

A utility pole with power lines against a sunset sky. The pole is silhouetted against the bright orange and yellow light of the setting sun. The sky transitions from a deep orange near the horizon to a pale yellow and then to a soft purple at the top. The foreground shows a field of crops, possibly corn, in silhouette.

# Distributed Generation Information Pack 0–10kW

**EA networks**  
*connecting our community*

# Distributed Generation - Guidelines & Application Form

## For small generators – total capacity less than 10 kW

Issue 3.0 (12<sup>th</sup> June 2020)

This document is subject to change without any prior notice. Please ensure you have the latest version.

Installing distributed generation with less than 10 kW capacity

**START HERE**

**i** See the attached guide for details of each numbered step.

Interpretation:

**Generator** - refers to the person or an organisation that owns or operates distribution generators.

### Application Process

EA Networks will assess the application for completeness/accuracy as well as compliance with the congestion management policy. If there are any deficiencies identified during the approval process, EA Networks will notify the Generator of the omissions/corrections **within 10 business days**. The Generator must provide the completed/corrected application **within 10 business days** from that notification.

**1**

System Selection

**1**

Typically, smaller distributed generation systems of this size are rotating (turbine) based systems, solar photovoltaic panels, battery, etc.

**2**

Submission of Application

**2**

The Generator will submit the application accompanied with the additional information. An invoice will be sent for the application fee.

**Within 5 2 business days of receiving the application**, EA Networks will send to the Generator a written notice advising whether the application is complete or not.

**3**

Application Approval Process

**3**

EA Networks will send the final approval notice to the Generator, stating whether the application is approved or declined, **within 30 10 business days after the date of receipt of a fully completed application**.

Extension of time by mutual agreement of **up to 20 business days** may be granted by the Generator.

**4**

Notice of Intention to Proceed

**4**

The Generator must give a written notice to EA Networks confirming whether they intend to proceed with the connection **within 10 business days after the day on which the notice of approval has been received**.

### Connection Process

This step is omitted from the simplified process, but the detailed information provided at this stage is relevant for installation and testing of all distributed generation.

**5**

Connection Contract Negotiation

**5**

Both parties must, in good faith, attempt to negotiate a connection contract **within 30 business days**. The regulated terms of Schedule 6.2 of Part 6 will apply unless agreed otherwise (Guide Section 12 below).

**6**

Contact your Electricity Retailer

**6**

A new meter may be fitted at the Generator's location, by either the Generator or the Retailer.

**7 (+ 9)**

Installation, Testing and Inspection

**7 (+ 9)**

The Generator must comply with all regulations and local bylaws. The Generator must use a Registered Electrician who is required to follow AS/NZS4777 plus all NZ safety regulations and standards.

**8**

Connection Completion and Benefits

**8**

To obtain the full benefit of the distributed generation system, it is critical the metering system is import/export and the retailer has been selected on the net benefit of import and export to the Generator.

A small system could generate up to 87,600 kWh per year (10 kW systems). The income from this generation will depend on the price negotiated with the retailer.

There are **two paths** for applications: the **standard** process (Part 1) and the **simplified** process (Part 1A).

The **simplified** process is for routine applications and **omits** certain steps **Standard only** and the statutory deadline **Standard** for completing some steps is shorter **Simplified**.

The blue steps **Both** indicate that the steps are included in **both** processes and are the **only** steps in the **simplified** process.

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## Guide to installing distributed generation with capacity less than 10kW

This information guide is intended for individuals or organisations wishing to connect distributed generation with a total capacity less than 10 kW to EA Networks' electricity network for the purpose of generating into the grid and selling electricity. This is a **one-stage application process**.

For larger systems above 10 kW there are separate guidelines.

The information provided in this guide is of general nature and the owners of distributed generation must discuss their intentions with EA Networks **before** connecting the distributed generation system to the network. It would also be prudent to approach a preferred energy retailer to ensure arrangements are in place to sell any excess exported energy.

EA Networks will assist you with the connection process as distributed generation of this size can require changes to your connection to the electricity network.

To understand the various terms used in this guide, please refer to the glossary on the back of this guideline.

***This guide does not apply to generation systems that are stand-alone and have no connection to EA Networks' electricity network.***

### 1. System Selection

The likely distributed generation technology for systems with a capacity less than 10 kW will be large arrays of solar panels or small rotating plant, such as turbines (wind, steam, hydro, etc). At the upper end of the range, systems are likely to have a three-phase output. If so, you will need a three-phase connection to EA Networks' network. You need to consider your connection to the network in this regard.

Depending on your system selection, you can choose one of two paths for processing your application:

- (a) the simplified approval process, or
- (b) the standard approval process.

In order to submit your application under the **simplified approval process**, your system has to meet the following requirements (by default, an application will use the simplified approval process unless instructed otherwise):

- be designed and installed in accordance with the latest edition of AS/NZS 4777.1,
- incorporate an inverter that has been type-tested and issued a Declaration of Conformity (DoC) with all relevant parts of the latest AS/NZS 4777.2 by a laboratory with accreditation issued or recognised by International Accreditation New Zealand,
- have protection settings that meet EA Networks' connection and operation standards or are in accordance with the latest edition of AS/NZS 4777.2, and
- comply with EA Networks' connection and operation standards and congestion management policy.

