



Powercor, CitiPower & United Energy

Model Standing Offer for Basic Connection Services for Retail Customers who are micro embedded generators

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A Overview

Purpose

1. This document is the model standing offer is for the provision of a **micro embedded generator basic connection service** at your **premises**.
2. This model standing offer provides a description of the **micro embedded generator basic connection services** together with the applicable terms and conditions of providing that service.
3. In order to receive that service you or your agent will have made a **connection application** to us.

Our contract with you

4. This model standing offer applies where:
 - (a) we have received a properly completed **connection application** from you or your agent; and
 - (b) we are satisfied that the **connection application** is for a **micro embedded generator basic connection service**.
5. If you, or your agent, requested an expedited connection, and we did not advise you within 10 business days of receiving your **connection application** that a micro embedded generator basic connection service is not the appropriate connection service, this model standing offer is the terms of our contract with you.
6. If we made a written connection offer to provide you with a **micro embedded generator basic connection service**, which you properly accepted, both that written connection offer and this model standard offer are the terms of our contract with you. If there is any inconsistency between this model standard offer and the written connection offer, this model standard offer applies instead of any inconsistent terms in the written connection offer.
7. The **contract** that exists between you and us, is referred to in these terms and conditions as the 'contract' and consists of:
 - (a) your connection application, these terms and conditions, and any other documents or materials referred to by us in your connection application or in these terms and conditions; and
 - (b) if you did not request an expedited connection, it also consists of the offer that we made to you and your acceptance of that offer.

Things not covered by the contract

8. The **contract** does not apply to the sale of electricity to your **premises**. That is dealt with in a contract between you and your electricity retailer. We are not an electricity retailer.
9. The **contract** does not apply to the ongoing connection of your premises to our electricity distribution system or to the supply of electricity to those premises.
10. The ongoing connection of your premises to our electricity distribution system and the supply of electricity to those premises, are governed by a separate contract that you have with us (called the **Deemed Distribution Contract**).

Definitions

11. Any words appearing like **this** in this document:

- (a) which are given meanings in clause 13 below, have those same meanings; or
- (b) which are not given meanings in clause 13 below, have the same meanings as they have in the National Electricity Rules. You can find those rules at www.aemc.gov.au/Electricity/National-Electricity-Rules/Current-Rules.html.

12. In this document, references to:

- (a) “we”, “us”, “our” means **CitiPower, Powercor or United Energy**, and, where applicable, our contractors, subcontractors or agents (*for example our contractors, subcontractors or agents may attend your premises to undertake activities under the contract*);
- (b) “you”, “your” are references to the **retail customer** by whom, or on whose behalf, your **connection application** for a **micro embedded generator basic connection service** was made.

13. In this document:

business day means a day other than a Saturday, a Sunday or a public holiday in Victoria.

CitiPower means CitiPower Pty Ltd, ABN 76 064 651 056.

Consequential Loss is defined in clause 52.

contract is defined in clause 7.

Deemed Distribution Contract is defined in clause 10.

export limit means the maximum amount of electricity that we allow to be exported to the distribution system from your **premises**, which may be below the **maximum export capability**

force majeure event means any event or circumstance whatsoever that is outside our control, and includes any act or omission of our subcontractors.

GST has the meaning given in the A New Tax System (Goods and Services Tax) Act 1999.

maximum export capability means the maximum amount of electricity that we allow to be exported at a **premises** under the **micro embedded generator basic connection service** as set out in the Appendix, measured in kW. The micro embedded generator(s) shall be installed with a reliable export limit control function as per AS4777.2 to limit the export output where the **maximum system capacity** exceeds the **maximum export capability** or agreed **export limit**.

maximum system capacity means the total rating of all micro embedded generator(s) connected at a **premises** assuming unity power factor as set out in the Appendix, measured in kVA.

micro embedded generator basic connection service means the connection of basic **micro embedded generator(s)** up to a **maximum system capacity** and **maximum export capability** as set out in the Appendix.

micro embedded generator(s) means an **embedded generating unit** of the kind contemplated by Australian/New Zealand Standard 4777.2 (Grid connection of energy systems via inverters) as amended or replaced from time to time. Generation sources can be, but are not limited to solar, wind and batteries.

premises means the premises described in your **connection application**.

Powercor means Powercor Australia Limited, ABN 89 064 651 109.

portal means the eConnect portal for **CitiPower** and **Powercor** customers, and the UE Connect portal for **United Energy** customers, available on our websites.

United Energy means United Energy Distribution Pty Ltd, ABN 70 064 651 029.

