Micro-Embedded Generation Package

Micro-Embedded Generation Facility Protective Relay Settings

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 Vn ' V nominal V (Volts)	Frequency F (Hertz)	Maximum Clearing Time (Seconds)	Maximum Clearing Time (Cycles)
V < 0.5 Vn	60	0.1	6
0.5 Vn < **V** < 0.88 Vn	60	2	120
1.10 Vn < **V** <1.37 Vn	60	2	120
V > 1.37 Vn	60	0.033	2
Vn	**F** < 59.5*	0.1	6
Vn	**F** > 60.5	0.1	6

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

Non - Inverter Based Generation

Enova's minimum requirements for other generation are as follows:

System Voltage Vn ' V nominal V (Volts)	Frequency F (Hertz)	Maximum Clearing Time (Seconds)	Maximum Clearing Time (Cycles)
V < 0.5 Vn	60	0.16	9.6
0.5 Vn < **V** < 0.88 Vn	60	2	120
1.10 Vn < **V** <1.20 Vn	60	1	60
V > 1.20 Vn	60	0.16	9.6
Vn	**F** < 59.3	0.16	9.6
Vn	**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 Enova'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 five (5) minutes of normal voltage and frequency on Enova's distribution system.

Please submit the form to eclerk@enovapower.com along with the single-line diagram and site plan showing the location of the DG disconnect switch. Contact Enova's Engineering Department at 226-896-2200 if you have any questions.

Distributed Generation Information

This application is for: ☐ **Net Metering** ☐ **Load Displacement**

Renewable Fuel Type: ☐ Solar Photovoltaic (rooftop) ☐ Wind ☐ Biomass ☐ Biogas ☐ Biogas on-farm ☐ Solar Photovoltaic (non-rooftop) ☐Water ☐ Landfill gas ☐ Other _____

Connection Voltage: ☐ 120/240V, 1Ø ☐ 120/208V, 3Ø ☐ 347/600V, 3Ø

**Inverter Capacity: _____ **Solar Panel Capacity: _____Non-Solar Nameplate Capacity (kW): _____

Is a service upgrade or panel change required to connect generation? ☐ Yes ☐ No (If yes, complete the section below.)

New Service Amps: _____Service Voltage: : ☐ 120/240V, 1Ø ☐ 120/208V, 3Ø ☐ 347/600V, 3Ø

New Service Type: ☐ Overhead ☐ Underground ☐Inside Meter ☐ Outside Meter ☐ Electrical Room

Existing Customer Information

Name: _____

Phone: _____Fax/Email: _____

Service Address: _____

Existing Service Amps: _____Service Voltage: ☐ 120/240V, 1Ø ☐ 120/208V, 3Ø ☐ 347/600V, 3Ø

Existing Service Type: ☐ Overhead ☐ Underground ☐Inside Meter ☐ Outside Meter ☐ Electrical Room

Electrical Contractor Information

Company Name: _____

Contact Name: _____

Mailing Address: _____ Business Phone: _____

Fax/Email:

Consultant Information (if applicable)

Company Name: _____

Contact Name: _____

Mailing Address: _____

Fax/Email: _____ Business Phone: _____

Enova Information (completed by Engineering Department)

Date Received:

Received By:

Connection Agreement Received: ☐ Yes ☐ No

In consideration of Enova Power Corp. (the "**Distributor**") agreeing to allow

_____

(the "**Customer**")

To connect a 12 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:

1.0 Eligibility

1.1 The Customer agrees that its generation connection shall be subject to all applicable laws and regulations, including but not limited to the Distribution System Code and the Ontario Electrical Safety Code.

1.2 The connection is bound by the terms and conditions of the Distributor's Conditions of Service as amended from time to time, as well as having been filed with the OEB, available upon request.

2.0 Technical Requirements

2.1 The Customer represents and warrants that they have installed, or will install prior to the connection of the generation facility, an isolation device satisfying Section 84 of the Ontario Electrical Safety Code and in a location satisfactory to the Distributor. The Customer shall allow the Distributor's staff 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 the generation facility as outlined by the equipment manufacturer to ensure 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 system, the generation facility will shut down, unless special transfer and isolating capabilities are installed on the generation facility.
Further, the Customer agrees to the automatic disconnection of its generation facility from the Distributor's distribution system, as per the generator protective relay settings provided in Tables 1 and 2 of this Agreement, in the event of a power outage on the Distributor's distribution system or any abnormal operation of the Distributor's distribution system.

2.4 The Customer covenants and agrees that the design, installation, maintenance, and operation of the generation facility are conducted in a manner that ensures

The safety and security of both the generation facility and the Distributor's 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 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 generation facility immediately from the distribution system upon direction from the Distributor and correct the problem at the Customer's own expense before 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 generation facility or the Distributor's distribution system.

3.2 Both parties 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, they agree that, subject to any applicable law:

A) the Distributor will not pay 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 generation facility to the Ontario Power Authority under contract, the Customer agrees that the Distributor will pay 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 Distributor will pay for generation in accordance with the Retail Settlement Code.

5.0 Termination

5.1 The Customer has the right to terminate this agreement at any time, and by doing so, the generation facility shall be disconnected, with notification provided to the Distributor.

6.0 Assignment

6.1 The Customer may assign their 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 consent of the Customer.

7.0 Information Sharing Requirements

7.1. You agree that information related to your generation facility and its connection to the distribution system may be disclosed by the LDC where required by law or by regulatory requirements, including those in the Code, the Market Rules or the LDC's Licence.

8.0 Agreement

8.1 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's Signature 1: _____ Date: _____

Customer's Signature 2 (if applicable): _____ Date: _____

I confirm that the following information is true and accurate:

Renewable Fuel Type: ☐ Solar Photovoltaic (rooftop) ☐ Wind ☐ Biomass ☐ Biogas ☐ Biogas on-farm ☐

Solar Photovoltaic (non-rooftop) ☐ Water ☐ Landfill gas ☐ Other _____

Connection Voltage: ☐ 120/240V, 1Ø ☐ 20/208V, 3Ø ☐ 347/600V, 3Ø

**Inverter Capacity: _____ **Solar Panel Capacity: _____ Non-Solar Nameplate Capacity (kW): _____