

Installation Checklist

SOLAR PV ARRAY (AS/NZS 5033:2012)

Installer

CEC Accreditation No

..... Commissioning Date / /
signature

Note that this checklist is to be read in conjunction with the Standard reference listed.
AS/NZS 5033 Date of effect – 16/10/2012 (3 months from publication) for exceptions refer to Appendix H.
Mandatory requirements shown in **BOLD** text. Where a requirement is NOT APPLICABLE – write NA to the right of the line item

	REFERENCE
All equipment and wiring is installed in accordance with AS/NZS 3000	<input type="checkbox"/> AS/NZS 5033 4.1
PV ARRAY	
Roof mounted [R] Building integrated [B] Freestanding [F]	..
PV Array tilt	. °
PV Array orientation	. °
PV modules are qualified to IEC 61730-2 refer to CEC approval list and comply with IEC 61215 (crystalline) or IEC 61646 (thin film)	<input type="checkbox"/> AS/NZS 5033 4.3.2.1 <input type="checkbox"/> AS/NZS 5033 4.3.2.2
All modules connected to the same MPPT are the same make and model	<input type="checkbox"/> AS/NZS 5033 2.1.5
and modules in each string have the same orientation and tilt	<input type="checkbox"/> AS/NZS 5033 2.1.5
PV Array open circuit voltage Voc	
for domestic dwelling - PV Array Voc is less than 600V	<input type="checkbox"/> AS/NZS 5033 3.1
for PV Array Voc > 600V - all PV equip't and wiring is 'restricted access' [access by authorised personnel only e.g. via locked gate or door]	<input type="checkbox"/> AS/NZS 5033 3.1
PV support structures, module mounting and attachment methods comply with applicable building codes, regulations and standards	<input type="checkbox"/> AS/NZS 5033 2.2.3 <input type="checkbox"/> AS/NZS 5033 2.2.5
Allow for maximum thermal expansion/contraction of the modules	<input type="checkbox"/> AS/NZS 5033 2.2.2
PV array frame and mounting complies with AS/NZS 1170.2 Wind actions	<input type="checkbox"/> AS/NZS 5033 2.2.5
Wind loading on any associated building structure has been assessed	<input type="checkbox"/> AS/NZS 5033 2.2.5
The possibility of snow / ice build-up has been considered – AS/NZS 1170.3	<input type="checkbox"/> AS/NZS 5033 2.2.6
Module mounting frames and support structures -	
are manufactured from corrosion resistant material	<input type="checkbox"/> AS/NZS 5033 2.2.7
any timber used is suitable for external use or is properly sealed	<input type="checkbox"/>
no dissimilar metals are in contact with the array frames or supports	<input type="checkbox"/> AS/NZS 5033 2.2.7
bolts, nuts and fasteners are durable for their location	<input type="checkbox"/> AS/NZS 5033 2.2.7
Roof penetrations are suitably sealed and weatherproofed	<input type="checkbox"/>
PV wiring and components are fit for purpose and installed to minimize exposure to detrimental environmental effects	<input type="checkbox"/> AS/NZS 5033 4.1

