

Home Energy Grants: Technical Bulletin

Solar PV Installation Guidance
Series 2021-09-001 SPV



Summary

This document describes the issues and related clarifications that commonly arise on the programme.

SEAI recommends that registered companies and their installers read this document.

Installation must be carried out in accordance with the relevant:

- SEAI Domestic Technical Specifications and Standards (DTSS) and
- SPV Contractor's Code of Practice (COP).

At the end of the Quality Assurance and Disciplinary Procedures (QADP)

<https://www.seai.ie/publications/Quality-Assurance-and-Development-Programme-for-Solar-PV.pdf>
there is a full list of checks, used by SEAI inspectors. SEAI recommends registered companies use these checks in support of their own Quality Control checks before signing and submitting DOWs to SEAI.

If you have any specific question about this or another matter regarding your SEAI Solar PV Scheme installation, please contact us at solarpv@seai.ie

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1. Reducing Email Traffic

There is a high volume of email traffic between the SPV Team and contractors regarding applications. Managing these emails creates unnecessary work for all involved. In a bid to reduce the number of emails going both ways and the inefficiencies they create, we will be updating our approach from the date of this bulletin onwards. The goal here is common for all involved and the benefits should be immediately apparent.

Very often these emails are from companies notifying the SPV team that ADR documentation has been uploaded or that an application has been created or they are often emails from the Solar PV Team notifying companies that documents are outstanding.

Automatic system notifications are now in place to inform the Solar PV Team when documents are uploaded so going forward there is no longer a requirement for companies to email the team regarding ADR documentation that has been uploaded or an application that has been created. They will not be responding to these emails.

All uploads and new applications will be reviewed within 5 working days and please note, these documents must be uploaded to the portal and not sent by email.

2. Renewable Installer Register (RIR)

SEAI are mandated to develop and maintain a 'Renewable Installers Register' in line with certain requirements of the EU Directive 2009/28/EC on the promotion of the use of energy from renewable sources.

It is therefore **a requirement of the Solar PV scheme that all installers are registered on the National Renewable Installers Register**. It is the responsibility of each installer to ensure that they are registered and that their registration with the Renewable Installers Register has not expired.

To register with the Renewable Installers Register, please go to the following link where you can complete an online application. <https://www.seai.ie/register-with-seai/renewable-energy-installer/>

If you have any questions, please contact the RIR department on the following email address rir@seai.ie

3. Insurance

It is the responsibility of all contractors and installers to ensure that their required insurances are up to date and valid. Per the terms and conditions of your Installer and Company Registrations, expired or invalid insurances will result in removal from the register.

4. Letter of Offer

The works completed must match the Letter of Offer. It is no longer possible to add a battery or solar PV system post installation. The SEAI Solar PV (SPV) Team must be contacted regarding proposed changes, but this must be done BEFORE the install and accepted by SEAI in writing. Otherwise, the application will be declined, and the grant will not be paid.

If, for example, on the day of the install, the homeowner wants to add a battery or increase the system size, please ensure they contact the SEAI SPV Team immediately to change the application. This is best done by phone. For more information, refer to section 2.7.2 of the Company Guide.

5. Apartments

The Solar PV scheme is a domestic programme. Where apartment blocks are looking to grant fund solar installations, it is essential to contact SEAI in advance where the options available will be explored *prior to* installation.

6. Feed in Tariff (FiT)

The introduction of FiT for micro generation is eagerly awaited by all stakeholders in the renewables industry. Unfortunately, there has been no announcement by Department of Environment, Climate and Communications as of yet.

7. Application Expiry Dates

If works and the BER are complete, and the paperwork is not uploaded before the eight-month expiry date, the grant will be declined. There is an obligation on the contractor to upload all documentation prior to the expiry of the grant.

8. Additional Details Required (ADR's)

In a bid to reduce the volume of ADR's and related email traffic between contractors and the SPV Team, going forward the SPV Team will only review applications for payment once all the documentation has been uploaded. We will introduce placeholders on the portal for each of the required documents.

Once these placeholders have been populated with the required documents and images, they will be reviewed by the SPV Team and processed for payment. Currently the high volume of emails and communications required at Request for Payment is creating inefficiencies and related costs for Installers and SEAI that can be eliminated.

9. Ground Mounted Arrays

For ground mounted arrays it is a requirement that the installation meets the terms of the Code of Practice.

Particular attention must be paid to:

- Design Risk Assessment – has access for routine inspection and maintenance been assessed in the design of the array?
- The requirements of the Safety, Health and Welfare at Work (Construction) Regulations 2013.
- The design and installation meets the requirements set out in the Manufacturer Guidelines for the particular product.

10. Grid Settings

All inverters and batteries must comply with EN50549 with Irish Protection Settings as per ESB Document DTIS-230206-BRL (Conditions Governing the Connection and Operation of Microgeneration). An update to this document is expected later this year.

