



Electra Ltd
25 Bristol St
PO Box 244
Levin 5540
0800 353 2872
www.electra.co.nz

DISTRIBUTED GENERATION

Preferred terms & conditions for the connection and operation of generation rated at 10kW or less capacity

To be read in conjunction with the following:

***"Connection and operation of Distributed Generation
rated at 10kW of less capacity"***

"Basis of charges for connecting generation"

Email: DG@electra.co.nz

Phone: 0800 353 2872

Contents

Contents

Contents.....	2
1. Background to this agreement	4
1.1. Regulations.....	4
2. Parties to this agreement.....	5
3. Definitions	5
4. Terms of agreement.....	5
4.1. General obligations	5
4.2. Installation of meters and access to meters and meter data	6
4.3. Right of access.....	7
4.4. Process for right of access.....	7
4.5. We must not interfere with your equipment	7
4.6. You must not interfere with our equipment.....	7
4.7. Obligation to notify if interference is discovered	7
4.8. General rule about interruptions	7
4.9. Circumstances allowing us to disconnect your generation	8
4.10. Our obligations if your generation is disconnected	8
4.11. Adverse operating effects	8
4.12. Interruptions by generator	8
4.13. Permanent disconnections.....	9
4.14. When confidential information can be disclosed.....	9
4.15. Pricing & charges	9
4.16. General rule about liability	10
4.17. Limits on liability.....	10
4.18. Indemnity for damage claimed by third parties.....	10
4.19. Force Majeure.....	10
4.20. Insurance	11
4.21. Distributors connection and operation standards and conditions	12
4.22. Inspection and testing	12
4.23. Connection authorisation	12
4.24. Disputes	13
4.25. Duration of Agreement.....	13
4.26. Review of Agreement	14
4.27. Purchase of generated energy	14
5. Execution	15
Schedule 1 – Connection Assets	16
(1) Connection Assets owned by us.....	16
(2) Connection assets owned by you.....	16

(3) Point of demarcation	16
Schedule 2 – Technical specifications	17
(1) Maximum power output (must be 10kW or less)	17
(2) Minimum power ramping rate.....	17
(3) Synchronising requirements (rotating plant only)	17
(4) Protection requirements.....	17
(5) Maximum voltage at point of connection to our Network.....	18
(6) Voltage waveform	18
(7) Power factor limits	18

1. Background to this agreement

1.1. Regulations

The [Electricity Industry Act 2010](#) (Act) provides a framework for the regulation of the electricity industry. To promote competition, reliability and efficiency in the industry, the [Electricity Industry Participation Code 2010](#) (Code) was established and this is administered by the Electricity Authority (EA).

Section 7(1)(g) of the Act provides that a person, other than a generator, who generates electricity that is fed into a network is an *industry participant*. Distributed generators that are either directly connected to a distribution network, or connected to a consumer installation that is connected to a distribution network, meet this definition. Under section 9(1) of the Act, industry participants must:

- (a) [Register](#) as participants by supplying the EA with the information specified in section 27(2) of the Act
- (b) Comply with the Code

A distributed generator has to obtain approval (actual or deemed) before:

- (a) Connecting new distributed generation whether on regulated terms or other agreed terms, or
- (b) Continuing an existing connection in a situation which:
 - i. A connection contract has to be extended or has expired,
 - ii. There is no existing connection contract and regulated terms do not apply, or
 - iii. The distributed generator wants to change the nameplate capacity or fuel type of connected distributed generation.

Part 6 of the Code, Connection of Distributed Generation, sets out the terms & conditions for the connection of distributed generation. Schedule 6.1 sets out the process for obtaining the necessary approval. For distributed generation of 10kW or less, Part 1 of Schedule 6.1 lists the steps in the process. Part 1A offers a simpler process in specified circumstances towards obtaining this approval. Part 2 covers distributed generation above 10kW in total.

You do have an option to enter into a connection contract with us for the connection of your distributed generation where your rights and obligations will be governed by the contract and not by the regulated terms. A breach of the terms of the contract in this case will not be a breach of the Code (Clause 6.5 of the Code refers).