Generation systems that are less than 10 kW in capacity are unlikely to individually have any significant impact on EA Networks distribution network, but it may require some modifications to be carried out which can affect your connection to the network. All distributed generation systems must comply at all times with the requirements of the [Health and Safety at Work Act 2015](#), [Electricity Act 1992](#) and the regulations and rules made under the Electricity Act 1992. The distributed generation must comply with EA Networks' connection and operation standards ([EA Networks' Conveyance and Use of System Agreement](#)).

For this reason, EA Networks recommends that you contact an experienced electrical contractor/consultant to make sure that your distributed generation complies with all requirements prior to submitting the application. This may involve extra cost.

## 2. Submission of Application

Any person or organisation, who wishes to connect distributed generation capable of generating electricity at a rated capacity of 10 kW or less in total, must apply to EA Networks by using the application form attached to this guideline and provide any necessary information in respect of the distributed generation proposed to be connected.

If the application is for an increase in capacity for an existing connection, you must provide extra information about the size (nominal capacity) of the additional generation and the total size (nominal capacity) of all generators at the point of connection.

If you decide to apply for approval to connect your distributed generation system under the **simplified approval process**, then the application must include the following information:

- (a) the name and contact details of the distributed generation owner and, if applicable, the distributed generator's system installer details,
- (b) the installation control point (ICP) identifier (if known at the time of application),
- (c) the physical location of the distributed generation installation,
- (d) the nameplate capacity of your distributed generation,
- (e) the distributed generation type (e.g. solar, wind, hydro, liquid fuel, etc.),
- (f) the make and model of inverter and/or battery to be installed and the information as to whether the inverter and/or battery:
  - i is included on EA Networks' [published list of approved inverters](#) (if the inverter is not included in the [published list of approved inverters](#), then the application must include a copy of the inverter's DoC with the latest AS/NZS 4777),
  - ii conforms with the protection settings specified in EA Networks' connection and operation standards;
- (g) acceptance of the requirement for prompt payment of the application fee after receipt of the invoice.

Within 2 business days of receiving the application under the simplified process, EA Networks will advise you that the application has been received. If you did not receive any response from EA Networks within this period, you should contact EA Networks.

Otherwise, if you apply for approval to connect your distributed generation system under the **standard approval process**, the application form must be accompanied by the following attachments:

- (a) information about the name plate rating (if known), or other suitable evidence that the generating unit is (or will be) only capable of generating electricity at a rate of 10 kW or less,
- (b) detailed information about the inverter and/or battery (if applicable),
- (c) technical specification of the equipment that allows the distributed generation to be disconnected from the network on loss of mains voltage,
- (d) information and justification showing how the distributed generation complies with the latest edition of AS/NZS 4777 (where appropriate),
- (e) information and justification showing how the distributed generation complies with EA Networks' connection and operation standards (where applicable).

Within 5 business days from the date of application receipt, EA Networks will advise you in writing whether your application contains all the information required.

An invoice for the application fee will be raised shortly after receipt of the application and it is expected that payment of this fee will occur promptly.

## 3. Application Approval Process

Based on the information provided in the application, EA Networks will assess whether:

- (a) the distributed generation will comply at all times with the requirements of the [Health and Safety at Work Act 2015](#); and

- (b) the distributed generation will comply at all times with the [Electricity Act 1992](#), and the regulations and rules made under this Act; and
- (c) the connection of the distributed generation complies with EA Networks' connection and operation standards ([EA Networks' Conveyance and Use of System Agreement](#)); and
- (d) the application should follow the simplified or standard approval process.

If your application contains all the documentation required and has been submitted to be processed under the **simplified approval process**, then EA Networks will inspect your distributed generation system and provide you with the final approval notice within 10 business days from the receipt of your application. EA Networks will give 2 business days' notice of a time and date when (or if) the inspection will be carried out.

If there are any deficiencies identified during the approval process, EA Networks will notify you within 10 business days with what is required to correct these deficiencies. You have to remedy these deficiencies and pay the applicable fees within 10 business days from notification in order to have your application approved.

Otherwise, if the application has been submitted to be processed under the **standard approval process**, within 30 business days following the date a completed application is received, EA Networks will notify you in writing whether the application has been approved or declined.

Due to situations which occasionally arise, EA Networks may seek an extension of the application processing time. In these circumstances, EA Networks will notify you in writing specifying the reasons for the delay and the amount of additional time required to process the application. You may grant an extension of up to 20 business days and must not unreasonably withhold consent to an extension.

#### 4. Notice of Intention to Proceed

This step only applies to the **standard approval process**.

If the application is approved, a written notice must be provided to EA Networks confirming whether you as "The generator" intend to proceed with the connection and, if so, confirming the details of the generation to be connected.

Notice must be given within 10 business days after the day on which EA Networks gives notice of approval to connect distributed generation or, within a longer period of time mutually agreed between EA Networks and you.

Failure to give written notice to EA Networks within the time limit specified, will cause the application to be considered cancelled and EA Networks' responsibilities under the most recent version of the Electricity Industry Participation Code, [Part 6](#) (the Code) will no longer apply. This does not prevent you from submitting a new application for connection of distributed generation at a later, subsequent date.

#### 5. Connection Contract Negotiation

All applications processed under the **simplified approval process** will be governed by the regulated terms for the connection and operation unless both parties agree to substitute them with a connection contract.

Under the **standard approval process**, and after receiving the written notice of intention to proceed, both the applicant and EA Networks have 30 business days during which they must, in good faith, attempt to negotiate a connection contract.

