

# COMPLIANCE REPORTING FORM-CLASS A1

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



## Certification

CX Ref #:

Energex WR#:

Date:     /     /

### Embedded Generation via RM > 30 kVA and ≤ 1,500 kVA –Class A1

**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
- STNW1175 - Standard for HV Embedded Generation 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 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.
- QLD Electricity Connection and Metering Manuals

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

- Attachment 1 – Rotating Machine Specifications & Checklist
- Attachment 2 – Compliance Checklist
- Attachment 3 – Commissioning Test Results
- Attachment 4 – As Constructed SLD & Relay Settings

Signature:

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	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	
Energex 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. stand-by generating system at hospital	
Operating mode (Stand-by / Continuous Parallel)	

### As installed – Engine/Turbine 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	Complies	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

Description	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 HV EG Connections

Clause	Description	Complies
4.7.2	Standards compliance	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.5.1	Disconnection, Synchronisation and Re-energisation	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"/>
5.2.2, 5.2.3, 5.2.7, 5.2.12	Central Protection, backup anti-islanding protection NVD, GPR	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
5.2.4	Overcurrent and earth fault protection	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
5.2.5	Reverse power or power limit protection	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
5.3.2	Power Quality Response	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.15	Interlocking	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
7	Commissioning	Yes <input type="checkbox"/> No <input type="checkbox"/>
8	Operations and Maintenance	Yes <input type="checkbox"/> No <input type="checkbox"/>

<p><b>Comments</b> (please supply additional information for any non-compliances and settings as required)</p>     
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Commissioning results attached

Yes  No

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## 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 Energex 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 EG 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 operation as per approved Operating type (Clause 4.3)	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"/>	
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

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## 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

## 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"/>	

Copy of 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. Rotating machine unit protection details

Single Line Diagram (SLD) attached

Yes  No

AC schematics attached

Yes  No