networktasman
Your consumer-owned electricity distributor

Network Tasman Limited
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INFORMATION PACK

Distributed generation with capacity of 10 kilowatts or less (≤10kW)

Introduction to Distributed Generation

Distributed generators, also known as 'embedded generators', are generators located at a home or a business and which are capable of generating electricity for that home or business's own use. They may also be capable of exporting surplus electricity back into Network Tasman Ltd's electricity distribution network. These generators can take many forms; diesel generators, wind turbines, small hydro and solar panels are the most common options.

If you are interested in operating distributed generation and connecting it to our network, there are some things you need to consider. This guide contains information designed to help you understand distributed generation and how to apply to connect it to our network.

The information in this guide is primarily about small distributed generation systems (10 kilowatts or less). If you are considering a distributed generation system *larger than 10 kW* or would like more information about distributed generation, please contact:

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Distributed Generation with Capacity of 10kW or Less

1. General

This information is provided for people wanting to connect small distributed generation systems (10kW or less) to Network Tasman Ltd's electricity network to generate electricity and export some of that energy back onto our network. These systems are usually single-phase, but may be three-phase. They are typically installed at residential or small commercial premises, and include solar (photovoltaic), wind, water (hydro) or fossil fuels such as diesel generators.

The information provided here does not apply to generation systems which are not connected to our network.

Talk to us about your proposed distributed generation

If you intend to install distributed generation that is capable of exporting any excess energy into our network (even if this seems unlikely), then you need to involve us in the process as early as possible. You will need to talk to us, even though such small generation quantities may appear to have little impact on our network.

Any distributed generation plant connected to our network must meet all relevant statutory and regulatory requirements and must comply with all applicable safety standards. If you connect distributed generation to our network, safety equipment and procedures must be in place to ensure safe interaction between your distributed generation plant and our network. You must use a registered electrician and you will need to obtain an electrical Certificate of Compliance for your installation. Exporting must not commence before distributed generation metering and final electrical inspection has occurred.

We recommend you do not purchase a system until you have completed an application form and have the system approved for connection by Network Tasman Ltd.

Your system will need to comply with important technical standards; in particular:

- AS 4777.1 Grid connection of energy systems via inverters – Installation requirements
- AS 4777.2 Grid connection of energy systems via inverters – Inverter requirements
- AS 4777.3 Grid connection of energy systems via inverters – Grid protection requirements
- AS/NZS 3000 Electrical installations (known as the Australian/New Zealand Wiring Rules)
- AS/NZS 5003 2015 Installation and Safety requirements for Photovoltaic (PV) arrays

You can purchase and download from www.standards.co.nz or view for free at your public library.

Your proposed distributed generation installation must also comply with Network Tasman Ltd's

- "Distribution Code" and
- "Conditions for Connection of Distributed Generation"

Both these documents are available on Network Tasman Ltd's website www.networktasman.co.nz

More information about distributed generation is available on the Electricity Authority website: www.ea.govt.nz

2. Process to connect distributed generation of 10kW or less to our network (application under part 1A)

A Distributed Generator may elect to apply to a distributor under Part 1 A instead of Part 1 if the distributed generation to which the application relates:

- is designed and installed in accordance with AS 4777.1; and
- incorporates an inverter that has been tested and issued a Declaration of Conformity with AS 4777.2 by a laboratory with accreditation issued or recognised by International Accreditation New Zealand; and
- has protection settings that meet the distributor's connection and operation standards.

To apply under Part 1A you must submit a complete application form, along with the application fee and the technical specifications of your equipment. If the inverter is not included on the Network Tasman Ltd's list of approved inverters, you will need to submit a copy of the AS 4777.2 Declaration of Conformity certificate with the application.

Outlined below are the steps that you will need to take to connect your distributed generation plant of 10kW or less to our network. This information complies with and is governed by the Electricity Industry Participation Code 2010 Part 6. These regulations can be viewed at the following website:
www.ea.govt/code-and-compliance/the-code/part-6-connection-of-distributed-generation

A. Select your system

Usually distributed generation of 10kW or less will be solar powered (photovoltaic panels). Less frequently, it will be wind or micro-hydro generation. Your proposed distributed generation system must conform to the relevant technical standards, the Network Tasman Ltd Distribution Code and the Network Tasman Ltd Connection Conditions of Distributed Generation.