If no connection contract has been negotiated by the expiry of the negotiating period, the regulated terms contained in the Electricity Industry Participation Code ([Part 6, Schedule 6.2](#)) will apply for the connection of distributed generation.

The period for negotiating a connection contract may be extended by mutual agreement between both parties.

## 6. Contact your Electricity Retailer

You must discuss your Generator scheme with an electricity retailer, as you may be selling any surplus of energy (exported energy) back to them. You can purchase from, and sell to, any retailer trading in EA Networks' area.

The electricity retailers that currently have a Use of System Agreement with EA Networks' Network are:

- Contact Energy Limited
- Ecotricity GP Limited
- Electric Kiwi Limited
- Energy Online
- Flick Electric Limited
- Genesis Energy Limited
- Kea Energy Ltd
- Mercury NZ Limited
- Meridian Energy Limited
- Nova Energy Limited
- Pioneer Energy Limited
- Powershop New Zealand Limited
- Prime Energy Limited
- Pulse Utilities NZ Limited
- Simply Energy Limited
- Switch Utilities Limited
- TrustPower Limited
- Yes Power Limited

There may be some retailers that have sub-brands or some smaller retailers that act as resellers underneath the listed retailers. EA Networks attempt to maintain [a list of all these entities](#).

You must complete an agreement with an electricity retailer before you can connect your generator to the EA Networks' network.

### ***A new meter may need to be installed***

Your retailer is responsible for your metering installation. When you contact a retailer, you need to discuss with them the fitting of a new meter or, ask if your present meter will be suitable. The complexity of the metering required will depend on the contract you have arranged with the retailer who is purchasing your exported power.

Your electricity retailer will advise you of any rental costs and data handling fees associated with this metering.

### ***Minimum metering requirements***

You will usually need a full import/export metering system that measures energy (kWh) in each half hour that is used (imported) or injected (exported) back into the system.

Normally, your retailer or meter provider will choose to own the meter and lease it to you. You could own the meter yourself, but this is more complicated and is uncommon.

This type of metering will generally be fitted with a cellular modem to allow it to be remotely interrogated. In addition, there may be a tariff / meter change fee. This fee will depend on your location and your existing metering.

## 7. Installation, Testing and Inspection

While this stage does not apply to applications submitted under the **simplified approval process**, the information provided below is relevant for the installation and testing of your distributed generation regardless of your application process.

The installation must be undertaken by qualified trades personnel to ensure compliance with all required building and electrical codes and standards.

All wiring associated with the system must comply with AS/NZS 3000 - Electrical Installations (Australian/New Zealand Wiring Rules) or any successive standard, regulation, or legislation, and be undertaken by a registered electrician where required by legislation. You must also ensure that all building and other consents required are obtained, by discussing the proposal with your local council.

Safety comes first in connection of any generation equipment; safety to you, and safety to others connected to, or working on, EA Networks' electricity network.

If your generator continued to operate when there was a power cut, you could cause EA Networks' electricity network to become alive at a time it was assumed to be dead. This can cause serious harm to anyone working on the network, and/or damage to your equipment.

Your system must comply with [Australian/New Zealand Standard \(AS/NZS\) 4777.2](#) and with protection systems installed in accordance with [AS/NZS 4777.1](#) in order to provide isolation and prevent harm/damage from happening.

Your registered electrician should closely follow [AS/NZS 4777.1](#) when undertaking installation of your equipment. This Standard is downloadable from [Standards New Zealand](#) at a cost. While AS/NZS 4777.1 deals primarily with the connection of inverter based systems, the principles covered by this standard shall also be followed for distributed generation systems that do not employ inverters.

EA Networks require any inverter to disconnect if it detects the AC voltage exceeding 248 volts (averaged for 10 minutes). This is a prudent level to prevent damage to household appliances which are typically rated to tolerate 230 volts  $\pm 6\%$ . This is not true of all appliances and some may be irreparably damaged by any voltage over that specified on the nameplate, possibly causing a fire. In some cases, a limit lower than 248 volts may be required. It is suggested that you obtain the professional advice of your equipment supplier and/or installer. EA Networks do not accept any liability for an overvoltage setting above 244 volts.

The installation must also comply with [EA Networks' Conveyance and Use of System Agreement](#).

Please note that after your application has been approved and the steps outlined above are completed, as a minimum you must:

- (a) test and inspect your distributed generation before connection,
- (b) give EA Networks adequate notice of the tests and inspection – we may send qualified personnel to the site to observe the testing and inspection,
- (c) provide EA Networks with a written test report when testing and inspection is complete, including suitable evidence that the metering installation complies with the metering standards in the rules,
- (d) supply EA Networks with a copy of the Certificate of Compliance relating to the distributed generation system, and
- (e) when applicable, pay the fee specified by EA Networks for observing the testing and inspection, up to the maximum fee detailed on [EA Networks' website](#).

Whether or not you entered into a connection contract with EA Networks before the period for negotiating a connection contract, you must complete the testing and inspection presented above **prior** to the connection of distributed generation.

If you have entered into a connection contract with EA Networks, your distributed generation will be connected in accordance with that contract as soon as practicable. Otherwise, EA Networks will connect the distributed generation on the regulated terms as soon as practicable after the expiry of that period.

## 8. Connection Completion and Benefits

Once the connection has been completed, you and EA Networks must perform all obligations under the negotiated connection contract or regulated terms, in accordance with connection and operation standards.

