

**Generator Performance, Protection Settings and Technical Data Form**

Please fill out this form in black pen and tick the boxes where appropriate. Attach all available documents where requested.

**Generator performance at Connection Point**

Point of connection to the Grid

Generation type		Solar, Gas, Battery, Hydro, Wind, Other (Please Specify)
Nominal voltage at connection to network kV		kV
Station maximum generation capacity		MW (The total nameplate rating must be less than 5 MW to be automatically exempt from Generator registration requirements)
Maximum annual exported energy		GWh
Power factor range		
Site load without generation		kW kVAR
Maximum site export capacity		kVA (If Export Limitation is required)
Island-able installation		Yes / No (If Yes, operating protocol must be provided)
Reactive power capability at point of connection		A chart showing the active power and the corresponding reactive power at connection point for voltages at 0.9 pu, 1 pu and 1.1 pu
Site NMI		
<b>Fault level contribution</b>		
Three phase		kA
Single phase to ground		kA
Phase to phase to ground		kA

<sup>1</sup> Detail of the size of disturbing component MW/MVAr, duty cycle, and nature of power electronic plant which may produce harmonic distortion.

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**Information for each Generator (Inverter Based)**

Manufacturer		
Model		
No of inverters		
Rated voltage (AC) of the inverter terminal		kV
Rated MVA		MVA
Rated MW generated		MW
Reactive power capability at the inverter terminal		A chart showing the active power and the corresponding reactive power at the inverter terminal for voltages at 0.9 pu, 1 pu and 1.1 pu
Inverter/power plant controller response modes		Please identify all applicable control modes (i.e. voltage and reactive power control, active power control, frequency control)
Settings for control modes		Please provide a description and the applicable set point for each of the control mode noted above. (i.e. voltage set point, reference node, dead bands, droop, reactive power limits, power factor etc.)

**Control schemes of Inverter based Generating System**

Does the generating system include a central power plant controller?		If yes, please provide the manufacturer and model details.
Inverter/central power plant controller response modes		Please identify all applicable control modes (i.e. voltage and reactive power control, active power control, frequency control)
Settings for control modes		Please provide a description and the applicable set point for each of the control mode noted above. (i.e. voltage set point, reference nodes, dead bands, droop, reactive power limits, power factor etc.)

<sup>1</sup> Detail of the size of disturbing component MW/MVA<sub>r</sub>, duty cycle, and nature of power electronic plant which may produce harmonic distortion.

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**Information for each Generator (Synchronous/ non-synchronous machine)**

Manufacturer		
Model		
No of generators		
Generator type		
Rated voltage of the generator terminal		kV
Rated MVA		MVA
Rated MW generated		MW
Reactive power capability at the generator terminal		A chart showing the active power and the corresponding reactive power at the generator terminal for voltages at 0.9 pu, 1 pu and 1.1 pu
Applicable control modes of the generator		Please provide the control modes of the generator (i.e. voltage/reactive power, active power control etc.)
Settings for control modes		Please provide the settings for each control mode listed above (i.e. excitation system/automatic voltage regulator operation, governor control, power system stabiliser settings etc.)

<sup>1</sup> Detail of the size of disturbing component MW/MVA<sub>r</sub>, duty cycle, and nature of power electronic plant which may produce harmonic distortion.

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**Additional Information for Battery Storage**

Manufacturer		
Model		
Battery type		
Connection configuration for hybrid systems		AC coupled / DC coupled
Rated voltage (AC) of the inverter terminal		kV
Nominal rated capacity kVA		MVA
Nominal storage capacity		MWh

Note: Please fill out the “Information for each Generator (Inverter Based)” table for each unique generator (battery/solar) for AC coupled hybrid systems.

**Information for Protection Relay**

Manufacturer		Text
Model		Text
Location		Text
Communication method		Direct / wireless

**Protection Settings Table**

For the central protection relay, to be located as close to the 22kV connection, within the Main Switch Board. See AusNet Services Protection Requirements document SOP 11-16

Protection Requirement	Setting	Time Delay (s)
50 / 51 Phase Over Current		
50/51 Neutral Over Current		
27 Under Voltage		
59 Over Voltage		
59N Neutral Voltage Displacement		
81U Under Frequency		
81O Over Frequency		
81R ROCOF		
78 Vector Shift		

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Protection Requirement	Setting	Time Delay (s)
46 Phase Balance Current		
32 Reverse Power		
67 Reverse Current		
94 Inter-trip		
50M Communication Failure		
Dead Network Line Block Gen C/B Close		
Communication method to AusNet SCADA		

**By signing this form, you acknowledge and represent that the information provided is true and correct to your knowledge.**

**Print Name:** ..... **Title:**.....

**Signature:** ..... **Date:** .....