B. Complete Network Tasman Ltd application form

Generation systems of 10kW or less are unlikely to have a significant impact on our network. However we need to know where they are connected for safety and administrative reasons. Ideally, you should contact us as soon as you have decided which system you intend to install. The impact of small generation systems on our network increases when several systems are located in close proximity.

You will need to fully complete an application form (available on our web site, and in section 7 of this information pack) and submit it to us, along with the technical specifications of your equipment, the application fee, and detailed supporting information requested on the form. Please note, if the inverter is not included on the Network Tasman Ltd's list of approved inverters you will also need to submit a copy of the AS 4777.2 Declaration of Conformity certificate. We also need to know which electricity retailer will be responsible for your connection.

C. Application fees

We require a fee payable at the time the application is submitted to Network Tasman Ltd; maximum fee levels are prescribed in Part 6 of the Electricity Industry Participation Code 2010 (see Section 4 of this information pack)

D. Contact your electricity retailer

You must discuss your proposed distributed generation installation with your electricity trader (or the Electricity Authority's clearing manager, although this approach is less common), to ensure any surplus energy which you generate can be sold to them. Unless you have contractual arrangements for purchase of any surplus electricity generated, and an electricity retailer takes responsible for the metering and reconciliation of the energy flows, you will not be able to connect to our network.

E. Confirmation that your application is complete

Within two (2) business days of receiving your application we will advise you in writing whether or not your application is complete.

F. Acceptance of your application for generation

Within ten (10) business days of receiving your application we will give you written notice of our decision to approve or decline your application for generation.

G. If we decline your application

If we decline your application we will provide you with our reasons for this decision. If you choose to make a new application, please detail the additional steps that you intend to take to ensure your application will be successful. If you disagree with our decision, a dispute resolution process is available to you as per Schedule 6.3 of the Electricity Industry Participation Code2010.

H. Notice of your intention to proceed

After we have approved your application you have 10 business days (or a mutually agreed longer period) to notify us in writing if you want to proceed with the distributed generation connection.

Notice of intention to proceed can be extended under the provisions outlined in Schedule 6.1 of the Electricity Industry Participation Code 2010. Please note that if you choose not to proceed, and then apply to connect the same generation at some later date, we may charge a further application fee as prescribed in the attached schedule of fees.

I. Connection contract for distributed generation

Under the regulations we have 30 business days to negotiate a connection contract with you once you have notified us in writing of your intention to proceed. Unless mutually agreed otherwise, Network Tasman Ltd intends using the standard contractual terms set out in Schedule 6.2 of the Electricity Industry Participation Code 2010 (see Section 8 of this information pack: "Regulated Terms for Connection of Distributed Generation"). This schedule and its terms form the basis of our contractual agreement for connection and

we require you to acknowledge this when you submit the DG Part 1A or Part 1 application form. We may negotiate variations from this standard connection contract if this can be mutually agreed between us.

J. Installation

Any distributed generation equipment which you purchase should come with manufacturer's installation instructions. Installation must be undertaken by qualified electrical tradespersons to ensure compliance with all relevant building and electrical codes and standards. All wiring associated with the system must be undertaken by a registered electrician, and comply with AS/NZS3000 or any successive standard or legislation. You must also check with your local Council whether any building or other consents are required.

Should your generator continue to operate when there is a power outage, this would pose a serious safety threat on our network. It could have serious consequences for anyone working on the network and/or damage to your equipment. A system manufactured to Australian Standard 4777.2 and with protection systems installed in accordance with the Australian Standard 4777.3, will provide isolation and prevent this happening.

Your registered electrician should closely follow AS 4777.1 when installing your equipment.
This standard can be purchased and downloaded at www.standards..co.nz.
While AS 4777.1 deals primarily with connection of inverter based systems, its principles should also be followed for distributed generation systems that do not employ inverters.
Your distributed generation system must also comply with Network Tasman Ltd's "Distribution Code" and our "Conditions for Connection of Distributed Generation", both of which are available on our website: www.networktasman.co.nz.