If the application was approved under the **simplified approval process**, you must send to EA Networks as soon as available, but no later than 10 business days after the completion of the installation, a copy of the Certificate of

Compliance issued under the Electricity (Safety) Regulations 2010 that relates to your distributed generation, and the ICP number if this wasn't provided in the application.

As owner of the distributed generation installation, you will need to negotiate a contract for the amount of electricity that is sold to an electricity retailer or, to another party via an electricity retailer. The retailer you choose can have a significant influence on the net financial benefit of the distributed generation system to you.

## 9. Recommended Inverter Settings

An inverter certified under AS/NZS 4777.2 has both mandatory and optional features that protect the grid and the generator for safety, power quality, and stability purposes. The settings that control these features are often left at default values which do not necessarily provide maximum operating advantage to the Generator or EA Networks.

When features are enabled, the settings detailed below are those that EA Networks recommend using unless specific engineering advice has been obtained advising otherwise.

The first group of settings control the inverter's response to voltage or frequency excursions ensuring the grid is stable and the installation does not experience excessive voltage variation.

Protection of the Distribution Network		
Parameter	Recommended Setting	Design/Actual Setting
$V_{nom-max}$ (10 minute average)	248V	
<b>Mains Overvoltage 1</b>		
Limit	260V	
Minimum trip delay time	1 second	
Maximum disconnection (trip) time	2 seconds	
<b>Mains Overvoltage 2</b>		
Limit	265V	
Maximum disconnection (trip) time	0.2 seconds	
<b>Mains Undervoltage</b>		
Limit	180V	
Minimum trip delay time	1 second	
Maximum disconnection (trip) time	2 seconds	
<b>Over-frequency</b>		
Limit	52Hz	
Maximum disconnection (trip) time	0.2 seconds	
<b>Under-frequency</b>		
Limit	45Hz	
Minimum trip delay time	1 second	
Maximum disconnection (trip) time	2 seconds	
<b>Minimum Reconnection Time</b>		
Limit	60 seconds	

The second group of features and settings relate to power quality and the ability to continue injecting power into the grid under adverse conditions. The recommended setting values form a logical sequence of inverter responses as the grid interface voltage changes.

Inverter Power Quality Response Modes			
Response Mode	Available (Y/N)	Enabled (Y/N)	Design/Actual Setting
Volt-VAr			See Below
Volt-Watt			See Below
Volt Balance (3 phase)			
Fixed Power Factor			
Fixed Reactive Response			
Power Response			

  

Required Settings	Recommended Setting	Design/Actual Setting
<b>Volt-VAr Response Mode (if available)</b>		
V1	207V	
V2	220V	
V3	235V	
V4	244V	
<b>Volt-Watt Response Mode (if available)</b>		
V1	207V	
V2	220V	
V3	244V	
V4	246V	
<b>Other Settings</b>		
Power Rate Limit, Ramp Time	6 minutes (16.7% of rated power per minute)	
Soft Ramp Up after Connect or Reconnect	Enabled	

There are benefits to setting these values at the time of installation. They proactively mitigate some possible performance issues that would otherwise prevent generation and/or require the installer to revisit the premises to both diagnose and remedy the problem. If settings are not as shown above, a copy of these tables should be provided with the application showing the actual applied settings.

## 10. Export Congestion Information

Currently there are no known locations of export congestion within EA Networks' distribution network for distributed generation less than 10kW. It is not anticipated that any locations will become subject to export congestion within the next 12 months.

Please be aware that the maximum export per phase shall not exceed 5kW. That is, for a single phase installation the export to the network shall not exceed 5kW and for two phase installations this export to the network will be limited to a maximum of 10kW evenly spread across the two phases. For a three phase system, the maximum export difference between any two phases shall not exceed 5kW (e.g. 8/1/1 is not OK, but 5/3/2 or 3/3/3 is OK).

For systems greater than 10kW, a balanced three phase output is required.

## 11. Glossary

**Act** means Electricity Industry Act 2010.

**Business day** is considered as any day of the week other than Saturday, Sunday, or a public holiday (within the meaning of the [Holidays Act 2003](#)).

**Code** means the Electricity Industry Participation Code 2010.

**Connect**, in relation to distributed generation, means to be connected to a distribution network or, to a consumer installation that is connected to a distribution network.

**Distributed generation** means equipment used, or proposed to be used, for generating electricity that:

- (a) is connected, or proposed to be connected, to a distribution network, or to a consumer installation that is connected to a distribution network; and
- (b) is capable of injecting electricity into that distribution network.

**Distribution network** means the electricity lines, and associated equipment, owned or operated by EA Networks, but does not include:

- (a) the national grid; or
- (b) an embedded network that is used to convey less than 2.5 GWh per annum.

**Distributor** means a person who supplies line function services to any other person or persons (such as EA Networks).

**DoC** means Declaration of Conformance to the requirements of the latest edition of AS/NZS 4777.2.

**Generator** means a person who owns or operates distributed generation.

**Any term** that is defined in the Electricity Industry Participation Code 2010, [Part 6](#) (the Code) and used, but not defined, in this guideline has the same meaning as in the Code.

## 12. Regulated Terms for Distributed Generation

These terms (as at June 2020) need to be interpreted in conjunction with the [Electricity Industry Participation Code 2010 \(Part 6 - Connection of distributed generation\)](#) of which they form a part.

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## General

### 1 Contents of this Schedule

This Schedule sets out the regulated terms that apply to a distributor and a distributed generator in respect of distributed generation that is connected in accordance with clause 6.6 of Part 6 of this Code and Schedule 6.1.

