Small Generator Connection Obligations

The Small Generator Connection Obligations set out below are the United Energy (UE) ABN 70 064 651 029 minimum requirements for the connection of Embedded Generators to UE's electricity network. The Installer, Registered Electrical Contractor (REC) and the Customer are required to sign the Inverter-Based Embedded Generator Connection Application Form ("the Form").

By signing the Form:

- The generator owner acknowledges that they understand and agree to the obligations contained in this document, the document contains UE's minimum standards for the connection of Embedded Generators to UE's electricity network;
- The installer warrants that the information provided in Section 1 of the Form is true and correct; and
- The REC acknowledges and represents that the Embedded Generator at the supply address contained in Section 3 of the Form is installed in accordance with all the relevant Acts, regulations, rules, standards and guidelines as listed in Section 2 of the Form.

1. Installation of Embedded Generation Metering and Tariffs

An embedded generator (bi-directional) meter must be installed at the Supply Address before the Embedded Generator is connected to UE's electricity grid. UE has a regulatory obligation to install a bi-directional meter where customers have chosen to install an Embedded Generator. Bi-directional metering consists of either Net or Gross metering and must be specified by the system installer. A bi-directional meter is necessary to measure energy exported into the electricity grid. UE recommends that the Embedded Generator remain locked off until the correct energy meter is installed to avoid potential metering and billing issues. Before UE will install an embedded generator meter at the Supply Address:

- UE must receive a copy of the Inverter-Based Embedded Generator Connection Application Form that has been signed and dated by all relevant parties;
- The generator owner must contact their electricity retailer (Retailer) and request the installation of a bi-directional meter and if necessary, a change of network tariff to one that is available to owners of embedded generators. The Retailer will provide UE with a service order to change the meter at the Supply Address;
- The REC must provide UE with an Electrical Works Request (EWR); and
- The REC must provide UE with an appropriate Certificate of Electrical Safety (CES), which indicates that the Embedded Generator is compliant with the Electricity Safety Act 1998 (Vic) and associated Safety Regulations.

The installation of a new meter will require a short interruption to the electricity supply at the Supply Address and may require a change of the network tariff charged by the Retailer. Generator owners should discuss changes to electricity prices directly with their Retailer.

For Net Metering, where the installation consists of one Advanced Metering Infrastructure (AMI) meter with or without existing controlled electric hot water the AMI meter can be reconfigured remotely for a bi-directional application and continue to control the customer's electric hot water if required. Where the installation consists of multiple AMI or non AMI meters with or without existing load control there is a need to consolidate a multiple metered installation for Net metering; this may require a truck appointment and the customer's REC to rewire the metering point to accommodate the installation of the corresponding AMI meter. Post AMI meter installation, the corresponding AMI meter will be reconfigured for a bi-directional tariff and will be capable of providing load control functionality if required.

For Gross metering applications, both a truck appointment and customer's REC will be required to rewire the metering installation to accommodate a gross meter installation. Gross metering is applicable for both single and three phase applications. For three phase applications there will be a requirement for two AMI meters to be installed, while for single phase installations there will be a requirement to install only one 2-element Single phase AMI meter. During the installation phase, the customer's REC will be required to provide a tail from the inverter that will be wired directly into the gross meter by UE approved field crew. For all Gross metering installations, UE does not provide load control under any circumstances. The customer will be required to control their off peak hot water or space heating. An REC must perform this work.

2. Operation and maintenance of Embedded Generators

Every owner of an Embedded Generator must understand how to operate and maintain their generator so as not to:

- cause, or be likely to cause any damage or loss to UE's electricity distribution network or any third party;
- compromise the safe operation of the UE electricity distribution network under normal or abnormal conditions; or
- interfere with the continuity or quality of the electricity supply provided by the UE electricity distribution network.

Generator owners must ensure that their Embedded Generator is maintained in a safe condition and must only permit appropriately qualified personnel to perform work on their generator. Generator owners shall retain comprehensive maintenance records for the most recent maintenance undertaken.

3. Compliance Requirements

The generator owner inclusive of those exempted from holding a generation licence must ensure that the generator installation and its connection to the electricity network complies, and continues to comply with, all relevant Acts, codes, regulations, rules, standards and guidelines. This includes but is not limited to the following:

Act, code, regulations, rules:

- The Electricity Safety Act 1998 (Vic) and associated Safety Regulations
- The Electricity Distribution Code
- The Victorian Service & Installation Rules (SIR)

Australian Standards:

- AS/NZS 3000 (Wiring Rules)
- AS/NZS 4777 (Grid Connection of Energy Systems via Inverters)
- AS/NZS 5033 (Installation of Photovoltaic (PV) Arrays)

Guideline:

- Clean Energy Council (CEC) Webpage - Solar Accreditation Section - Compliance and Standards

UE sanctions automatic approval for the connection of Embedded Generators to its electricity network if the installation is compliant with the relevant Acts, codes, regulation, rules, standards and guidelines.

