

## **DISTRIBUTED GENERATION**

### **Connection and Operation of Distributed Generation above 10kW in total**

To be read in conjunction with the following:

***Preferred terms and conditions for connection and operation of  
generation above 10kW in total***

***Basis of Charges for Connecting Distributed Generation***

**Email:** [DG@electra.co.nz](mailto:DG@electra.co.nz)

**Phone:** 0800 353 2872

## Contents

<b>1. Introduction</b>	3
1.1. What is distributed generation?	3
1.2. Act and Code governing distributed generation	3
1.3. Registration	3
1.4. Applying for connection	4
1.5. Definitions	4
<b>2. Requirements your generation must meet</b>	5
2.1. Safety requirements	5
2.2. Technical requirements	5
2.3. Operational requirements	5
2.4. Commercial requirements	5
2.5. Regulatory requirements	6
<b>3. Our policy</b>	6
3.1. Open access network	6
3.2. Funding & ownership of connection assets	6
3.3. Funding technical modifications	6
3.4. Limiting the density of generation	7
3.5. Change of occupancy or ownership	7
3.6. Confidentiality of information provided	7
<b>4. Connection process</b>	8
4.1. Step #1 (your initial application)	8
4.2. Step #2 (our response to your initial application)	8
4.3. Step #3 (your final application)	9
4.4. Step #4 (you give notice of intention to proceed)	11
4.5. Step #5 (negotiate connection contract)	11
4.6. Step #6 (distributed generation must be constructed within 18 months of approval)	11
4.7. Step #7 (testing and inspection)	11
4.8. Step #8A (connection of distributed generation if connection contract negotiated)	12
4.9. Step #8B (connection of distributed generation on regulated terms if connection contract not negotiated)	12
<b>5. Options for selling electricity from distributed generation</b>	13
5.1. Trading your surplus electricity	13
5.2. Metering installation requirements for exporting electricity	13
<b>6. DG Connection Criteria</b>	14
<b>Form 1 – Initial application</b>	15
<b>Form 2 – Final application</b>	20

# 1. Introduction

## 1.1. *What is distributed generation?*

Distributed generation means equipment used to generate electricity that is

- (a) connected to a distribution network that is directly or indirectly connected to the national grid, or to a consumer installation that is connected to a distribution network
- (b) capable of injecting electricity into that distribution network.

A generating plant directly connected to the national grid (as opposed to a distribution network) *is not* distributed generation.

Electra's network is a distribution network that is directly connected to the national grid.

Distributed generation can range in size from small-scale plants of a few kilowatts or less through to large power stations capable of generating many megawatts of power. Energy sources can range from photovoltaic modules, to wind turbines, hydro schemes, thermal generating plants, biomass plants and so on.<sup>1,2</sup>

## 1.2. *Act and Code governing distributed generation*

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).

## 1.3. *Registration*

Under Clause 7(1)(a) of the Act, a *generator* is an *industry participant*. Clause 5 of the Act defines the term *generator* as a *business engaged in generation*. However, a business is not a generator unless its primary form of business is generation.

Under Clause 7(1)(g) of the Act, a *person, other than a generator, who generates electricity that is fed into a network* is an *industry participant*. A distributed generator is therefore an *industry participant* if

- its generation is connected to a distribution network, or
- its generation is connected to a consumer network that is connected to a distribution network, or
- it is a generator engaged in generation as its primary form of business.

Clause 9(1) of the Act requires every industry participant to [register](#) with the EA and comply with the Code. Registration with the EA requires the following information to be provided (Clause 27(2)(a) of the Act):

- (a) *Contact Details*, i.e. physical address, postal address, telephone number, fax number and email address
- (b) *Business Details*, i.e. the nature of its business (e.g. whether it is involved in generation, transmission, distribution, retailing, or a combination of any of these)

---

<sup>1</sup> EA Fact Sheet 7: "[Small-scale distributed generation](#)"

<sup>2</sup> To provide guidance to both home and business owners who are interested in generating their own electricity, but need more information before going ahead, the EECA has provided the following guide: "[Power from the people: a guide to micro-generation](#)". It is directed at the layperson who already has some basic knowledge of micro-generation.

## 1.4. Applying for connection

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. You 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. Part 2 of Schedule 6.1 covers distributed generation above 10kW in total.

This document explains the steps you will need to follow for distributed generation **above 10kW in total**. The document is based on the EA's Guideline, and where this document is inconsistent or unclear, the Code shall prevail.

