Embedded Generation via Bumpless Transfer Rotating Machine LV connection >30 kVA and  $\leq$ 1,500 kVA



### Certification

CX Ref #: Energex WR#:

Date: / /

# Embedded Generation via Bumpless Transfer RM > 30 kVA and $\leq$ 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 [version ]
- 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.

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Queensland Electricity Connection Manual [version

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

## **Compliance Reporting Form** Embedded Generation via Bumpless Transfer Rotating Machine LV connection >30 kVA and ≤1,500 kVA



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)	0kW
Installed capacity (kVA) (Must not exceed approved limit)	
Installed export power limit (kW) (Must not exceed approved export)	

#### As installed – Engine Technical Data

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

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All questions in each applicable section must be answered.

#### As Installed – Alternator Technical Data

Parameters	Data
Туре	
Make	
Model	
Rated Power (kVA)	
Rated Current (A)	
Rated Voltage (V)	

Manufacturer's specification data sheet/user manual attached

Yes 🗌 No	
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#### As Installed – Generating System

Description	Tested by:
Complies with AS 60034.1, AS 60034.22	Yes 🗌 No 🗌

#### 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
Туреѕ	
Capacity	

\*Prior to this application

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All questions in each applicable section must be answered.

### **Attachment 2 – Compliance Checklist**

#### Compliance with Standard for LV EG Connections

Clause	Description	Complies	5	
4.5.1	Changeover switch standards compliance (AS/NZS IEC60947.6.1)	Yes 🗌	No 🗌	
4.7.3	Interlocking	Yes 🗌	No 🗌	N/A 🗌
4.7.5	Re-energisation and synchronisation	Yes 🗌	No 🗌	N/A 🗌
4.7.6.1	Standards compliance (AS60034.1, AS60034.22)	Yes 🗌	No 🗌	N/A 🗌
4.7.6.2	Exemptions (please list relevant exemptions authorised for this installation)	Yes 🗌	No 🗌	N/A 🗌
6	Commissioning	Yes 🗌	No 🗌	
7	Operation and maintenance	Yes 🗌	No 🗌	

#### Comments

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

### 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 🗌 No 🗌	

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All questions in each applicable section must be answered.

#### **Rotating Machine**

System Details	Complies	Data, provide details (attach docs if required)
AC Output Voltage from generator on commissioning	Yes 🗌 No 🗌	
Input and Output power from rotating machine on commissioning	Yes 🗌 No 🗌	
Re-energisation and synchronisation as per standard	Yes 🗌 No 🗌	
Rotating machine performed as per approved Operating type (Clause 4.3)	Yes 🗌 No 🗌	Operating Type: Bumpless Transfer

#### Protection

System Details	Complies	Data, provide details (attach docs if required)
Tripping and control scheme logic	Yes 🗌 No 🗌	
Instrument transformer ratios	Yes 🗌 No 🗌	

#### Comments

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

Commissioning results attached

Yes 🗌 🛛 No 🗌

#### Interlocking N/A

System Details	Complies	Data, provide details (attach docs if required)
Manual (Key based) or	Yes 🗌 No 🗌	
Automated	Yes 🗌 No 🗌	

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		Yes 🗌	No 🗌