

## **GENERAL REQUIREMENTS**

1. **R324.3 Photovoltaic systems.** Photovoltaic systems shall be designed and installed in accordance with Sections R324.3.1 through R324.5.2.5, NFPA 70.
2. **R324.3.1 Equipment listings.** *Photovoltaic panels* and *modules* shall be listed and labeled in accordance with UL 1703. Inverters shall be listed and labeled in accordance with UL 1741.
3. **R324.4.1 Structural requirements.** Rooftop-mounted *photovoltaic panel systems* shall be designed to structurally support the system and withstand applicable gravity loads in accordance with Chapter 3. The roof upon which these systems are installed shall be designed and constructed to support the loads imposed by such systems in accordance with Chapter 8.

## **ELECTRICAL REQUIREMENTS**

1. All electrical installations shall be field inspected in accordance with IRC 324 and NEC Article 690
2. Electrical plans shall contain the following:

Electrical Plans with the following shall be included:

- a. \_\_\_ Location of main service or utility disconnect [NEC 80.21(Annex H)];
- b. \_\_\_ Total number of modules, number of modules per string and the total number of strings [NEC 80.21 (Annex H)];
- c. \_\_\_ (Annex H);
- d. \_\_\_ Make and model of inverter(s) and/or combiner box if used [NEC 690.4(B)]; e. \_\_\_ One-line diagram of system [NEC 215.5];
- f. \_\_\_ Specify grounding/bonding, conductor type and size, conduit type and size and number of conductors in each section of conduit [NEC 80.21 (Annex H)];
- g. \_\_\_ If batteries are to be installed include them in the diagram and show their locations and venting;
- h. \_\_\_ Equipment cut sheets including inverters, modules, AC and DC disconnects and combiners [NEC 80.21 (Annex H)];
- i. \_\_\_ Labeling of equipment as required by NEC Sections 690 and 705 [NEC 110.3(B)];
- j. \_\_\_ Site diagram showing the arrangement of panels on the roof or ground, north arrow, lot dimensions, and the distance from property lines to adjacent buildings/structures (existing and proposed) [NEC 80.21(Annex H)];
- k. \_\_\_ Plans shall include, up until September 1st 2015, an approved manual disconnect located within 5 feet of the array structure to disconnect all DC conductors from the power source. Upon September 1st 2015, "Rapid Shutdown of PV systems on Buildings" per NEC 2014 Article 690.12 shall be applicable as follows:

\_\_\_ Requirements for controlled conductors shall apply only to PV system conductors of more than 5ft in length inside a building, or more than 10ft from a PV array;

\_\_\_ Controlled conductors shall be limited to not more than 30 volts and 240 volt-amperes within 10 seconds of rapid shutdown initiation;

\_\_\_ Voltage and power shall be measured between any two conductors and between any conductor and ground;

\_\_\_ The rapid shutdown initiation methods shall be labeled in accordance with 690.56(B);

\_\_\_ Equipment that performs the rapid shutdown shall be listed and identified.

### **STRUCTURAL REQUIREMENTS**

1. Structural analysis by a "Licensed Engineer" shall be provided for solar panels, components and there loading on existing and new roofs. [LSUCCC Amend 2015 IRC 324.7.2]

2. Structural Plans and/or analysis shall include the following:

a. \_\_\_ The type of roof covering and (if existing) the number of roofing layers installed;

b. \_\_\_ Type of roof framing, size of members and spacing;

c. \_\_\_ Weight of panels, support locations and method of attachment;

d. \_\_\_ Framing plan and details for any work necessary to strengthen the existing roof structure;

e. \_\_\_ Any relevant calculations (when required);

f. \_\_\_ Location of PV equipment on the building;

g. \_\_\_ Where an approved racking system is used, provide documentation showing the manufacturer of the rack system, maximum allowable weight the system can support, attachment method to the roof or ground and product evaluation information or structural design for the rack system.

\_\_\_ Roof Plan showing location of Modules/panels and;

Roof Plan with marked location of all adjacent openings such that roof access points are located in areas that do not require the placement of ground ladders over openings such as windows or doors and located at strong points of building construction in locations where the access point does not conflict with overhead obstructions such as tree limbs, wires or signs [LSUCCC Add 2015 IRC 324.7.1] - OR -

\_\_\_ Elevation drawing or photo depicting opening location in wall in reference to location of on-roof module placements depicting compliance with "Roof Access Points" per 2015 IRC 324.7.1 [LSUCCC Add 2015 IRC 324.7.1]

\_\_\_ Size of PV array (max 150' x 150'); multiple arrays shall be separated by a clear access pathway not less than 3-foot in width [LSUCCC Add 2015 IRC 324.7.2.1]

\_\_\_ Hip roof layout: 3-foot clear access pathway from eave to ridge on each roof slope where panels and modules are located [LSUCCC Add 2015 IRC 324.7.2.2] (Exception: N/A where roof slope is 2:12 or less)

\_\_\_ Single-Ridge Roofs (Gables only): Minimum of two 3-foot clear access pathways from eave to ridge on each roof slope where panels or modules are located [LSUCCC Add 2015 IRC 324.7.2.3]  
(Exception: N/A where roof slope is 2:12 or less)

\_\_\_ Roofs with hips and valleys: PV panels/modules shall not be closer than 18 inches of hips or valleys where panels/modules are located on both sides of a hip or valley. No restrictions when panels/modules placed on only one side of the hip or valley [LSUCCC Add 2015 IRC 324.7.2.4]  
(Exception: N/A where roof slope is 2:12 or less)

\_\_\_ Smoke Ventilation Requirements: PV panels/modules shall not be less than 3 feet from ridge to allow for fire department smoke ventilation operations [LSUCCC Add 2015 IRC 324.7.2.5]

\_\_\_ Note: Roof Access Pathway requirements are not applicable for detached garages and accessory structures such as parking shade structures, carports, solar trellises and similar structures [LSUCCC Add 2015 IRC 324.7]