### 2 Interpretation

These regulated terms must be interpreted—

- (a) in light of the purpose of Part 6 of this Code; and
- (b) so as to give business efficacy to the relationship between the distributor and the distributed generator created by Part 6 of this Code.

### 3 General obligations

- (1) The distributor and the distributed generator must perform all obligations under these regulated terms in accordance with connection and operation standards (where applicable).
- (2) The distributor and the distributed generator must each construct, connect, operate, test, and maintain their respective equipment in accordance with—
  - (a) these regulated terms; and
  - (b) connection and operation standards (where applicable); and
  - (c) this Code.
- (3) The distributed generator must, subject to subclause (2), construct, connect, operate, test, and maintain its distributed generation in accordance with—
  - (a) reasonable and prudent operating practice; and
  - (b) the applicable manufacturer's instructions and recommendations.
- (4) The distributor and distributed generator must each be fully responsible for the respective facilities they own or operate.
- (5) The distributor and distributed generator must each ensure that their respective facilities adequately protect each other's equipment, personnel, and other persons and their property, from damage and injury.
- (6) The distributed generator must comply with any conditions specified by the distributor under clause 18 of Schedule 6.1 (or, to the extent that those conditions were the subject of a dispute under clause 20(3) of that Schedule, or of negotiation during the period for negotiation of the connection contract, the conditions or other measures as finally resolved or negotiated).

### 4 Installation of meters and access to metering information

(1) [Revoked]

- (2) The distributed generator must give the distributor, at the distributor's request, the interval data and cumulative data recorded by the metering installations at the point of connection at which the distributed generation is connected or is proposed to be connected.
- (3) The distributed generator must provide reactive metering if—
  - (a) the meter for the distributed generation is part of a category 2 metering installation, or a higher category of metering installation; and
  - (b) the distributed generator is required to do so by the distributor.
- (4) The distributor's requirements in respect of metering measurement and accuracy must be the same as set out in Part 10 of this Code.

### 5 Right of distributor to access distributed generator's premises

- (1) The distributed generator must provide the distributor, or a person appointed by the distributor, with safe and unobstructed access onto the distributed generator's premises at all reasonable times—
  - (a) for the purpose of installing, testing, inspecting, maintaining, repairing, replacing, operating, reading, or removing any of the distributor's equipment and for any other purpose related to these regulated terms; and
  - (b) for the purpose of verifying metering information; and
  - (c) for the purpose of ascertaining the cause of any interference to the quality of delivery services being provided by the distributor to the distributed generator; and
  - (d) for the purpose of protecting, or preventing danger or damage to, persons or property; and

- (e) for the purposes of electrically connecting or electrically disconnecting the distributed generation; and
  - (f) for any other purpose relevant to either or both of—
    - (i) the distributor connecting distributed generation in accordance with connection and operation standards; and
    - (ii) maintaining the integrity of the distribution network.
- (2) The rights of access conferred by these regulated terms are in addition to any right of access the distributor may have under a statute or regulation or contract.

## **6 Process if distributor wants to access distributed generator's premises**

- (1) The distributor must exercise its right of access under clause 5 by,—
- (a) wherever practicable, giving to the distributed generator reasonable notice of its intention and of the purpose for which it will exercise its right of access; and
  - (b) causing as little inconvenience as practicable to the distributed generator in carrying out its work; and
  - (c) observing reasonable and prudent operating practice at all times; and
  - (d) observing any reasonable security or site safety requirements that are made known to the distributor by the distributed generator.
- (2) However, the distributor may take all reasonable steps to gain immediate access where it reasonably believes there is immediate danger to persons or property.

## **7 Distributor must not interfere with distributed generator's equipment**

- (1) The distributor must not interfere with the distributed generator's equipment without the prior written consent of the distributed generator.
- (2) However, if emergency action has to be taken to protect the health and safety of persons, or to prevent damage to property, the distributor—
- (a) may interfere with the distributed generator's equipment without prior written consent; and
  - (b) must, as soon as practicable, inform the distributed generator of the occurrence and circumstances involved.

## **8 Distributed generator must not interfere with, and must protect, distributor's equipment**

- (1) The distributed generator must not interfere with the distributor's equipment without the prior written consent of the distributor.
- (2) However, if emergency action has to be taken to protect the health and safety of persons, or to prevent damage to property, the distributed generator—
- (a) may interfere with the distributor's equipment without prior written consent; and
  - (b) must, as soon as practicable, inform the distributor of the occurrence and circumstances involved.
- (3) The distributed generator must protect the distributor's equipment against interference and damage.

## **9 Obligation to advise if interference with distributor's equipment or theft of electricity is discovered**

- (1) If the distributor or the distributed generator discovers evidence of interference with the distributor's equipment, or evidence of theft of electricity, the party discovering the interference or evidence must advise the other party within 24 hours.
- (2) If interference with the distributor's equipment at the distributed generator's installation is suspected, the distributor may itself carry out an investigation and present the findings to the distributed generator within a reasonable period.
- (3) The cost of the investigation—
- (a) must be borne by the distributed generator if it is discovered that interference by the distributed generator, or by its subcontractors, agents, or invitees, has occurred, or if the interference has been by a third party, and the distributed generator has failed to provide reasonable protection against interference to the distributor's equipment; and
  - (b) must be borne by the distributor in any other case.

## **Interruptions and disconnections**

### **10 General obligation relating to interruptions**

The distributor must make reasonable endeavours to ensure that the connection of the distributed generation is not interrupted.