Should you prefer to negotiate a connection contract with us, this document sets out our preferred terms & conditions for the connection and operation of your distributed generation. The layout of this Agreement reflects Schedule 6.2 of the Code as much as possible to facilitate comparison.

The Application document and the Basis for Connection Charges document must be read and understood in conjunction with this Agreement although they do not form part of this Agreement.

Note that, as we are a lines business and not an energy business (as defined in Part 3 of the Act) we are prohibited from purchasing the energy from your generation.

2. Parties to this agreement

- (1) Electra Limited, a limited liability company having its registered office at the Corner of Bristol & Exeter Sts, Levin.
- (2) The generator: _____

3. Definitions

Act	Means the Electricity Industry Act 2010
Connection Assets	Means assets such as (but not limited to) lines, poles, transformers, cables, fuses, reclosers and circuit breakers necessary to connect your generation to our Network. The Connection Assets owned by us and by you are described in Schedule 1 to this Agreement.
Network	Means the assets such as (but not limited to) lines, poles, transformers, cables, fuses, reclosers or circuit breakers owned by us that are used to supply our customers.
Code	Means the Electricity Industry Participation Code 2010, Part 6, Connection of Distributed Generation or any regulation passed in substitution thereof.
EA	Means Electricity Authority
Requirements	Means the various requirements referred to in Sections 2.2 to 2.6 of the document entitled "Connection and operation of generation rated at 10kW or less capacity".
We, us, our, ours and similar words	Means Electra Ltd.
You, your, yours and similar words	Means the party wishing to connect distributed generation to our network.

4. Terms of agreement

4.1. *General obligations*

- (1) We will comply with all reasonable, prudent and accepted New Zealand power generation and distribution practices in meeting our obligations under this Agreement. You must do likewise.
- (2) We will construct, operate and maintain all Connection Assets owned by us in accordance with prudent and accepted New Zealand power distribution practice. You must construct, operate and maintain all your Connection Assets to equivalent standards.
- (3) You must construct, operate and maintain your generation and any associated equipment such as inverters in accordance with the makers'

instructions unless those instructions would conflict with prudent and accepted New Zealand power distribution practice or electricity sector regulations. If the makers' instructions do conflict, prudent and accepted New Zealand power distribution practice or sector regulations will prevail.

- (4) We will ensure that our Network and any Connection Assets owned by us do not endanger your plant, property, staff, contractors or the public at large. You must ensure that your generation or any Connection Assets owned by you do not endanger our staff or contractors, the public at large, our Network or Connection Assets owned by us.
- (5) In particular your generation must comply with the technical specifications set out in Schedule 2 to this Agreement as well as any conditions that we specified as part of your initial or final application.
- (6) You must comply with all electricity sector governance rules and regulations.
- (7) You must advise us of any change of ownership of your generation within 10 business days of any change of ownership becoming binding on you.

4.2. *Installation of meters and access to meters and meter data*

- (1) You must:
 - (a) Install a meter or meters that:
 - (i) Can separately record flows of electricity both into our Network and from our Network.
 - (ii) Complies with the Code.
 - (iii) Meets the requirements of your energy retailer.
 - (b) Allow our staff or authorised contractor to:
 - (i) Have reasonable access to your generation, metering installation and connection assets.
 - (ii) Inspect any of the above for compliance with safety requirements or with our connection and operating standards.
- (2) You must provide us with any meter data in a recognised and unencrypted format such as an Excel spreadsheet within 5 (five) business days of being requested to do so at your own cost. Such requests may also arise from our obligations to Transpower in regard to demand at their grid exit substations.
- (3) We will not impose metering requirements that are inconsistent with any Electricity Governance rules.
- (4) You must reimburse us for the costs of any inspection under (b)(ii) above up to a maximum of \$60 per inspection.

4.3. *Right of access*

You must let us into your premises to inspect the connection, commissioning and initial start up of your generation.