B Micro embedded generator basic connection

What is the micro embedded generator basic connection service?

14. The **micro embedded generator basic connection service** is provided for new connections or additions or alterations involving **micro embedded generator(s)** where the connection can be made with minimal or no network augmentation. The **micro embedded generator basic connection service** that we provide is:
 - (a) a new basic connection service where the connection involves the installation of **micro embedded generator(s)** at your **premises** (United Energy only);
 - (b) an addition of **micro embedded generator(s)** to an existing connection; or
 - (c) an alteration to an existing connection where **micro embedded generator(s)** are already installed.
15. The description of the basic connection service is contained within the model standing offer for basic connection services for retail customers (without micro embedded generators), which is available from our website at <https://www.unitedenergy.com.au/>.
16. If we provide the **micro embedded generator basic connection service** to you:
 - (a) the total capacity of the **micro embedded generator(s)** at the **premises** must not exceed the **maximum system capability** set out in the Appendix; and
 - (b) the total output of all **micro embedded generator(s)** at the **premises** onto our distribution system must not exceed the **maximum export capability** set out in the Appendix, or agreed **export limit**.
17. The process to seek the **micro embedded generator basic connection service** is set out in the Appendix.

We choose which is the appropriate service

18. We will choose the particular **micro embedded generator basic connection service** that we consider to be the most appropriate in the circumstances. We will act reasonably in making that decision.
19. If we become aware that a **micro embedded generator basic connection service** is not the appropriate **connection service** for you, then we will advise you of that within 10 business days after receiving your completed connection application. We will negotiate with you the terms on which we will provide a **connection service**.
20. We do not have to provide you with a **micro embedded generator basic connection service** if the **contract** or any law allows us to not provide that service and we choose not to provide that service.

What are the applicable charges?

21. The amount of the **connection charges** for each of the **micro embedded generator basic connection services** is set out in our Pricing Proposal which is updated annually. You will find the Pricing Proposal on our website, at:
 - (a) CitiPower and Powercor: <https://www.powercor.com.au/about-us/regulatory-information/>
 - (b) United Energy: <https://www.unitedenergy.com.au/your-electricity/tariffs-charges/>
22. You must pay the **connection charges** for the **micro embedded generator basic connection service**, and pay any other applicable charges. You may also be required to pay charges to us that are not **connection charges**. For example, the cost of providing you with a metering service, meter re-configuration, the cost of energisation, or other incidental costs such as wasted attendances at your supply address by our personnel. These other charges may include testing of the installed **micro embedded generator(s)** for the purpose of establishing that the micro embedded generator(s) complies with the **contract**.
23. We will send the invoice for the **connection charges** or any other applicable charges to your electricity retailer or nominated authorised representative. The retailer may recover those charges from you.

C Preconditions

What you must do before we provide our service

24. You must satisfy the pre-conditions in this clause and in clauses 24 to 28:

- (a) either:
 - (i) your **premises** must already be connected to our distribution system; or
 - (ii) we have agreed that we will connect your **premises** to our distribution system;
- (b) you must have engaged an accredited installer (full or provisional) for the design and installation of the **micro embedded generator(s)** (where an 'accredited installer' is a person who holds a Clean Energy Council accreditation which covers competence in design and/or installation of **micro embedded generator(s)**);
- (c) you must ensure any preliminary work we require is properly carried out before we will perform the relevant **micro embedded generator basic connection service**;
- (d) any electrical work performed on, or in relation to, your **micro embedded generator(s)** must have been undertaken by a licensed electrical contractor lawfully permitted to do such work, and you must have made a copy of all relevant certificates of compliance available to us (if we require them);
- (e) you must ensure the **micro embedded generator(s)** are approved for installation under the Renewable Energy Certificate Scheme and are approved for installation by the Clean Energy Council;
- (f) you must not have any outstanding debts to us (other than a debt the subject of a bona fide dispute, or for which repayment arrangements have been agreed with us);
- (g) you and your **micro embedded generator(s)** must comply with the technical requirements set out in the Appendix; and
- (h) you must complete (and we must approve) any additional documentation that we require for connection of a **micro embedded generator(s)** including batteries or (where applicable) our **micro embedded generator** pre-approval process.

25. You must install or have installed a **micro embedded generator(s)** which corresponds exactly with the description of the **micro embedded generator(s)** in your connection application and any other documents you have provided to us, except if we expressly agree otherwise in writing.