11. CE Marking

Applications where batteries and other components that do not bear a CE Mark are ineligible for payment. Please ensure that all components bear the required CE marking. Please note that a Certificate of Conformity, Declaration of Conformity etc will not suffice.

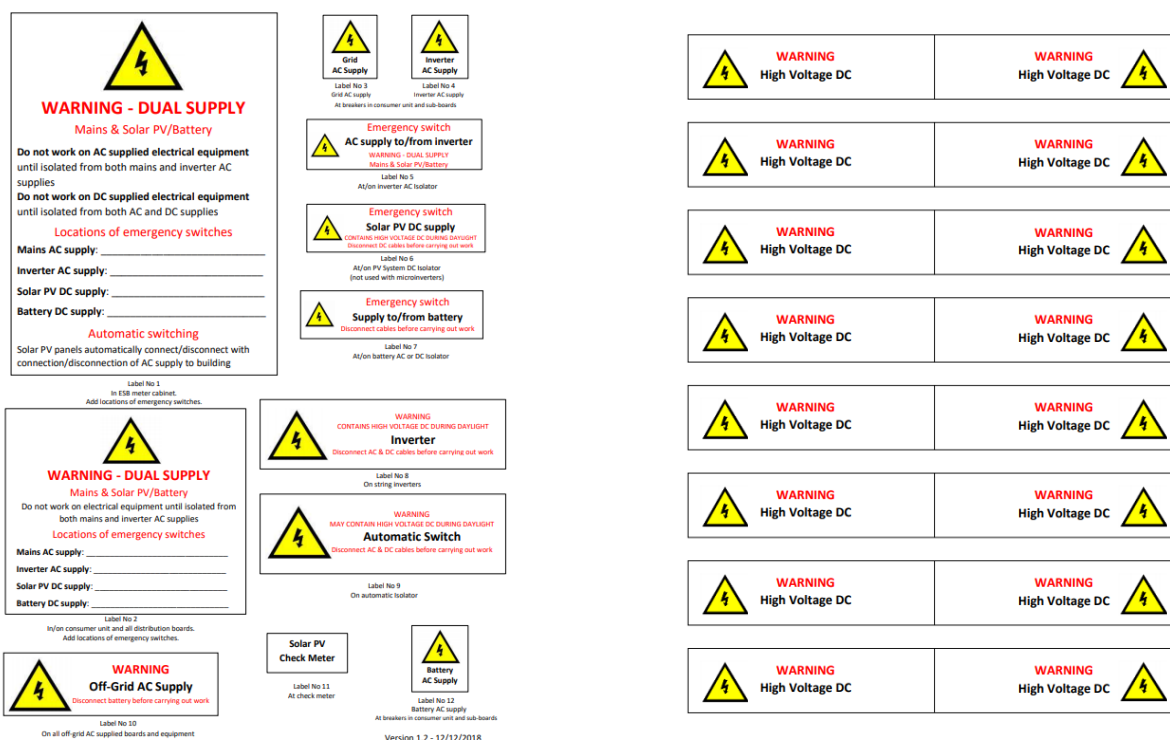
Under the Code of Practice (CoP) 'All equipment and/or components of the PV systems must carry a valid CE mark as required by the specific EU directive(s).'

Under the directive 2014/35/EU 'Before making electrical equipment available on the market distributors shall verify that the electrical equipment bears the CE marking, that it is accompanied by the required documents and by instructions and safety information'.

12. Labels

All Safety and Information labels must be in place. The required safety labels are as follows:

- In ESB meter cabinet. Add locations of emergency switches.
- In/on consumer unit and all distribution boards. Add locations of emergency switches.
- At breakers in consumer unit and sub-boards
- At/on inverter AC Isolator
- At/on PV System DC Isolator
- At/on battery AC or DC Isolator
- On string inverters
- On automatic Isolator
- On all off-grid AC supplied boards and equipment
- At check meter
- At breakers in consumer unit and sub-boards



A template of the above labels can be obtained on the Domestic Solar Photovoltaic Code of Practice for Installers V1.3 at: <https://www.seai.ie/publications/Code-of-Practice-Solar-PV-Grant.pdf>

13. Re-works

There has been a welcome improvement in the overall pass rate on inspections since the last bulletin. For your information below is a summary of the three lowest performing categories and therefore the non-compliances that lead to most re-works. All three of these are very much within the capability of Installers to get right first time,

leading to a reduction in the number and frequency of re-works and all the related inefficiencies and costs that come with re-works.