### **11 Circumstances allowing distributor to temporarily electrically disconnect distributed generation**

Despite clause 10, the distributor may interrupt the connection service, or curtail either the operation or output of the generation, or both, and may temporarily electrically disconnect the distributed generation in any of the following cases:

- (a) in accordance with the distributor's congestion management policy;
- (b) if reasonably necessary for planned maintenance, construction, and repairs on the distribution network;
- (c) for the purpose of protecting, or preventing danger or damage to, persons or property;
- (d) if the distributed generator fails to allow the distributor access as required by clause 5;
- (e) [Revoked]
- (f) in accordance with clause 13 (adverse operating effects);
- (g) if the distributed generator fails to comply with the distributor's—
  - (i) connection and operation standards; or
  - (ii) safety requirements.

### **12 Obligations if distributed generation temporarily electrically disconnected by distributor**

- (1) The distributor must make reasonable endeavours to—
  - (a) advise the distributed generator before an interruption under clause 11; and
  - (b) co-ordinate with the distributed generator to minimise the impact of the interruption.
- (2) The distributor and the distributed generator must co-operate to restore the distribution network and the distributed generation to a normal operating state as soon as is reasonably practicable following the distributed generation being temporarily electrically disconnected.
- (3) In the case of a forced outage, the distributor must, subject to the need to restore the distribution network, make reasonable endeavours to—
  - (a) restore service to the distributed generator; and
  - (b) advise the distributed generator of the expected duration of the outage.

### **13 Adverse operating effects**

- (1) The distributor must advise the distributed generator as soon as is reasonably practicable if it reasonably considers that operation of the distributed generation may—
  - (a) adversely affect the service provided to other distribution network customers; or
  - (b) cause damage to the distribution network or other facilities; or
  - (c) present a hazard to a person.
- (2) If, after receiving that advice, the distributed generator fails to remedy the adverse operating effect within a reasonable time, the distributor may electrically disconnect the distributed generation by giving reasonable notice (or without notice when reasonably necessary in the event of an emergency or hazardous situation).

### **14 Interruptions by distributed generator**

- (1) This clause applies to any connected distributed generation above 10 kW in total.
- (2) The distributed generator must advise the distributor of any planned outages and must make reasonable endeavours to advise the distributor of an event that affects distribution network operations.
- (3) The distributed generator must make reasonable endeavours to advise the distributor of the interruption and to co-ordinate with the distributor to minimise the impact of the interruption.

### **15 Disconnecting distributed generation**

- (1) Despite clause 10, the distributor may disconnect distributed generation in the following circumstances:
  - (a) on receipt of a request from a distributed generator;
  - (b) without notice, if a distributed generator has been temporarily electrically disconnected under clause 11(g) and—
    - (i) the distributed generator fails to remedy the non-compliance within a reasonable period of time; and

- (ii) there is an ongoing risk to persons or property:
- (c) without notice, if the trader that is recorded in the registry as being responsible for the ICP to which the distributed generation is connected to the distribution network has electrically disconnected the ICP and updated the ICP's status in the registry to "inactive" with the reason of "electrically disconnected – ready for decommissioning":
- (d) on at least 10 business days' notice of intention to disconnect, if—
  - (i) the distributed generator has not injected electricity into the distribution network at any time in the preceding 12 months; and
  - (ii) the distributed generator has not given written notice to the distributor of the reasons for the non-injection; and
  - (iii) the distributor has reasonable grounds for believing that the distributed generator has ceased to operate the distributed generation.

**(2) [Revoked]**

- (3) If a distributor disconnects distributed generation under subclause (1) and the point of connection is to be decommissioned, the distributor must—
  - (a) remove all electrical conductors between the distributed generation and the distributor's lines;
  - (b) advise the distributed generator within 2 business days of the completion of the work referred to in paragraph (a).

## **15A Distributed generator must construct distributed generation within 18 months of approval**

- (1) This clause applies if the distributor approves the distributed generator's application to connect distributed generation under Part 1, Part 1A, or Part 2 of Schedule 6.1.
- (2) The regulated terms cease to apply if the distributed generator does not construct the distributed generation within—
  - (a) 18 months from the date on which approval was granted; or
  - (b) such later date as is agreed by the distributor and distributed generator.
- (3) The distributed generator must reapply under Schedule 6.1 if—
  - (a) the regulated terms no longer apply in accordance with subclause (1); and
  - (b) the distributed generator wishes to connect distributed generation to the distributor's distribution network.

## **16 General obligations relating to confidentiality**

- (1) Each party must preserve the confidentiality of confidential information, and must not directly or indirectly reveal, report, publish, transfer, or disclose the existence of any confidential information, except as permitted in subclause (2).
- (2) Each party must only use confidential information for the purposes expressly permitted by these regulated terms.

