Compliance Reporting Form

Embedded Generation via IES LV Connection
>30 kVA and ≤1,500 kVA

Certification

Ergon Energy WR#:

Date: / /

Embedded Generation via Inverter Energy System (IES) > 30 kVA and ≤ 1,500 kVA –
Project Name:
Location:
NMI:

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.
- STNW1174 - Standard for LV Embedded Generating Connections [version]
- AS/NZS 3000 – Electrical Installations
- AS/NZS 4777 series – Grid connection of energy systems via inverters
- IEC 62116 – Utility-interconnected photovoltaic inverters – Test procedure of islanding prevention measures
- Queensland Electricity Connection Manual [version]

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– Commissioning Test Results
- Attachment 4– As Commissioned Drawings

Signature:

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

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)	
Authorised demand (kW)/(A) (for premises including batteries and EVSE)	

As installed – IES Rating Data

Parameters	Data
Cell/PV/Turbine type	
Peak Power Pmax	
Rated voltage V_{mp}	
Rated Current I_{pm}	
Short circuit current I_{mc}	
Open circuit voltage	
Maximum system voltage	
Module Efficiency	

Manufacturer's specification data sheet/user manual attached Yes ☐ No ☐

All questions in each applicable section must be answered.

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	

Output – Data

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

All questions in each applicable section must be answered.

As installed – Electric Vehicle Supply Equipment [V2G or V2B] N/A ☐

Parameters	Data
Make	
Model	
Capacity	
Planned Operating Mode	
Max Rate of Charge / Discharge	

As Installed – Inverter Power Sharing Device N/A ☐

Parameters	Data
Make	
Model	
Rated Capacity	

IPSD Design RPEQ Approved Yes ☐ No ☐

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

AC Grid frequency adjusting range Yes ☐ No ☐

Single Line Diagram (SLD) attached Yes ☐ No ☐

All questions in each applicable section must beanswered.

Existing Onsite Embedded Generating Systems

Existing Installation details*	**Data**
Types	
Capacity and export	
Changes made to legacy systems	Yes ☐ No ☐
If yes, add comment	

*Prior to this application

All questions in each applicable section must be answered.

Attachment 2 – Compliance Checklist

Description	Complies	If No, supply details
Voltage Fluctuation or Flicker	Yes ☐ No ☐	
Export Requirements	Yes ☐ No ☐	
Special Instructions	Yes ☐ No ☐	
Fluctuation and Harmonic Allocations	Yes ☐ No ☐	
Power Factor Limits	Yes ☐ No ☐	

Compliance with Standard for LV EG Connections

Clause	Description	Complies
4.3.1.3	Power limiting (for partial-export and non-export systems only) - Provide setting below	Yes ☐ No ☐ N/A ☐
4.3.4	Emergency Backstop Mechanism (GSD)	Yes ☐ No ☐ N/A ☐
4.4.1	Battery Energy Storage Systems (if applicable) compliance to (AS/NZS 5139)	Yes ☐ No ☐ N/A ☐
4.4.3	Inverter Power Sharing Device (IPSD)	Yes ☐ No ☐ N/A ☐
4.7.1	Inverter protection settings	Yes ☐ No ☐ N/A ☐
4.7.2	Protection device compliance	Yes ☐ No ☐ N/A ☐
4.7.2, Table 8	Interface Protection Relay	Yes ☐ No ☐ N/A ☐
4.7.3	Interlocking (if applicable)	Yes ☐ No ☐ N/A ☐
4.7.4.1	Wireless transfer (where used)– complies with delay limits and loss of communications procedure	Yes ☐ No ☐ N/A ☐
4.8	Voltage limit for sustained operation set to 258V	Yes ☐ No ☐ N/A ☐
4.10.1.1 – 4.10.1.5	Power Quality	Yes ☐ No ☐ N/A ☐

