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Guidelines for Solar Photovoltaic Systems

Effective 11/7/18

Permitting and Code Compliance Requirements

Photovoltaic systems are varied and diverse depending on the manufacturer, installer and conditions. While this guideline will not meet every application, it is a reasonable starting point to bring the installing company, contractor(s) and inspector to a common goal.

Submittal requirements are as follows:

- Complete and submit a Residential Building Permit Application.
- Complete and submit a Residential Electrical Permit Application.
- Complete and submit a Plan Review Application.
- 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).
- Single Line Electrical Drawing (Same drawing submitted to Power Company)
- An "Eyes on" Statement including roof structural components and conditions. This statement is to reflect existing conditions of the structure and the dimensions and spacing of the structural members of the roof. The statement is to be prepared by a SC Licensed Structural Engineer.
- A SC Sealed and Signed Structural Review Letter including plan view of panel system. The structural evaluation letter/review shall be based on the "eyes on" field inspection. Structural letter shall contain the structural design criteria and the following language: "As per the results of the structural analysis and the "eyes on" field inspection, the existing roof and building is capable of supporting the proposed solar panel installation as designed and complies with the 2015 IRC structural requirements". The 10 lb. per square foot snow load shall not be reduced. Two copies are required upon submittal.

Other important requirements Per S.C. Regulation 106-1, effective May 25, 2018 are:

- A Residential Specialty Contractor with a registration for "solar panel installer" is authorized to fabricate, assemble, install, and replace solar panels and related building components.
- The actual roof mounting of such panels may only be performed by a licensed residential builder (RBB), registered residential specialty contractor (RBS) with a

roofer classification, or a licensed general contractor with a general roofing (GR) or specialty roofing classification.

- The wiring of the solar panels and other electrical connections must be performed by a licensed residential builder (RBB), a licensed residential electrician, or a licensed mechanical contractor with an electrical classification (EL).
- If the roof requires any structural upgrades for the mounting and installation of the solar panels, the structural upgrades must be performed by a licensed residential builder (RBB), a registered residential specialty contractor with a classification in carpentry, or a licensed general contractor with building (BD) or structural framing classifications (SF).

Code Compliance Requirements:

1. Equipment that is installed shall match the literature left on site for owner.
2. Equipment, devices, and conduits shall be labeled in accordance with NEC Article 690.
3. The panel installation will be inspected to verify setbacks, anchors, electrical compliance, and any other applicable code requirements.
4. All interactive utility inverters shall be equipped with integrated ARC-fault and integrated rapid shutdown as required per NEC 690.12.
5. Verify which type system is installed, AC-DC or stand-alone (Battery system not connected to utility).
6. Disconnection of Photovoltaic Equipment shall be provided for equipment such as inverters, batteries and charge controllers from all ungrounded conductors of all sources per NEC 690.15.
7. Overcurrent device ratings shall not be less than 125% of maximum currents calculated (NEC 690.9B).
8. All components of the Solar system shall bare a U.L. Label or equivalent approved testing laboratory.

**For all other non-residential solar applications the 2015 IBC requirements shall be met. The S.C. Regulation 106-1 is for residential installations only and will not apply.

*** Drawings and manufacturer's installation instructions should be available on site along with the permits for field use. If not available, inspection may not be completed.