(Note: This information does not apply to distributed generation that is not connected to our network.)

## 1.5. Definitions

Act	Means the <a href="#">Electricity Industry Act 2010</a>
Code	Means the <a href="#">Electricity Industry Participation Code 2010, Part 6, Connection of Distributed Generation</a> or any regulation passed in substitution thereof.
Connection assets	Means assets such as (but not limited to) lines, poles, cables, fuses, transformers, reclosers and circuit breakers necessary to connect your generation to our network.
Distributed generator	For the purposes of the Code, means a person who owns or operates, or intends to own or operate, distributed generation.
EA	Means Electricity Authority
Requirements	Means the requirements referred to in Sections 2.1 to 2.5 of this document.
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 Electra Ltd's network.

## 2. Requirements your generation must meet

### 2.1. Safety requirements

Your generation must comply with the

- [Electricity \(Safety\) Regulations 2010](#) in relation to generation
- [Health and Safety in Employment Act 1992](#) general principles

### 2.2. Technical requirements

Your generation must comply with the following technical requirements:

- It must conform with [AS/NZS 3000](#) – *Wiring Rules*

If an inverter is to be used to connect your generation to our network, it must meet the following standards:

- be designed and installed in accordance with [AS 4777.1 2024](#) – *Grid Connection of Energy Systems via Inverters – Installation Requirements* except for the voltage compliance level in Section 4.2 where a compliance level of 230V +/- 6% as stated in [Electricity \(Safety\) Regulations 2010](#) would apply for installations in New Zealand.
- been tested and issued with a Declaration of Conformity with [AS 4777.2 2020](#) – *Grid Connection of Energy Systems via Inverters – Inverter Requirements* by a laboratory with accreditation issued or recognized by International Accreditation New Zealand. An inverter [approved](#) for our network could be chosen.
- Have protection and power quality settings that meet the requirements of AS/NZS4777.1:2024 and AS/NZS4777.2:2020

### 2.3. Operational requirements

Your generation must comply with the following operational requirements:

- Your generation must include a switch or circuit breaker that **disconnects and locks out** if
  - the **mains voltage is lost** on our network, or
  - the **mains frequency dips** below 49.5Hz for more than 2 seconds.

This is to ensure that our network is not back-livened from your generation which would create a safety hazard for our maintenance and faults staff.

- **Clear and durable notices** must be prominently posted
  - near the **point of connection to our network**, and
  - at your **switchboard and meter box**

stating that there is connected generation. This is to warn people of the possibility that your installation could still be live even if the mains have been disconnected.

### 2.4. Commercial requirements

Your generation must comply with the following requirements:

- (a) 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 surplus electricity from your generation.
- (b) You must discuss the options for the sale of the electricity to be produced by your generation with your retailer. The retailer will usually enter into a contract with you for the purchase of the electricity

once the generation has been approved for connection to the network. Alternatively, you must provide evidence that you will be consuming all this energy yourself. You may not simply “lose” the energy in our network. Refer to Section 5 *Options for selling electricity from distributed generation*.

- (c) Authorisation must be received from your retailer prior to connection (livening and energisation) to the network.
- (d) As a generator, you are responsible for your metering installation. Your electricity retailer can look after this for you. It may arrange for a metering service provider to call and fit a second meter to measure exported energy or a single meter that measures the amount of electricity both imported and exported at your installation.
- (e) Your energy retailer may charge you for the purchase of exported electricity, metering services and data management. Ensure that you request a copy of its tariffs.

## **2.5. Regulatory requirements**

Your distributed generation may require one or more of the following classes of consents:

- Resource consent issued by the Regional Council.
- Resource consent issued by the District Council.
- Building consent issued by the District Council.

You may also need to liaise with other agencies such as (but not limited to) Land Transport, the Civil Aviation Authority or the Department of Conservation if your generation extends into areas like road reserve, flight paths or ecologically sensitive areas. We do not provide advice on these matters nor do we issue such consents.

## **3. Our policy**

### **3.1. Open access network**

Our policy for network access is that anyone who meets the applicable safety, technical, operational and commercial requirements and who agrees to pay the applicable charges can connect to our network.

The details of our distributed generation policy are set out in Section 7.5 of our 2015 Asset Management Plan.

