

Periodic PV Inverter Test Procedure



Process for anti-islanding testing of PV installations

This document outlines a simple testing process to confirm the operation of the AC solar main switch and testing of the anti-islanding protection of the installation.

Testing methodology

Warning: Carrying out these tests involves working with live DC and AC voltages. The testing must only be carried out by an ACT licensed electrician who possesses a Clean Energy Council (CEC) accreditation.

The tests must be conducted at a time of day when the prevailing weather conditions allow the PV system to be producing a minimum power output. This must be greater than 20 per cent of the rated output of the PV array or the inverter – whichever is less.

If there is more than one inverter, you must use separate forms for each.

Test 1: inverter must cease supplying power within two seconds of a loss of mains

The PV array main switch is to be turned OFF. The time taken for the inverter to cease attempting to export power is to be measured with a timing device and recorded. A voltage probe placed on the installation side of the main solar switch is to be used to determine when the inverter has ceased attempting to export power.

The DC supply from the solar array is to remain connected to the inverter for the duration of this test.

Test 2: inverter must not resume supplying power until mains have been present for more than 60 seconds.

The time taken for the inverter to resume power supply after installation has been re-energised is to be measured and recorded. A current probe is to be placed on the installation side of the main switch to determine when the inverter recommences exporting power.

The DC supply from the solar array is to remain connected to the inverter for the duration of this test.

Records

The tester must make copies of the test record. The original must be kept by the tester, a copy must be provided to the owner of the installation and a third copy must be emailed to networkservicing@actewagl.com.au

For more information
please call ActewAGL on 02 6293 5749.

Frequently asked questions



Periodic PV Inverter Test

Why should I have my PV inverter tested?

The PV inverters must be tested to ensure the safety of personnel who work on the ActewAGL network, such as powerlines and underground cables, and to the general public. The inverter must be tested at least once every five years to ensure that safety is not compromised for ActewAGL personnel and the public. Testing can also help to avoid damage to ActewAGL equipment and customer appliances and minimise interference to quality of supply.

What will happen if I do not have the inverters tested?

In addition to you jeopardising the safety of personnel who work on the electricity network and the general public, ActewAGL may disconnect your PV installation from the network. ActewAGL will advise you if your installation will be disconnected.

Why did ActewAGL not tell me about this requirement?

The approval to connect letter, titled Solar connection approval and requirements for connection to the ActewAGL electricity network, and the Renewable Energy Generator Connection Contract stipulate this testing requirement. As part of the application process you agreed to the terms of our contract, rules and requirements.

How long does the test take and how much does it cost?

ActewAGL anticipates the test will take around 15 to 30 minutes. It may take longer if defects are found in your installation. The accredited installer will be able to advise you of the testing cost.

Can I do the test myself?

No, you cannot do the test yourself as the test involves working with dangerous voltages.

What is meant by islanding?

Islanding is a situation where the inverter keeps supplying power into the ActewAGL network when it is unsafe to do so. Islanding creates serious safety issues for ActewAGL personnel working on the network or private electrical contractors working inside the property and may lead to people being injured through electric shock. It also interferes with the quality of electricity supply and can cause damage to equipment and appliances.

What is anti-islanding protection?

Anti-islanding protection ensures that the inverter is disconnected from the network when the network is switched off.

What happens if my inverter fails the test?

You will need to organise for the equipment to be replaced or rectified and then retested before ActewAGL will permit reconnection. You should also review the terms of your warranty with the installer who did the installation for you. If in the opinion of ActewAGL the inverter is unsafe your installation will be disconnected and you will be advised in writing of the reasons for disconnection.

If I have any questions or require further information, who do I talk to at ActewAGL?

You can call ActewAGL on **02 6293 5749** between 9.00am and 5.00pm from Monday to Friday or email networkservicing@actewagl.com.au

What do I do with the test forms?

You will need to give the test forms to the accredited installer. The installer will perform the test, fill out the forms and then email the test results to ActewAGL.

How do I know whether or not my inverter is OK?

The accredited installer will advise you of the results of the tests and any further action that you need to take.

The PV installation was already there when I bought the house and I was not aware of the requirement. What happens now?

You as the new owner have ownership and responsibility of the installation. Therefore you will need to adhere to ActewAGL's rules, requirements and contractual obligations.

If I cannot have the test done within 60 days what should I do?

You will need to contact ActewAGL immediately and inform us of the reasons why the test cannot be done. Depending on the reasons ActewAGL may or may not grant you an extension of time.

If there is any rectification/alteration to my installation do I need to advise someone?

Yes, you must notify ActewAGL and the Environment and Sustainable Development Directorate (ESDD), formerly ACTPLA, before any alteration is carried out. You will then be notified of what actions you need to take. Your accredited installer will be able to assist you on this aspect.