

Compliance Reporting Form

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



Certification

CX Ref #:
Energex WR#:

Date: / /

Embedded Generation via RM > 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:

- Energex's Technical Study Report provided for the above stated project.
- STNW1174 - Standard for LV Embedded Generating Connections
- AS/NZS 3000 – Electrical Installations
- AS 60034.1 Rotating electrical machines, Part 1: Rating and performance
- AS 60034.22 Rotating electrical machines, Part 22: AC generators for reciprocating internal combustion (RIC) engine driven generating sets.
- Queensland Electricity Connection Manual

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

- Attachment 1 – Engine/Turbine/Alternator 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

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All questions in each applicable section must be answered.

Attachment 1 – Rotating Machine 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)	
Subject description (plant information) e.g. PV export installation at shopping village	

As installed – Engine Technical Data

Parameters	Data
Engine/Turbine type	
Make	
Model	
Rated Power (kWe/kWm)	
Rated Voltage (V)	
Rated Current (A)	

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As Installed – Alternator Technical Data

Parameters	Data
Make	
Model	
Rated Power (kVA)	
Rated Current (A)	
Rated Voltage (V)	
Peak Short Circuit Current (kA)	

Manufacturer’s specification data sheet/user manual attached

Yes No

As Installed – Generating System

Description	Tested by:
Complies with AS 60034.1, AS 60034.22	Yes <input type="checkbox"/> No <input type="checkbox"/>

Comments

(please supply additional information for any non-compliances)

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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Attachment 2 – Compliance Checklist

Description	Complies	If No, supply details
Voltage Fluctuation and 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 LV EG Connections

Clause	Description	Complies
4.3	Stand-by hours limit compliance (if applicable)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.3.1.3	Power limiting (for partial-export and non-export systems only)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.7.2, Table 8	Protection device compliance, GPR functionality and settings	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.7.2.4, 4.7.6.2	Loss of mains, NVD and backup anti-islanding protection	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.7.2.6	Power limit protection	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.7.3	Interlocking (if applicable)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.7.5	Re-energisation and synchronisation	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.7.6.1	Standards compliance	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.7.6.2	Exemptions (please list relevant exemptions authorised for this installation)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.10.1.1 – 4.10.1.5	Power Quality	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.10.3	Power Control Mode settings	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
6	Commissioning	Yes <input type="checkbox"/> No <input type="checkbox"/>

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Clause	Description	Complies
7	Operation and maintenance	Yes <input type="checkbox"/> No <input type="checkbox"/>

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

Commissioning results attached

Yes No

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 Energex's Technical Study Report issued for project	Yes <input type="checkbox"/> No <input type="checkbox"/>	

Rotating Machine

System Details	Complies	Data, provide details (attach docs if required)
AC Output Voltage from inverter on commissioning	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Input and Output power from rotating machine on commissioning	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Re-energisation and synchronisation as per standard	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Rotating machine performed as per approved Operating type (Clause 4.3)	Yes <input type="checkbox"/> No <input type="checkbox"/>	

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All questions in each applicable section must be answered.

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"/>	
GPR details (make, model, serial number)	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"/>	
GPR – ROCOF (setting)	Yes <input type="checkbox"/> No <input type="checkbox"/>	
GPR – directional power (setting)	Yes <input type="checkbox"/> No <input type="checkbox"/>	N/A <input type="checkbox"/>
GPR – negative sequence voltage (setting)	Yes <input type="checkbox"/> No <input type="checkbox"/>	N/A <input type="checkbox"/>
GPR – negative sequence current (setting)	Yes <input type="checkbox"/> No <input type="checkbox"/>	N/A <input type="checkbox"/>

Comments

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

Commissioning results attached

Yes No

Power Quality

System Details	Complies	Data, provide details (attach docs if required)
Flicker	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Harmonics emissions levels (Testing not required if no power electronic converter present)	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

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All questions in each applicable section must be answered.

Interlocking

System Details	Complies	Data, 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

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 <input type="checkbox"/> No <input type="checkbox"/>
AC schematics attached	Yes <input type="checkbox"/> No <input type="checkbox"/>