### **3.2. Funding & ownership of connection assets**

Connection of your generation to our network may require construction of specific assets, such as a few spans of line, a length of cable or a disconnector. These assets are referred to as connection assets and can be funded and owned in the following ways:

- (a) You can install and own these assets at your expense subject to them meeting our usual technical requirements for connection to our Network. This option will require you to take all usual ownership responsibilities and obligations such as planning and building consents, safety, maintenance, fault restoration, land issues and tree trimming.
- (b) You can make a capital contribution (possibly up to 100%) and we will install and own the assets. In this case we will assume all usual ownership responsibilities and obligations.

### **3.3. Funding technical modifications**

You may also need to pay for any technical modifications such as re-calibration of protection or control equipment.

### **3.4. Limiting the density of generation**

Our network was originally designed to distribute electricity in one direction from large grid substations. Although a single generator not much greater than 10kW may not upset the way our network operates, a generator with a capacity significantly larger than 10kW very likely will (a condition referred to as “*export congestion*” in the Code). We therefore reserve the right to decline an application to connect your generation to our network if we believe that installing it in that area could interfere with the operation of our network (including overloading it) or with our customers’ quality of supply.

In the event that we receive more than one application to connect generation to part of our network the Code allows us to treat those applications as competing bids for limited capacity as long as we consider the overall purpose of the Code.

### **3.5. Change of occupancy or ownership**

You are responsible for the maintenance of your distributed generation system to the appropriate standards. Should you sell your property or someone else moves in, it is important that the new owner or occupier understands their responsibilities under the Act and the Code for the safe operation of the equipment and its connection to our network. Accordingly you must advise us of any new owner or occupier so that we can discuss their obligations with them.

### **3.6. Confidentiality of information provided**

- (a) We will keep all the information with, or in relation to, your application under the Code confidential except as agreed otherwise by the person that gave the information.
- (b) We may require you to keep confidential information that:
  - (i) is given to you for the purpose of your application; and
  - (ii) we reasonably identify as being confidential;
- (c) Under the Code we can be excused from processing your application if you do not agree to comply with a requirement to keep information confidential imposed under subclause (b) above
- (d) Despite subclause (a), we may
  - (i) in response to your application, disclose to you that another distributed generator has made an application under this Schedule (without disclosing who the other distributed generator is); and
  - (ii) in the case of an application under Part 1 of this schedule, generally indicate the location or proposed location of the distributed generation that is the subject of the other application; and
  - (iii) in the case of an application under Part 2 of this schedule, disclose the nameplate capacity and proposed location of the distributed generation that is the subject of the other application;
- (e) The obligation to keep information confidential set out in subclause (a) includes:
  - (i) an obligation not to use the information for any purpose other than considering your application under this Schedule of the Code and enabling the connection or continued connection of the distributed generation; and
  - (ii) an obligation to destroy the information as soon as reasonably practicable after the later of:
    - i. the date on which the information is no longer required for the purposes in subclause (e)(i); and
    - ii. 60 months after receiving the information

## 4. Connection process

### 4.1. Step #1 (your initial application)

To begin the connection process you must apply in writing. Please use *Form 1* attached to this document. Include additional pages as required.

- (a) What is the fuel type of the distributed generation you intend to connect (solar, wind, hydro, liquid fuel, etc)?
- (b) Evidence of the nameplate capacity that your distributed generation will have.
- (c) If the application is to change the nameplate capacity or fuel type of your connected distributed generation,
  - (i) the nameplate capacity that your distributed generation will have after the change, and
  - (ii) the aggregate nameplate capacity that all distributed generation that is connected at the point of connection will have after the change, and
  - (iii) the fuel type your distributed generation will have after the change
- (d) The technical specifications of your generator and associated equipment including maximum real power, reactive power requirements, resistance and reactance, fault level contribution, means of voltage and frequency control, synchronisation and expected operating modes.
- (e) The technical specifications of the equipment that will disconnect your generation from our network if mains voltage is lost or the frequency dips.
- (f) Brief description of the physical location at the address at which the distributed generation is or will be connected
- (g) Whether your generator is 1-phase or 3-phase.
- (h) The exact point at which you propose to connect to our network.
- (i) Evidence that your generation will meet the requirements set out in Sections 2.1 to 2.5 of this document.

If your completed Form 1 does not provide sufficient information for us to determine if your proposed generator meets the standards set out in Sections 2.1 to 2.5 of this document, we may ask you for further information.