Please note: Following the installation of your exporting system, Exporting must not commence before metering and final inspection has been completed.

K. Metering inspection and connection

Following the installation of your distributed generation equipment you must:

- Obtain an electrical Certificate of Compliance (COC) from a registered electrician and inspection by a licensed electrical inspector stating that the DG complies with the Electricity Regulations 1997
- Arrange for appropriate metering to be fitted, a final inspection and connection by a Network Tasman Ltd Approved Contractor. Refer Section 6 of this information pack re metering requirements
- Provide us with adequate notice to undertake our own inspection and tests should we need to. In addition to your electrician's testing and inspection, we may want to send our qualified personal to the site to inspect and possibly test your generation installation. There may also be a fee for any inspection or tests we need to carry out. The maximum level of any inspection fee is as prescribed in Part 6 of the Electricity Industry Participation Code 2010 (see section 4 of this information pack).

3. Process to connect distributed generation of 10kW or less to our network (application under Part 1)

Outlined below are the steps that you will need to take to connect your distributed generation plant of 10kW or less to our network. This information complies with and is governed by the Electricity Industry Participation Code 2010 Part 6. These regulations can be viewed at the following website:
www.ea.govt.nz/code-and-compliance/the-code/part-6-connection-of-distributed-generation

A. Select your system

Usually distributed generation of 10kW or less will be solar powered (photovoltaic panels). Less frequently, it will be wind or micro-hydro generation. Your proposed distributed generation system must conform to the relevant technical standards, the Network Tasman Ltd Distribution Code and the Network Tasman Ltd Connection Conditions of Distributed Generation.

B. Complete Network Tasman Ltd Part 1 application form

You will need to complete a Part 1 application form (available on our web page or from Section 7 of this information pack) and submit it to us, along with the detailed supporting information requested in the form. For example, we need to know the location, type, size and specification of your proposed distributed generation system, plus the name of the electrician who will install your system. We also need to know which electricity trader will be responsible for your connection.

C. Contact your electricity retailer

You must discuss your proposed distributed generation installation with your electricity retailer (or the Electricity Authority's clearing manager, although this approach is less common), to ensure any surplus energy which you generate can be sold to them. Unless you have contractual arrangements for purchase of any surplus electricity generated, and an electricity retailer takes responsible for the metering and reconciliation of the energy flows, you will not be able to connect to our network.

D. Confirmation that your application is complete

Within five business days of receiving your application we will advise you in writing whether or not your application is complete.

E. Acceptance of your application for generation

Within 30 business days of receiving your application we will give you written notice of our decision to approve or decline your application for generation. We may request an extension of up to a further 20 business days if necessary. You must not connect your distributed generator to our network without our written consent.

F. If we decline your application

If we decline your application we will provide you with our reasons for this decision. If you choose to make a new application, please detail the additional steps that you intend to take to ensure your application will be successful. If you disagree with our decision, a dispute resolution process is available to you as per Part 6 of the Electricity Industry Participation Code 2010 .

G. Application fees

We require a fee to be paid on application; maximum fee levels are prescribed in Part 6 of the Electricity Industry Participation Code 2010 (see Section 4 of this information pack).

H. Notice of your intention to proceed

After we have approved your application you have 10 business days (or a mutually agreed longer period) to notify us in writing if you want to proceed with the distributed generation connection.
Notice of intention to proceed can be extended under the provisions outlined in Part 6 of the Electricity Industry Participation Code 2010 Please note that if you choose not to proceed, and then apply to connect the same generation at some later date, we may charge a further application fee as prescribed in the attached schedule of fees.

I. Connection contract for distributed generation

Under the code we have 30 business days to negotiate a connection contract with you once you have notified us in writing of your intention to proceed. Unless mutually agreed otherwise, Network Tasman Ltd intends using the standard contractual terms set out in Part 6 of the Electricity Industry Participation Code 2010 (see Section 8 of this information pack: "Regulated Terms for Connection of Distributed Generation"). This schedule and its terms form the basis of our contractual agreement for connection and we require you to acknowledge this when you submit the DG Declaration and Confirmation of Installation form. We may negotiate variations from this standard connection contract if this can be mutually agreed between us.