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	REFERENCE
PV ARRAY <i>continued</i>	
LV PV Array wiring is double (or reinforced) insulation	<input type="checkbox"/> AS/NZS 5033 3.2
Over-current protection is provided to limit potential fault current for LV arrays, in all current carrying conductors not directly connected to earth for ELV arrays, in either the positive or negative conductor	<input type="checkbox"/> AS/NZS 5033 3.3.4 see <i>NOTE 1</i> below & AS/NZS 5033 3.3.6
PV string over-current protection – where required (rating. ... A)	AS/NZS 5033 3.3.5.1
PV sub-array over-current protection – where required (rating. ... A)	AS/NZS 5033 3.3.5.2
is installed in all unearthed current carrying conductors.	<input type="checkbox"/> AS/NZS 5033 3.3.6
Circuit breakers used for PV array over-current protection, are certified to either AS/NZS 60898 part 2 or IEC 60947-2	<input type="checkbox"/> AS/NZS 5033 4.3.4
NOT polarity sensitive	<input type="checkbox"/>
rated to interrupt full load and prospective fault currents	<input type="checkbox"/>
over-current rating complies with AS/NZS 5033 3.3.5	<input type="checkbox"/>
All Components ...	
are rated for d.c. use	<input type="checkbox"/> AS/NZS 5033 4.3.1
have a voltage rating equal to or greater than Voc Array corrected for the lowest expected operating temperature	<input type="checkbox"/> AS/NZS 5033 4.3.1
have an appropriate current rating – see AS/NZS 5033 TABLE 4.2	<input type="checkbox"/> AS/NZS 5033 4.3.1 AS/NZS 5033 4.3.5.1
All outdoor equipment is suitable for the environmental conditions, at least IP 56 rated and UV resistant	<input type="checkbox"/> AS/NZS 5033 4.3.3.1
PV array and string combiner boxes, where installed, are readily available.	<input type="checkbox"/> AS/NZS 5033 4.3.3.2
Disconnecting devices (including switch-disconnectors)	
are certified to IEC 60947	<input type="checkbox"/> AS/NZS 5033 4.3.5.1
have a utilisation category at least DC21B [refer to IEC 60947-3 TABLE 2]	<input type="checkbox"/> see <i>NOTE 2</i> below
if exposed to sun, have a rated operational current at ambient temp. + 40°C	<input type="checkbox"/> AS/NZS 5033 4.3.5.1
Switch-disconnectors are certified to IEC 60947	<input type="checkbox"/> AS/NZS 5033 4.3.5.2
NOT polarity sensitive	<input type="checkbox"/>
rated to interrupt full load and prospective fault currents	<input type="checkbox"/>
when over-current rating is incorporated comply with AS/NZS 5033 3.3.5	<input type="checkbox"/>
interrupt all live conductors simultaneously	<input type="checkbox"/>
PV array switch-disconnectors [labelled PV Array DC Isolator]	<input type="checkbox"/> AS/NZS 5033 4.3.5.2
interrupt all live conductors (including functionally earthed conductors).	
for ELV PV strings – load-breaking isolation [PV module plug/socket may be used]	AS/NZS 5033 4.3.5.2

NOTE 1 The PV module maximum over-current protection rating ($I_{MOD\ MAX\ OCPR}$) determined by IEC 61730-2 may be specified in the module manufacture's datasheet as the 'module reverse current rating' or the 'maximum series fuse rating' or just the 'series fuse rating'.

NOTE 2 IEC 60947-3 TABLE 2 Utilisation category DC21B – for d.c. application, switching of resistive loads including moderate overloads, infrequent operation.

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	REFERENCE
PV ARRAY <i>continued</i>	
All PV wiring complies with AS/NZS 3000	<input type="checkbox"/> AS/NZS 5033 4.4.4.2
PV Cabling ...	
Conductor current-carrying capacity is equal to or greater than the current that has been determined from AS/NZS 5033 TABLE 4.2	<input type="checkbox"/> AS/NZS 5033 4.3.6
Any potential backfeed current has been taken into account	<input type="checkbox"/> AS/NZS 5033 4.3.6.1
De-rating factors applicable to elevated ambient temperatures in ceiling spaces and direct sunlight have been considered refer AS/NZS 3008.1.	<input type="checkbox"/> AS/NZS 5033 4.3.6.1
If near / in contact with PV modules, are de-rated for amb. temp. + 40°C	<input type="checkbox"/> AS/NZS 5033 4.3.6.2
If exposed to the environment, are UV-resistant or protected from UV, or installed in UV-resistant conduit refer to AS/NZS 2053 – marked with ‘T’	<input type="checkbox"/> AS/NZS 5033 4.3.6.2 <input type="checkbox"/> AS/NZS 5033 4.3.6.3
Are flexible (multi-strand) to allow for movement	<input type="checkbox"/> AS/NZS 5033 4.3.6.2
For LV systems, string wiring is qualified to PV1-F (TUV 2 PfG 1169/08.2007) and are tinned copper to reduce degradation of the cable over time	<input type="checkbox"/> AS/NZS 5033 4.3.6.2
<i>Date of effect of 4.3.6.2 – 16/7/2013 (12 months from publication)</i>	
Has been selected to minimize the risk of earth faults and short-circuits for LV cables this is commonly achieved using double-insulated cables	<input type="checkbox"/> AS/NZS 5033 4.3.6.2 <input type="checkbox"/> AS/NZS 5033 4.4.4.1
Where steel wire armoured cable is used, the armoured shield is bonded at the PCE only, the remote end is insulated	<input type="checkbox"/> AS/NZS 5033 4.3.6.2
Are routed, supported and protected in accordance with AS/NZS 3000	<input type="checkbox"/> AS/NZS 5033 4.3.6.3
On rooves or floors are mechanically protected (in enclosure or conduit) and do not obstruct natural water drain paths or promote accumulation of debris.	<input type="checkbox"/> AS/NZS 5033 4.3.6.3
Are protected from abrasion, tension, compression & cutting forces	<input type="checkbox"/> AS/NZS 5033 4.3.6.3
Plastic cable ties have not been used as a primary means of support	<input type="checkbox"/> AS/NZS 5033 4.3.6.3
PV array cables within buildings are enclosed in heavy-duty conduit	<input type="checkbox"/> AS/NZS 5033 4.3.6.3
The security and polarity of all connections has been verified before commissioning	<input type="checkbox"/> AS/NZS 5033 4.4.4.1
For LV systems, total PV wiring loss is less than 3% loss estimate . %	<input type="checkbox"/> AS/NZS 5033 2.1.9
PV String cabling where not protected by conduit or other enclosures -	AS/NZS 5033 4.4.4.4
is insulated, sheathed, UV and mechanically protected	<input type="checkbox"/>
cables are clamped [tension relief] at any connection	<input type="checkbox"/>
Wiring installed in junction and combiner boxes -	AS/NZS 5033 4.4.4.4
where conduit is not used tension relief has been provided	<input type="checkbox"/>
cable entries maintain the enclosure IP rating and are sealed to manufacturer’s instructions	<input type="checkbox"/>
cable entry is from the bottom of the enclosure to avoid water ingress	<input type="checkbox"/>
purpose-made anti-condensation and water drains are used	<input type="checkbox"/>
for LV arrays, return conductors double insulation is maintained	<input type="checkbox"/>

