

Compliance Reporting Form-Class A1

Embedded Generation via Inverter Energy System
>30kVA and ≤1,500 kVA



Certification

Ergon Energy WR#:

Date: / /

**Embedded Generation via Inverter Energy Systems > 30 kVA and ≤ 1,500 kVA –
Project Name:**

Location:

I certify that as a Registered Professional Engineer of Queensland and by virtue of my training and experience, that the submission documentation complies with the requirements of the latest revisions of the following:

- Ergon Energy's Technical Study Report provided for the above stated project.
- STNW1175 - Standard for HV Embedded Generating Connections
- AS/NZS 3000 – Electrical Installations
- AS 2067 – Substations and high voltage installations exceeding 1kV A.C.
- AS 3100 – Approval and test specification – General requirements for electrical equipment
- AS/NZS 4777 series – Grid connection of energy systems via inverters
- AS/NZS 5139 – Electrical Installations – Safety of battery systems for use with power conversion equipment
- Queensland Electricity Connection Manual

In addition to the above, the following attachments have been submitted as part of the application:

- Attachment 1 – PV inverter & Battery Specifications & Checklist
- Attachment 2 – Compliance Checklist
- Attachment 3 – Compliance Report-Commissioning
- Attachment 4 – As Commissioned Drawings

Signature:

	RPEQ Engineer Name
	Registration Number
	Professional Title
	Company Name
	Company Address
	Contact Details

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All questions in each applicable section must be answered.

Attachment 1 - PV Inverter & Battery Specifications & Checklist

Installation details	Data
Customer Name	
Customer contact details	
Ergon Energy contact	
Installation approved capacity (kVA)	
Installation approved export (kW)	
Installed capacity (kVA) (Must not exceed approved limit)	
Installed export power limit (kW) (Must not exceed approved export)	

As installed – IES Rating Data

Parameters	Data
Cell/PV type	
Peak Power Pmax	
Rated voltage Vmp	
Rated Current Ipm	
Short circuit current Imc	
Open circuit voltage	
Maximum system voltage	
Module Efficiency	

Manufacturer's specification data sheet/user manual attached

Yes No

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As installed – Inverter Technical Data

Parameters	Data
Type	
Model	
Part Number / Manufacturer	
Max. Input DC Power	
Max. Input DC Voltage	
Max. Input Current	

Clean Energy Council Approved Inverter used

Yes

As installed – Battery Technical Data

Parameters	Data
Capacity	
Planned Operating Mode	
Max Rate of Charge	

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Output - Data

Description	Data
Nominal Site Output to Grid	
Max. output current	
Nominal AC voltage range	
Max. efficiency	
Power quality mode	

Comments
(please supply additional information for any non-compliances)

AC Grid frequency adjusting range Yes No
Single Line Diagram (SLD) attached Yes No

Existing Onsite Embedded Generating Systems

Existing Installation details*	Data
Types	
Capacity	

*Prior to this application

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All questions in each applicable section must be answered.

Attachment 2 - Compliance Checklist

Description	Complies	If No, supply details
Voltage Fluctuation or Flicker	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Export Requirements	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Special Instructions	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Fluctuation and Harmonic Allocations	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Power Factor Limits	Yes <input type="checkbox"/> No <input type="checkbox"/>	

Compliance with Standard for HV EG Connections

Clause	Description	Complies
5.1 & 5.1.1	Compliance to Standards	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.4.3	Power limiting (for partial-export and non-export systems only) - Provide setting below	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
5.1.1	Energy Storage Systems (if applicable) compliance to (AS/NZS 5139)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
5.2.2	Inverter protection settings	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.7.1	Protection device compliance	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
5.2.12	Grid Protection Relay	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.15	Interlocking (if applicable)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
5.2.13	Wireless transfer (where used)– provide Trip Time results (coms failure & GPR pickup) below	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.10.1 - 4.10.6	Power Quality	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
7	Commissioning	Yes <input type="checkbox"/> No <input type="checkbox"/>
8	Operation and maintenance	Yes <input type="checkbox"/> No <input type="checkbox"/>

Comments

(please supply additional information for any non-compliances and settings as required)

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All questions in each applicable section must be answered.

Attachment 3 – Compliance Report – Commissioning

Commissioning shall include the following information and test certificates are recommended for further evidence:

Compliance with Standard for HV EG Connections

System Details	Complies	Data, provide details (attach docs if required)
Installed system meets all criteria outlined in the Ergon Energy's Technical Study Report issued for project	Yes <input type="checkbox"/> No <input type="checkbox"/>	

Inverters

System Details	Complies	Data, provide details (attach docs if required)
Passive anti-islanding tested for conformance, Vnom_max, V<, V>, V>>, f< and f>.	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Tests to prove anti-islanding operation during network outage	Yes <input type="checkbox"/> No <input type="checkbox"/>	
DC input voltage to inverter on commissioning	Yes <input type="checkbox"/> No <input type="checkbox"/>	
AC Output Voltage from inverter on commissioning	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Input and Output power from inverter on commissioning	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Warning signs fitted as per AS/NZS 4777.1 and AS 5033	Yes <input type="checkbox"/> No <input type="checkbox"/>	

Protection

System Details	Complies	Data, provide details (attach docs if required)
Tripping and control scheme logic	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Instrument transformer ratios	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Relay settings as per standard	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Relay pickup tests	Yes <input type="checkbox"/> No <input type="checkbox"/>	

Comments

(please supply additional information for any non-compliances)

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Protection cont.

GPR Details	Data
Make	
Model	
Serial Number	

Power Quality

Power Quality testing is required

Yes No

System Details	Complies	If No, provide details (attach docs if required)
Flicker	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Harmonics emissions levels (e.g. 5,7)	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Voltage Unbalance (%)	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Power Factor	Yes <input type="checkbox"/> No <input type="checkbox"/>	

Copy of Test Certificates attached

Yes No

Interlocking

System Details	Complies	If Yes, provide details (attach docs if required)
Manual (Key based) or	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Automated	Yes <input type="checkbox"/> No <input type="checkbox"/>	

Prior approved automated design attached

Yes No

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All questions in each applicable section must be answered.

Attachment 4 – As Commissioned Drawings

Single Line Diagram and AC Schematics should include:

1. RPEQ Signature
2. NMI, Site name and address
3. GPR settings
4. Inverter protection details

Single Line Diagram (SLD) attached Yes No

AC schematics attached Yes No