J. Installation

Any distributed generation equipment which you purchase should come with manufacturer's installation instructions. Installation must be undertaken by qualified electrical tradespersons to ensure compliance with all relevant building and electrical codes and standards. All wiring associated with the system must be undertaken by a registered electrician, and comply with AS/NZS3000 or any successive standard or legislation. You must also check with your local Council whether any building or other consents are required.

Should your generator continue to operate when there is a power outage, this would pose a serious safety threat on our network. It could have serious consequences for anyone working on the network and/or damage to your equipment. A system manufactured to Australian Standard 4777.2 and with protection systems installed in accordance with the Australian Standard 4777.3, will provide isolation and prevent this happening.

Your registered electrician should closely follow AS 4777.1 when installing your equipment.
This standard can be purchased and downloaded at www.standards.co.nz.
While AS 4777.1 deals primarily with connection of inverter based systems, its principles should also be followed for distributed generation systems that do not employ inverters.

Your distributed generation system must also comply with Network Tasman Ltd's "Distribution Code" and our "Connection Conditions of Distributed Generation", both of which are available on our website: www.networktasman.co.nz.

K. Declaration and confirmation of installation

At this point you need to complete and submit a DG Declaration and Confirmation of Installation form to Network Tasman Ltd before the installation is connected to our network. This requires declarations by both the owner of the plant and the suitably qualified electrical installer confirming the technical details of the installation, its compliance with electrical standards and acknowledgement the contractual terms for connection follow Electricity Industry Participation code 2010 Part 6. Supporting information such as the COC, test reports and metering details will also need to be provided.

This step is important as it completes the process and formally establishes information about the generation installation, confirms the electrical compliance of the installation and establishes the ongoing contractual obligations between the parties. The Declaration and Confirmation of Installation form is available for downloaded from Network Tasman Ltd's website.

Once the Declaration and Confirmation of Installation has been submitted and Network Tasman Ltd has found it complete, you will be able to proceed with the metering installation and final electrical inspection then connect your generation equipment to our network.

L. Metering, inspection and connection

Following the installation of your distributed generation equipment you must:

- Obtain an electrical Certificate of Compliance (COC) from a registered electrician/licensed electrical inspector stating that the DG complies with the Electricity Regulations 1997.
- Arrange for appropriate metering to be fitted, a final inspection and connection by a Network Tasman Ltd Approved Contractor.
- Provide us with adequate notice to undertake our own inspection and tests should we need to. In addition to your electrician's testing and inspection, we may want to send our qualified personal to the site to inspect and possibly test your generation installation. There may also be a fee for any inspection or tests we need to carry out. The maximum level of any inspection fee is as prescribed in Part 6 of the Electricity Industry Participation Code 2010 (see section 4 of this information pack).

4. Maximum application fees for connection of distributed generation

In this schedule, reference to a kW or MW rate, in relation to distributed generation, is a reference to the maximum nameplate kW or MW rate at which distributed generation is capable of generating electricity.

A distributor may require the payment of fees (non-refundable) for any of the following activities prescribed under the regulations up to the maximum fee specified in the column opposite the activity:

Distributed generation application fees	**Fee +GST**
Distributed generation 10 kW or less in total - application (under Part 1A) Applications for distributed generation requiring import/export metering on existing ICPs where the initial application information includes an inverter that has been tested and issued an accredited Declaration of Conformity with AS 4777.2, is designed and installed in accordance with AS 4777.1, and has protection settings that meet Network Tasman Ltd's connection and operation standards as described in the Network Tasman Ltd Distribution Code, DC6.8.1.	$100.00
Distributed generation 10 kW or less in total - application (under Part 1) If the application does not include the above information then the fee is.	$200.00
Distributed generation of above 10 kW in total but less than 100 kW in total	$500.00
Distributed generation of 100 kW or above in total but less than 1 MW	$1,000.00
Distributed generation of 1 MW and above	$5,000.00

Distributed generation testing and inspection fees	Fee + GST
Distributed generation of 10 kW or less in total	$60.00
Distributed generation of above 10 kW in total but less than 100 kW in total	$120.00
Distributed generation of 100 kW and above	$1200.00

5 Credits and charges

Delivery credits
For Generators of capacity 10 kW or less, Network Tasman Ltd does not pay credits or rebates of any type for energy generated and exported onto our network. You should note however that variable portion of normal line charges can be avoided to the extent that your generator can reduce the load measured on the import meter at your connection.