4. Modifications of the Embedded Generator

The generator owner may only modify the Embedded Generator, without approval from UE, in the following instances:

- When performing a like for like replacement of the inverter (same model, capacity and made by the same manufacturer),
- When performing a like for like replacement of modules/panels (there must be no increase in the rating of the modules), or
- When replacing an isolator/switch with an equivalent isolator/switch

For all other modifications the generator owner must obtain UE's prior approval. Additional guidelines and requirements are also stipulated by Energy Safe Victoria (ESV) along with obtaining the appropriate Certificate of Electrical Safety (CES) applicable for the modifications. This includes the installation of additional modules or replacement of the inverter with a different size or type. UE may refuse to approve any proposed modification if these modifications could breach any standard.

At all times, the Total Installed Capacity of the Embedded Generator must not exceed 10kW for single phase systems and or 30kW for three phase systems after modification. Any Embedded Generators above this capacity condition must receive authorisation from UE prior to any connection to the UE network.

5. Distributor's Right to Disconnect

UE may disconnect any Embedded Generator from the electricity network, or instruct the generator owner to do so, in any circumstance in which UE is entitled, or obliged, to interrupt the supply of electricity. The generator owner must promptly comply with any instruction given by UE or its authorised representative.

6. UE Contact information

The Generator Connection Form and general enquires associated with the installation of Embedded Generators on the UE network should be directed to UE Connections using the contact details below.

UE Connections

P.O. Box 238

South Melbourne Vic 3205

Ph: 1300 131 689

Fax: 1300 131 684

Email: ueconnections@ue.com.au

7. Privacy

The personal information provided in the Embedded Generator Connection Form will be collected and used by UE for the purpose of installing a bi-directional meter at the Supply Address and connecting the Embedded Generator to the UE electricity network. UE may disclose this information to the generator owner's Retailer, to personnel of related companies of UE, or to third party contractors which are responsible for carrying out any works associated with the installation and connection of the Embedded Generator to the generator owner's premise, or where disclosure is required by law. If the generator owner does not provide the information requested, UE will not be able to approve and complete the installation and connection of the Embedded Generator to the UE electricity network. Further information about UE and UE's privacy policy can be obtained from UE's website at www.ue.com.au.

8. Definitions

AMI	Advanced Metering Infrastructure.
BI-DIRECTIONAL METERING	An energy meter that separately records import and export energy. Energy flowing from the distribution network into a customer's installation is stored in an import register and energy flowing from the customer's installation into the distribution network is stored in an export register.
CES	Certificate of Electrical Safety.
ESV	Energy Safe Victoria.
INVERTER	An electronic device that converts direct current (d.c.) into alternating current (a.c.). Inverters compliant with AS4777 are specifically designed to convert energy produced from a d.c. source (such as a photovoltaic array) into a.c. and to inject this power into the distribution network.
kVA	KiloVolt Amperes.
kW	KiloWatts.
kWh	KiloWatt hours.
NMI	National Meter Identifier – it is a unique premise identification number located on the back of your retail bill.
REC	Registered Electrical Contractor.
THIRD PARTY	Persons other than the applicable Distribution Network Company or the Customer.
TOTAL INSTALLED CAPACITY	For photovoltaic (Solar) system it is the array total combined nominal nameplate capacity based on standard test conditions of 1000W/m^2 solar irradiance and a cell temperature of 25^{o}C. For Energy Storage Systems: Nominal energy storage capacity in kWh at a 3 hour discharge rate.
UE	United Energy (ABN: 70 064 651 029)
VICTORIAN ELECTRICITY NETWORK	The electricity networks of United Energy, Jemena Electricity Network, AusNet Services, CitiPower and Powercor.

United Energy Inverter-Based Embedded Generator Connection Application Form

This application form is applicable for INVERTER generating & storage systems up to 10kW/phase/premises.
For other systems please consult www.ue.com.au.

SECTION 1: INSTALLATION DETAILS *(to be completed and signed by the installer)*

Is the embedded generator new, an alteration or an abolishment? (tick one box) ☐ **New** ☐ **Alteration** ☐ **Abolishment**	**Are separate inverter(s) installed for the generator and energy storage system?** (tick one box) ☐ **Yes / Separate** ☐ **No / Combined** ☐ **No Storage System**

Installed Capacity (Including previously installed capacity if applicable)	**Solar PV**	**Wind**	**Other Type:_____**	**Energy Storage System**
New capacity installed	___ ___.___**kW**	___ ___.___**kW**	___ ___.___**kW**	___ ___.___**kWh**
Previously installed capacity retained	___ ___.___**kW**	___ ___.___**kW**	___ ___.___**kW**	___ ___.___**kWh**
Previously installed capacity removed	___ ___.___**kW**	___ ___.___**kW**	___ ___.___**kW**	___ ___.___**kWh**
Total installed capacity after all works	___ ___.___**kW**	___ ___.___**kW**	___ ___.___**kW**	___ ___.___**kWh**

