

INSTALLATION CERTIFICATE**(Page 1 of 2) CF-6R-PV**

Site Address

Date

Installation certificates (CF-6R-PV) are required for each installed PV system. When the installation is complete, the PV installer must perform the field verification and diagnostic testing procedures. The PV installer shall also provide a copy of the Installation Certificate and any other proof of installation details (such as photographs, product invoices, or solar pathfinder diagram(s)) to the HERS rater so that they are able to verify the installation, performance and shading specifications.

PHOTOVOLTAIC SYSTEM:

Equipment Type	CEC Certified Manufacturer Name and Model Number						✓ Indicate Pass/Fail
Meter (Must be built into inverter or listed as eligible under NSHP.)							<input type="checkbox"/> Pass <input type="checkbox"/> Fail
Inverter (Must be same as listed on CF-1R-PV.)							<input type="checkbox"/> Pass <input type="checkbox"/> Fail
PV Modules: (Must be same as listed on CF-1R-PV.)							<input type="checkbox"/> Pass <input type="checkbox"/> Fail
<input type="checkbox"/> Rack-mount <input type="checkbox"/> BIPV	Number of series modules in each string		Number of strings in Parallel		Total number of Modules		<input type="checkbox"/> Pass <input type="checkbox"/> Fail

Installation Specifications		Method used to determine value	Value measured	Value within tolerance of CF-1R-PV value.
1	The azimuth of the installation. (degrees from North)			<input type="checkbox"/> Pass <input type="checkbox"/> Fail
2	The roof pitch/tilt of the installation. (Rise:Run / degrees from horizontal)			<input type="checkbox"/> Pass <input type="checkbox"/> Fail
3	The mounting height of the installation. (ft. from ground)			<input type="checkbox"/> Pass <input type="checkbox"/> Fail
4	The standoff height of the installation. (If BIPV, enter 0.)			<input type="checkbox"/> Pass <input type="checkbox"/> Fail

Performance Specifications		Method used to determine value	Value measured	Value within tolerance of CF-1R-PV value.
5	Measurement of solar irradiance. (W/m ²)			
6	Measurement of ambient temperature. (°F)			
7	Expected output from Field Verification Table (FVT)* (W)	FVT		
8	The electric production (W) as shown on the inverter or other performance display is equal to or higher than the value on the FVT for the system based on the incident radiation and ambient temperature measured.			[Value of line 8 > line 7] <input type="checkbox"/> Pass <input type="checkbox"/> Fail

* FVT is generated by the CEC PV Calculator and is unique for each system. The FVT for this system is on the corresponding CF-1R-PV

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Shading Specifications	Value measured	Value within tolerance of CF-1R-PV value.
9 Was "Minimal Shading" option used for all orientations? [Yes or No]		<input type="checkbox"/> Pass <input type="checkbox"/> Fail
10 Existing and planned trees are sited to meet the 2:1 criteria for shading or are accounted for in the calculation, based on the mature height of the species.	[See table below]	<input type="checkbox"/> Pass <input type="checkbox"/> Fail
11 The minimum distance-to-height ratio (2:1) criteria is met for all other shading obstructions** or are accounted for in the calculation.	[See table below]	<input type="checkbox"/> Pass <input type="checkbox"/> Fail

- ** As indicated in Appendix 4 of the NSHP Guidebook, the Minimal Shading Criterion are to include the following features:
- i. Any vent, chimney, architectural feature, mechanical equipment or other obstruction that projects above the roof of the residential building.
 - ii. Any part of the neighboring terrain that projects above the room.
 - iii. Any tree that is mature at the time of installation of the solar system.
 - iv. Any tree that is planted or planned to be planted as part of the landscaping for the residential building (the expected performance must be based on the expected mature height of any tree planted or planned to be planted as part of the landscaping for the residential building).
 - v. Any existing neighboring building.
 - vi. Any planned neighboring building or if the lot adjacent to the solar system is undeveloped and the builder does not know what the building or other structure is planned for construction on that site, the shading must be based on the highest and closest dimensions of the building model offered by the builder or allowed by zoning.
 - vii. Any telephone or other utility pole that is closer than thirty feet from the nearest point of the array.

In-field Shading Confirmation Table			Method 1	Method 2			Value confirmed by: (tape measure, photo, etc)
Orientation	✓ if "Minimal Shading"	Obstruction Type	Altitude Angle	Horizontal Dist.	Vertical Dist.	Dist.-to-Height Ratio	
ENE [>55 to 79]	<input type="checkbox"/>						
E [>79 to 101]	<input type="checkbox"/>						
ESE [>101 to 124]	<input type="checkbox"/>						
SE [>124 to 146]	<input type="checkbox"/>						
SSE [>146 to 169]	<input type="checkbox"/>						
S [>169 to 191]	<input type="checkbox"/>						
SSW [>191 to 214]	<input type="checkbox"/>						
SW [>214 to 236]	<input type="checkbox"/>						
WSW [>236 to 259]	<input type="checkbox"/>						
W [>259 to 281]	<input type="checkbox"/>						
WNW [>281 to 305]	<input type="checkbox"/>						

List of items submitted accompanying the installation certificate as proof of installation (such as photographs, product invoices, or solar pathfinder diagram(s)). These items are intended to assist the HERS rater so that they may verify the installation, performance and shading specifications.

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I, the undersigned, verify that equipment listed on this form is:
 1) The actual equipment installed, 2) that specified in the certificate of compliance (Form CF-1R-PV) which was submitted for incentive eligibility under NSHP. And that the shading criteria are as specified in CF-1R-PV.

Installing Subcontractor (Co. Name) OR General Contractor (Co. Name) OR Owner	
Signature:	Date:

Copies to: BUILDER / NSHP APPLICANT (attach to NSHP 2.0) , HERS RATER