



## PV UTILITY-INTERACTIVE SYSTEMS PLAN SUBMITTAL CHECKLIST

### Mounting Information:

- Roof plan showing location of panels.
- Indicate existing roof height (most zoning classifications only allow a 15 ft max. height).
- Structural calculations and drawings, sealed by an Arizona licensed engineer, showing connection of pre-manufactured module frames to existing roof structure.

### Manufactures Specifications for Modules Shall Include:

- Short-circuit current (Isc)
- Open-circuit voltage (Voc)
- Maximum power (Pmax)

### Manufactures Specifications for Inverter Shall Include:

- Maximum AC power output in watts (W)
- Disconnect information
- Ground fault protection device

### Wiring Information:

- Insulation type
- Conductor size (Based on copper using Table 310-16 75° C column. Note: for conductors 10 AWG and smaller section 240.4 (D) applies)
- Equipment ground
- Conduit type and size

### Wiring Diagram:

- Number of modules in each string and number of strings.
- Wiring and conduit size from each string to PV combiner.
- Wiring and conduit size from the PV combiner to inverter.
- Wiring and conduit size from the inverter to back-feed circuit breaker (include size of back-feed breaker in service panel).
- Type, size and location of DC system grounding requirements. Grounding-electrode conductor from inverter grounding lug to grounding electrode sized per NEC 250.166. NEC 690.47 (c).
- Location of main service, inverter, PV output meter.

### Additional Documentation:

- Unisource Electric Letter of Approval required at time of permit submittal.
- Electrical load calculations for the dwelling when de-rating the main service panel.

***NOTE: See Reverse side for general sizing requirements.***

## GENERAL SIZING REQUIREMENTS

- Conductor size from modules to PV combiner:  $\text{Module short-circuit current (Isc)} \times 1.56 = \text{amp load for conductors}$ .
- Maximum number of modules per string:  $\text{Module open-circuit voltage (Voc)} \times \text{number of modules in string}$  cannot exceed 600 volts.
- Conductor size from PV combiner to inverter:  $\text{Module short-circuit current (Isc)} \times \text{number of strings} \times 1.56 = \text{amp load for conductors}$ .
- Conductor size from inverter to back-feed breaker:  $\text{Maximum inverter ac power output (watts)} \div 240 \text{ volts (service voltage)} \times 1.25 = \text{amp load for conductors}$ . Size back-feed breaker per conductor size. See section 705.12 for maximum size back-feed breaker based on main panel or subpanel busbar or conductor rating.