Distributed Generation (DG) Final Application Form

For Generators of more than 10kW

This document outlines the approval and connection timelines, costs and technical requirements for DG with an output of greater than 10kW.

This is DG applied for under Part 2 of Schedule 6.1 of the EIPC.

Application and Approval

DG greater than 10kW introduces additional complexity to the safe and efficient operation of our Network. As such the approval process is broken up into two stages.

Initial Application and Information

- An initial application for connection of DG of more than 10kW must be completed using this form.
- An application fee as shown in Table 1 must be received by us prior to us processing your application.
- Within five working days of receipt of your initial application and fee we will confirm whether your application contains all necessary information to allow assessment.
- Within 30 working days of receipt of your initial application form and fee, we will provide you with the information prescribed in Clause 12 of Schedule 6.1 in Part 6 of the EIPC.
- If requested we will also provide, within ten working days, the information prescribed in Clause 13 of Schedule 6.1 in Part 6 of the EIPC.

Final Application and Approval

- A final application for connection of DG more than 10kW can be found here on our website.
- The final application must be completed no later than 12 months after the receipt of the information provided by us under Clauses 12 & 13 of Schedule 6.1 in Part 6 of the EIPC.
- Following receipt of your final application form, and in line with the timelines defined in Table 1 we will notify you of whether your application is approved or declined. If we require additional time to process your application, we may request an extension of this approval timeline as allowed for in the EIPC.
  - If your application is approved, we may outline additional technical requirements to our Network Code to enable safe and reliable operation of our Network.
  - If your application is declined, we will provide detailed information as to why it was declined and the steps you may take to achieve approval under another application.

Technical Requirements

DG connected under this application must comply with the following:

- The Electricity Industry Participation Code 2010.
- The Electricity (Safety) Regulations 2010.
- DS30 Network Code.
- Specific technical requirements outlined as part of any approval.

Commissioning and Livening

We may request to observe commissioning of the DG. If required, this will be signalled as part of the DG approval and will be at a cost as specified in Table 1.

Within 30 working days of commissioning and livening the DG, the Customer must provide us with completed copies of the following:

- Results of any commissioning and performance tests specified by us as part of the DG approval.
- The Certificate of Compliance, Electrical Safety Certificate and Record of Inspection provided by the installer of the DG.

Table 1: Costs and Timelines associated with approval of DG more than 10kW

Description	Costs (excl GST)	Timeline
Application for distributed generation with nameplate capacity of more than 10 kW but less than 100 kW	$500	45 working days
Application for distributed generation with nameplate capacity of 100 kW or more in total but less than 1 MW	$1,000	60 working days
Application for distributed generation with nameplate capacity of 1 MW or more	$5,000	80 working days
Observation of testing and inspection of distributed generation with nameplate capacity of more than 10 kW but less than 100 kW	$120	N/A
Observation of testing and inspection of distributed generation with nameplate capacity of 100 kW or more	$1,200	N/A

Full details of all requirements may be found in our Distributed Generation Policy.

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○ New DG application ○ Change to existing DG application

A. Customer Information

Name on Electricity Account:

ICP Number
(from your electricity retailer):

Street Address:

Suburb:

City or Town: Postcode:

Phone:

B. Contact Information

Who should be contacted for any necessary additional information?

Contact Person:

Company Name:

Phone:

Email:

Postal Address:

City or Town: Postcode:

C. Proposed start date

What date do you expect the generator to begin operations?

D. Technical Information

Please attach a copy of the technical specifications of the generator and associated equipment together with supplier contact details for the equipment that you propose to install.

