City of Palm Springs PV Electrical Information Worksheet

Property Address: _____

PV System Information (Note: Provide input data from manufacturer's cut sheets. PV module and inverter manufacturer's cut sheet must be attached.)

Module: (Mrf and model#) _____ Total Modules: _____ No. of Modules in Series_____ No. of Strings_____

Max Module Watts (Pmax): _____Watts   Max. Voltage (Vmp): _____ Volts   Max Current (Imp): _____Amps

Open Circuit Voltage (Voc) _____   Short Circuit Current (Isc) _____   Max DC System Voltage (Vdc) _____

Max Series Fuse (OCPD) _____   Total Circuit Length (array to inverter) _____   Conductor Resistance Factor (Ω/kft) _____

Temperature Correction Factor _____   Conduit Fill Factor _____

Inverter: (Mfr and model#) _____ Max Dc Input Volts _____ Continuous Power (W)_____ Max AC Output _____

Point of Connection: Main Service OCPD: _____ Amps   Bus Bar Rating: _____

Location of Main OCPD: (Center or at top or bottom of Service panel) _____

(Note: Center Fed Panels may not take advantage of the 120% rule)

PV Array Calculations and Verification of Conductor Sizes

Rated DE Power of System = (Module wattage) x (# of models in array) =   [____] X [____] = [____]

Rated MPP Voltage = (Vmp) x (# modules in series) =   [____] X [____] = [____]

Rated MPP Current = (Imp) x (# panel circuits) =   [____] X [____] = [____]

Max DC System Voltage =

   (Voc) x (# modules in series) x (Temp correction) =   [____] X [____] X [____] = [____]

Wire Size from Modules to Inverters (DC):

Maximum PV Circuit Current:

   Source Currents (Isc) x (125%)   [____] X [____] = [____]

   Output Circuit: (Source circuit current) x (# parallel circuits)   [____] X [____] = [____]

Conductor Ampacity & Overcurrent Rating:

   Source Circuits: (Max Circuit Current) x (125%)   [____] X [____] = [____]

   Output Circuit: (Max circuit Current) x (125%)   [____] X [____] = [____]

Derated Ampacity (Conditions of Use Factors)

   Source Circuits =

   (Continuous current / (temp correction) x (Conduit fill)   [____] / ([____] X [____]) = [____]

   Voltage Drop(%) =

   (Imp) x (Ω/kft) x (Total circuit length /1000) / Array Vmp   ([____] X [____] X [____]) / [____] = [____]

Minimum Conductor Size (using CEC Table 310.16)   [____]   **AWG** (Copper)

Overcurrent Device Rating: (Max Circuit current) x (125%)   [____] X [____] = [____]

Conductor Size from Inverter to Service Panel (AC):

Total AC Output of PV System (Cannot exceed 10KW for expedited review) =

(Inverter AC output) X (Nominal Voltage)   [   ] amps X [   ] volts = [   ] Watts.

Maximum Circuit Current =

Max inverter Output / Nominal AC Voltage $\dfrac{[\quad]}{[\quad]}$ = [   ] Amps

Conductor Ampacity & Overcurrent Device Rating:

Iverter Output = (max circuit current) X (125%)   [   ] X [   ] = [   ] Amps Rounded up

Minimum Conductor Size (using CED Table 310.16)   [   ] AWG (Copper)

Overcurrent Device Rating:

(maximum circuit current) X (125%)   [   ] X [   ] = [   ] Amps

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AC Point of Connection to main Service Panel

Maximum Allowable OCPD

(bus bar rating) X (100% or 120%)   [   ] X [   ] = [   ] Amps

Maximum PV OCPD:

(Max allowable OCPD) – (Main OCPD)   [   ] -- [   ] = [   ]

Maximum Size Inverter:

(Max PV OCPD) X (0.8)   [   ] X [   ] = [   ]

Grounding Electrode Conductor:

(CEC Sec 690.47(c) (2) and 250.166)   **DC** [   ] AWG   **AC** [   ] AWG

This worksheet must accompany the permit application and construction plans for submittal and review.

Acknowledgement: Contractor acknowledges that they are responsible for the accuracy of the information and calculations, and that the PV system design, equipment selection, and sizing of conductors, conduits, and overcurrent protection devices are in compliance with all current applicable State and local codes.

Contractor: _____   Date: _____