In order for us to fulfill our obligations under this Agreement you must let us into your premises at any reasonable time. For routine matters we will try to give you at least 2 (two) business days' notice.

4.4. *Process for right of access*

You must make provision for us to enter your premises at any time in case of operational emergencies or hazardous situations including such provisions as providing keys, PIN numbers or swipe cards, and notifying your security people.

If we cannot gain ready access to your premises we reserve the right to disconnect your generation at the point of connection to our Network even if that means disconnecting your entire premises.

4.5. *We must not interfere with your equipment*

We will not interfere with your equipment other than disconnecting your generation in the circumstances below:

- (i) If an emergency or undesirable operational situation arises.
- (ii) If your generator creates an unsafe condition as provided for in Section (11)(1) of this Agreement.
- (iii) If your generation is interfering with our other customers and you have not followed our instructions to cease interfering as provided for in Section (11)(2) of this Agreement.
- (iv) If any part of an undisputed invoice remains unpaid as provided for in Section (15)(5) of this Agreement.

4.6. *You must not interfere with our equipment*

Other than disconnecting your generation at the point of connection to our Network, you must not interfere with our Network in any way.

4.7. *Obligation to notify if interference is discovered*

- (1) If we discover that your equipment has been interfered with we will make all reasonable attempts to advise you within 24 hours. If the interference has created an unsafe situation we may disconnect your generation immediately.
- (2) If you discover that our equipment has been interfered with you must make all reasonable attempts to advise us within 24 hours. If the interference has created an unsafe situation you should advise our control room immediately.

4.8. *General rule about interruptions*

Subject to the clauses in Section (9) below we will make all reasonable efforts to not interrupt your generation.

4.9. *Circumstances allowing us to disconnect your generation*

- (1) We may require you to reduce or temporarily disconnect your generation under certain operating circumstances such as our Network becoming congested or constrained. The practical reality is that we may not be able to provide much notice of such a requirement.
- (2) We may require you to reduce or disconnect your generation from our Network so we can work on our Network. If it is planned work, we will provide you with the same notice period as our other customers. If it is unplanned work we may not be able to provide you with any notice.
- (3) You must cooperate with us when we are trying to restore our Network after a fault, including complying with instructions to increase generation, reduce generation or disconnect. You must also cooperate with Transpower if they are trying to restore their grid after a fault.
- (4) We will make reasonable efforts to advise you of any circumstances that require or have required you to disconnect your generation.
- (5) You acknowledge that in a fault situation we may need to give priority to restoring wider areas of our Network, with individual small customers (including small generators) taking a lesser priority.

4.10. *Our obligations if your generation is disconnected*

- (1) If we disconnect your generation for operational reasons, we will make all reasonable efforts to advise you for the reason why within 24 hours.
- (2) We will make reasonable efforts to reconnect your generation subject to our other fault restoration priorities. In some circumstance we may require your generation to contribute to such fault restoration.

4.11. *Adverse operating effects*

- (1) If your generator causes an unsafe or hazardous condition to arise we may require you to immediately disconnect your generation from our Network.
- (2) If your generator adversely effects the operation of our Network or adversely affects the quality of supply to our other customers (through, but not limited to, such effects as voltage, frequency, harmonics, spikes, sags or surges) we reserve the right to provide you with a written requirement to correct the offending performance aspect within 5 business days. If you fail to correct the offending aspect within those 5 business days we reserve the right to disconnect your generation from our Network. Such disconnection will not relieve you or us from any other obligations under this Agreement.

4.12. *Interruptions by generator*

You agree to give us at least 5 (five) business days notice of any planned disconnection of your generation.

4.13. *Permanent disconnections*

- (1) Notwithstanding any other provisions for disconnections in this Agreement, if you wish to permanently de-energise your generation you must do the following:
 - (i) Physically disconnect your generation as required under the terms of this Agreement.
 - (ii) Make all necessary arrangements with your energy retailer to bring your contract with them to an orderly close.
 - (iii) Settle up your account with us including any un-recovered capital costs as provided for in Section (32)(3) of this Agreement.
- (2) If you wish for your installation to remain connected to our Network as a load you must enter into a standard network connection agreement with us.