26. You must give us:

- (a) all information about any risks, hazards or other actual or potential concerns that could impact in any way on the nature, cost or timing of any aspect of any micro embedded generator basic connection service or the premises, as early as possible;
- (b) distributed energy resources (DER) register information as specified by the Australian Energy Market Operator, which you can find at <https://aemo.com.au/en/energy-systems/electricity/der-register>; and

- (c) all other information that we may reasonably require at any time for the purposes of the contract.
27. You must notify us immediately if:
- (a) any information that you have previously provided to us is no longer accurate in any respect; or
 - (b) you become aware of any thing that might affect in any way:
 - (i) the nature, cost or timing of any aspect of the **micro embedded generator basic connection service** that we are to provide under the **contract**; or
 - (ii) anything else we are required to do under the **contract**.
28. All information you give us must be correct, and you must not mislead or deceive us in relation to any information provided to us.
29. Clauses 26, 27 and 28 apply to all **CitiPower** and **Powercor** customers, and only to **United Energy** customers when the solar and other generation pre-approval process using the **portal** becomes available. The process for seeking the **micro embedded generator basic connection service** is set out in clauses 69, 70, and 72.

D General terms and conditions

When does the contract start and end?

30. If you requested an expedited **connection**, the contract starts on the date that we receive your properly completed **connection application**.
31. In all other cases, the contract starts on the date that we receive your acceptance of our **connection offer** to provide you with a **micro embedded generator basic connection service**.
32. The contract ends:
 - (a) when we complete the **micro embedded generator basic connection service**;
 - (b) when we advise you that a **micro embedded generator basic connection service** is not the appropriate connection service (which, if that is the case, we will do so within 10 business days of receiving your properly completed connection application); or
 - (c) if you fail to meet any of your obligations under the **contract** and we notify you before the **micro embedded generator basic connection service** is started or has been completed.

When we will start and finish the service

33. We will:
 - (a) start providing the relevant **micro embedded generator basic connection service** to you; and
 - (b) complete that service within,
the timeframes we agree with you or, otherwise, within the timeframes set out in the relevant law or code or as soon as practical. We will only do this if you have met all of the pre-conditions and your other obligations under the **contract**.
34. We always have the right to delay the commencement, or completion, of a **micro embedded generator basic connection service** due to a **force majeure event**, for as long as that event continues.
35. Notwithstanding anything else, if at any time, we become aware of any material information or circumstance which, had we known of it before the **contract** was created, would have resulted in us not entering into the **contract** with you, then we will be entitled to take such reasonable actions as we consider to be appropriate in the circumstances.

*For example, if we discover that information provided in your **connection application** is incorrect in a material respect, or if we carry out a physical inspection at your **premises** and discover unexpected things that will negatively impact upon the work we need to do, then we might postpone work that we have agreed to do under the **contract** until you have provided us with the correct information, or until such action that we may reasonably require has been taken by you (or, if we so choose, by us) to satisfactorily deal with those unexpected things. This is an example only and there may be other material information or circumstances.*
36. We may be delayed in providing the **micro embedded generator basic connection service**:

- (a) if you fail to comply with the contract;
- (b) for events beyond our reasonable control (for example severe weather events);
- (c) if emergencies or other events adversely impact our electricity distribution system and, as a prudent operator, we need to divert resources to address these events;
- (d) if there are delays in obtaining from relevant government agencies, local authorities or operators of other infrastructure (for example roads or telecommunications infrastructure) the approvals and consents required by us to perform the work necessary to establish or alter the connection; and
- (e) if we suspend work in circumstances permitted by the **contract**.

The above is a list of examples only and there may be other things which could delay us.

Give safe and unhindered access to the premises and surrounding land, protect our equipment, etc

37. You must allow us, to have access to the **premises**, the surrounding land and all improvements on the land at all times we require so that we can:

- (a) carry out an inspection (if we choose to do one), including in relation to your electrical installations to determine load classifications and to ensure they are safe to connect, or reconnect, your **micro embedded generator(s)**;
- (b) install, repair, replace or remove our electricity meters, control apparatus and other electrical installations associated with your **micro embedded generator(s)**;
- (c) disconnect the **micro embedded generator(s)** for safety or due to your non-compliance with the contract; and
- (d) otherwise provide a **micro embedded generator basic connection service**.

You must provide us safe and unhindered access. You must take all appropriate action to prevent menacing or attack by animals whenever we attend at, or near, the **premises**. If you do not provide such access, we will not be required to provide a **micro embedded generator basic connection service**.

38. If we require it, you must accommodate at your **premises** and protect from harm, any items or equipment that we or our subcontractors install in order to provide you with a **micro embedded generator basic connection service**.

39. Where your **micro embedded generator(s)** can be remotely accessed by the manufacturer to adjust the inverter settings, you authorise us to act on your behalf in directing the manufacturer to remotely adjust your inverter settings to comply with our safety and technical requirements. We will not act on your behalf in any other circumstance.

Your ongoing responsibilities while your micro embedded generator(s) remains connected

40. For as long as the **micro embedded generator(s)** remains connected to our distribution system at the premises you must ensure that you and your **micro embedded generator(s)** comply with the Appendix and any **export limit** restrictions at all times.

41. You must have installed at your **premises**, at all times, an electricity meter which measures both the import and export of electricity. If you do not we will not allow you to export electricity into our distribution system from the **premises**.

Testing

42. Upon, or at any time after, completion of the installation of the **micro embedded generator(s)**, we may request access to the **premises** at a reasonable time to conduct a test of the **micro embedded generator(s)** for the purpose of establishing that the **micro embedded generator(s)** complies with the **contract**. The charge for conducting the tests will be sent to your retailer who may recover this charge from you, as set out in clause 22.
43. The test will consist of:
- (a) disconnection of the **premises** from our distribution system;
 - (b) reconnection of the **premises** to our distribution system; and
 - (c) inspection and such testing of the **micro embedded generator(s)** and export limit control function (where applicable) as we consider necessary for compliance with the **contract**.

Compliance with safety and technical requirements

44. You, and the registered electrical contractor engaged by you, must comply with the following:
- (a) the requirements set out in the Electricity Industry Act 2000, Electricity Safety Act 1998 and associated regulations made under each Act;
 - (b) those parts of the Electricity Distribution Code and the Victorian Electricity Distributors Service & Installation Rules that apply in relation to a **micro embedded generator basic connection service**.

Micro embedded generator inspection/maintenance

45. For as long as the micro embedded generator(s) remains connected to our distribution system at the premises you must:
- (a) ensure the **micro embedded generator(s)** is inspected and maintained in accordance with the manufacturer's instructions and specifications by an appropriately qualified person, with a view to ensuring that it remains safe and functional;
 - (b) ensure that if there are no applicable manufacturer's instructions and specifications for the purposes of clause (a), the **micro embedded generator(s)** is inspected and maintained by an appropriately qualified person:
 - (i) within at least five years after the date of its installation; and
 - (ii) within at least five years after each previous inspection;
 - (c) ensure that if the result of an inspection carried out in accordance with clause 40(a) or clause 40(e) is that there is a lack of functionality of the safety features of the **micro embedded generator(s)**:
 - (i) immediately disconnect, or arrange for the disconnection of, the **micro embedded generator(s)** from our distribution system; and
 - (ii) not reconnect, or arrange for the reconnection of, the **micro embedded generator(s)** to our distribution system until the lack of functionality has been rectified;
 - (d) provide us, upon request with the results of any inspections carried out in accordance with clause 40(a) or clause 40(d);

- (e) comply with all reasonable directions we give you regarding the maintenance, inspection or testing of the **micro embedded generator(s)**;
- (f) ensure that any electrical work performed on or in relation to the **micro embedded generator(s)** is undertaken by an electrical contractor licensed pursuant to the Electricity Safety Act 1998 and lawfully permitted to do such work, and make a copy of any relevant certificates of compliance available to us (if we require them);
- (g) ensure the **contract**, including its technical settings, **maximum system capacity** and **maximum export capability** or any **export limit** at your **premises**;
- (h) seek our pre-approval in writing prior to altering the **maximum system capacity** of your **micro embedded generator(s)** or, if applicable, any approved **export limit** amount so that we can assess the ability of our distribution system, and your connection to our distribution system, to meet any additional requirements arising from that alteration;
- (i) ensure that any component of the **micro embedded generator(s)** that is replaced at any time, is compliant with the requirements of the contract and any **export limit** as approved by us in the pre-approval process;
- (j) comply with any reasonable requirement we make in relation to the installation of additional equipment, or in connection with the **micro embedded generator(s)**, including batteries, that we may specify as being necessary to ensure the safe and reliable operation of our distribution system; and
- (k) seek our approval prior to removing the **micro embedded generator(s)** (as such removal may require a connection alteration).

Our liability: How these terms operate with the Competition and Consumer Act, etc

- 46. The Competition and Consumer Act 2010 and some other laws provide certain conditions, warranties, guarantees and rights that cannot be excluded or limited.
- 47. Unless one of those laws requires it, we give no condition, warranty, guarantee or undertaking, and we make no representation to you, regarding any matter including as to:
 - (a) the connection of the micro embedded generator(s) to our distribution system;
 - (b) the condition or suitability of electricity or a micro embedded generator basic connection service; or
 - (c) the quality, fitness or safety of electricity or a micro embedded generator basic connection service,
 other than those set out in the **contract**.
- 48. Any liability we have to you under these laws that cannot be excluded but that can be limited is (at our option) limited to:
 - (a) in the case of services, supplying the services again or payment of the cost of having the services supplied again; and
 - (b) in the case of goods, replacing the goods, supplying equivalent goods or having the goods repaired, or payment of the cost of replacing the goods, supplying equivalent goods or having the goods repaired;
- 49. We are not otherwise liable to you for any loss you suffer if we have not been negligent or have not acted in bad faith.

50. Sections 119 and 120 of the National Electricity Law, and any other limitations of liability or immunities granted under electricity legislation, are not limited in their operation or application by anything contained in the contract.

Our liability in relation to electricity supply issues

51. You acknowledge and agree that because of the **Deemed Distribution Contract** you have with us the liability (if any) that we may have to you in relation to any losses you may suffer because of:

- (a) problems with the quality of supply of electricity to your premises (such as power surges and drops); or
- (b) interruptions to or failures of the supply of electricity to your premises; or
- (c) problems with the ongoing connection of your premises to our electricity distribution system; or
- (d) any other matter that is the subject of, or is dealt with by, the Deemed Distribution Contract, is governed solely by the **Deemed Distribution Contract**, and we will not have any liability to you under the **contract** in relation to any of those matters.

52. The connection of the **micro embedded generator(s)** to our distribution system at your **premises** is subject to fluctuations and interruptions from time to time which may affect your ability to export electricity into our distribution system for a variety of reasons and, therefore you acknowledge and agree that:

- (a) we are unable to, and do not, represent, warrant or guarantee that you, or any person who subsequently acquires the **micro embedded generator(s)**, will be able to export electricity into our distribution system at any time; and
- (b) such fluctuations or interruptions may damage the **micro embedded generator(s)** or cause it to malfunction.

53. To the maximum extent permitted by law, and despite any other provision of the **contract**, we are not liable to you or anyone else for any:

- (a) loss of production, revenue, profit, business, goodwill, opportunity, contract, or anticipated savings, or any loss or corruption of data or loss of privacy of communications; or
- (b) indirect, special or consequential loss, cost, damage, or expense,

(Consequential Loss) that arises because of any act or omission by us or our authorised representatives or subcontractors in carrying out, or failing to carry out, a **micro embedded generator basic connection service** or any other obligation of ours under the **contract**. This clause does not apply to exclude any liability under the **Deemed Distribution Contract**.

54. You acknowledge and agree that we are unable to, and do not, represent, warrant or guarantee:

- (a) your eligibility, or lack of eligibility; or
- (b) the eligibility, or lack of eligibility, of any person who subsequently acquires the **micro embedded generator(s)**,

for, nor the amount of, any rebates, tariffs or other benefits payable or allowable to you under any Victorian or national scheme relating to **micro embedded generator(s)** (including the Victorian solar feed-in tariff scheme), and that we have no responsibility or liability in relation to any such schemes.

55. Clauses 46 to 55 survive the expiration, or termination, of the contract.

Your liability

56. You release and forever discharge us from and against any loss, cost, damage, expense or liability that you may incur which arises out of, or in relation to any:
- (a) inability to export electricity into our distribution system at any time; and
 - (b) malfunction of, or any damage to, the **micro embedded generator(s)** that arises out of, or in relation to, any fluctuations or interruptions from time to time in the connection of the **micro embedded generator(s)** to our distribution system, except where that malfunction or damage is caused by our negligence or bad faith.
57. You agree to indemnify us on demand and hold us harmless against all liabilities or claims for any loss or damage to us or third parties, any death or injuries to any person, and all liabilities or claims which we may incur to any third party arising out of:
- (a) the operation of the **micro embedded generator(s)**;
 - (b) any representation or promise made by you, or on your behalf, to any person who acquires the **micro embedded generator(s)**, as to that person's eligibility, or lack of eligibility, for, or the amount of, any rebates, tariffs or other benefits payable or allowable under any Victorian or national scheme relating to **micro embedded generator(s)** (including the Victorian solar feed-in tariff scheme);
 - (c) the use of electricity which has passed from our distribution system beyond the point of your connection to our distribution system;
 - (d) you or your employees', agents' or contractors' failure to comply with any of your obligations under the **contract**; or
 - (e) you or your employees', agents' or contractors' negligent or reckless acts or omissions.
58. You are liable to us for any **Consequential Loss** that arises as a result of you failing to comply with any of your obligations you and your **micro embedded generator(s)** comply with the Appendix at all times.
59. In all other cases, you are not liable to us for any **Consequential Loss** that arises because of any act or omission by you in relation to a **micro embedded generator basic connection service** or any other obligation of yours under the **contract**.