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	REFERENCE
PV ARRAY <i>continued</i>	
Wiring in enclosures -	
Double insulation between positive and negative conductors is maintained	<input type="checkbox"/> AS/NZS 5033 4.3.8
PV Plugs, Sockets and Connectors -	
comply with EN 50521 Connectors for photovoltaic systems	<input type="checkbox"/> AS/NZS 5033 4.3.7(a)
comply with AS/NZS 5033 4.3.7 (c) current rating, (d) accept cable used (g) if multi-polar, are polarised and (h) for LV, are Class II	<input type="checkbox"/> AS/NZS 5033 4.3.7
are protected from contact with live parts (e.g. shrouded) and require deliberate force to separate	<input type="checkbox"/> AS/NZS 5033 4.3.7(b) <input type="checkbox"/> AS/NZS 5033 4.3.7(e)
have a temperature rating suitable for their installation location if exposed to the environment, are rated for outdoor use, UV-resistant and their IP rating is suitable for their location	<input type="checkbox"/> AS/NZS 5033 4.3.7(f) <input type="checkbox"/> AS/NZS 5033 4.3.7(i)
are installed in such a way as to minimize strain on the connectors	<input type="checkbox"/> AS/NZS 5033 4.3.7(j)
are mated with connectors of the same type from the same manufacturer	<input type="checkbox"/> AS/NZS 5033 4.3.7(k)
The PV array maximum voltage - Voc Array - has been corrected for the lowest expected operating temperature.	<input type="checkbox"/> AS/NZS 5033 4.2
Fuses and Fuse holders -	
have a voltage rating equal or greater than the PV array maximum voltage determined in Clause 4.2	<input type="checkbox"/> AS/NZS 5033 4.3.9
Fuses in PV Arrays	AS/NZS 5033 4.3.9.1
are rated for d.c. use	<input type="checkbox"/>
are rated to interrupt fault currents from the PV array and any other connected power sources	<input type="checkbox"/>
are suitable for PV complying with AS (IEC) 60269-6 i.e. type gPV	<input type="checkbox"/>
Fuse holders	AS/NZS 5033 4.3.9.1
have a current rating equal or greater than the corresponding fuse	<input type="checkbox"/>
provide protection suitable for the location, not less than IP 2X	<input type="checkbox"/>
Bypass (external to PV module) and Blocking diodes in their operating environment -	AS/NZS 5033 4.3.10 AS/NZS 5033 4.3.11
have a current rating of at least 1.4 times I_{sc} at STC	<input type="checkbox"/>
are installed so no live parts are exposed	<input type="checkbox"/>
are protected from degradation due to environmental factors.	<input type="checkbox"/>
Bypass diodes (external to PV module) ...	AS/NZS 5033 4.3.10
have a voltage rating at least 2 x V_{OC MOD} of the protected module	<input type="checkbox"/>
Blocking diodes ... [are not a replacement for over-current protection]	AS/NZS 5033 4.3.11
have a voltage rating at least 2 x PV array maximum voltage determined in Clause 4.2	<input type="checkbox"/>
have been installed [usually on manufacturer's recommendation or local regulation]	<input type="checkbox"/>