For Generators greater than 10kW, it is possible their output may make a contribution to reducing our transmission costs; these are termed Avoided Transmission Charges. To determine the value of Avoided Transmission Charges requires a time-of-use meter to be fitted and used to measure the time profile of the energy exported. For further information on credits for Avoided Transmission Charges, contact Network Tasman Ltd.

Energy credits
Generators are able to contract with electricity retailers (or the Electricity Authority's clearing manager) to sell any generated energy that is injected back into our network. This is a separate agreement to your connection agreement with Network Tasman Ltd so we suggest you contact your electricity retailer to find out more about this.

Charges
At the time of initial connection of your generator to our network, we identify all the costs of any extension or modifications that are required to our network (including any ongoing operational and maintenance costs) and we normally require the generator to cover all of these costs via a one-off capital contribution.

Wherever possible, we encourage generators take advantage of the competitive electrical contracting environment that is available locally should any network extensions or alterations be required for connection of your generation plant. Network Tasman Ltd does not undertake any contracting activities itself and has no financial interest in any of the electrical contracting companies that are capable of doing this type of work.

Network Tasman Ltd does not currently impose any ongoing charges in relation to distributed generators of less than 10kW output.

6. Metering

As a generator of electricity, you are responsible for the metering at your installation. Your electricity retailer will arrange this for you. When you contact your retailer about your proposed distributed generation, they may arrange for a metering service provider to call and fit a second meter to measure the exported energy or a single meter that separately measures the amount of electricity both imported and exported at your installation.

Your retailer should advise you of any rental charge for the metering equipment. You may also be charged a tariff/ meter change fee, depending on your location and your existing meter set up.

The minimum metering standard required is that the meter must be of the metering category of the connection (under part 6 of the Electricity Industry Participation Code 2010. The new metering will record two way flows of electricity separately and the accumulated electricity you export into Network Tasman Ltd's network.

On application, we will consider the suitability of alternative metering arrangements. Please note that these metering requirement are additional to our general metering requirements for delivery, and electricity retailers will also specify their own requirements. We recommend that generators discuss their metering with their electricity trader who can provide metering options that meet all requirements.

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7. Application forms

Application for Connection - Under Part 1A

Distributed generation with capacity of ≤ 10kW

You must obtain our written agreement before you can connect distributed generation to our network.
Exporting must not commence before distributed generation metering and final electrical inspection has been completed.

Details of person/organisation intending to supply/install distributed generation at consumers property

Name: Company:

Address:

Phone: Email:

Details of consumer's at premises where distributed generation is to be connected

Name: Company:

Address:

Phone: Email:

ICP number (from your power account):

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Intended Energy Retailer for export metering:

(If this Energy Retailer is not your current retailer, please initiate the switch as soon as you are able to minimise metering delays)
(Network Tasman Ltd do not arrange metering beyond advising your Energy Retailer that it is required)

Intended physical location at the address at which the distributed generation is or will be connected:

Network Tasman Ltd administration fee ($100.00 + GST) to be invoiced to:

Application fee as per Part 6 Electricity Industry Participation Code 2010 - Schedule 6.1 Part 1A clause 9B(2)(C)

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Details of your proposed distributed generation

Electricity Connection: ☐ Existing ☐ New
Inverter Installation: ☐ New ☐ Upgrade (adding further export capacity)

For all existing electricity connections or when applying for a new electricity connection, we will evaluate the total export capability of your proposed distributed generation (i.e. the maximum amount of electricity that your generation is able to inject into our network) to assess whether your proposed generation will operate within the capacity of your electricity connection. To complete this evaluation, we will need evidence of your generation capacity – normally a kilowatt (kW) rating. Please attach a copy of the manufacturer's specifications and/or a photograph of the 'name plates' for your proposed generation to your application as evidence of its capacity. Additional information may be required if the manufacturer's specifications are not clear and comprehensive.

