

Solar Photovoltaic Panels/Modules Permit Requirements For Residential (One and Two Family Dwellings)

Greenville County

Greenville County Square * 301 University Ridge, Suite 4100 * Greenville, SC 29601 - 3660 * 864 - 467 - 7060

Solar Voltaic Systems: The total components and subsystems that, in combination, convert solar energy into electric energy suitable for connection to a utilization load.

All systems shall be constructed in accordance with the following referenced ICC Codes and Sections: 2015 IRC 324.1 through 324.6.1 and M2301, and 2014 NEC Article 690.

1. Complete the [Residential Addition/Alteration Permit](#)
2. Tax Map No. can be obtained from the owner of the property, the landlord, or through Real Property Services 864-467-7300 or internet;
www.greenvillecounty.org/vrealpr24/crealprop.asp.
3. Provide a Site Plan if free standing panels are used, a site plan is not required for panels within the building footprint (on roof of existing building).
4. Provide a structural analysis of existing building sealed and signed by a SC licensed engineer that demonstrates that the existing structure is capable of supporting the new proposed loads. A sealed and signed structural plan is required if structural work is required or proposed.
5. Provide a plan including but not limited to the following items:
 - A dimensioned plan view of the proposed panel array.
 - Example of the label for all equipment, devices, and conduits In accordance with NEC Article 690.5.
 - Location of DC/AC inverter, and down line electrical panel box.
 - All components shall bare a U.L. Label.
 - All interactive utility inverters shall be equipped with integrated ARC-fault and integrated rapid shutdown. NEC 690.5.
 - Maximum voltage per NEC 690.07 (A-E). Circuit sizing per NEC 690.8.
 - Provide the single line electrical drawing including all the components that was submitted and approved by Duke Power, Laurens Electric, CPW, or Blue Ridge. (Provide the identical plan that was submitted to the power company)
6. Provide the approval letter from Duke Power, Laurens Electric, CPW, or Blue Ridge Electric.

Required Permits: [Residential Addition/Alteration Permit](#)

The Unit will be inspected to verify setbacks, tie-downs, electrical compliance, and any other applicable code issue.

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Field Inspection Checklist for Array:

- Module model # matches plans and spec sheets, module quantity matches plans and spec sheets
- Wire Management: Array conductors are neatly and professionally held in place
- PV array is properly grounded
- Check that electrical boxes are accessible and connections suitable for environment
- Array Fastened and Sealed According To Attachment Detail
- Check conductors ratings and sizes

Specifics For Ground-Mounted Arrays

- Foundation review
- Mounting structure review
- Electrical bonding of structural elements
- Additional array electrode
- Attachment method according to plans
- Wiring not readily accessible

Appropriate Signs Installed

- Check proper sign construction:
- Check for sign identifying PV power source system attributes at dc disconnect
- Check for sign identifying ac point of connection [690.54].
- Check for sign identifying switch for alternative power system

Check that equipment ratings are consistent with application and signs

- Verify all components used are consistent with the design approved by the appropriate power company.
- Verify wiring is consistent with the single line drawing approved by the appropriate power company
- Check that inverter has a rating as high as max voltage on PV Power Source sign.
- Check that dc-side Over Current Protection Devices (OCPD's) are dc rated at least as high as max voltage on sign.
- Check that switches and OCPD's are installed according to manufacturers specifications (i.e. many 600Vdc switches require passing through the switch poles twice in a specific way).
- Check that inverter is rated for the site ac voltage supplied and shown on the ac point of connection sign.