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	REFERENCE
PV ARRAY <i>continued</i>	
Disconnection – PV isolation ...	AS/NZS 5033 4.4
Switch-disconnectors have been installed – see AS/NZS 5033 TABLE 4.3	<input type="checkbox"/> AS/NZS 5033 4.4.1.1
at the PCE [inverter] either -	
an adjacent and physically separate switch-disconnector OR	<input type="checkbox"/> AS/NZS 5033 4.4.1.2
a switch-disconnector that is mechanically interlocked with a	
replaceable module of the PCE i.e. part of the inverter	<input type="checkbox"/> AS/NZS 5033 4.4.1.2
Over-current protection devices have been installed at the end of the cable	
that is electrically most remote from the PV modules	<input type="checkbox"/> AS/NZS 5033 4.4.1.3
Where multiple disconnection devices are installed they are either -	
ganged so that they all operate simultaneously OR	<input type="checkbox"/> AS/NZS 5033 4.4.1.3
grouped in a common location with a warning sign indicating the need to	
operate all switch-disconnectors to isolate the equipment	<input type="checkbox"/> AS/NZS 5033 4.4.1.3
For LV systems where the PCE is not in sight of the array	
or more than 3 m from the array PV array -	
isolation is installed adjacent to (or within) the PCE	<input type="checkbox"/> AS/NZS 5033 4.4.1.4
All PV array switch-disconnectors are readily available	<input type="checkbox"/> AS/NZS 5033 4.4.1.4
Any switches not capable of breaking load current are marked “no-load	
break “ and are not be accessible without the use of a tool	<input type="checkbox"/> AS/NZS 5033 4.4.1.3
Earthing and bonding ...	
for LV systems all exposed metal module frames are earthed and bonded	AS/NZS 5033 4.4.2.1
in accordance with AS/NZS 5033 Figure 4.3 requirements	<input type="checkbox"/> AS/NZS 5033 4.4.2.3
and where all PV array cabling is NOT protected in conduit or ducting,	
the array mounting frames are bonded	<input type="checkbox"/>
Earth conductors are in close proximity to the main PV array positive and negative	
conductors to the PCE and then to the a.c. switchboard, without interruption	<input type="checkbox"/> AS/NZS 5033 4.4.2.1
PV module and mounting frame earth connections use -	AS/NZS 5033 4.4.2.2
purpose-made fitting providing earthing or bonding connections OR	<input type="checkbox"/>
purpose-made penetrating washers or equivalent between the PV	
modules and mounting frame for the connection of dissimilar metals	<input type="checkbox"/>
purpose-made fittings are installed to manufacturer’s instructions	<input type="checkbox"/>
tinned cable lugs of earthing and bonding cables are fixed by stainless	
steel bolts, washers and penetrating washers to aluminium frames	<input type="checkbox"/>
Self-tapping screws have not been used for earth connections	
to PV array framework	<input type="checkbox"/> AS/NZS 5033 4.4.2.2
Earthing or bonding connections have been arranged so that the removal of	
a single module earth connection will not affect the continuity of the	<input type="checkbox"/> AS/NZS 5033 4.4.2.2
earthing or bonding connections to any other module	<input type="checkbox"/> AS/NZS 5033 4.4.2.3
PV array protective equipotential bonding conductors	
comply with AS/NZS 3000 SECTION 5	<input type="checkbox"/> AS/NZS 5033 4.4.2.3

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AS/NZS 5033 Amendment 1 is included