Total nameplate output capacity of all proposed and/or existing inverters at this site:

kW _____ Amps _____ AC (inverter output)

Exported over: ☐ One ☐ Two ☐ Three phase/s

Made up of:

No of inverters _____ @ kW _____ Amps _____ each
Make _____ Model _____

No of inverters _____ @ kW _____ Amps _____ each
Make _____ Model _____

No of inverters _____ @ kW _____ Amps _____ each
Make _____ Model _____

Is the inverter included on Network Tasman Ltd's list of approved inverters: ☐ Yes ☐ No

Does the inverter conform to the protection settings specified in Network Tasman Ltd's connection standards: ☐ Yes ☐ No

Type: ☐ Solar PV ☐ Gas turbine ☐ Wind turbine
☐ Micro hydro ☐ Fuel cell ☐ Other (specify) _____

Details of any battery storage:

Name of electrical contractor installing inverter:

Distributed generation system will comply with:

AS 4777 series (where appropriate)	☐ Yes	☐ No
Network Tasman Ltd's Distribution Code	☐ Yes	☐ No
Network Tasman Ltd's Conditions for Connection of Distributed Generation	☐ Yes	☐ No
AS/NZS 5033 2015	☐ Yes	☐ No

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When submitting this application please attach:

- The technical specifications of your equipment to show that your proposed distributed generation would automatically disconnect from our network during a power outage (it is important that distributed generation systems isolate from the network to avoid injury to line workers).
- A copy of the AS 4777.2 Declaration of Conformity certificate for the inverter if the inverter is not included on the Network Tasman Ltd's list of approved inverters.
- The application fee - $115 GST Inc. This fee must be paid before the application will be processed.

If you do not complete all sections of this form and supply all of the attachments and fee above, your application may be delayed.

I/we, the applicant (being the power account holder) apply to connect a distributed generator to Network Tasman Ltd's electricity network and confirm that the above information is correct.

I/we, the applicant (being the power account holder) agree that the Electricity Participation Code 2010 Part 6, schedule 6.2 Regulated Terms of Distributed Generation govern the contractual basis for connection of this plant to Network Tasman Ltd's distribution system, now and into the future, unless both parties agree otherwise.

Name: Date:

Signature:

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Network Tasman Ltd's Approval

Network Tasman Ltd agrees to the connection of the distributed generator described above to its electricity network. This approval however remains conditional on the fitting of appropriate import/export metering and final electrical inspection before the generation plant is connected to the distribution network.

Name: Date:

Signature:

Conditions:

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Application for Connection - Under Part 1

Distributed generation with capacity of ≤ 10kW

You must obtain our written agreement before you can connect distributed generation to our network.
Exporting must not commence before distributed generation metering and final electrical inspection has been completed.

Details of person/organisation intending to supply/install distributed generation at consumers property

Name: Company:

Address:

Phone: Email:

Details of consumer's at premises where distributed generation is to be connected

Name: Company:

Address:

Phone: Email:

ICP number (from your power account):

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Intended energy retailer for export metering:

(If this Energy Retailer is not your current retailer, please initiate the switch as soon as you are able to minimise metering delays)
(Network Tasman Ltd do not arrange metering beyond advising your Energy Retailer that it is required)

Intended physical location at the address at which the distributed generation is or will be connected:

Network Tasman Ltd administration fee ($200.00 + GST) to be invoiced to:

Application fee as per Part 6 Electricity Industry Participation Code 2010 - Schedule 6.1 Part 1 clause 2(2)(C)

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Details of your proposed distributed generation

Electricity Connection: ☐ Existing ☐ New
Inverter Installation: ☐ New ☐ Upgrade (adding further export capacity)

For all existing electricity connections or when applying for a new electricity connection, we will evaluate the total export capability of your proposed distributed generation (i.e. the maximum amount of electricity that your generation is able to inject into our network) to assess whether your proposed generation will operate within the capacity of your electricity connection. To complete this evaluation, we will need evidence of your generation capacity – normally a kilowatt (kW) rating. Please attach a copy of the manufacturer's specifications and/or a photograph of the 'name plates' for your proposed generation to your application as evidence of its capacity. Additional information may be required if the manufacturer's specifications are not clear and comprehensive.

