

# PLAN SUBMITTAL CHECKLIST FOR PV UTILITY-INTERACTIVE SYSTEMS (Revised 8-11-09)

## Mounting Information:

- Roof plan showing location of panels
- Indicate existing roof height (most zoning classifications only allow a 15ft 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 (integral?)

## 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

## 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:  $\text{Maximum inverter ac power output (watts)} \div 240 \text{ volts (service voltage)} \times 1.25 = \text{amp load for conductors. Size back-feed breaker per conductor size. See section 690.64 for maximum size back-feed breaker based on main panel or subpanel busbar or conductor rating.}$