	REFERENCE
PV ARRAY <i>continued</i>	
PV array functional earthing ...	
connection to earth is at a single point, connected to the main earthing terminal of the electrical installation.	<input type="checkbox"/> AS/NZS 5033 4.4.3.1
this connection point is between the PV array disconnection device & the PCE and as close as possible to or located inside the PCE	<input type="checkbox"/> AS/NZS 5033 4.4.3.1
the PV system functional earthing conductor has the same rating as the earth fault interrupter [min. conductor size of 2.5mm²] and complies with the requirements of AS/NZS 3000 SECTION 5	<input type="checkbox"/> AS/NZS 5033 4.4.3.2
Inverter Energy System (IES)	IEC 62109 (2011)
The inverter complies with the requirements of AS/NZS 4777 part 2 and IEC 62109-1 and is certified to IEC 62109-2 <small>see CEC approval list</small>	<input type="checkbox"/> AS/NZS 5033 3.4.1
<small>compliance with IEC 62109 for GC PV systems Date of effect of 4.3.12 – 11/7/2015 (24 months from publication of Amendment 2)</small>	<input type="checkbox"/> AS/NZS 5033 4.3.12 AS/NZS 5033 Amdt 2
The inverter is installed in accordance with manufacturer's instructions, electricity distributor requirements and relevant State or Territory electricity legislation	<input type="checkbox"/> AS/NZS 5033 3.4.1
Inverters connected to LV PV Arrays ...	IEC 62109 (2011)
An external earth fault alarm system is installed <small>[The alarm repeats at least every hour until earth fault is cleared]</small>	<input type="checkbox"/> AS/NZS 5033 3.4.1 AS/NZS 5033 3.4.3
Actions in the event of an alarm have been provided to the system owner <small>for non-functionally earthed arrays Date of effect of 3.4.3 – 11/7/2015 (24 months from publication of Amendment 2) for functionally earthed arrays Date of effect of 3.4.3 – 11/7/2015 (24 months from publication of Amendment 2)</small>	<input type="checkbox"/> AS/NZS 5033 3.4.3 AS/NZS 5033 Amdt 2 AS/NZS 5033 Amdt 2
LV PV Arrays with functional earthing ... [also refer to AS/NZS 5033 4.4.3]	IEC 62109 (2011)
All PV conductors (including any earthed conductor) are treated as live parts	<input type="checkbox"/> AS/NZS 5033 3.4.2
An earth fault interrupter (EFI) system is installed <small>(this is usually incorporated into the inverter)</small>	<input type="checkbox"/> AS/NZS 5033 3.4.2 AS/NZS 5033 4.3.5.3
On an earth fault the EFI interrupts the earth fault, shuts the PV system down, provides a fault indication and an external fault alarm	<input type="checkbox"/> AS/NZS 5033 3.4.2
The EFI system tests for any earth fault before inverter start-up	<input type="checkbox"/> AS/NZS 5033 3.4.2.1
Earth resistance measurement performed by the PCE before start up <small>Date of effect of 3.4.2.2 – 11/7/2015 (24 months from publication of Amendment 2)</small>	<input type="checkbox"/> AS/NZS 5033 3.4.2.2

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	REFERENCE
SIGNAGE and LABELLING – see AS/NZS 5033 Appendix A for examples	
Equipment marking complies with local standards and regulations	<input type="checkbox"/> AS/NZS 5033 5.1
All signs are -	
sufficiently durable for purpose, constructed of appropriate materials suitable for the location, fixed in a manner appropriate for the location, in English, legible with letter size appropriate for the location, [i.e. 5mm upper case per metre of viewing distance]	<input type="checkbox"/> AS/NZS 5033 5.2
indelible and visible when applicable	
are NOT obscured inside cupboards, behind doors or other materials	<input type="checkbox"/>
Wiring identification	
Permanent, indelible identification of PV cabling is either	AS/NZS 5033 5.3.1
cable is legibly marked in English	<input type="checkbox"/>
OR coloured ‘SOLAR’ labels are attached every 2 metres	<input type="checkbox"/>
when conduit or other wiring enclosure is used, it is labelled ‘SOLAR’ at each end of the enclosure and at each change in direction	<input type="checkbox"/>
PV array and string junction boxes	
Sign “WARNING: HAZARDOUS D.C. VOLTAGE” [Black on Yellow]	<input type="checkbox"/> AS/NZS 5033 5.3.1
Fire Emergency information	AS/NZS 5033 5.4
sign “SOLAR ARRAY (specify location)” including “Array Voc and Isc” is installed next to the meter box AND in the building main switchboard upper/lower case lettering 5/4mm [White on Red]	<input type="checkbox"/>
sign “PV” is at the meter box and switchboard readily visible to approaching emergency workers [Green reflective at least 70mm dia.]	<input type="checkbox"/>
	
Disconnection devices	AS/NZS 5033 5.5
are marked with an identification name or number according to the PV array wiring diagram	<input type="checkbox"/> AS/NZS 5033 5.5.1
have a clear indication of isolation position e.g. O and I	<input type="checkbox"/> AS/NZS 5033 5.5.1