### 4.2. Step #2 (our response to your initial application)

Upon receiving your initial application, we are required to advise you within 5 business days whether your initial application is complete. If your initial application is incomplete we will advise you of the information you will need to include when you reapply.

Within 30 days of receiving a correctly completed initial application, the Code requires us to provide you with the following information:

- (a) Information about the capacity of the distribution network, including both the design capacity (including fault levels) and actual operating levels.
- (b) Information about the extent to which connection and operation of your distributed generation may result in a breach of the relevant standards for safety, voltage, power quality, and reliability of electricity conveyed to points of connection on the distribution network.
- (c) Information about any measures or conditions (including modifications to the design and operation of the distribution network or to the operation of your distributed generation) that may be necessary to address the matters referred to in points (a) and (b) above.



- (d) The approximate costs of any network-related measures or conditions identified under point (c) above and an estimate of time constraints or restrictions that may delay the connecting of your distributed generation.
- (e) Information about any further detailed investigative studies that we reasonably consider are necessary to identify any potential adverse effects on our network resulting from the proposed connection, together with an indication of:
  - (i) Whether we agree to you, or a suitably qualified agent of yours, undertaking those studies; or
  - (ii) If not, whether we could undertake those studies and, if so, the reasonable estimated cost of the studies that you would be charged.
- (f) Information about any obligations to other parties that may be imposed on us and that could affect your distributed generation (for example, obligations to Transpower, in respect of other networks, or under the Code).
- (g) Any additional information or documents that we consider would assist your application.
- (h) Information about the extent to which planned and unplanned outages may adversely affect the operation of your distributed generation.

We are required under the Code to provide you with any further information you may need that is reasonably necessary for you to consider and act on additional to that provided in (a) to (h) above. This may include single line diagrams, equipment ratings, normal switch configurations (including fault levels), and protection system details relevant to the proposed point of connection. We are required to provide this information to you within 10 business days of receiving your written request.

If either party becomes aware of new information that is relevant to your application, that party must make reasonable endeavors to provide the other party with that information.

### **4.3. Step #3 (your final application)**

#### **(a) Time to lodge final application**

Once you have made an initial application, you must make a **final application** no later than **12 months** after receiving information set out in section 4.2 above if you wish to proceed, *unless*

- (i) we agree between us that a final application is not required, and
- (ii) there are no persons to whom notification under Clause 16 of Schedule 6.1 of the Code is required are involved when we make this decision

If a final application is not required, your initial application will be treated as a final application for the purposes of the rest of this document.

#### **(b) Form to use for Final Application**

Use **Form 2** (at the back of this document) for your **final application** and include copies of any technical studies that we have asked you to undertake.

#### **(c) Notice to third parties:**

We are required by the Code to give written notice to the following persons no later than 10 business days after receipt of your final application:

- (i) All persons who have made an initial application to connect distributed generation to the part of our network that we believe could be affected by your final application.
- (ii) All distributed generators that have distributed generation with a nameplate capacity of 10kW or more in total connected on the regulated terms to the part of our network we consider would be affected by the approval of the final application.

**(d) Priority of final applications**

If we receive another final application 20 business days after receiving your final application relating to the same part of our network, we may consider the two final applications as competing bids for limited connection capacity as long as we keep the overriding principles of the Code in mind. Otherwise we must treat final applications on a “first come, first served” basis.

**(e) Our decision on your final application**

On receipt of your final application and within the time limit specified in (f) below, we must give notice in writing whether your application is approved or declined.

- (i) We must approve your final application subject to any reasonable conditions we have imposed if:
  - 1. Your application has been properly made out in accordance with Part 6 of the Code;
  - 2. The information provided in the application would reasonably support our assessment that:
    - a. your distributed generation will comply at all times with the requirements of the Health and Safety in Employment Act 1992; and
    - b. you will ensure that your distributed generation complies at all times with the Act and Code; and
    - c. your distributed generation meets our connection and operation standards
- (ii) Our notice stating that your application is approved will be accompanied by the following information:
  - 1. A detailed description of any conditions (or other measures) that are conditions of the approval under subclause 4.3(e)(i) above and what you must do to comply with them;
  - 2. Detailed reasons for these conditions (or other reasons);
  - 3. Detailed description of any charges payable by you to us or by us to you and an explanation of how the charges have been, or will be, calculated;
  - 4. The default process for resolving disputes under Schedule 6.3 of the Code if you dispute all or any of the conditions (or other measures) or charges payable.
- (iii) A notice stating that your application is declined will be accompanied by the following information:
  - 1. Detailed reasons why your application has been declined and what you must do to get approval if you choose to make a new application;
  - 2. If the application is one relating to priority of connection, the criteria used in making a decision relating to competitive bids and the purpose of Part 6 of the Code;
  - 3. The default process for resolving disputes between *participants* under Schedule 6.3;
  - 4. That if you are not a participant, you may report to the EA under the Electricity Industry (Enforcement) Regulations 2010 if you consider we have breached any requirement in Part 6 of the Code.