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Clause	Description	Complies
4.10.2	Power Quality Mode settings (Region A settings)	Yes ☐ No ☐
6	Commissioning	Yes ☐ No ☐
7	Operation and maintenance	Yes ☐ No ☐

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

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 LV 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 ☐ No ☐	

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 ☐ No ☐	
Tests to prove anti-islanding operation during network outage	Yes ☐ No ☐	
DC input voltage to inverter on commissioning	Yes ☐ No ☐	
AC Output Voltage from inverter on commissioning	Yes ☐ No ☐	
Input and Output power from inverter on commissioning	Yes ☐ No ☐	
Warning signs fitted as per AS/NZS 4777.1 and AS 5033	Yes ☐ No ☐	

Emergency Backstop Mechanism

GSD Details	
Is a GSD installed for each inverter?	Yes ☐ No ☐ N/A ☐
Model	
Serial Number	
Has a Demand Response Site Controller (DRSC) been installed for this premise?	Yes ☐ No ☐
Make/Model	
Serial Number	

All questions in each applicable section must be answered.

GSD Installation as per QECM	Yes ☐ No ☐
Demand Response Device	Inbuilt in inverter ☐ External Device ☐
Functionality Enabled for demand response mode DRM 0 in compliance with AS/NZS 4777.2.	Yes ☐ No ☐
External device installed (if required)	Yes ☐ No ☐ N/A ☐
Verify that response is current: - Measure and record inverter output (AC current) - Confirm 'DRM 0' response of the inverter commences within 2 seconds - Confirming AC current reduces from recorded output, noting this may take a few minutes	Yes ☐ No ☐
Photos of installation attached: • Installation arrangement within switchboard or enclosure • Wiring arrangements of the GSD showing compliance with QECM requirements • GSD serial number	Yes ☐ No ☐

Protection

IPR Details (for IES greater than 200kVA or PSD>30kVA or where required due to legacy arrangements)	**Data**
Make	
Model	
Serial Number	
Exemption for bulk metered connection	Yes ☐ No ☐ N/A ☐

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System Details	Complies	Data, provide details (attach docs if required)
Tripping and control scheme logic	Yes ☐ No ☐	
Instrument transformer ratios	Yes ☐ No ☐	
Relay settings as per STNW1174 Table 9	Yes ☐ No ☐	
Relay pickup tests	Yes ☐ No ☐	

Commissioning results attached Yes ☐ No ☐

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

Inverter Power Sharing Device

IPSD Installation N/A ☐	Data
Aggregated Inverter Rated Apparent Power	
If Greater than 30kVA, Confirm Interface Protection Installed	Yes ☐ No ☐
Installation Compliant with AS/NZS 4777.1	Yes ☐ No ☐
Anti-islanding testing completed (results attached)	Yes ☐ No ☐

Power Quality

Power Quality testing is required Yes ☐ No ☐

Power Quality testings results to be provided to DNSP Yes ☐ No ☐

Where the premises includes more than one connection point, testing has been conducted for each connection point Yes ☐ No ☐ N/A ☐

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System Details	Complies	Data, provide details (attach where required)
Flicker	Yes ☐ No ☐	
Harmonics emissions levels (e.g. 5,7)	Yes ☐ No ☐	
Voltage Unbalance (%)	Yes ☐ No ☐	

Copy of Test Certificates attached Yes ☐ No ☐

Power quality raw data provided (.xlsx or .csv format) Yes ☐ No ☐

Interlocking N/A ☐

System Details	Complies	Provide details (attach docs if required)
Manual (Key Based) or	Yes ☐ No ☐	
Automated	Yes ☐ No ☐	
If Automated, prior approved automated design attached	Yes ☐ No ☐ N/A ☐	

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. IPR settings		
4. Inverter protection details		
Single Line Diagram (SLD) attached	Yes ☐	No ☐
AC schematics attached	Yes ☐	No ☐
GSD Installation photos attached	Yes ☐	No ☐