



19-23 Moore St
Turner ACT 2612 Australia
PO Box 6127
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Tel: 1300 206 986
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Solar Victoria Audit Program

PV Solar System Installation Audit Report

Report Recipient: PV Solar System Installer

Reference Number:

Site Address:

CoES number:

Audit date: 30/11/2019

Report date: 04/12/2019

Report status: Preliminary



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About the audit and this report

Audit scope	<p>The purpose of this audit is to provide assurance to the Victorian community and Government regarding the quality and electrical safety of rebated residential solar photovoltaic (PV) installations in Victoria. These site audits are undertaken to provide stakeholders, including relevant regulatory authorities and industry groups such as Solar Victoria, Energy Safe Victoria and the Clean Energy Council, with current information on these PV installations. The following ten elements were included in the audit scope:</p> <ul style="list-style-type: none">- Switchboard- Power conversion equipment (PCE)- Ground direct current (DC) isolation- Roof DC isolation- PV array- Array components- Wiring- Performance- Documentation- Customer experience
Audit approach	<p>This audit tool has been designed and implemented with the following focus:</p> <ul style="list-style-type: none">- Risk-based: Targets the key relevant and higher risk components of the references- Outcomes focused: Prioritises the testing of control outcomes (e.g. observable conditions of system installations, records of Standards being complied with)- Workflow optimised: the audit is designed to minimise the inconvenience to PV system owners, by guiding Auditor(s) through the various requirements in as logical sequence as possible. <p>A range of audit procedures were applied including: visual inspections, conversations with the PV system owner or their representative, physical testing of designated system elements, and assessment of on-site documentation, including PV system documentation.</p>
References	<ul style="list-style-type: none">• Electrical Safety Act (1998)• Renewable Energy (Electricity) Act 2000• Renewable Energy (Electricity) Regulations 2001• Australian Consumer Law and Fair Trading Act (2012)• Building Act (1993)• Victorian Building Regulations 2018• Victorian Electricity Safety (Installations) Regulations 2009• Victorian Distributors Service and Installation Rules 2014• AS/NZS 3000:2018 - Wiring Rules including amendments• AS/NZS 3008.1.1:2017 - Electrical Installations - Selection of cables• AS/NZS 4777.1:2016 - Grid connection of energy systems via inverters• AS/NZS 4777.2:2015 - Grid connection of energy systems via Inverters – Inverter requirements• AS/NZS 5033:2014 (Ammd 1:2018, Ammd 2:2018) - Installation of photovoltaic (PV) arrays• AS/NZS 1170.2:2002 - Structural design actions<ul style="list-style-type: none">- Part 2 Wind Actions• AS/NZS 4509.1:2009 - Stand alone power systems<ul style="list-style-type: none">- Part 1 Safety and installation• AS/NZS 4086.2:1997 - Secondary batteries for use with stand alone power systems<ul style="list-style-type: none">- Part 2 Installation and Maintenance• AS/NZS 1768:2007 - Lightning protection• The Clean Energy Council's Guidelines:<ul style="list-style-type: none">• Grid connected Solar PV systems: Install and Supervise• Working safely when installing photovoltaic (PV) systems Guideline - WorkSafe 2018• CEC Approved Retailers Code of Conduct 2018



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**Audit results and
recommended
rectifications**

The system's performance against each individual requirement included in the audit has been assessed as one of 'unsafe' (1H), 'needs rectification' (2H), 'improvements identified' (2M), 'adequate (2L)', or 'no rectification works required' (NRR). Findings may be a result of the electrical safety or performance of the system. In some instances the requirement may not be relevant to that particular system installation or site, and has therefore been assessed as not applicable ('N/A').

For the instances where all the requirements under an element were assessed as NRR, the element is presented with NRR in the audit report. For those elements that contained a MNCNR, this question is included in the audit report for your information (no recommended rectification provided). For each requirement where an U, RR or MNCRR rating was allocated, the recommended rectification is provided. Where appropriate, photos have been taken to support the audit observations and are included.

Acknowledgment

The Auditor(s) wishes to acknowledge the cooperation and assistance provided by the PV system owner during the audit, and thanks them for their contribution to the process.

Conflict of interest

The Auditor(s) declares that there is no conflict of interest between them and other relevant parties, including the PV system manufacturer, installer, retailer, or other parties listed in the audit scope.



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Audit Report - Solar Homes Program (for PV Solar System Installer)

Audit Details

Date of audit	30/11/2019	CoES number	
Auditor		Site address	
Audit report status	Preliminary	Audit result	Complies

Summary of findings

The audit found that at the installation at 73 Rundell St , Ararat, VIC, 3377 did not have rectifications required.

Other audit components

- Detailed audit findings for each audit element are in the next section.

Next actions required

The system complies with all relevant standards and requirements for installation. No safety, performance or documentation issues have been identified. The workmanship and equipment layout are of a high standard. No rectification work is required.



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Audit Report - Solar Homes Program (for PV Solar System Installer)
Detailed Audit Results

The following table summarises the results against the applicable requirements assessed under each element. A recommended action is provided for each requirement assessed as requiring rectification. Those elements with no non-compliances are marked as 'NRR'.

Key:

- NRR = No rectification work is required
- 2L (Adequate) = Minor non-compliance, no rectification work is required
- 2M (Improvements Identified) = Medium non-compliance, rectification work is required
- 2H (Needs Rectification) = Rectification work is required
- 1H (Unsafe) = System is unsafe and has been isolated, immediate rectification work and re-activation is required

Element	Rating	ID	Requirement	Inspector Recommendation
Switchboard	NRR			
PCE	NRR			
Ground DC Isolation	NRR			
Roof DC Isolation	NRR			
PV Array	NRR			
Array	NRR			
Wiring	NRR			
Performance	NRR			
Customer Experience	NRR			



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Audit Photos			
Nil			