Documentation and Labelling

Most Common reworks: *All safety and information labels not in place*

Documentation & Labelling is the most commonly occurring rework and can be greatly reduced by paying particular attention to the following:

- Dual supply and isolation points labels are required on all fuse boards.
- The required safety labels are as follows:
 1. In ESB meter cabinet. Add locations of emergency switches.
 2. In/on consumer unit and all distribution boards. Add locations of emergency switches.
 3. At breakers in consumer unit and sub-boards
 4. At/on inverter AC Isolator
 5. At/on PV System DC Isolator
 6. At/on battery AC or DC Isolator
 7. On string inverters
 8. On automatic Isolator
 9. On all off-grid AC supplied boards and equipment
 10. At check meter
 11. At breakers in consumer unit and sub-boards
- Summary list of documentation that is required for the homeowner to receive a grant payment:
 1. Declaration of Works – Completed and signed by the Installer
 2. Inspection, Test and Commissioning Report (EN 62446)
 3. Safe Electric ('RECI') Certificate – Completed and signed by a Registered Electrical Contractor
 4. Submitted ESB Networks NC6 Form
 5. Invoice describing the works
 6. Photographs of the installation as outlined in the Code of Practice
- Summary list of documentation to be provided to the homeowner:
 1. Datasheets for system components
 2. Warranties for system components
 3. O&M Manual for Homeowner
 4. Basic start up, shut down, safety, operation and maintenance instructions
 5. Estimation of system performance
- A recurring re-work is where the above homeowner documentation has been given to the homeowner but is not available at inspection. The homeowner is unable to locate the documentation for varying reasons or claims they never received it. To avoid this scenario going forward and to eliminate this rework we will request that this documentation is shared by email with the homeowner and a copy of the email made available to Inspections team. This will be introduced later in the year and will be briefed on separately.

Battery Energy Storage System

Most Common reworks: *Evidence battery is not secured in accordance with manufacturer's instructions
Battery system not mounted on a fireproof surface extending 150 mm beyond the edge of the battery storage system.*

Note the following:

- Domestic Solar Photovoltaic Code of Practice for Installers Part 4.10 'Floor mounted Battery Energy Storage System (BESS) must be fixed in place on a flat horizontal surface, according to manufacturer's recommendations, with adequate surrounding space to allow for ventilation. Where BESS are not installed on a fire resistance surface (such as in attic spaces), they must be installed on a fire-resistant substrate (Class 0) which extends to a minimum of 150 mm beyond the edge of the Battery.'



Battery is installed in a suitable enclosure fixed in place on a fire-resistant surface or substrate (Class o) which extends 150mm beyond the edge of the system

String Inverter

Most Common reworks: *Inverter not set to Irish grid settings*

Shunt not within 1.5 m of entry to the building or 1.5 m from ground mounted array

Note the following from the Code of Practice; all domestic PV installations installed must:

- Provide an automatic (i.e., automatically operated by disconnection of the main AC supply to the building) shunt (or interlocked) isolation of the circuit (whether AC or DC, and two pole) from the solar PV modules into the building, as close to the solar PV modules as possible, and a maximum of 1.5 m internally from the point of cable entry to the building.
- Where the circuit from the solar PV modules does not enter the building, this point of automatic isolation must be within 1.5 m of the solar PV modules.
- For ground mounted system the shunt (automatic isolator) must be within 1.5 m of the solar PV modules.
- This system of isolation shall automatically isolate the circuit from the solar PV modules when the AC supply is disconnected to the building, i.e., a shunt or interlocked isolation function.
- ‘Shunt’ or ‘interlocked’ isolation of the DC circuit is the only acceptable manner of meeting the Building Regulation TGD B – Fire Safety (2017) for the purposes of this Scheme.
- Note that AC and DC cables must be physically separated as per Inspection Test Report



Automatic isolation located within 1.5m in cable length of entry to the building on a roof mounted installation.



Automatic isolation located within 1.5m in cable length of the modules on a ground mounted installation.

Appendix 1

Documentation to be Completed / Provided

The following should be maintained by the Installer and submitted through SEAI's application system to enable the homeowner to receive a grant payment.

1. Declaration of Works – Completed and signed by the Installer
2. Inspection, Test and Commissioning Report (EN 62446)
3. Safe Electric ('RECI') Certificate – Completed and signed by a Registered Electrical Contractor
4. Submitted ESB Networks NC6 Form
5. Invoice describing the works
6. Photographs of the installation including
 - a. Total Mounting system as installed
 - b. Total PV Module Array as installed
 - c. PV Module Nameplate
 - d. Inverter as installed – showing isolators
 - e. Consumer Unit with Solar PV MCB/RCD and Solar PV Meter
 - f. Battery Energy Storage System as installed (IF APPLICABLE)
 - g. Inverter data label per installation
 - h. Battery Energy Storage System data label per installation
 - i. Shunt Switch as Installed - Showing cable entry if possible
 - j. Power Diverter as installed (IF APPLICABLE)

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