

# Final Application Form for Connection of Distributed Generation (>10kW)

*Please complete the following information and forward to Vector*

Contact Details	
<b>Primary Contact</b> (who we should contact for additional information)	
Contact person	
Company name	
Contact numbers	Daytime: Cell phone: Fax:
Email address	
Postal address	
<b>Secondary Contact</b>	
Contact person	
Company name	
Contact numbers	Daytime: Cell phone: Fax:
Email address	
Postal address	

Site Details	
Electricity Retailer	
Customer ICP number	
Site address of proposed generator	

Proposed Installation Dates	
Proposed key dates for connection to Vector's electricity network	

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<b>System Specifications</b> (for all generation >10kW)	
<b>Generating Plant Data</b>	
Terminal volts (kV)	
Rated kVA	
Rated kW	
Maximum active power sent out (kW max)	
Reactive power requirements (kVAr), if any	
Power Factor at maximum kW	
Vector Group	
Type of generating plant (e.g. synchronous, asynchronous)	
Type of prime mover	
Anticipated operating regime of generation e.g. continuous, intermittent, peak lopping	
Fault level contribution (for large machines this may be covered in the detailed specifications below)	
Method of voltage control	
Generator transformer details, as applicable	Attached <input type="checkbox"/>
Fuel type	
Requirements for top-up supplies and/or standby supplies	
<b>Interface Arrangements</b>	
The means of synchronisation between the Distribution Network and the Generator	
Details of arrangements for connecting with earth that part of the Generator's system directly connected to the distribution system	Attached <input type="checkbox"/>
The means of connection and disconnection which are to be employed	Attached <input type="checkbox"/>
Ability of plant to backfeed the external system	
Protection equipment, protection schemes and protection setting	Attached <input type="checkbox"/>
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	Attached <input type="checkbox"/>

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## Detailed Specifications

For distributed generators connected at voltages equal to or greater than 6.6kV or of capacity 1MW or greater, please also complete the following information:

### Technical Data

Generating plant information (impedances p.u. on rating)		Attached <input type="checkbox"/>
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 Transient	
	- Direct axis Sub-Transient	
	- Quadrature Axis Transient	
	- Quadrature Axis Sub-Transient	
Open or short	- Sub-Transient (stating either circuit time constant)	
Zero sequence	- Resistance	
	- Reactance	
Negative sequence	- Resistance	
	- Reactance	

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Generator transformer	- Resistance ( $R_I$ , $R_\theta$ )	
	- Reactance ( $X_I$ , $X_\theta$ )	
	- MVA Rating	
	- Tap arrangement	
	- Vector group	
	- Earthing	
Automatic voltage regulator		
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		Attached <input type="checkbox"/>
Speed governor and prime mover data		Attached <input type="checkbox"/>
A block diagram for the model of the generating plant governor detailing the governor flyball, if applicable, and system control and turbine time constants, together with the turbine rating and maximum power		Attached <input type="checkbox"/>
The means of synchronisation between the Distribution Network and the Generator		
Details of arrangements for connecting with earth that part of the Generator's system directly connected to the distribution system		Attached <input type="checkbox"/>
The means of connection and disconnection which are to be employed		
Ability of plant to backfeed external system		
Protection equipment and protection setting		Attached <input type="checkbox"/>
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		Attached <input type="checkbox"/>

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## Capacity and standby requirements

Registered capacity and minimum generation of each generating unit and power station in MW	
Generating unit and power station auxiliary demand (active power and reactive power) in MW and MVar, <b>at registered capacity conditions.</b>  For Users with own generation, this should include top-up requirements.	
Generating unit and power station auxiliary demand (active power and reactive power) in MW and MVar, <b>under minimum generation conditions.</b>  For Users with own generation, this should include top-up and standby requirements.	

## Further information required by Transpower

Generators with large machines may be subject to the Transpower Connection Code, part C of the Electricity Governance Rules and central dispatch. Where this applies any information supplied to Vector, and any further information requested by Transpower will be forwarded to Transpower. It will be the responsibility of the Generator to provide the information required to Vector. Vector will pass on the information to Transpower.

There may also be information required under the terms of any Transpower contract in respect of the transfer of energy from the Generator to the Generator's Customer.

## Supporting information attached for review

Please list any attached reports/studies that require Vector's review (as outlined during the initial application phase).

## Applicant Signature

<b>Name</b>	
<b>Signature</b>	
<b>Date</b>	