Disconnection of the micro embedded generator(s)

60. We may disconnect or you must disconnect at our direction the **micro embedded generator(s)** from our distribution system:
- (a) for a planned or unplanned interruption; or
 - (b) if, at any time, electricity in excess of 258 volts is generated by the **micro embedded generator(s)** over a 10-minute period; or
 - (c) if you breach a provision of the **contract** and:
 - (i) if we consider the breach is capable of being remedied, you do not remedy the breach within **7 business days** of receiving written notice from us requiring you to do so; or
 - (ii) if we consider the breach is not capable of being remedied and we consider the breach to represent a hazard or risk to the distribution system, our employees, or any other person; or

- (iii) if we are entitled, or required to do so, under any applicable law; or
- (d) if directed by relevant authorities, to maintain system security and stability.

Termination of the contract

61. The **contract** may be terminated by us:
- (a) if you breach a provision of the **contract**, we consider that breach is capable of being remedied, and you do not remedy that breach within **7 business days** of receiving written notice from us requiring you to do so; or
 - (b) if you breach a provision of the **contract**, we consider that breach is not capable of being remedied, and we consider the breach to represent a hazard or risk to our distribution system; or
 - (c) if a third party acquires the **micro embedded generator(s)** from you.

General

62. Some obligations placed on us under the contract may be carried out by another person. If an obligation is placed on us to do something under the **contract**, then:
- (a) we are taken to have complied with the obligation if another person does it on our behalf; and
 - (b) if an obligation is not complied with, we are still liable to you for the failure to comply with that obligation.
63. We will comply with all relevant privacy legislation in relation to your personal information. You can find a summary of our privacy policy on our website. If you have any questions, you can contact us. Contact details of which can be found on our websites, www.powercor.com.au or unitedenergy.com.au
64. The amount payable for a **micro embedded generator basic connection service** and any other amounts payable under the contract, may be stated to be exclusive or inclusive of GST. Clause 65 applies unless an amount payable under the contract is stated to include GST.
65. Where an amount paid by you or by us under the contract is payment for a 'taxable supply' as defined for GST purposes then, to the extent permitted by law, that payment will be increased so that the cost of the **GST** payable on the taxable supply is passed on to the recipient of that taxable supply.
66. Unless any part of the **contract** states otherwise (for example, where phone calls are allowed), all notices in relation to the **contract** must be sent in writing. We can send notices to you at the email or postal address set out in your **connection application** or at the most recent address that we have for you. If a notice is sent by post, we can assume that you received the notice on the sixth **business day** after it was sent by us.
67. Rights and obligations that accrued before the end (or earlier termination) of the **contract**, continue despite the end (or earlier termination) of the **contract**.
68. The laws of Victoria govern the **contract**.

Appendix

A. Connection Process

69. If you require a new connection of a premises, please note that a precondition to the **contract** is that your premises must already be connected to our distribution system; or we have agreed that we will connect your **premises** to our distribution system:
- (a) for United Energy customers, we can progress the **micro embedded generator basic connection services** where we have agreed that we will connect your premises;
 - (b) otherwise, please follow the new connection process on our websites.
70. If you would like to connect a **micro embedded generator(s)** to your existing connection, please follow the following four steps.
- (a) Complete a solar and other generation pre-approval process using the **portal**. If this portal is not available for United Energy customers, please complete all required documentation and contact your retailer (in which case sub clauses (b) and (c) below do not apply). The pre-approval process checks to confirm the adequacy of the electricity distribution network with any embedded generator export. This step is generally performed by your Registered Electrical Contractor (**REC**) on your behalf. The outcome of the solar pre-approval process may result in us advising you of the **export limit** for your connection;
 - (b) Following the successful completion of the pre-approval, contact your electricity retailer and discuss your feed-in tariff options;
 - (c) After the installation of the **micro embedded generator(s)**, complete the connection application request using the **portal**. Alternatively, once the inverter energy system has been completed, we must be advised of the installation by a REC submitting a request using the **portal**;
 - (d) Your retailer will send a business to business (B2B) service order for the connection of the **micro embedded generator(s)** to us.
71. We will reconfigure your smart meter to enable and record the export of electricity. Our charge for this will be sent to your retailer who may recover this charge from you.
72. To alter your existing connection involving a **micro embedded generator(s)**, please follow the steps in clause 70 above. Please note the size of the alteration may mean the connection is no longer covered by a model standard offer, and the application may be treated as a negotiated connection.

