

# Process to connect AS4777 compliant inverter based generation to the United Energy Distribution Network

## Solar photovoltaic (PV) and Wind

Date: February 2009  
Version: 6

Author: David Wilkinson,  
Senior Engineer, Emerging Technology and Network Strategy, Jemena.

### Summary of connection charges

United Energy Distribution (UED) will invoice the customer's retailer the following fees which are approved standard service prices as approved by the Essential Services Commission (ESC):

Works	Price
Service appointment (or "truck appointment") to disconnect and reconnect the electricity supply within normal business hours.	\$109.75 (first 30 minutes) \$27.40 (each additional 15 minutes)
Service appointment (or "truck appointment") to disconnect and reconnect the electricity supply outside normal business hours.	\$636.55 (first 30 minutes) \$49.35 (each additional 15 minutes)
Cost of meter	\$0.00

#### Notes:

- All prices include GST.
- If considerable time is required between connection and disconnection of supply it will be necessary to arrange for two truck appointments and fees are incurred for each.
- For new installations without a recent electricity supply connection new connection fees apply. Refer to the standard fees for new connections on the UED website.
- The prices above do not necessarily relate to the fees payable by the customer. The customer should contact their retailer.

### Step 1 – System preliminary design

- Determine type of generation system such as solar photovoltaic or wind etc.
- Obtain preliminary information from Sustainability Victoria.
- Obtain information from the United Energy Distribution (UED) website: [www.unitedenergy.com.au/customers/cust\\_cogensolar.htm](http://www.unitedenergy.com.au/customers/cust_cogensolar.htm)
- Obtain information from Retailers on tariffs available.
- Determine approximate power output in kW.
- Determine if the generator output will be single phase or multi phase.

- Contact system installer(s) and confirm scope and supply arrangements. Negotiate installation service with system installer. System owners should note that they will only be able to claim a cash rebate under the Photovoltaic Rebate Program (PVRP) if their system is installed by a business approved by the Business Council for Sustainable Energy (BCSE). A list of accredited installers can be found at the following website:  
<http://www.bcse.org.au/default.asp?id=119>

### **Step 2 – Apply for the Photovoltaic Rebate Program if eligible**

- To encourage the installation of photovoltaic solar energy generating systems the Australian Federal Government provides financial assistance in the form of cash rebates. For residential homes rebates of up to \$8,000 are available however conditions apply.
- The Photovoltaic Rebate Programs are managed by the Department of the Environment, Water, Heritage and the Arts. Additional information can be obtained from their website:  
<http://www.environment.gov.au/settlements/renewable/pv/index.html>  
or call 1800 808 571.

### **Step 3 – Customer to contact electricity retailer(s) and negotiate suitable tariff**

- Obtain information from retailers on the electricity tariffs available for the sale of electricity generated and for the purchase of energy consumed.
- Select a retailer and tariff.
- Retailer to send customer agreement to sign.
- Determine if Gross or Nett metering is required. This will depend upon the electricity tariff selected from your retailer.

### **Step 4 – Obtain distributor reasonable technical requirements**

- The technical standards and Customer's Rights and Obligations document (to be signed by the customer and returned to UED) is available on the UED website: [www.unitedenergy.com.au/customers/cust\\_cogensolar.htm](http://www.unitedenergy.com.au/customers/cust_cogensolar.htm)
- Refer to Clause 6.8 of the 2005 Victorian Service and Installation Rules (SIR) which can be viewed at the following website: [www.victoriansir.org.au](http://www.victoriansir.org.au). Hard copies are commonly available from electrical wholesalers. Any questions relating to SIR clarifications can be directed to:
  - Moorabbin and Burwood: 9552 2714
  - Mornington: 5970 2210
- Additionally you can e-mail UED at: [electnewconns@jemena.com.au](mailto:electnewconns@jemena.com.au) or call new connections and speak to a new connections officer on 1300 131 689. For specialist assistance regarding metering call Michael De Lisle on (03) 8544 9503.
- The installation must be compliant with the applicable Wiring Rules, Acts and Regulations, including, these standards prior to connection.

### **Step 5 – Design and construction**

- System installer to undertake electrical and civil design.
- Planning and building permits to be obtained if required before installation commences.