4.14. *When confidential information can be disclosed*

- (1) We will keep all information you provide us with confidential except as follows:
 - (a) Any metering data that must be provided to your energy retailer within the terms of your agreement with them.
 - (b) Any details that we need to share with any of our contractors as part of working on our Network.
 - (c) Any information that we have a statutory obligation to disclose as a matter of routine, such as annual returns.
 - (d) Any information that we may be lawfully requested to divulge to a statutory authority. In such an event we would attempt to notify you of any such requests as soon as possible.
- (2) You must keep all information we provide you with confidential except when you are lawfully requested to divulge information to a statutory authority. You must notify us within 2 (two) business days of receiving any such request. In particular you must not divulge any information about our Network's physical or operational characteristics to any other parties.

4.15. *Pricing & charges*

- (1) The charges payable by you to us and by us to you are set out in Schedule 3 to this Agreement.
 - (a) In addition to the charges set out in Schedule 3 we may, from time to time, need to charge you for activities such as network switching, engineering design or technical studies. We will advise you of the likely charges in advance.
 - (b) If connecting your generation requires us to forego connecting a customer that we could derive a higher revenue from, we may require you to fund the difference in addition to any other charges.

- (c) You must also pay any and all Transpower system operator charges and Electricity Commission levies. We will pay these charges on your behalf and recover that amount from you.
- (2) We will send you a tax invoice itemising all the charges and rebates set out in Schedule 3 which you will receive by the 5th business day following month end. You must pay us (less any amounts in dispute) by the 20th of the month in which you receive our invoice.
- (3) If our invoice does not reach you by the 5th business day following month end, you shall be entitled to delay paying us by one day for every day after the 5th business day you receive our invoice.
- (4) Any undisputed amounts not paid by the required date shall incur interest on a compounded daily basis. The interest rate shall be the call account rate as shown on the National Bank's website on each day that payment is outstanding. Similarly we will pay you interest on any undisputed rebates that we have not paid you.
- (5) If any undisputed amount remains unpaid by you for more than 1 calendar month after the due date of payment, we may give you 10 business days notice that we will disconnect your generation at the point of connection to our Network. If we do not receive full payment cleared in our bank account on the 11th business day after giving you notice we will disconnect you with no further notice. Such disconnection will not relieve you or us of any other obligations under this Agreement.

4.16. *General rule about liability*

If we breach any of the terms of this Agreement either by acting or failing to act we will be liable to you. Similarly, if you breach any of the terms of this Agreement either by acting or failing to act you will be liable to us.

4.17. *Limits on liability*

If either we or you breach our obligations under this Agreement our liability to you and your liability to us will extend firstly to direct losses and secondly to indirect or consequential losses to a total value no greater than \$20,000 for any single event.

4.18. *Indemnity for damage claimed by third parties*

- (1) We will indemnify you for any claims against you by a third party that arise from any act or failure to act reasonably attributable to us.
- (2) Similarly, you must indemnify us for any claims against us by a third party that arise from any act or failure to act reasonably attributable to you. By way of example, such an event might be if your generator causes a voltage spike that damages our other customers' equipment.

4.19. *Force Majeure*

- (1) If a force majeure event occurs and prevents you fulfilling your obligations under this Agreement, you will be relieved of that obligation for as long as the force majeure event reasonably prevents

you from doing so. Similarly, we will be relieved of our obligations for as long as we are reasonably prevented from fulfilling them.