Multi-phase systems only: **Enter the installed capacity per phase**	**Phase**	**Red**	**White**	**Blue**
	Power rating	___ ___.___**kW**	___ ___.___**kW**	___ ___.___**kW**
	Energy storage capacity	___ ___.___**kWh**	___ ___.___**kWh**	___ ___.___**kWh**

Inverter / Energy Storage Information:	**Inverter Model 1**	**Inverter Model 2**	**Inverter Model 3**	**Energy Storage System**
Manufacturer				
Model Name				
Rating of Each Inverter / Storage System	___ ___.___ ___ ___**kW**	___ ___.___ ___ ___**kW**	___ ___.___ ___ ___**kW**	___ ___.___**kWh**
Number of Inverters / Storage Systems				
Status (tick box)	☐ **New** ☐ **Existing Retained** ☐ **Existing Removed**	☐ **New** ☐ **Existing Retained** ☐ **Existing Removed**	☐ **New** ☐ **Existing Retained** ☐ **Existing Removed**	☐ **New** ☐ **Existing Retained** ☐ **Existing Removed**
Certifying Authority Certificate Number (Available from Clean Energy Council website)				

Operating Manual Provided to Customer (tick box) ☐ **Yes**	**Instructed Customer in Operating of System** (tick box) ☐ **Yes**

Other information (if required)**:**

_____

_____

_____

_____

By signing this form, you acknowledge and represent that the information provided is true and correct.

Company: _____ **Address:** _____

Telephone: _____ **E-mail:** _____

Name: _____ **Signature:** _____ **Date:** ___/___/20___

This form continues over the page.

SECTION 2: INSTALLATION COMPLIANCE *(to be completed and signed by the Registered Electrical Contractor)*

By signing this form, you acknowledge and represent that the information provided is true and correct and that the minimum requirements set out for inverter-based embedded generator systems up to 10kW/phase/premises have been met. In particular:

- the inverter-based embedded generator system complies with the *Electricity Safety Act 1998* (Vic) and associated Safety Regulations, the Electricity; Distribution Code, the Victorian Service & Installation Rules, AS/NZS3000 (Wiring Rules) and AS4777 (Grid Connection of Energy Systems via Inverters), and any other relevant Acts, regulations, standards or guidelines;
- the inverter-based embedded generator system is connected to a dedicated circuit complete with lockable isolating switch at the switchboard;
- the main switchboard, isolating fuse/switch/circuit breaker are labelled correctly; alternative supply signage has been installed;
- commissioning tests as specified in the Service & Installation Rules have been completed and passed;
- a Prescribed Certificate of Electrical Safety (CES) has been obtained; and copies of the Electrical Works Request and the CES will be sent to the generator system owner's Retailer; and
- the generator system owner has been advised that the inverter-based embedded generator system should remain switched off until any metering upgrades are complete to avoid potential metering and billing issues.

REC Name: _____ **REC Licence No.:** _____

REC Signature: _____ **Telephone:** _____ **Date:** ____/____/20__

SECTION 3: SYSTEM OWNER DETAILS *(to be completed and signed by the generator owner)*

Supply Address		
Customer NMI (Refer to your electricity bill)		
E-mail Address		
Telephone Number	**Business Hours:**	**After Hours:**
Mailing Address		

CUSTOMER ACKNOWLEDGEMENT, INDEMNITY AND RELEASE

By signing this form, you acknowledge and represent that you have read, understand and agree to comply with the *Small Generator Connection Obligations*, and that you:

- are the owner of inverter-based embedded generator system listed under the Supply Address in section 1 above;
- have received an inverter-based embedded generator system operating manual from, and been instructed on the operation of the inverter-based embedded generator system by, the Installation Company detailed in section 1;
- accept that approval will only be granted for the inverter-based embedded generator system detailed in this form, and that you must obtain further prior approval from United Energy to alter your inverter-based embedded generator system in any way;
- release and indemnify and agree to keep indemnified United Energy, its officers, employees and agents against all actions, proceedings, claims and demands whatsoever which may be brought, including any indirect or consequential loss or any other form of pure economic loss, made or prosecuted against them or any of them by any person in respect of the installation of your inverter-based embedded generator system, particularly in relation to works completed by the Installation Company detailed in section 1 or the compliance certification provided by the registered electrical contractor in section 2, or in respect of connection of your inverter-based embedded generator system to the Victorian electricity grid.

Customer Name:_____ **Customer Signature:** _____ **Date:** ____/____/20__

Privacy Statement: The personal information you provide in this form will be collected by United Energy for the purpose of connecting your proposed inverter-based embedded generator system to the United Energy electricity network. This information will be used and disclosed by United Energy in accordance with its privacy processes. You can find more information on United Energy's privacy processes on their website.

Please return the completed and signed agreement (keeping a copy for your reference) to:

Mail: **UE Connections, Locked Bag 238, South Melbourne, Vic 3205**

E-mail: **ueconnections@ue.com.au**

Fax: **1300 131 684**