

# NE-FRM-0002 – Commissioning Checklist for Distributed Generation less than 10kW



New Energy Development & Strategy – Distributed Energy Resources

Security Class: Public – Social Media

- This procedure applies to Distributed Generation systems up to 10kW.
- The installing electrician must perform all the steps in the commissioning checklist in the order of the list and confirm by ticking against each item.
- The completed form **must be included** with the returned completion documents.

## Installation

- 1.1. Confirm generator and inverter equipment installation completed and all labels in place in compliance with AS4777
- 1.2. Supply Certificate of Compliance Number: \_\_\_\_\_
- 1.3. Confirm Import/export meter install arranged. Retailer: \_\_\_\_\_
- 1.4. Confirm Inverter setting as per [AM-STD-0007](#)<sup>1</sup> and fill in the white boxes

Table 1: Inverter Protection Setting Checklist

Parameter	Prescribed limit	Applicant's limit	Prescribed minimum trip delay time (s)	Applicant's min trip delay time (s)	Prescribed max disconnection (trip) time (s)	Applicant's max disconnection(trip) time (s)
V <sub>non-max</sub> (10 minute average)	248 V					
Overtoltage 1	260 V		1.0		2.0	
Overtoltage 2	265 V		-		0.2	
Under voltage	180 V		1.0		2.0	
Under-frequency	45 Hz		1.0		2.0	
Over-frequency	52 Hz		-		0.2	
Minimum reconnection time	60 s					

Table 2: Inverter Response Mode Checklist

Response Mode	Available	Enabled
Volt-VAr	<input type="checkbox"/>	<input type="checkbox"/>
Volt-Watt	<input type="checkbox"/>	<input type="checkbox"/>

Table 3: Volt-VAr Response Capability Checklist

Reference	Voltage (V)		Var/Rated VA (%)	
	Prescribed	Applied	Prescribed	Applied
V <sub>1</sub>	207		60	
V <sub>2</sub>	220		0	
V <sub>3</sub>	235		0	
V <sub>4</sub>	244		-60	

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<sup>1</sup>Available from <https://powernet.co.nz/your-power-supply/distributed-generation>

Table 4: Volt-Watt Response Capability Checklist

Reference	Voltage (V)		Power, P/P <sub>rated</sub> (%)	
	Prescribed	Applied	Prescribed	Applied
V <sub>1</sub>	207		100	
V <sub>2</sub>	220		100	
V <sub>3</sub>	244		100	
V <sub>4</sub>	246		0	

### Generator Testing

- 2.1. Confirm Inverter 230V AC isolator is open (inverter is isolated from the grid)
- 2.2. Start generator
- 2.3. Test/confirm generation primary voltage present at inverter input
- 2.4. Test/confirm **no** 230V AC voltage present at inverter output

### Network Synchronisation

- 3.1. Confirm Generator operating as at conclusion of Section 2
- 3.2. Close 230V AC isolator to connect inverter to the Grid.
- 3.3. Confirm no adverse behaviour from inverter
- 3.4. Confirm 230V AC present at inverter output (inverter is synchronised)
- 3.5. Confirm 230V AC output current from inverter

### Loss of Grid

- 4.1. Confirm Inverter synchronised and premises under normal operating conditions/load
- 4.2. Open premises main switch to disconnect premises from the grid
- 4.3. Confirm no adverse behaviour from the inverter
- 4.4. Test/confirm **no** 230V AC voltage present at inverter output
- 4.5. Test/confirm generation primary voltage still present at inverter output

### Sign-Off

Electrician Name/Company:      Signature:      Date: (DD/MM/YYYY):

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### FOR OFFICE USE ONLY

- 5.1. Check registry to ensure correct import/export meter installed