



**OTTAWA RIVER POWER CORPORATION**

**Micro-Embedded Generation Facility Connection Agreement**

This Agreement made this \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
Day Month Year

BETWEEN: \_\_\_\_\_ hereafter called the "Customer"  
Customer Name

AND: **Ottawa River Power Corporation hereafter called "ORPC"**

In consideration of ORPC agreeing to allow you to connect your \_\_\_\_\_ kW nameplate rated capacity or smaller generation facility to our distribution system, you hereby agree to the following terms and conditions.

**1. Eligibility**

1.1 You agree that your generation connection shall be subject to all applicable laws and bound by the terms and conditions of our Conditions of Service as amended from time-to-time, which have been filed with the OEB and is available on our website.

**2. Technical Requirements**

- 2.1 You represent and warrant that you have installed or will install prior to the connection of your generation facility to our distribution system, an isolation device satisfying Section 84 of the Ontario Electrical Safety Code and agree to allow the ORPC 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 our system that 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 the ORPC distribution system, as per the generator protective relay settings set out in this Agreement, in the event of a power outage or any abnormal operation on the ORPC 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 the LDC's distribution system.
- 2.5 Due to our obligation to maintain the safety and reliability of our distribution system, you acknowledge and agree that in the event that ORPC determines that your generation facility (i) causes damage to; and/or (ii) is producing adverse effects affecting other customers or our assets, you will disconnect your generation facility immediately from the distribution system upon direction from us and correct the problem at your own expense prior to reconnection.

**3. Liabilities**

- 3.1 The customer and ORPC 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 ORPC distribution system
- 3.2 ORPC 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.

**4. Compensation and Billing**

- 4.1 If the customer is not an embedded retail generator, then the customer agrees that subject to any applicable law:
  - a. ORPC will not pay you for any excess generation that results in a net delivery to our distribution system between meter reads; and
  - b. there will be no carryover of excess generation from one billing period to the next unless you are, at the relevant time, a net metered generator (a s defined in section 6 .7.1 of OEB Distribution System Code).
- 4.2 If the customer is an embedded retail generator delivering and selling output to ORPC, you agree that ORPC will pay you for generation in accordance with the Retail Settlement Code

**5. Termination**

- 5.1 The customer understands that they have the right to terminate this agreement at any time, and that by doing so you are required to disconnect their generation facility and notify ORPC of such action.

**6. Assignment**

- 6.1 The customer may assign their rights and obligations under this Agreement with the consent of ORPC, which shall not withhold its consent unreasonably. ORPC 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 ORPC’s distribution system.

**Customer**

**Ottawa River Power Corporation**

Per: \_\_\_\_\_

Per: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Print Name: \_\_\_\_\_

ORPC account number: \_\_\_\_\_

**OTTAWA RIVER POWER CORPORATION**

**Micro-Embedded Generation Facility Connection Details**

I confirm that the following information is true and accurate:

- Name plate rating of Generator: \_\_\_\_\_ kW
- Total installed generation: \_\_\_\_\_ KW

Project Type:

- |   |  |
|---|--|
| <input type="checkbox"/> Solar Photovoltaic                           | <input type="checkbox"/> Wind                    |
| <input type="checkbox"/> Gas Turbine                                  | <input type="checkbox"/> Steam Turbine           |
| <input type="checkbox"/> Diesel Turbine                               | <input type="checkbox"/> Biomass                 |
| <input type="checkbox"/> Co-generation/ Combined Heat and Power (CHP) | <input type="checkbox"/> Other (please specify): |
| <input type="checkbox"/> Energy Storage (please specify the type):    |  |

Facility Type:

- |   |  |
|---|--|
| <input type="checkbox"/> Synchronous    | <input type="checkbox"/> Induction               |
| <input type="checkbox"/> Inverter Based | <input type="checkbox"/> Other (please specify): |

Inverter Certification:

- C22.2 #107.1
- UL 1741
- Site Certified by the ESA

## Generator Protective Relay Settings

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

**Table 1: Inverter Based Generation**  
(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  $F < \text{rated} \cdot 0.7$  i.e. 59.3 Hz. To update if CSA C22.2 No. 107.1-01 is changed

ORPC minimum requirements, for other generation (Non-Inverter) are shown in Table 2:

**Table 2: Non- Inverter Generation**

System Voltage $V_n \neq V$ nominal <b>V (Volts)</b>	Frequency <b>F (Hertz)</b>	Maximum clearing time*	
		Seconds	Cycle
$V < 0.5 V_n$	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
$V > 1.20 V_n$	60	0.16	9.6
$V_n$	$F < 59.5^*$	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 ORPC's distribution system

### Notes:

- 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 the ORPC's distribution system.