



**Micro-Embedded Generation Facility Connection**  
**Agreement**

This Connection Agreement is made this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_\_

**BETWEEN**

NORTHERN ONTARIO WIRES 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 his/ her 10 kW name-plate rated capacity or smaller generation facility to Northern Ontario Wires' distribution system, the Customer hereby agrees to the following terms and conditions.

## 1.0 Eligibility

1.1 The Customer agrees that his/ her 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 Ontario Energy Board (OEB) and are available upon request.

## 2.0 Technical Requirements

2.1 The Customer represents and warrants that he/ she has installed or will install prior to the connection of his/ her generation facility to Northern Ontario Wires' distribution system, an isolation device satisfying Section 84 of the *Ontario Electrical Safety Code* and agrees to allow the Distributor access to and operation of this as required for the maintenance and repair of the distribution system.

2.2 The Customer agrees to perform regular scheduled maintenance to his/ her 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 The Customer agrees that during a power outage on the Distributor's system his/ her generation facility will shut down, unless he/ she has installed special transfer and isolating capabilities on his/ her generation facility. The Customer agrees to the automatic disconnection of his/ her generation facility from Northern Ontario Wires' distribution system, as per the generator protective relay settings set out in this Agreement, in the event of a power outage on Northern Ontario Wires' distribution system or any abnormal operation of Northern Ontario Wires' distribution system.

2.4 The Customer covenants and agrees that the design, installation, maintenance, and operation of his/ her generation facility are conducted in a manner that ensures the safety and security of both the generation facility and Northern Ontario Wires' distribution system.

2.5 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 his/ her 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.

### **3.0 Liabilities**

3.1 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 Northern Ontario Wires' distribution system.

3.2 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.

### **4.0 Compensation and Billing**

4.1 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*).

4.2 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*.

4.3 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*.

### **5.0 Termination**

5.1 The Customer understands that he/ she has the right to terminate this agreement at any time, and that by doing so the Customer is required to disconnect his/ her generation facility and notify the Distributor of such action.

### **6.0 Assignment**

6.1 The Customer may assign his/ her rights and obligation 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 the Agreement without the Customer's consent.

The Customer understands, accepts and agrees to comply with and be bound by the above terms and conditions governing the connection of the Customer's generation facility to Northern Ontario Wires' distribution system.

_____	_____
Distributor Signature	Customer Signature
_____	_____
Name (Print)	Name (Print)
_____	_____
Date	Date

Northern Ontario Wires Inc. Account Number: \_\_\_\_\_

The Customer confirms 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 ESA

Station: \_\_\_\_\_ Feeder: \_\_\_\_\_ Date Connected: \_\_\_\_\_

## APPENDIX “A”

### 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 $V$ (Volts)	Frequency $F$ (Hertz)	Maximum number of cycles to disconnect	
		Seconds	Cycle
$V < 0.5 V_n$	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 ULI741 & 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 – Non-Inverter Generation**

LDC’s minimum requirements, for other generation are as follows:

System Voltage $V_n$ ‘ $V$ nominal $V$ (Volts)	Frequency $F$ (Hertz)	Maximum clearing time*	
		Seconds	Cycles
$V < 0.5 V_n$	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
$V \geq 1.20 V_n$	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 conditions and the generation ceasing to energize the LDC’s distribution system.*

If the Customer is uncertain about his/ her generation equipment’s protective relay settings, please check with the generating equipment supplier.

Automatic reconnect setting time for the generator is after five (5) minutes of normal voltage and frequency on the LDC’s distribution system.