City of Redlands

Building & Safety Division
35 Cajon St., Suite 20 Redlands, Ca 92373

Residential Photovoltaic Checklist for Expedited Processing

GENERAL REQUIREMENTS

A.	System size is 10 kW AC CEC rating or less	☐ Y	☐ N
B.	The solar array is roof-mounted on one- or two-family dwelling or accessory structure	☐ Y	☐ N
C.	The solar panel/module arrays will not exceed the maximum legal building height	☐ Y	☐ N
D.	Solar system is utility interactive and without battery storage	☐ Y	☐ N
E.	Permit application is completed and attached	☐ Y	☐ N

ELECTRICAL REQUIREMENTS

A.	No more than four photovoltaic module strings are connected to each Maximum Power Point Tracking (MMPT) input where source circuit fusing is included in the inverter	☐ Y	☐ N
	1) No more than two strings per MPPT input where source circuit fusing is not included	☐ Y	☐ N
	2) Fuses (if needed) are rated to the series fuse rating of the PV module	☐ Y	☐ N
	3) No more than one non-inverter-integrated DC combiner is utilized per inverter	☐ Y	☐ N
B.	For central inverter systems: No more than two inverters are utilized	☐ Y	☐ N
C.	The PV system is interconnected to a single-phase AC service panel of nominal 20/220 Vac with a bus bar rating of 225 A or less	☐ Y	☐ N
D.	The PV system is connected to the load side of the utility distribution equipment	☐ Y	☐ N
E.	A Solar PV Standard Plan and supporting documentation is completed and attached	☐ Y	☐ N

STRUCTURAL REQUIREMENTS

A.	Are ALL the structural pages of the plans WET or Digitally stamped and signed by a California licensed professional engineer? (Including project specific site plan, PV layout, anchorage spacing, anchorage details and manufacturer's PV support information.)	☐ Y	☐ N

FIRE SAFETY REQUIREMENTS

A.	Clear access pathways provided	☐ Y	☐ N
B.	Fire classification solar system is provided	☐ Y	☐ N
C.	All required markings and labels are provided	☐ Y	☐ N
D.	A diagram of the roof layout of all panels, modules, clear access pathways and approximate locations of electrical disconnecting means and roof access points is completed and attached	☐ Y	☐ N

Notes:

1) These criteria are intended for expedited solar permitting process.
2) If any items are checked NO, revise design to fit within Eligibility Checklist, otherwise comply with the requirements on the back side of this page and application will go through standard review process.

I certify under penalty of perjury under the laws of the State of California that the above is true:

Print Name:_____ **Date:**_____

Signature: _____ **Phone Number:**_____

Email Address:_____

Solar Photovoltaic System on One- and Two-Single Family Dwellings

ADMINISTRATIVE

- Requires Building approval.
- Attach all manufacturer's specification sheets, installation instructions and U.L. listings to the plans.
- Provide the project's address, property owner's name and phone number on all sheets.
- Plans are to be signed by State of California licensed contractor with any of the following classifications "A", "B", "C-46", "C-10", or licensed electrical engineer. Provide contractor's license number and signature on all sheets.

ROOF PLAN

- Provide roof plan showing the location and dimensions of all solar voltaic equipment/ PV arrays.
- Provide complete calculations to check the roof truss for DL + Partial LL + down load of panel & DL+/-Wind for roof rafter or roof truss. Check the deflection for each case per CBC 2019 Table 1604.3.
- Identify roof sheathing and roofing materials (for composition shingles, use minimum weight: 4 psf)
- Detail equipment support connections to roof. Provide detail for flashing and water proofing at supports.
- Provide calculations by a licensed professional engineer or architect to verify supporting members are adequate for existing and proposed loads.
- Provide lateral calculations by a licensed professional engineer or architect per 2019 CBC showing that affected existing lateral resisting elements are no more than 10% overstressed according to the 2019 CBC.

ELECTRICAL

- Provide Electrical drawings to show compliance with the applicable provisions of the 2019 CEC.
- Show the location and size of the main electrical service, AC/DC disconnects, all solar voltaic equipment, and PV arrays on the roof plan.
- New back fed PV beaker shall be positioned at opposite end of main breaker per CEC 705.12 (D)(7), when using the 120% of rating allowance for determining the total rating of over current device. [CEC 705.12 (D)(2)]. The 120% rule does not apply to center fed panels.
- When selecting the back feed PV breaker. Please, use size per CEC article 240.4 (B) and 240.6. Use the next HIGHER standard value of breaker, and it must not exceed the maximum ac output over-current protective device shown in the inverter manufacturer's specifications.
- Account for the voltage correction factors for Crystalline and Multi-crystalline Silicon Modules (CEC Table 690.7 and Article 690.7), or use the open - circuit voltage temperature coefficients when supplied by the modules' manufacturer. Show where this factor was accounted for in the inverter sizing? Specify the solar modules' grounding lugs' manufacturer's name, model #, and UL approval report number on plans. (CEC 690.41,690.45, 690.48, 250.122, and 250.136).
- Single Line Diagram: show array configuration, conduit and conductors sizes with derating calculations.
- Inverter Information: show model number, specification cut sheets and maximum D.C. input
- PV Module Information: show open circuit voltage (VOC), short – circuit current (ISC) max series fuse
- Array Information: show number of modules in series, number of parallel source circuits
- Wiring and Over Current Protection: show conductor ampacities, adjusted with all derating factors show rating and location of all Over Current Devices (OCD)
- System Labels and Warnings: show required signage on the plans per 2019 CEC-Article 690
- Grounding Details: show equipment ground conductor, ground electrode conductor from inverter to ground rod or ufer ground
- Disconnects: show AC/DC disconnects at inverter. DC disconnect required prior to DC array conductors penetrating the surface of the roof or entering the building
- System Calculations: show (VOC) calculated 1.12 (temperature correction factor for City of Redlands (ISC) calculated x 1.25% (NEC 690) x 1.25% (UL 1703)
- All PV equipment shall be listed by a recognized test lab.