**(f) Time within which we must decide final applications**

We must notify you of our decision no later than:

- (i) 45 days after the date of receipt of your final application, if your distributed generation has a nameplate capacity of less than 1MW; or
- (ii) 60 days after the date of receipt of your final application, if your distributed generation has a nameplate capacity of 1MW or more but less than 5MW; or

- (iii) 80 days after the date of receipt of your final application, if your distributed generation has a nameplate capacity of 5MW or more.

We may also ask you for an extension of time to process your final application which we must do by written notice specifying the reasons. You may grant us an extension of time which must not exceed 40 business days. You must not unreasonably withhold consent to this extension.

#### **4.4. Step #4 (you give notice of intention to proceed)**

- (a) If we advise you that your final application is approved, you must, within 30 business days of this advice, give written notice to us confirming whether or not you intend to proceed to negotiate a connection contract with us (*Step #5*), and if so, confirm:
  - (i) the details of your distributed generation; and
  - (ii) that you accept all the conditions (or other measures) that we have specified.(This time period may be extended by mutual agreement.)
- (b) If you are a *participant* and you do not accept one or more of the conditions of approval specified us, but you intend to proceed to negotiate a connection contract under *Step #5* with us, you must:
  - (i) give notice of the dispute in accordance with the Code within 30 business days starting on the day on which we gave you notice that your final application was approved; and
  - (ii) give notice under 4.4 (a) above within 30 business days after the dispute is resolved.
- (c) If you do not provide such written notice, our duties under the Code cease. You can, however, make a new application under the Code.

#### **4.5. Step #5 (negotiate connection contract)**

Once you have notified us in writing of your intention to connect your generation, we have 30 business days (starting from the date at which we receive your written notice of intention to connect) to mutually negotiate a connection contract. This period can be extended by mutual agreement.

#### **4.6. Step #6 (distributed generation must be constructed within 18 months of approval)**

- (a) Our approval of your final application will cease to apply if you do not construct your distributed generation within:
  - (i) 18 months from the date on which approval was granted; or
  - (ii) Such a later date as mutually agreed to.
- (b) You must reapply if:
  - (i) Our approval of your application has lapsed in accordance with (a); and
  - (ii) You wish to connect your distributed generation to our network.

#### **4.7. Step #7 (testing and inspection)**

Before you can connect your generation to our network, you must test and inspect your generation within a reasonable time frame negotiable with us.

- (i) You must give us adequate notice of your testing and inspections;
- (ii) We may send qualified personnel to site to observe the testing and inspections;
- (iii) You must give us a written test report when the testing and inspections have been completed, including evidence that the distributed generation meets our connection and operation standards and that any metering will fulfill its intended purposes;

- (iv) You must pay any fee we specify for the observing the tests and inspections. In this regard, we will not exceed the maximum amount specified in Schedule 6.5 of the Code.

#### **4.8. Step #8A (connection of distributed generation if connection contract negotiated)**

If your final application is approved and we enter into a connection contract before the period for negotiating a connection contract expires, one of the following will apply depending on the purpose of the application:

- (a) *Application to connect distributed generation:* - we must allow you to connect your distributed generation in accordance with the contract as soon as practicable;
- (b) *Application to continue an existing connection of distributed generation:* - we are required to ensure that the new terms covering your existing connection applies:
  - (i) as soon as practicable if the previous connection contract has expired;
  - (ii) no later than the expiry date of the previous connection contract if the contract is in force.
- (c) *Application to continue an existing connection for which there is no connection contract:* - we must use our best endeavours to ensure that the new terms covering your existing connection applies as soon as practicable;
- (d) *Application to change the nameplate capacity or fuel type of connected distributed generation -* we must use our best endeavours to ensure that the new terms covering your existing connection applies as soon as practicable.