Generator Manufacturer:

Generator Model:

Generator Supplier:

Primary Energy Source (indicate below):

◯ Photovoltaic Panels ◯ Hydro-electric Turbine ◯ Wind Turbine

◯ Internal Combustion Engine (please specify):

◯ Other Type (please specify):

Battery Storage: ◯ Yes ◯ No

Inverter Manufacturer:

Inverter Model:

Inverter Supplier:

Number of Inverters:

Mains Failure Protection (non-islanding) Type:

Maximum Rated Power Output (kW):

Rated AC Voltage Output (kV):

Proposed Point of Connection to TLC's Network:
(e.g. pole number)

E. Other Required Technical Information

E.1. Required for ALL generators over 10kW

E.1.1 Generating Plant Data

(i) Terminal volts (kV);
(ii) Rated kVA;
(iii) Rated kW;
(iv) Maximum active power sent out (kW max) reactive power requirements (kVAr), if any;
(v) Type of generating plant -synchronous, asynchronous, etc;
(vi) Type of prime mover;
(vii) Anticipated operating regime of generation eg, continuous, intermittent, peak lopping;
(viii) Fault level contribution
(ix) Method of voltage control;
(x) Generator transformer details
(xi) Requirements for top-up supplies or standby supplies.
(xii) Proposed point of connection to TLC's Network

E.1.2 Interface Arrangements

(i) The means of synchronisation between the distribution network and the generator;
(ii) Details of arrangements for connecting with earth that part of the generator's system directly connected to the distribution system;
(iii) The means of connection and disconnection to be employed;
(iv) (iv)Ability of plant to back-feed the external system;
(v) Protection equipment and protection setting; and
(vi) Precautions to be taken to ensure the continuance of safe conditions should any earthed neutral point of the generator's system operated at HV become disconnected from earth.

E.2 Required for Large Generators

This required additional information applies to generators connected at voltages equal to or greater than 6.6kV, or of capacity greater than 1 MW.

E.2.1 Technical Data

Generating plant information:

- Type of prime mover
- Rated MVA
- Rated MW
- Generator MW /MVAr capability chart (at terminals)
- Type of excitation system
- Inertia constant MW secs/ MVA (whole machine)
- Stator resistance
- Direct axis reactances sub-transient
- Transient
- Synchronous
- Quadrature axis reactances sub-transient
- Synchronous
- Time constants direct axis
- Sub-Transient & transient
- Quadrature axis
- Open or short sub-transient (stating either circuit time constant)
- Zero sequence resistance
- Reactance
- Negative sequence resistance
- Reactance
- Generator transformer resistance
- Reactance
- MVA Rating
- Tap arrangement
- Earthing

Together with:

Automatic voltage regulator (AVR) specifications;

(ii) A block diagram for the model of the AVR system including the data on the forward and feedback gains, time constants and voltage control limits;
(iii) Speed governor and prime mover data; and
(iv) A block diagram for the model of the generating plant governor detailing the governor flyball (if applicable), system control and turbine time constants; together with the turbine rating and maximum power.

E.2.2 Interface Arrangements

(i) The means of synchronisation between the distribution network and the generator.

(ii) Details of arrangements for connecting with earth that part of the generator's system directly connected to the distribution system;

(iii) The means of connection and disconnection that are to be employed;

(iv) Ability of plant to back-feed external system;

(v) Protection equipment and protection setting; and

(vi) Precautions to be taken to ensure the continuance of safe conditions should any earthed neutral point of the generator's system operated at HV become disconnected from earth.

E.2.3 Capacity and Standby Requirements

(i) Registered capacity and minimum generation of each generating unit and power station in MW;

(ii) Generating unit and power station auxiliary demand (active power and reactive power) in MW and MVAr, at registered capacity conditions. For users with their own generation, this should include top-up requirements;

(iii) Generating unit and power station auxiliary demand (active power and reactive power) in MW and MVAr, under minimum generation conditions. For users with their own generation, this should include top-up and standby requirements.

F. Further Information Required by Transpower

Generators with large machines may be subject to the Transpower connection code and central dispatch. Where this applies, any information supplied to TLC by the generator will be passed on to Transpower. It will be the responsibility of the generator to provide the appropriate information to TLC.

There may also be information required under the terms of a Transpower contract that applies to the transfer of energy from the generator to the generator's customers.

G. Declaration

The undersigned certifies that to the best of his or her knowledge, the information provided on and with this form is complete and accurate.

Name:

Signature: Date: