance and repair of the distribution system.
- 2.2 You agree to perform regular scheduled maintenance to your generation facility as outlined by the manufacturer in order to assure that connection devices, protection systems, and control systems are maintained in good working order and in compliance with all applicable laws.
- 2.3 You agree that during a power outage on HHH's system your generation facility will shut down, unless you have installed special transfer and isolating capabilities on your generation facility. You agree to the automatic disconnection of your generation facility from HHH's distribution system, as per the generator protective relay settings set out in this Agreement, in the event of a power outage on HHH's distribution system or any abnormal operation of HHH's distribution system.
- 2.4 You covenant and agree that the design, installation, maintenance, and operation of your generation facility are conducted in a manner that ensures the safety and security of both the generation facility and HHH's distribution system.
- 2.5 Due to HHH's obligation to maintain the safety and reliability of its distribution system, you acknowledge and agree that in the event HHH determines that your generation facility (i) causes damage to; and/or (ii) is producing adverse effects affecting other distribution system customers or HHH's assets, you will disconnect your generation facility immediately from the distribution system upon direction from HHH and correct the problem at your own expense prior to reconnection.

### **3.0 Liabilities**

- 3.1 You and HHH will indemnify and save each other harmless for all damages and/or adverse effects resulting from either party's negligence or willful misconduct in the connection and operation of your generation facility or HHH's distribution system.
- 3.2 HHH and you shall not be liable to each other under any circumstances whatsoever for any loss of profits or revenues, business interruptions losses, loss of contract or loss of goodwill, or for any indirect, consequential, incidental or special damages, including but not limited to punitive or exemplary damages, whether any of the said liability, loss or damages arise in contract, tort or otherwise.
- 3.3 You understand that HHH reserves the right to disconnect your generation facility at any time if HHH becomes aware of any unsafe condition(s) to persons/ live stock or property and that your generation will remain unconnected until safe conditions for operation of the generation and related equipment have been re-established. HHH will notify ESA in writing of the unsafe conditions.

### **4.0 Compensation and Billing**

- 4.1 Subject to any applicable law, HHH will pay you the approved compensation amount as set forth by the Ontario Power Authority in respect to their Feed in Tariff programs.
- 4.2 Subject to any applicable law, HHH reserves the right to determine the payment frequency unless a specific schedule is mutually agreed upon by both parties.
- 4.3 Subject to any applicable law, HHH will bill you/ the generation facility account for any energy consumed by the generation facility.

### **5.0 Future Charges**

- 5.1 You agree to pay, if required, any current or future charges or tariffs with respect to your connection to HHH's distribution system, as approved by the OEB.

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**6.0 Termination**

- 6.1 You understand that you have the right to terminate this agreement at any time, and that by doing so you are required to disconnect your generation facility and notify HHH of such action.
- 6.2 You understand that in terminating this agreement there may be implications in respect to any Ontario Power Authority programs the generation facility may be enrolled in (where applicable). You further understand that it is your responsibility to contact the Ontario Power Authority regarding any of their contracts you affect by termination of this agreement.
- 6.3 You understand that HHH reserves the right to terminate this agreement and disconnect your generation facility at any time if HHH becomes aware of any unsafe condition(s) to persons/ live stock or property that you do not correct in a timely fashion. HHH will notify ESA in writing of the unsafe conditions.

**7.0 Assignment**

- 7.1 You may assign your rights and obligations under this Agreement with the consent of HHH, which shall not withhold its consent unreasonably. HHH shall have the right to assign its rights and obligations under this Agreement without your consent.

I understand, accept and agree to comply with and be bound by the above terms and conditions governing the connection of my generation facility to HHH’s distribution system.

Customer Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Print name and HHH account number: \_\_\_\_\_

I confirm that the following information is true and accurate:

Nameplate rating of Generator: \_\_\_\_\_ KW Total installed generation \_\_\_\_\_ KW

Type:  Wind Turbine  Photovoltaic (Solar)  Hydraulic Turbine  Fuel Cell

Other (Specify) \_\_\_\_\_

OPA microFIT/ FIT Contract No.: \_\_\_\_\_  N/A

Inverter Utilized:  Yes  No

Inverter Certification:  C22.2 #107.1  UL 1741  Site Certified by the ESA

*For office use:* Station \_\_\_\_\_ Feeder \_\_\_\_\_ Date Connected \_\_\_\_\_

**Generator Protective Relay Settings**

**Table 1 B Inverter Based Generation**

The following relay settings shall be used for inverters built to the CSA standard:

Source: CSA C22.2 No. 107.1-01 Table 16

System Voltage $V_n = V$ nominal <b>V (Volts)</b>	Frequency <b>F (Hertz)</b>	Maximum number of cycles to disconnect	
		Seconds	Cycle
$V < 0.5 V_n$	60	0.1	6
$0.5 V_n \# V < 0.88 V_n$	60	2	120
$1.10 V_n \# V < 1.37 V_n$	60	2	120
$V > 1.37 V_n$	60	0.033	2
$V_n$	$F < 59.5^*$	0.1	6
$V_n$	$F > 60.5$	0.1	6

\* The UL1741 & IEEE P1547 Standards use  $F < \text{rated} - 0.7$  i.e. 59.3 Hz. To update if CSA C22.2 No. 107.1-01 is changed.

**Table 2 B Non B Inverter Generation**

HHH's minimum requirements, for other generation are as follows:

System Voltage $V_n = V$ nominal <b>V (Volts)</b>	Frequency <b>F (Hertz)</b>	Maximum clearing time*	
		Seconds	Cycles
$V < 0.5 V_n$	60	0.16	9.6
$0.5 V_n \# V < 0.88 V_n$	60	2	120
$1.10 V_n \# V < 1.20 V_n$	60	1	60
$V \geq 1.20 V_n$	60	0.16	9.6
$V_n$	$F < 59.3$	0.16	9.6
$V_n$	$F > 60.5$	0.16	9.6

\* Clearing time is the time between the start of the abnormal condition and the generation ceasing to energize HHH's distribution system.

- If you are uncertain about your generation equipment's protective relay settings, please check with your generating equipment supplier.
- Automatic reconnect setting time for your generator is after 5 minutes of normal voltage and frequency on HHH's distribution system.
- The above technical specifications are intended primarily for micro installations. For three phase applications, technical requirements will be reviewed on a case by case basis, however the criteria will be as much as possible based upon applicable regulations, standards, codes, and possibly Hydro One requirements for Connecting Generators.