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	REFERENCE
SIGNAGE and LABELLING [continued]	
PV Array disconnectors	AS/NZS 5033 5.5.2
sign “PV ARRAY D.C. ISOLATOR” is installed	<input type="checkbox"/>
where multiple isolation devices (not mechanically ganged) are used	
Sign “MULTIPLE D.C. SOURCES TURN OFF ALL D.C. ISOLATORS TO ISOLATE EQUIPMENT” is adjacent to the PCE [Black on Yellow]	<input type="checkbox"/>
PV systems where Array Voc is greater than 600V	AS/NZS 5033 5.5.3
a sign “WARNING: HIGH HAZARDOUS VOLTAGE AUTHORIZED ACCESS ONLY” [Black on Yellow] is installed on the access door or gate	<input type="checkbox"/>
Fuse holders	
are labelled “ DO NOT DISCONNECT UNDER LOAD” or similar	<input type="checkbox"/> AS/NZS 5033 5.6
Lightning Protection Systems (LPS)	AS/NZS 5033 3.5 and Appendix F
PV system overvoltage surge protection is installed for a residential building where the lightning flash density (Ng) is greater than 2 flashes /km ² /year, protection due to lightning is recommended.	<input type="checkbox"/> AS/NZS 5033 3.5.1
Where a LPS exists, the PV system protection is integrated into the building LPS installation [refer to IEC 62305-3]	<input type="checkbox"/> AS/NZS 5033 3.5.1
PV wiring and protective earth conductors are ‘bundled’ i.e. unnecessary wiring loops have been avoided	<input type="checkbox"/> AS/NZS 5033 3.5.2 AS/NZS 5033 4.4.2.4
The area of any conductive loops has been minimised – refer to Figure 4.5	<input type="checkbox"/> AS/NZS 5033 4.4.4.3
Long PV wiring runs (>50m) are shielded	<input type="checkbox"/> AS/NZS 5033 3.5.2
Separate, discrete Surge Protection Devices (SPD) have been installed [Inverters often include SPDs internally, at the PV input]	<input type="checkbox"/> AS/NZS 5033 3.5.3.1
SPDs installed are explicitly rated for use with d.c.	<input type="checkbox"/> AS/NZS 5033 3.5.3.2
SPDs for IT (communications) equipment comply with IEC 61643-21 and 22	<input type="checkbox"/> AS/NZS 5033 3.5.3.3
Earth conductor minimum cross-sectional area is 16 mm ² copper or equivalent.	<input type="checkbox"/> AS/NZS 5033 4.4.2.1
The PV array earth is connected directly to the installation earth	<input type="checkbox"/> AS/NZS 5033 4.4.2.2

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SYSTEM DOCUMENTATION and COMMISSIONING	REFERENCE
A System User manual has been provided including	<input type="checkbox"/> AS/NZS 5033 5.7
a short description of the function and operation of installed equipment	<input type="checkbox"/> AS/NZS 5033 5.7
system rating and component ratings,	<input type="checkbox"/> AS/NZS 5033 5.7
commissioning date and equipment location	<input type="checkbox"/> AS/NZS 5033 5.7
a list of equipment supplied - with serial numbers	<input type="checkbox"/> AS/NZS 5033 5.7
a list of actions to be taken in the event of an earth fault alarm	<input type="checkbox"/> AS/NZS 5033 5.7
the shutdown and isolation procedure for emergency and maintenance	<input type="checkbox"/> AS/NZS 5033 5.7
includes any electrical safety warnings and	<input type="checkbox"/> AS/NZS 5033 5.5.2
WARNING: PV array d.c. isolators do not de-energize the PV array and array cabling.	
a system connection diagram	<input type="checkbox"/> AS/NZS 5033 5.7
the system performance estimate	<input type="checkbox"/> AS/NZS 5033 5.7
including average daily performance estimate in kWh for each month	CEC Design Guide
recommended maintenance including a maintenance procedure	<input type="checkbox"/> AS/NZS 5033 5.7
and timetable refer to AS/NZS 5033 Appendix C	
commissioning records and installation checklist	<input type="checkbox"/> AS/NZS 5033 5.7
the array frame engineering certificate for wind and mechanical loading	<input type="checkbox"/> AS/NZS 5033 5.7
the installer/designer's declaration of compliance for wind	<input type="checkbox"/> AS/NZS 5033 5.7
and mechanical loading	
equipment and workmanship warranties	<input type="checkbox"/> AS/NZS 5033 5.7
equipment manufacturers documentation [data sheets, handbooks, etc.]	<input type="checkbox"/> AS/NZS 5033 5.7

COMMENTS

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[where insufficient space is provided, add another sheet]

While all care has been taken to ensure all information included is free from omission and error, no responsibility will be taken for the use of this checklist in the installation of any PV system.