

Inspections update No. 17

Introduction

This inspections update provides a summary (as at 31 July 2018) of the inspections program under Section 23 AAA of the *Renewable Energy (Electricity) Act 2000* and Part 7 of the Renewable Energy (Electricity) Regulations 2001 as administered by the Clean Energy Regulator since May 2011. This update is a continuation of a series of [published inspections updates](#)¹, available from the Clean Energy Regulator website.

Inspection results

Table 1: Completed inspection reports received as at 31 July 2018

State	Systems inspected	Unsafe systems	Substandard systems
ACT	223	9	25
NSW	5,282	184	931
NT	116	5	28
QLD	7,272	252	1,366
SA	2,916	50	515
TAS	349	20	55
VIC	4,571	181	628
WA	3,647	138	756
Grand Total	24,376	839	4,304
Total Per cent	-	3.4%	17.7%

¹ <http://www.cleanenergyregulator.gov.au/RET/Scheme-participants-and-industry/Agents-and-installers/Small-scale-Renewable-Energy-Scheme-inspections>

Unsafe results

Since the last inspections update (Update 16, dated 31 August 2017), the Clean Energy Regulator received 3626 reports on solar PV system inspections (inspected up to 31 July 2018). The number of systems assessed as unsafe over the life of the program was 3.4 per cent or 839, which continued the recent improvement in unsafe rates from 4.0 per cent in 2015-16 (between Inspections Updates 12 and 15) and 3.7 per cent in 2016-17 (between Inspections Updates 15 and 16).

This recent and improving trend is a result of industry bodies and state and territory electrical safety regulators using program data to change Australian Standards, installation guidelines and improve education and training. For example, requirements to cover rooftop isolators have been introduced into the industry installation guidelines and changes to the Australian Standards have been subject to consultation.

An unsafe system is defined as a possible safety hazard which poses an imminent risk of damage to property or persons. Examples of reasons why a system may be assessed as unsafe include:

- direct current isolator enclosures, or junction boxes, that were not suitably installed to prevent water ingress
- signs of water damage present
- issues with the panel mounting, or
- exposed live parts.

These issues are attributable to poor installation practices and/or the use of inappropriate hardware, and indicate a failure to comply with basic electrical installation competencies. The Clean Energy Regulator provides information to industry and state and territory electrical regulatory authorities for appropriate action.

In particular, the Clean Energy Regulator inspection data has continued to identify issues with some DC isolators even after installation guidelines were strengthened in September 2015. Regulators and industry bodies have continued to address these issues with recalls of specific DC isolators occurring every year from 2014 and a range of more stringent requirements being introduced from July 2018. These actions should continue to reduce the percentage of unsafe installations in the long term. In the short term however, a temporary increase can occur if installation practices are not promptly aligned with new requirements.

Actions taken as a result of the systems being classified as unsafe:

- The system was shut down or otherwise rendered safe by the inspector
- The owner and/or occupier of the premises were advised by the inspector of the nature and extent of the safety risk, and
- The relevant state or territory electrical regulatory authorities, the Clean Energy Council and energy network provider were advised by the inspector of the nature and extent of the safety risk.

Substandard results

As at 31 July 2018, the number of solar PV systems inspected and assessed as substandard over the life of the program was 17.7 per cent or 4,304 solar PV systems. Of these, the majority had direct current isolator issues, for example:

- the DC isolator at the inverter being incorrectly wired

- the DC isolator being incorrectly rated for current or voltage and the voltage is not within 20 per cent of actual required voltage rating, and
- the DC isolator at the inverter being incorrectly rated for voltage and/or current.

In recent years, an improvement in inspector consistency as a result of education on assessment processes may be contributing to inspectors categorising more systems as substandard (refer Figure 1).

A substandard system is defined as one that:

- does not meet key clauses in the standards and requirements for installation and may lead to premature equipment failure or other issues
- does not pose an imminent safety risk, or
- the installation work and/or the equipment should be improved to meet relevant standards and industry guidelines.

A system that is assessed as substandard requires work to rectify the installation.

Actions as a result of substandard classification and requiring rectification work:

- The owner and/or occupier of the premises were advised by the inspector of the nature and extent of the risk posed by the substandard issues, and
- The relevant state or territory electrical regulatory authorities and the Clean Energy Council were advised of the nature and extent of the risk posed by the substandard issues.

Figure 1: Summary data of inspection updates one to seventeen

