

**CITY OF SOUTH JORDAN
BUILDING DEPARTMENT**



PHOTO-VOLTAIC (PV) SYSTEM PLAN REVIEW REQUIREMENTS

1. Permit Application shall include the following: Valuation of project, Address of project, Property owner's name, General Contractor's name, State License No., and Contact person along with any other Contractors
2. If PV array is to be installed on the roof, provide a letter from a structural engineer (if structure is newly constructed, use the engineer of record; if existing construction, use a Utah Licensed Structural Engineer). The letter shall state that the roof structure will support the increased load of the array and any additional snow drift loading. If the existing structure will not support the addition load, the letter shall include the engineer's designed upgrade of the roof structure to support additional load. Note to evenly distribute load across all trusses (or rafters) under array, and stagger rail feet between mounting rails.
3. Provide a Site plan drawn to scale. Plans shall show roof access, equipment locations, type and size of connections, size and type of conductors, disconnects, array wiring, and equipment grounding. Show compliance with IFC (International Fire Code) 605.11.3 through 605.11.3.2.4 – Minimum walking clearance between solar array and the following items: Ridge - 3 feet, Valleys and Hips - 18 inches, Edge of roof from Eave to Ridge – 36 inches.
4. Show the size of Electrical Service including bus bar rated amperage. Show that the Back-fed breaker won't over load the service. Show location in the panel of the Back-fed protection; also show the location of a sign (sticker) that protects the location of the Back-fed breaker so that it won't be moved in the future. Provide a picture of service panel with the location of the Back-fed breaker.
5. Show that the Back-fed breaker is of an approved design and that its location will comply with NEC (National Electrical Code) 120% rule 705.12(D)(2), and with Inverter Output Connection 705.12(D)(3), or Equipment connected to the Supply Side of Service Disconnect 230.82(6) Tap rule.
6. If grounding wire is smaller than #6 solid copper it shall be protected in conduit even if installed under array - NEC 250.120(C)
7. Submit cut sheets and instructions for the inverter with the applicable model numbers highlighted and the UL or comparable listings noted.
8. "Rapid Shutdown" of the PV system is required (NEC 690.12) for any PV systems installed on a building except for system which incorporate micro-inverters. Provide manufacture's specification sheets and installation instructions showing how rapid shutdown is to be provided and installed.

- 9.** Submit cut sheets for the PV modules. These need to include VOC (Open Circuit Voltage) rating, ISC (Short Circuit Current) rating, P_{MAX} (Maximum Power), maximum series fuse rating, voltage at P_{MAX} and current at P_{MAX}. Panels or modules must be of one manufacturer and be listed and labeled.
- 10.** Submit cut sheets for batteries, if used, and connection diagrams with cable sizes. Identify battery fusing and fuse holders. Provide AMP hour of battery bank and charging capacity of charge system.
- 11.** Identify wire types and connectors of all cables.
- 12.** Show how batteries will be properly ventilated, and how they will be protected depending on their location
- 13.** Provide specifications and details for array mounting and attachment devices. Include how they will be flashed and sealed. The Mounting Rack system shall be of one manufacturer and compatible with panels to be installed.
- 14.** Span tables for rack design for 115 M.P.H. Wind Loading.
- 15.** Show that conduit for PV system is permanently identified and that junction boxes are NEMA (National Electrical Manufacturers Association) approved and orientated and installed to manufacturer's specifications.
- 16.** Show how the wiring between modules will be supported and secured by approved devices and the manner in which sagging will be prevented. Show how to prevent exposure to the wind, weather, and damaging ICE-BUILDUP on wire (wire management & wire-ties will not be approved).
- 17.** Show all warning signs (stickers) and their locations including the location of the Back-fed breaker if not at service disconnect.