



Australian PV Standards – The State of the Nation - July 2010

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Status of Australian Standards

Standards Australia has undergone a number of restructures and a relocation in offices in the last few years. This has led to a number of changes in procedures and policies in the way standards are resourced and produced. This upheaval in Standards Australia has led to significant delays in committee’s ability to get projects approved to update and revise standards or to establish new standards.

At the current time Standards Australia has on 14th June accepted proposals from all committees for new projects. These projects are being assessed and prioritized and we will find out the results of this process on 15th August. The outcome of this process will determine whether we are allowed to update a standard and if so what level of support we might receive in terms of secretarial support.

Currently we have updated AS4509 and have applied to have projects to extensively revise and update AS/NZS5033 and AS4777 parts 1-3.

Until then we cannot get anything through Standards processes. Before then however we have been working to collate all issues that need to be resolved and have started subcommittee meetings to do the work of revising the standards based on the urgency of the need for the revisions.

In the interim we are working to recommend updates to the industry accreditation guidelines as a method of addressing important issues that are arising with the large increase in the number of installations.

We have also been working with the Department of Climate Change to advise on implementation of audit programs for PV installations which include inspection of the PV array d.c. wiring.



Projects under way in 2009-2010:

AS/NZS 4509 Stand-alone power systems

Part 1: - Safety and installation (2009)

Revised and now incorporating old parts 1 and 3. Part 1 and 3 updated considerably to fix minor problems. It now covers the connection to the house via the equivalent of a “consumers mains” making sure it dovetails with AS/NZS3000. It also has new sections and diagrams addressing housing and ventilation of batteries.

Part 2: - System design guidelines

Revised and nearly approved for publication and will be probably available later in 2010. Minor revisions to fix small problems and make sure again it links accurately with AS/NZS3000 and a section has been added to include the use of a.c. buss systems. This new section is aimed at specifically not excluding a.c. buss systems but not covering in designs where time of use loads are important. It does not cover every method of designing systems but gives a solid conservative approach.



New Projects Subject to Standard's Australia approval:

AS/NZS 5033 Revision

Over the period when we have been unable to do any updates or revisions of this standard we have been collecting comments from industry and committee members and forming a list of items for revision.

The subcommittee has been meeting to decide on the revision and the probable outcomes of this are shown below:

- Revised standard based on a new draft international standard (IEC).
- Scope expanded >30kW and up to 1000V
- Modules will no longer be classed as double insulated (Class II).
- Reinforcing of AS/NZS3000 cable protection and support requirements
- Earthing – if LV ...EARTH the FRAMES
- Fusing
- New calculations based on Max O/C protection rating of modules
- Use gPV category fuses
- Segregate ac and dc
- Connectors
- PV dc isolator clarification
- Reworking of windloading and structural sections
- Signs
- Other minor corrections

AS 4777 Revision

Over the period when we have been unable to do any updates or revisions of this standard we have been collecting comments from industry and committee members and forming a list of items for revision.

The subcommittee has been meeting to decide on the revision and the probable outcomes of this are shown below:

AS 4777-1

Expanded Scope for larger systems
Require a.c. isolation adjacent to inverter if switchboard is not within line of sight of main switchboard and not more than 3m away.
RCDs on inverter circuits
DC isolation & wiring restraint particularly near inverter.
Alignment with amended AS/NZS3000
Updated labelling and signage requirements.
Recommendations of very low Vdrop from inverter- point of connection.



AS 4777-2&3

Parts 2 and 3 will probably be combined to simplify product testing and to make sure inverters meet both requirements. Other issues include important utility safety and quality of supply issues which are arising out of higher penetration levels of PV in the electricity network

Revision of voltage and frequency settings to line up with regulators requirements.

Two averaging times and trip settings

Recommended default settings for Australia and NZ

Possible revised anti-islanding requirements.

AS/NZS 3000

EL42 in constant liaison with EL1 committee to:

Make sure any inconsistencies are removed between standards

Ensure diagrams line up

Language clear.

NEW Signs

A new consistent set of signs have been developed across the whole range of standards for PV. They have been incorporated into AS/NZS 4509 and will be incorporated into AS/NZS 5033 & AS/NZS 4777. Where possible the set of signs has been reduced and simplified.