Total nameplate output capacity of all proposed and/or existing inverters at this site:

kW _____ Amps _____ AC (inverter output)

Exported over: ☐ One ☐ Two ☐ Three phase/s

Made up of:

No of inverters _____ @ kW _____ Amps _____ each
Make _____ Model _____

No of inverters _____ @ kW _____ Amps _____ each
Make _____ Model _____

No of inverters _____ @ kW _____ Amps _____ each
Make _____ Model _____

Type: ☐ Solar PV ☐ Gas turbine ☐ Wind turbine
☐ Micro hydro ☐ Fuel cell ☐ Other (specify) _____

Name of electrical contractor installing inverter:

Distributed generation system will comply with:

AS 4777 series (where appropriate)	☐ Yes	☐ No
Network Tasman Ltd's Distribution Code	☐ Yes	☐ No
Network Tasman Ltd's Conditions for Connection of Distributed Generation	☐ Yes	☐ No
AS/NZS 5033 2015	☐ Yes	☐ No

Details of any battery storage:

Please attach the technical specifications of your equipment to show that your proposed distributed generation would automatically disconnect from our network during a power outage (it is important that distributed generation systems isolate from the network to avoid injury to line workers).

When is the distributed generation expected to be connected:

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If you do not complete all sections of this form your application may be delayed.

I apply to connect a distributed generator to Network Tasman Ltd's electricity network and confirm that the above information is correct.

Name: Date:

Signature:

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Network Tasman Ltd's Approval

Network Tasman Ltd agrees to the connection of the distributed generator described above to its electricity network. This approval however remains conditional on the applicant submitting a fully completed Declaration and Confirmation of DG Installation form, before the generation plant is connected to the distribution network. Exporting must not commence before distributed generation metering and final electrical inspection has been completed.

Name: Date:

Signature:

Conditions:

Schedule 6.2

Regulated terms for distributed generation

CONTENTS

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**, interconnect, 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**, interconnect, operate, test, and m**aintain** 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).

Meters

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.

Access

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 reconnecting or 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 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 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 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 temporary disconnection.

(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 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 Permanent disconnections

(1) Despite clause 10, the **distributor** may permanently 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 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 **de-energised** the **ICP** and advised the **registry** that the **ICP** has a status of "inactive" with the reason of "de-energised – 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 **distributor** has not been notified by the **distributed generator** of 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 the **point of connection** is to be disestablished in its entirety, a permanent disconnection must be performed by means of isolation of generation by removal of all electrical connections to **distributor's lines**. The **distributor** must advise the **distributed generator** within 2 **business days** of the work having been completed.

Time frame for construction

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**.

Confidentiality

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.

9. Glossary

Australian/NZ Standards (AS/NZS): Standards that apply jointly to Australia and New Zealand; available from www.standards.co.nz.

Australian Standards (AS): Standards that apply in Australia and are optional for use in New Zealand; available from www.standards.co.au.

Black Start: Certain generators have the ability to black start, meaning they can restart their generation plant with no electrical input if the system has blacked out. Generators without this capability require power from the grid to restart their generating plant.

Clearing Manager: The Electricity Commission's service provider responsible for monitoring prudential security requirements and invoicing and settling electricity and ancillary service payments.

Certificate of Compliance (COC): Registered electrical workers must audit their own work and fill out a certificate of compliance as proof that they have complied with electrical safety standards and codes. A customer should request the COC from their electrical contractor when work is completed. We will need to see the COC before we can connect the electrical installation to our network.

Code of Practice: The codes of practice are those parts of the Electricity Governance Rules which cover the accuracy of metering installations, requirements for approved test houses, requirements of metering installations, data-logger requirements, requirements for data administrators and profile administration.