#### **4.9. Step #8B (connection of distributed generation on regulated terms if connection contract not negotiated)**

If your final application is approved but we do *not* enter into a connection contract before the period for negotiating a connection contract expires, then one of the following will apply depending on the purpose of the application:

- (a) *Application to connect distributed generation:* - we must allow you to connect your distributed generation on **regulated terms**<sup>3</sup> as soon as practicable after the later of the following:
  - (i) The expiry of the period for negotiating a connection contract; and
  - (ii) The date on which you have fully complied with any conditions (or other measures) that we specified as conditions of the connection.
- (b) *Application to continue an existing connection of distributed generation:* - the regulated terms apply to your existing connection from the later of the following:
  - (i) The expiry of the period for negotiating a connection contract;
  - (ii) The expiry of the connection contract; and
  - (iii) The date on which you have fully complied with any conditions (or other measures) that we specified as conditions of the connection.
- (c) *Application to continue an existing connection for which there is no connection contract:* - the regulated terms apply from the later of the following:
  - (i) The expiry of the period for negotiating a connection contract; and
  - (ii) The date on which you have fully complied with any conditions (or other measures) that we specified as conditions of the connection.

---

<sup>3</sup> Schedule 6.2, Regulated terms for distributed generation

- (d) *application to change the nameplate capacity or fuel type of connected distributed generation* - the regulated terms apply from the later of the following:
- (i) The expiry of the period for negotiating a connection contract; and
  - (ii) The date on which you have fully complied with any conditions (or other measures) that we specified as conditions of the connection.

## 5. Options for selling electricity from distributed generation

### 5.1. *Trading your surplus electricity*

- (a) If you wish to trade your surplus electricity exported into our network, you can either:
- (i) enter into an agreement with a trader trading on our network;
  - (ii) sell the electricity directly to the clearing manager; or
  - (iii) gift the electricity to the electricity market.
- (b) You may consider negotiating selling your export quantities to the trader that retails electricity to the premises your distributed generation is located. If it declines to enter into an arrangement for this purpose, you will need to:
- (i) seek an arrangement with another trader;
  - (ii) persuade the current trader to gift your surplus electricity to the electricity market;
  - (iii) become the trader for the ICP the distributed generation is connected to and sell the electricity to the clearing manager; or
  - (iv) modify the distributed generation so that it does not export electricity (e.g. by controlling the distributed generation or introducing storage batteries).
- (c) The Code requires distributed generators to notify the reconciliation manager if they will not receive payment for any electricity they export to the distribution network. As an example, you might choose not to be paid for any electricity generated if the costs of metering charges outweigh your profits from exporting electricity.
- (d) If you opt to sell electricity to the clearing manager, you come within the definition of “trader” in the Code. Traders must:
- (i) register and be certified as reconciliation participants;
  - (ii) comply with the relevant parts of the Code, including those for switching, metering, trading and reconciliation<sup>4</sup>;
  - (iii) ensure that there is a metering installation at the ICP to measure all electricity conveyed.

### 5.2. *Metering installation requirements for exporting electricity*

- (a) If you wish to export the electricity from your distributed generation into our network, you will need a metering installation that meets the following requirements.
- (b) The metering installation at the point of connection between your premises and our network must have import/export and active/reactive metering if it:
- (i) is a category 2 (or higher category) half-hour metering installation<sup>5</sup>;
  - (ii) was certified after 29 August 2013;

<sup>4</sup> Parts 10 (Metering, 11 (Registry), 13 (Trading), and 15 (Reconciliation) of the Code

<sup>5</sup> Table 1 of Schedule 10.1 of Part 10 of the Code details metering installation characteristics and associated requirements

- (iii) is to be used for measuring and recording consumption and generation.
- (c) Although it is not required in the Code, we may still, in our connection and operation standards, require you to have a category 1 metering installation if you are gifting the electricity;
- (d) The Code requires a category 2 (or higher category) metering installation to have export reactive metering in addition to the other metering requirements under the Code if:
- (i) A distributed generator with a category 2 (or higher category) metering installation intends to gift its surplus electricity;
  - (ii) The category 2 (or higher category) metering installation was certified after 29 August 2013.