## **17 When confidential information can be disclosed**

Either party may disclose confidential information in any of the following circumstances:

- (a) if the distributed generator and distributor agree in writing to the disclosure of information;
- (b) if disclosure is expressly provided for under these regulated terms;
- (c) if, at the time of receipt by the party, the confidential information is in the public domain or if, after the time of receipt by either party, the confidential information enters the public domain (except where it does so as a result of a breach by either party of its obligations under this clause or a breach by any other person of that person's obligation of confidence):
- (d) if either party is required to disclose confidential information by—
  - (i) a statutory or regulatory obligation, body, or authority; or
  - (ii) a judicial or arbitration process; or
  - (iii) the regulations of a stock exchange upon which the share capital of either party is from time to time listed or dealt in; or
  - (iv) this Code:
- (e) if the confidential information is released to the officers, employees, directors, agents, or advisors of the party, provided that—
  - (i) the information is disseminated only on a need-to-know basis; and
  - (ii) recipients of the confidential information have been made fully aware of the party's obligations of confidence in relation to the information; and

- (iii) any copies of the information clearly identify it as confidential information:
- (f) if the confidential information is released to a bona fide potential purchaser of the business or any part of the business of a party, subject to that bona fide potential purchaser having signed a confidentiality agreement enforceable by the other party in a form approved by that other party, and that approval may not be unreasonably withheld.

## 18 Disclosures by employees, agents, etc

To avoid doubt, a party is responsible for any unauthorised disclosure of confidential information made by that party's officers, employees, directors, agents, or advisors.

## Pricing

### 19 Pricing principles

Charges that are payable by the distributed generator or the distributor must be determined in accordance with the pricing principles set out in Schedule 6.4.

## Liability

### 20 General obligations relating to liability

- (1) If the distributor or the distributed generator breaches any of the regulated terms (whether by act or omission), that party is liable to the other.
- (2) The distributed generator's and the distributor's liability to each other is limited to damages for any direct loss caused by that breach.
- (3) This clause and clauses 21 to 25 do not limit the liability of either party to pay all charges and other amounts due under Part 6 of this Code or the regulated terms.

### 21 Exceptions to obligations relating to liability

- (1) Neither the distributor nor the distributed generator, nor any of its officers, employees, directors, agents, or advisors, are in any circumstances liable to the other party for—
  - (a) any indirect loss, consequential loss (including, but not limited to, incidental or special damages), loss of profit, loss of revenue (except any liability under clause 20(3)), loss of use, loss of opportunity, loss of contract, or loss of goodwill; or
  - (b) any loss resulting from the liability of the other party to another person; or
  - (c) any loss or damage incurred by the other party if, and to the extent that, this results from any breach of the regulated terms or any negligent action.
- (2) The distributor is not liable, except to the extent caused or contributed to by the distributor in circumstances where the distributor was not acting in accordance with Part 6 of this Code (including these regulated terms), for—
  - (a) any momentary fluctuations in the voltage or frequency of electricity conveyed to or from the distributed generation's point of connection or nonconformity with harmonic voltage and current levels; or
  - (b) any failure to convey electricity to the extent that—
    - (i) the failure arises from any act or omission of the distributed generator or other person, excluding the distributor and its officers, employees, directors, agents, or advisors; or
    - (ii) the failure arises from a reduced injection of electricity into the distribution network; or
    - (iia) the failure arises from an interruption in the conveyance of electricity in the distribution network, if the interruption was at the request of the system operator or under a nationally or regionally co-ordinated response to an electricity shortage; or
    - (iii) the failure arises from any defect or abnormal conditions in or about the distributed generator's premises; or
    - (iv) the distributor was taking any action in accordance with Part 6 of this Code or the regulated terms; or
    - (v) the distributor was prevented from making necessary repairs (for example, by police at an accident scene).
- (3) The distributed generator is not liable for—
  - (a) a failure to perform an obligation under these regulated terms caused by the distributor's failure to comply with the obligation; or

- (b) a failure to perform an obligation under these regulated terms arising from any defect or abnormal conditions in the distribution network.

## 22 Limits on liability

The maximum total liability of each party, as a result of a breach of the regulated terms, must not in any circumstances exceed, in respect of a single event or series of events arising from the same event or circumstance, the lesser of—

- (a) the direct damage suffered or the maximum total liability that the party bringing the claim against the other party has at the time that the event (or, in the case of a series of related events, the first of such events) giving rise to the liability occurred; or
- (b) \$1,000 per kW of nameplate capacity up to a maximum of \$5 million.

## 23 Liability clauses do not apply to fraud, wilful breach, and breach of confidentiality

The exceptions in clause 21, and the limits on liability in clause 22, do not apply—

- (a) if the distributor or the distributed generator, or any of its officers, employees, directors, agents, or advisors, has acted fraudulently or wilfully in breach of these regulated terms; or
- (b) to a breach of confidentiality under clause 16 by either party.

## 24 [Revoked]

## 25 Force majeure

(1) A failure by either party to comply with or observe any provisions of these regulated terms (other than payment of any amount due) does not give rise to any cause of action or liability based on default of the provision if—

- (a) the failure is caused by—
  - (i) an event or circumstance occasioned by, or in consequence of, an act of God, being an event or circumstance—
    - (a) due to natural causes, directly or indirectly and exclusively without human intervention; and
    - (b) that could not reasonably have been foreseen or, if foreseen, could not reasonably have been resisted; or
  - (ii) a strike, lockout, other industrial disturbance, act of public enemy, war, blockade, insurrection, riot, epidemic, aircraft, or civil disturbance; or
  - (iii) the binding order or requirement of a Court, government, local authority, the Rulings Panel, or the Authority, and the failure is not within the reasonable control of the affected party; or
  - (iv) the partial or entire failure of the injection of electricity into the distribution network; or
  - (v) any other event or circumstance beyond the control of the party invoking this clause; and
- (b) the party could not have prevented such failure by the exercise of the degree of skill, diligence, prudence, and foresight that would reasonably and ordinarily be expected from a skilled and experienced distributor or distributed generator engaged in the same type of undertaking under the same or similar circumstances in New Zealand at the time.