### **Step 6 – Customer’s Rights and Obligations**

- The customer shall compile the requested information in ‘Schedule 1’ of the Customer’s Rights and Obligations document, sign and send ‘Schedule 1’ back to the distribution business (UED).
- The UED postal address is as follows:

New Connections  
Jemena  
Locked Bag 7000  
Mount Waverley  
VIC, 3149

### **Step 7 – Construction**

- The system shall be installed and preliminary testing undertaken.
- A registered electrical contractor (REC) will be required to do all fixed wiring.

### **Step 8 – Lock isolating switch**

- Following installation the isolating switch must be locked in the open position to prevent the generator from connecting to the network until a certificate of electrical safety (CES) is obtained and the metering has been upgraded.

### **Step 9 – Sign retailer agreement if required**

- The customer shall sign the agreement sent by the retailer for energy sold and purchased and send back to the retailer. Please contact your selected retailer for further information.

### **Step 10 – REC to submit an EWR to upgrade metering and REC to obtain CES**

- If a new network connection is required (for example a new home with solar generator) then the appropriate electricity meter will be installed. The distribution business (UED) will be advised by the retailer if gross or nett metering is required. Following installation of the generator system the

installation will need to be inspected by an ‘S’ class licensed electrical inspector who must sign a CES.

- If the generating system is to be connected to an existing installation, then a metering upgrade shall be required and the registered electrical contractor (REC) shall submit an electrical works request (EWR) to the distributor (generally via the retailer). If any part of the installation, including the meter panel does not satisfy the SIR, then it will also need to be modified to meet current standards. Step 11 explains the process in detail.

## **Step 11 – Upgrade metering panel and replace meter as required**

### Step 11a – Arrange for supply disconnection and new meter to be installed

- If the metering panel needs to be upgraded, the system installer shall contact the customer’s retailer and arrange for the distributor’s representative (UED) to disconnect the electricity supply to allow the metering enclosure to be safely upgraded. The system installer shall also request for the electricity meter to be exchanged. Details shall be submitted as part of the Electrical Works Request (EWR) by the system installer.
- The distributor’s representative shall contact the system installer to arrange a date and time for a “truck appointment” to disconnect the electricity supply if required and to arrange a suitable date and time for installation of the new meter.

### Step 11b – Disconnect existing supply

- The distributor’s representative shall disconnect the electricity supply at the agreed time so that the system installer can upgrade the metering panel.

### Step 11c – Upgrade meter panel if required

- The system installer shall upgrade the electrical installation ensuring compliance with the SIR.

### Step 11d – Obtain CES

- The electrical installation shall be inspected by an “S” class licensed electrical inspector who must sign a certificate of electrical safety (CES).

### Step 11e – Install a new electricity meter

- Upon receipt of the CES, the new electricity meter shall be installed at the time agreed between the system installer and the distributor’s metering representative. UED’s metering representative installs the meter on behalf of the customer’s retailer. The customer also has the right to use their own metering service provider other than UED.

### Step 11f – Restore electricity supply

- Once the new electricity meter is installed, the electricity supply shall be restored by the distributor's representative. The system installer shall arrange a time to restore the electricity supply with the UED representative during step 11b when the supply was disconnected. The system installer must show the CES to the distributor's representative (if not already done so) before the electricity supply is restored.

#### **Step 12 – System switch on and final tests**

- Once the new electricity meter is installed and network connection is restored the generating system can be switched on and final testing completed.
- The system installer is responsible for ensuring all necessary tests are undertaken however the distribution company may also inspect the installation and undertake tests.

#### **Step 13 – Copy of CES to be sent to distributor**

- The customer (system owner) must send a copy of the CES to the distributor at the following address:

New Connections  
Jemena  
Locked Bag 7000  
Mount Waverley  
VIC, 3149

#### **Step 14 – Notify retailer**

- The customer might need to notify the retailer once the new generator system is operational according to retailers' requirements.

#### **Step 15 – Claim the Photovoltaic Rebate if eligible**

- If eligible the customer (system owner) can send the appropriate forms to Department of the Environment, Water, Heritage and the Arts to claim their rebate. The customer may be required to send a copy of the CES confirming that the solar PV system was connected to the distribution network.

# United Energy Distribution

## Inverter based generation grid connection