## 6. DG Connection Criteria

Network type	Customer type	Connection type	Export limit	Notes
Shared transformer	Residential (Town)	Three phase	Up to a maximum of 10kVA*	Maximum imbalance is 5kVA between phases**
		Single phase	Up to a maximum of 10kVA*	
	Residential (Rural)	Three phase	Up to a maximum of 10kVA*	Maximum imbalance is 5kVA between phases**
		Single phase	Up to a maximum of 5kVA*	
	Commercial/industrial	Three phase	Export capacity depends on the total number of ICP connections to allow export capacity sharing*	
Dedicated transformer	Residential (Town)	Three phase	Up to a maximum of 80% of the transformer rating*	
	Residential (Rural)	Three phase	Up to a maximum of 80% of the transformer rating*	
	Commercial/industrial	Three phase	Up to a maximum of 80% of the transformer rating*	

\* Export capacity limits are assessed on a case-by-case basis

\*\* Maximum export could be 5/5/0 kVA or 3.33/3.33/3.33 kVA

## Form 1 – Initial application at 10kW or greater

Application for connection of distributed generation rated at 10kW or greater (4 pages including this page).

### 1. Applicant contact details

Full name: \_\_\_\_\_

Street address: \_\_\_\_\_

Contact number: \_\_\_\_\_

Email: \_\_\_\_\_

### Installer contact details

Company name: \_\_\_\_\_

Street address: \_\_\_\_\_

Contact Number: \_\_\_\_\_

Email: \_\_\_\_\_

### 2. Location where you wish to connect your distributed generation to our network (please include a map reference if possible).

ICP Number (from the power bill for the location): \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 3. Will your distributed generation be connected to our network through an inverter? ☐ Yes ☐ No

If yes, please provide the Make, Model and Nameplate Capacity of your inverter(s):

#### Inverter(s) - Make, Model and Nameplate Capacity

Make: \_\_\_\_\_ Model: \_\_\_\_\_

Nameplate Capacity of each inverter: \_\_\_\_\_ kW

Number of Inverters to be installed: \_\_\_\_\_

Is it on Electra's approved list? ☐ yes ☐ no

(If no, attach an AS/NZS 4777.2:2020 Declaration of Conformity certificate for the inverter.)

**Battery Storage - Make, Model and Nameplate Capacity**

Make: \_\_\_\_\_ Model: \_\_\_\_\_

Nameplate Storage Capacity: \_\_\_\_\_ kWh

Maximum charge rate: \_\_\_\_\_ kW

Maximum discharge rate: \_\_\_\_\_ kW

Are you adding to existing generation? ☐ yes ☐ no

Number of batteries installed: \_\_\_\_\_

**Array - Make, Model and Nameplate Capacity**

Make: \_\_\_\_\_ Model: \_\_\_\_\_

Size of panel (W): \_\_\_\_\_ No. of panels: \_\_\_\_\_

Total generation capacity of array: \_\_\_\_\_ kW

**4. Is your application to**

- ☐ Connect a *new* distributed generation installation to our network?
- ☐ *Continue* or *extend* an existing distributed generation connection if a connection contract *is in force* or *has expired*?
- ☐ Continue an existing distributed generation connection that has *not* previously been connected under a connection contract?
- ☐ Change the *nameplate capacity* or *fuel type* of an existing distributed generation connection?

**5. What is the nameplate capacity of your proposed distributed generation if an inverter is not used (see 3 above)?**

Rating: \_\_\_\_\_

**6. If your application is to change the nameplate capacity or fuel type of your existing connected distributed generation, what will be**

- ☐ the nameplate capacity that your distributed generation will have after the change: \_\_\_\_\_ kW, and
- ☐ the aggregate nameplate capacity that all distributed generation that is connected at the point of connection will have after the change: \_\_\_\_\_ kW, and

**7. What is the fuel type of your distributed generation?**

- ☐ Solar PV ☐ Wind ☐ Hydro ☐ Liquid Fuel
- ☐ Other (please describe) \_\_\_\_\_



**8. Do you wish to connect your generation to**

- ☐ An existing Electra point of connection for which you are the account holder
- ☐ An existing Electra point of connection for which you are not the account holder
- ☐ At a location that will require new connection assets.