Connection: A point at which Network Tasman Ltd's network connects to a customer's electrical system.

Distributed generation: Generation installed at a customer's installation that is capable of exporting electricity back into the local network.

Distributed generator: A distributed generator, also known as an 'embedded generator', is a generator located at a home or business which is capable of generating electricity for that home or business's own use. It may also be capable of putting surplus generation back into the distribution network.

Distribution Code: Network Tasman Ltd's Distribution Code outlines technical requirements for connections to our network.

Distributor: Also called 'lines companies', 'network companies' or 'distribution companies', distributors such as Network Tasman Ltd own and operate the lower voltage power lines and distribution networks in local areas. These connect to the national grid to deliver electricity to homes and businesses.

Electricity Commission: The Electricity Commission is established under the Electricity Act 1992 to oversee the governance, operation and development of the New Zealand electricity industry.

Electrical Contractor: In the context of new connections to Network Tasman Ltd's network or upgrades to existing connections, an electrical contractor is a person or organisation contracted by either the customer, or the customer's consultant, to install part or all of the works required to achieve the new or upgraded electricity supply. This work generally involves low voltage construction on the customer's property.

Electricity Governance (Connection of Distributed Generation) Regulations 2007: Regulations for connection of distributed generation to electricity distribution networks.

Electricity Governance Regulations and Rules: The Electricity Governance Regulations and Rules (EGRs) govern how the electricity market has operated since 1 March 2004.

Electricity Retailer (Retailer): An electricity retailer (sometimes referred to as a 'power company') purchases electricity from the wholesale market to sell to residential and business users. Five electricity retailers operate in the Nelson/Tasman region – Contact Energy (including Empower), Genesis Power, Meridian Energy, Mighty River Power, and TrustPower.

Energy Clearing House: The M-co subsidiary that is currently the clearing manager for the Electricity Commission.

Generator customer islanding: Generator will automatically isolate from the network and only supply a local load (normally emergency supply within a building).

Generator network islanding: Generator network islanding occurs when a fault on the network is isolated by network switches and the generator continues to supply power to the isolated network.

Generator islanding protection: A complex protection system that detects an islanding situation and executes prescribed generator control and isolation functions.

Import/export of electricity: 'Import' refers to electricity bought by the customer from an electricity retailer in the normal manner. 'Export' refers to electricity generated by the distributed generation system and injected back into the power network, where it can be sold to others (by a retailer).

Installation: A complete electrical installation from the point of a service main connection to the network, to the most remote circuit supplied by the switchboard.

Installation Control Point (ICP): A point of connection on a local network or an embedded network which the distributor nominates as the point at which a retailer will be deemed to supply electricity to a customer.

Installed Capacity: The electrical size of the system. A 1kW system can supply 1kWh (or one unit) of electricity in an hour.

Intermittent generation: Generation for which the source is intermittent and not easily predicted, e.g. wind or wave generation.

Inverter: An electronic device that converts DC electricity to AC electricity.

Kilowatt-hour (kWh): A kilowatt-hour is also known as a unit of electricity and is the basis of retail sales of electricity.

Meter: Equipment that measures electricity quantity, usually in kilowatt-hours.

Micro hydro: Small water-powered generation systems, typically able to operate on low head pressure sources.

Net billing: The effective result of the cost of purchased electricity being offset by the same price being received for any exported electricity.

Network: A network (also called an electricity distribution network) is the lower voltage power lines and other assets in a local area which are used to carry electricity from the national grid to homes and businesses.

Photovoltaic panels: Silicon panels that convert sunlight to DC electricity.

Spot market: The buying and selling of wholesale electricity is done via a 'pool', where electricity generators offer electricity to the market and retailers bid to buy the electricity. This market is called the spot or physical wholesale market.

Spot price: The half-hour price of wholesale electricity.

Time of use metering: Metering that records the amount of energy either imported, exported, or both, in half hour time segments and is typically interrogated by cell phone.

Transpower: The state-owned enterprise that operates New Zealand's transmission network. Transpower delivers electricity from electricity generators to various electricity distribution networks around the country.