(2) If a party becomes aware of a prospect of a forthcoming force majeure event, it must advise the other party as soon as is reasonably practicable of the particulars of which it is aware.

(3) If a party invokes this clause, it must as soon as is reasonably practicable advise the other party that it is invoking this clause and of the full particulars of the force majeure event relied on.

(4) The party invoking this clause must—

- (a) use all reasonable endeavours to overcome or avoid the force majeure event; and
- (b) use all reasonable endeavours to mitigate the effects or the consequences of the force majeure event; and
- (c) consult with the other party on the performance of the obligations referred to in paragraphs (a) and (b).

(5) Nothing in subclause (4) requires a party to settle a strike, lockout, or other industrial disturbance by acceding, against its judgement, to the demands of opposing parties.

Written agreement from EA Networks must be obtained before the system can be connected to the EA Networks distribution network

Please return completed form to:

EA Networks,  
Private Bag 802, Ashburton 7740

Phone: 03 307 9800 Fax: 03 307 9801

Email: [enquiries@eanetworks.co.nz](mailto:enquiries@eanetworks.co.nz)

<b>Applicant Details</b> (Grid Connection Owner)	<b>Details of Grid Connection Point</b>
Name: <input style="width:95%;" type="text"/> Company: <input style="width:95%;" type="text"/> Address: <input style="width:95%;" type="text"/> <input style="width:95%;" type="text"/> Phone: <input style="width:95%;" type="text"/> Mobile: <input style="width:95%;" type="text"/> Email: <input style="width:95%;" type="text"/>	Grid Connection: Existing <input type="checkbox"/> or New <input type="checkbox"/> Connection Type: Residential <input type="checkbox"/> or Commercial <input type="checkbox"/> Phase Count: 1 <input type="checkbox"/> or 2 <input type="checkbox"/> or 3 <input type="checkbox"/> ICP Number of Installation: <input style="width:95%;" type="text"/> Expected DG Connection Date: <input style="width:95%;" type="text"/>
<b>DG System Supplier</b> (Company Providing DG System)	<b>Details of Distributed Generator to be Installed</b> (e.g. Solar PV Panels)
Name: <input style="width:95%;" type="text"/> Company: <input style="width:95%;" type="text"/> Address: <input style="width:95%;" type="text"/> <input style="width:95%;" type="text"/> Phone: <input style="width:95%;" type="text"/> Mobile: <input style="width:95%;" type="text"/> Email: <input style="width:95%;" type="text"/>	DG Installation: New <input type="checkbox"/> or Upgrade <input type="checkbox"/> Generation Type: Solar <input type="checkbox"/> or Micro Hydro <input type="checkbox"/> or Other: <input style="width:95%;" type="text"/> <small>(please specify)</small> Total Generation Capacity: <input style="width:95%;" type="text"/> Watts <small>(e.g. Solar Panel Count x Rating)</small>
<b>Electrical Contractor</b> (Installer of DG System)	<b>Details of Inverter to be Installed</b> (if any)
Name: <input style="width:95%;" type="text"/>	Type: Solar Only <input type="checkbox"/> or Hybrid <input type="checkbox"/> Make: <input style="width:95%;" type="text"/> Model: <input style="width:95%;" type="text"/> <small>(be precise)</small> Continuous Rating: <input style="width:95%;" type="text"/> Watts Inverter Setpoint V <sub>nom-max</sub> : <input style="width:95%;" type="text"/> Volts <small>(≤ 248 volts single phase)</small>
<b>Certificate of Compliance for DG System</b>	<b>Details of Grid Connected Storage to be Installed</b> (e.g. Battery)
Number: <input style="width:95%;" type="text"/> Please note that DG Connection approval is not complete until a copy of the CoC is provided to EA Networks.	Type: Battery <input type="checkbox"/> or Other <input type="checkbox"/> Make: <input style="width:95%;" type="text"/> Model: <input style="width:95%;" type="text"/> <small>(be precise)</small> Continuous Output Rating: <input style="width:95%;" type="text"/> Watts Energy Storage Rating: <input style="width:95%;" type="text"/> kWh Max. Charging (Input) Rating: <input style="width:95%;" type="text"/> Watts
<b>Standards Compliance</b>	<b>Failure to complete all sections of this form may result in delays in processing this application.</b>
AS/NZS 4777 Compliance: Yes <input type="checkbox"/> Information Attached <input type="checkbox"/> <small>(Proof of Compliance)</small> EA Networks Use of System Agreement Compliance: Yes <input type="checkbox"/>	I hereby apply to connect a distributed Generator to EA Networks' Network and confirm that the above information is correct:
Signed: <input style="width:95%;" type="text"/> Name: <input style="width:95%;" type="text"/>	Date: <input style="width:95%;" type="text"/> Misc. Notes: <input style="width:95%;" type="text"/>
EA Networks <b>agrees</b> to the connection of the above Distributed Generator and Grid-Connected Storage to EA Networks' Electricity Network.	EA Networks <b>does not agree</b> to the connection of the above Distributed Generator and Grid-Connected Storage to EA Networks' Electricity Network.
Signed: <input style="width:95%;" type="text"/> Name: <input style="width:95%;" type="text"/> Date: <input style="width:95%;" type="text"/>	Signed: <input style="width:95%;" type="text"/> Name: <input style="width:95%;" type="text"/> Date: <input style="width:95%;" type="text"/>