- (2) For this Agreement, a force majeure event can be considered:
- (a) Any event beyond either your or our reasonable control that prevents either you or us fulfilling our obligations under this Agreement.
 - (b) Any of the following events without limitation:
 - (i) Fire, flood, storm, earthquake, landslide (unless reasonably foreseeable), volcanic eruption or similar event.
 - (ii) Explosion or nuclear, biological or chemical contamination.
 - (iii) Sabotage, terrorism or act of war (whether war has been declared or not).
 - (c) A force majeure event shall not include:
 - (i) An unwillingness or inability by either you or us to pay an amount of money necessary to fulfill obligations under this Agreement.
 - (ii) An inability of either you or us to pay a debt arising from this Agreement.
 - (iii) Either you or we calling a meeting for the purpose of reaching a compromise with creditors as set out in the [Companies Act 1993](#).
 - (iv) Either you or we being adjudged bankrupt.
 - (v) Either you or we being placed in receivership or similar circumstances.
 - (vi) Either you or us are put into liquidation.
 - (d) A force majeure event shall not include an event that either you or we could have prevented by acting with reasonable care and foresight.

4.20. Insurance

- (1) You must take out and maintain general liability insurance with no exclusions for the entire duration of this Agreement for any liabilities that could arise under this Agreement. Similarly we will ensure that our general liability insurance includes cover for all liabilities that could arise under this Agreement.
- (2) Your insurance cover must be for no less than \$20,000 for any single event.
- (3) We will require you to provide written proof of your insurance cover prior to executing this Agreement. Similarly we will provide you with proof of our insurance cover.

- (4) If you are of sufficient size and credit-worthiness we may waive the insurance requirements set out in (1), (2) and (3) above and allow you to self-insure.

4.21. *Distributors connection and operation standards and conditions*

- (1) At all times you must comply with:
 - (a) Our reasonable connection and operating standards and policies.
 - (b) All the conditions that your connection is subject to.
 - (c) Occasional instructions from our staff to increase or decrease real or reactive power generation, or voltage, or to disconnect from our Network when operating conditions require such actions.
- (2) We will advise you of any automatic under frequency load shedding (AUFLS) devices upstream of your generation. You must operate your plant in accordance with any requirements dictated by the presence of AUFLS.

4.22. *Inspection and testing*

You must:

- (1) Inspect and test your generation in situ (ie. not in another location such as your workshop or the makers factory) before you connect it, or any associated Connection Assets owned by you, to our Network.
- (2) Give us 3 (three) business days' notice of your intention to test and inspect so that we can witness the inspection and testing.
- (3) Provide reasonable and safe access for us to witness the inspection and testing.
- (4) Provide us with a written test report within 5 (five) business days of the inspection and testing.
- (5) Reimburse us for the costs of witnessing up to a maximum of \$60 per time. For the avoidance of doubt the following will apply:
 - (a) Any additional witnessing will incur a charge up to a maximum of \$60 per time.
 - (b) Any unreasonable delay in witnessing will entitle us to leave your site and treat any return visit as a separate time.

4.23. *Connection authorisation*

- (1) You must not connect your generation, meters or Connection Assets without our written consent.
- (2) We will provide that written consent once we are satisfied that you have met all relevant standards.
- (3) We will provide you with reasonable assistance to make connection, and we will not unreasonably prevent or impede you from connecting.

- (4) Once we approve your generator, meters and Connection Assets for connection you must not modify them in any way that could materially alter their performance without our written approval. We will not withhold our approval unreasonably.
- (5) If you do modify your generator, meters or Connection Assets in such a way that could materially alter their performance without our approval we reserve the right to physically disconnect your generation from our Network until:
 - (a) You restore it to the performance levels that you were granted approval for, *or*
 - (b) We are satisfied that it will not cause any operational problems or damage to our Network or to our other customers.
 - (c) If you wish to modify your generator so that it could exceed 10kW capacity, we may require you to go through the application process for generation greater than 10kW and pay all relevant fees to ensure that intending generators greater than 10kW are not discriminated against.