**9. What is the physical location of the distributed generation at the address at which it is, or will be, connected:****10. If the application is to connect distributed generation, at what date is it expected to be connected? \_\_\_\_\_****11. Please attach the following technical information. Where possible please use sketches, photo's and photocopies of brochures etc.**

- ☐ The technical specifications of the equipment that will disconnect your distributed generation from our network if mains voltage is lost or the frequency dips.
- ☐ The manufacturer's rating of the equipment.
- ☐ Number of phases: ☐ 1-phase ☐ 3-phase
- ☐ Details of battery storage equipment (if used).
- ☐ Details of any load at the proposed or current point of connection
- ☐ Details of the voltage when connected (415V, 11kV or 33kV)
- ☐ Evidence showing how your distributed generation complies with our connection and operating standards listed in 2.1 to 2.5 above.
- ☐ Maximum active power injected: (MW max)
- ☐ Reactive power requirements: (Mvars) (if any)
- ☐ Resistance and reactance details of the distributed generation:
- ☐ Fault level contribution: (kA)
- ☐ Method of voltage control:
- ☐ Single line diagram of proposed connection
- ☐ Means of synchronisation and connection and disconnection to the distribution network, including the type and ratings of the proposed circuit breaker
- ☐ Details of compliance with frequency and voltage support requirements as specified in this Code (if applicable)
- ☐ Proposed periods and amounts of electricity injections into, and offtakes from, the distribution network (if known)

## Declaration

In submitting this inquiry I certify that all of the above information and any attached information are true and correct. I also certify that the distributed generation we intend to connect to Electra's network is rated above 10kW in total and acknowledge Electra's full and unlimited right to disconnect our generation should any part of this inquiry prove false or fraudulent.

I have read, understand and agree to the terms and conditions stated in this form and in the *Terms and Conditions for connection and operation of above 10kW in capacity*

Signature of applicant \_\_\_\_\_

Email address: \_\_\_\_\_

Date: \_\_\_\_\_

**Post your completed initial application form to Electra Ltd, PO Box 244, Levin  
or deliver it to Electra Ltd on the corner of Bristol & Exeter Sts, Levin  
or email it to [DG@electra.co.nz](mailto:DG@electra.co.nz)**

**For office use only**Date ***initial application*** received: \_\_\_\_\_

Application reference number: \_\_\_\_\_

Date response required by: \_\_\_\_\_

Application:      ☐ Approved    ☐ More information required    ☐ Declined

Initial application processed by: \_\_\_\_\_

Date applicant advised of decision: \_\_\_\_\_

## Form 2 – Final application

Final application for connection of distributed generation rated above 10kW in total (3 pages including this page).

### 1. Unique identification number assigned to your initial application

Unique identifier \_\_\_\_\_

### 2. Your contact details

Full name \_\_\_\_\_

Postal address \_\_\_\_\_

Street address \_\_\_\_\_

Daytime phone \_\_\_\_\_

Mobile phone \_\_\_\_\_

Email \_\_\_\_\_

### 3. Confirmation that our requirements will be met (attach supporting documentation as necessary).

- ☐ Safety requirements
- ☐ Technical requirements
- ☐ Operational requirements
- ☐ Commercial requirements

### 4. Confirmation that external regulatory requirements such as resource, planning or building consents will be met (attach supporting documentation as necessary).

- ☐ External regulatory requirements.

- **A certificate of compliance** certifying that your generation is electrically safe. This certificate must be signed off by both the electrical worker who installed your generation and a person who is a registered electrical inspector under Part 9 of the Electricity Act 1992 and who is competent with distributed generation.

- ☐ Attached completed certificate.

### 5. Details of energy retailer who will buy your energy

Company \_\_\_\_\_

- ☐ Attached copy of energy purchase agreement.

### 6. Details of electrical worker who will connect your generation

Name \_\_\_\_\_

Registration Number \_\_\_\_\_

## 7. Declaration

In submitting this final application I certify that all of the above information and any attached information are true and correct. I also certify that the distributed generation we intend to connect to Electra's network is above 10kW in total and acknowledge Electra's full and unlimited right to disconnect our generation should any part of this application prove false or fraudulent.

Signature of applicant \_\_\_\_\_

**Post your completed initial application form to Electra Ltd, PO Box 244, Levin  
or deliver it to Electra Ltd on the corner of Bristol & Exeter Sts, Levin  
or email it to [DG@electra.co.nz](mailto:DG@electra.co.nz)**

**For office use only**Date ***final application*** received: \_\_\_\_\_

Application reference number: \_\_\_\_\_

Date response required by: \_\_\_\_\_

Application:      ☐ Approved    ☐ More information required    ☐ Declined

Final application processed by: \_\_\_\_\_

Date applicant advised of decision: \_\_\_\_\_