B. Technical requirements

73. These technical requirements may be subject to change in future published versions of the model standing offer. We may require different technical requirements on an individual basis. We may, in writing, waive some of the requirements below in our absolute discretion.
74. You must only install **micro embedded generator(s)** at or below the **maximum export capability** and, at or below the export limit. In the case of **an export limited inverter**, the **micro embedded generator(s)** must be configured to ensure the export amount does not exceed the **maximum export capability**. The **maximum system capacity** of the micro embedded generator(s) must be measured when operating at unity power factor.

Table 1 Maximum system capacity and maximum export capacity

Connection point arrangement	Maximum system capacity	Maximum export capability
Single phase	10 kVA	5 kW
Single phase – 3 wire	5 kVA per active 10 kVA in total	2.5 kW per active 5 kW in total
Single wire earth return (SWER)	5 kVA	5 kW
Three phase	30 kVA	15 kW

Standards you must comply with

75. You must ensure the design, installation, operation, maintenance and repair of the **micro embedded generator(s)** and your customer installation must comply with:

- (a) AS/NZS 4777.2 – Grid Connection of Energy Systems via Inverters, as in force at the date of installation, including that;
 - (i) disconnection of the Inverter from our distribution system in the event of a loss of supply;
 - (ii) the inverter is operating within acceptable operating parameters;
 - (iii) the inverter is prevented from energising a de-energised circuit; and
 - (iv) for the avoidance of doubt, the inverter and your customer installation must be designed, installed, and maintained in a manner that ensures that the maximum steady state voltage at any socket outlet or fixed equipment (other than the inverter) within the installation complies at all times with the requirements of this standard.
- (b) AS/NZS 4777.1 – Grid Connection of Energy Systems via Inverters – Installation Requirements
- (c) AS/NZS 3000 – Wiring Rules;
- (d) AS/NZS 3008 – Electrical installations – Selection of cables;
- (e) AS/NZS 5033 – Installation of Photovoltaic (PV) Arrays (if applicable); and
- (f) all other applicable Australian Standards/Codes of Practice, current as at the date of installation.
- (c) the standards listed on the Clean Energy Council (CEC webpage) – Solar Accreditation Section – “Compliance and Standards”;
- (d) our reasonable requirements for the installation of additional equipment on, or in connection with, your **micro-embedded generator(s)**.

Network supply matching

76. The **micro embedded generator(s)**'s output voltage, frequency and waveform must match that of our distribution system such that any distortion of these parameters is within acceptable limits. You must operate the **micro embedded generator(s)** so that there is no appreciable reduction in the safety and quality of supply to other users of our distribution system or risk of damage to apparatus belonging to other users of our distribution system or us.

Multiphase systems

77. Three phase inverters must be configured to have balanced output with a tolerance of no greater than 5 per cent unbalance between any phases at all times. All three phases of the Inverter must simultaneously disconnect from, or connect to, our distribution system in response to protection or automatic controls (e.g. anti-islanding trip and subsequent reconnection).
78. Where multiple single phase inverters are connected to more than one phase, the inverters must be interlocked and configured to behave as an integrated multiphase Inverter providing a reasonably balanced output to all connected phases at all times. Alternatively, where inverters cannot be interlocked by internal controls, the installation must be protected by a phase balance relay which must immediately isolate the inverter in the absence of reasonable balance. The inverters must be physically prevented from operating independently and all installed Inverters must simultaneously disconnect from, or connect to, our distribution system in response to protection or automatic controls (e.g. anti-islanding trip and subsequent reconnection).
79. The maximum current imbalance in a multiple-phase inverter energy system comprised of either individual single-phase inverters connected on separate phases or a combination of single-phase inverters and multiple-phase inverters shall not exceed 21.7 amps for more than 15 seconds.

Voltage and Power Quality

80. The inverter volt-var and volt-watt power quality responses are to be enabled with the settings contained in this section.
81. The volt-watt response mode varies the maximum active power output level of the inverter in response to the voltage at its grid-interactive port.
82. The response curve required for the volt-watt response model is defined by two volt response reference values and corresponding maximum active power output levels., The inverter(s) shall be enabled with the values (Australia A settings) listed in the tables below. The maximum active power output shall not exceed the limits specified in the tables below.

