

## FORM DG04 - Micro-Generation Facility Connection Agreement

This Connection Agreement is made this day of \_\_\_\_\_, \_\_\_\_\_.

### BETWEEN

Kitchener-Wilmot Hydro Inc., (the "Distributor")

### AND

\_\_\_\_\_, (the "Customer")

(each a "Party" and collectively the Parties")

In consideration of the Distributor agreeing to allow the Customer to connect the Customer's 10 kW name-plate rated capacity or smaller Generation Facility to the Distributor's Distribution System, the Customer hereby agrees to the following terms and conditions.

### ***Eligibility***

The Customer agrees that the Customer's generation connection shall be subject to all applicable laws and bound by the terms and conditions of the Distributor's Conditions of Service as amended from time-to-time, which have been filed with the OEB and are available on request.

### ***Technical Requirements***

The Customer represents and warrants that the Customer has installed or will install prior to the connection of the Customer's Generation Facility to the Distributor's Distribution System, an isolation device satisfying Section 84 of the Ontario Electrical Safety Code and agrees to allow the Distributor's staff access to and operation of this as required for the maintenance and repair of its Distribution System.

The Customer agrees to perform regular scheduled maintenance to the Customer's 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.

The Customer agrees that during a power outage on the Distributor's Distribution System the Customer's Generation Facility will shut down, unless the Customer has installed special transfer and isolating capabilities on the Customer's Generation Facility. The Customer agrees to the automatic disconnection of the Customer's Generation Facility from the Customer's Distribution System, as per the generator protective relay settings set out in this Agreement, in the event of a power outage on the Customer's Distribution System or any abnormal operation of the Distributor's Distribution System.

The Customer covenants and agrees that the design, installation, maintenance, and operation of the Customer's Generation Facility are conducted in a manner that ensures the safety and security of both the Generation Facility and the Distributor's Distribution System.

Due to the Distributor's obligation to maintain the safety and reliability of its Distribution System, the Customer acknowledges and agrees that in the event the Distributor determines that the Customer's Generation Facility (i) causes damage to; and/or (ii) is producing adverse effects affecting other Distribution System customers or the Distributor's assets, the Customer will disconnect the Customer's Generation Facility immediately from the Distribution System upon direction from the Distributor and correct the problem at the Customer's own expense prior to reconnection.

## **Liabilities**

The Customer and the Distributor 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 the Customer's Generation Facility or the Distributor's Distribution System.

The Distributor and the Customer 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.

## **Compensation and Billing**

If the Customer is not an embedded retail generator, the Customer agrees that, subject to any applicable Law:

- a. the Distributor will not pay the Customer for any excess generation that results in a net delivery to the Distributor between meter reads; and
- b. there will be no carryover of excess generation from one billing period to the next unless the Customer is, at the relevant time, a net metered generator (as defined in section 6.7.1 of the Distribution System Code).

If the Customer is an embedded retail generator selling output from the embedded generation facility to the Ontario Power Authority under contract, the Customer agrees that the Distributor will pay the Customer for generation in accordance with the Retail Settlement Code.

If the Customer is an embedded retail generator delivering and selling output to the Distributor, the Customer agrees that the Distributor will pay the Customer for generation in accordance with the Retail Settlement Code.

## **Termination**

The Customer understands that the Customer has the right to terminate this agreement at any time, and that by doing so the Customer is required to disconnect the Customer's Generation Facility and notify the Distributor of such action.

## **Assignment**

The Customer may assign the Customer's rights and obligations under this Agreement with the consent of the Distributor, which shall not withhold its consent unreasonably. The Distributor shall have the right to assign its rights and obligations under this Agreement without the Customer's 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 the Distributor's Distribution System.

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

Print name and Kitchener-Wilmot Hydro Inc. 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 \_\_\_\_\_

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 – 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	
		<b>Seconds</b>	<b>Cycles</b>
$V < 0.5 V_n$	60	0.1	6
$0.5 V_n \leq V < 0.88 V_n$	60	2	120
$1.10 V_n \leq V < 1.37 V_n$	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  $F < \text{rated} \cdot 0.7$  i.e. 59.3 Hz. To update if CSA C22.2 No. 107.1-01 is changed

*Table 2 – Non-Inverter Generation*

The Distributor'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*	
		<b>Seconds</b>	<b>Cycles</b>
$V < 0.5 V_n$	60	0.16	9.6
$0.5 V_n \leq V < 0.88 V_n$	60	2	120
$1.10 V_n \leq V < 1.20 V_n$	60	1	60
$V > 1.20 V_n$	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 the Distributor's Distribution System

If the Customer is uncertain about the Customer's generation equipment's protective relay settings, the Customer should check with the generating equipment supplier.

Automatic reconnect setting time for the Customer's generator is after 5 minutes of normal voltage and frequency on the Distributor's Distribution System.