4.24. Disputes

- (1) If you dispute any aspect of this Agreement, you must notify us in writing setting out the precise nature of your dispute – you must not simply abandon your obligations to us. Similarly we will advise you in writing if we dispute any aspect of this Agreement.
- (2) When such a dispute arises we will work with you in the utmost good faith to resolve the dispute together. In particular neither you nor we will unreasonably stall any process of dispute resolution.
- (3) If neither you nor we can resolve the dispute it will be referred to an independent mediator appointed by the president of the nearest District Law Society. If the president is not independent in this matter, an independent mediator will be appointed by the president of the next nearest District Law Society.
- (4) If mediation does not resolve the dispute, the dispute shall be referred to an arbitrator appointed by the president of the nearest District Law Society. If the president is not independent in this matter, an independent mediator will be appointed by the president of the next nearest District Law Society. The arbitrators' decision shall be binding on you and us.
- (5) The costs of settling the dispute (including any legal or other costs) will be met by whoever is judged to have been in the wrong.
- (6) Disputing any aspect of this Agreement shall not relieve either you or us of any other obligations under this Agreement.

4.25. Duration of Agreement

- (1) This Agreement shall commence on the date that you and us execute the Agreement.

- (2) Subject to both you and us fulfilling our respective obligations and not doing anything that allows for this Agreement to be terminated, this Agreement shall terminate on [insert date].
- (3) You can terminate this Agreement prior to the above date by giving us six months' notice. We may require you to reimburse us for any costs (such as, but not limited to, Connection Assets) that we expected to recover over the agreed duration of the Agreement but will not be able to do so because of termination.
- (4) Similarly we can terminate this Agreement prior to the above date by giving you six months notice.

4.26. *Review of Agreement*

- (1) Either you or we can request a review of any term or terms of this Agreement other than the terms that are subject to regular review.
- (2) The review shall be initiated by a written request which shall be acknowledged within 5 (five) business days.
- (3) You and we shall use the utmost good faith to reach agreement on the terms under review.
- (4) If you and we cannot reach agreement on the term to be reviewed within 30 (thirty) business days, the matter shall lapse and shall not be considered grounds for dispute under the dispute resolution procedures in this Agreement.
- (5) None of the above clauses limit our right to initiate a review of the technical and operational aspects of your connection at any time in response to the needs of our Network or to regulatory requirements. In such a case you must accept any reasonable changes to your connection standards that we direct.

4.27. *Purchase of generated energy*

Because the Act prohibits us from trading, you must have an agreement in place with an energy retailer for the purchase of all the energy you will generate. This retailer must have a *Use of System Agreement* with us.

5. Execution

Signed for and on behalf of Electra Ltd

Signature: _____

Name: _____

Designation: _____

Date: _____

Signed for and on behalf of the generator

Signature: _____

Name: _____

Designation: _____

Date: _____

Witnessed by

Signature: _____

Name: _____

Designation: _____

Date: _____

Schedule 1 – Connection Assets

(1) Connection Assets owned by us

(2) Connection assets owned by you

(3) Point of demarcation

The point of demarcation between your assets and our assets shall be [insert unique identifier such as fuses on pole ###]

Schedule 2 – Technical specifications

(1) Maximum power output (must be 10kW or less)

Nominal continuous rating: _____

Peak rating (less than 1 minute): _____

(2) Minimum power ramping rate

(3) Synchronising requirements (rotating plant only)

Synchronising requirement: _____

Drop out upon failure: _____

(4) Protection requirements

Over voltage: _____

Over frequency: _____

Under voltage: _____

Under frequency: _____

Export power: _____

Mains failure: _____

(5) *Maximum voltage at point of connection to our Network*

Nominal continuous voltage: _____

Maximum voltage (1 minute): _____

(6) *Voltage waveform*

DC offset – less than 2% of fundamental.

Even harmonics – no individual harmonic greater than 2% of fundamental

Third harmonic – no greater than 30% of fundamental

Fifth harmonic – no greater than 15% of fundamental

Seventh harmonic – no greater than 10% of fundamental

Ninth harmonic – no greater than 6% of fundamental

Eleventh harmonic – no greater than 4% of fundamental

Thirteenth harmonic and higher – no single harmonic greater than 1% of fundamental

Our load control frequency of 283 Hz – no greater than 1.5% of the mains voltage

(7) *Power factor limits*

Leading: _____

Lagging: _____