Table 2 Volt-watt response default set-point values for all inverters

Region	Default value	V _{w1}	V _{w2}
Australia A	Voltage	253V	260V
	Inverter maximum active power output level (P) % of S _{rated}	100%	20%

Source: AS4777.2.2020, Table 3.6

Table 3 Volt-watt response default set-point values for inverters with energy storage

Region	Default value	V _{w1-ch}	V _{w2-ch}
Australia A	Voltage	207	215
	P _{charge} / P _{rated-ch}	20%	100%

Source: AS4777.2.2020, Table 3.8

Note 1: P_{charge} refers to power input level through the grid-interactive port

Note 2: P_{rated-ch} refers to the rated active power input through the grid-interactive port used for charging the energy storage

83. The volt-var response model varies the reactive power absorbed or supplied by the inverter in response to the voltage at its grid-interactive port.
84. The response curve required for the volt-var response is defined by four volt response reference values and corresponding reactive power levels. The inverter(s) shall be enabled with the values

(Australia A settings) listed in the table below. Below V_{V1} , reactive power shall be maintained at the level specified for V_{V1} . Above V_{V4} , reactive power shall be maintained at the level specified for V_{V4} .

85. Where the inverter apparent power rating is reached, active power level shall be reduced to stay within the inverter apparent power rating while meeting the volt-var mode reactive power requirements.

Table 4 Volt-var response default set-point values for all inverters

Region	Default value	V_{V1}	V_{V2}	V_{V3}	V_{V4}
Australia A	Voltage	207 V	220 V	240 V	258 V
	Inverter reactive power level (Q) % of S_{rated}	44% supplying (export)	0%	0%	60% absorbing (import)

Source: AS4777.2.2020, Table 3.7

86. The inverters shall be enabled with default passive anti-island voltage limits as defined in the table below.

Table 5 Passive anti-island voltage limits

Protective function	Protective function limit	Trip delay time	Maximum disconnection time
Under-voltage 2 ($V \ll$)	70 V	1 s	2 s
Under-voltage 1 ($V <$)	180 V	10 s	11 s
Over-voltage 1 ($V >$)	265 V	1 s	2 s
Over-voltage 2 ($V \gg$)	275 V	N/A	0.2 s

Source: AS4777.2.2020, Table 4.1

87. The inverter shall operate the automatic disconnection device when the average voltage for a 10 minute period exceeds the voltage limit in the table below.

Table 6 Sustained operation for voltage variations ($V_{non-max}$)

Region	Default set point
Australia A	258V

Source: AS4777.2.2020, Table 4.3

88. Fixed power factor, reactive power and or characteristic power factor settings, if capable of being set in the inverter, are to remain disabled. The default setting of the power ramp rate gradient is to remain at 16.67% of rated power per minute and the nominal ramp time is also to remain at 6 minutes.
89. The passive anti-islanding maximum voltage and frequency trip points as specified in AS4777.2 are preset and secured against change. Failure to implement required volt-var and volt-watt may expose appliances and fixed equipment to potentially damaging voltages.
90. Your inverter(s) shall remain in continuous operation for a single-phase voltage angle shift within a voltage cycle of at least 60 electrical degrees. In addition, three-phase inverter(s) shall remain in continuous operation for a voltage phase angle shift within a voltage cycle, in the positive-sequence, of at least 20 electrical degrees, as shown in the table below.

Table 7 Voltage phase angle shift withstand

Protective function	Single-phase disturbance	Three-phase disturbance
Single phase inverter	60°	-
Three phase inverter	60°	20°

Source: AS4777.2.2020, Table 4.9

Frequency

91. The inverter(s) shall be capable of supplying rated power between 45Hz and 52Hz. Your inverter(s) must comply with Table 7 below. If frequency is below 47Hz or above 52Hz, the inverter(s) must automatically disconnect from our distribution system. Reconnection must be carried out in accordance with AS/NZS 4777.2, as the date of reconnection. The inverters shall be enabled with frequency values (Australia A settings) listed in the table below.

Table 8 Passive anti-islanding frequency limit values

Protective function	Protection function limit	Trip delay time	Maximum disconnection time
Under frequency 1 (F<)	47 Hz	1 s	2 s
Over frequency 1 (F>)	52 Hz	N/A	0.2 s

Source: AS4777.2.2020, Table 4.2

92. Your inverter(s) must also have ride-through capability against frequency variations and be able to supply continuous power between 47 Hz and 52 Hz. The frequency response limits and frequency variation withstand limits shall be configured with the “Australia A” settings nominated in AS4777.2.2020, Table 4.4 and Table 4.5.

93. Your inverter(s) must maintain continuous operation for frequency excursions with a rate of change of frequency (ROCOF) that do not exceed ± 4.0 Hz/z for a duration of 0.25 s.