



LAND USE APPLICATION

SMC 16.05.153

Electrical Permit Checklist for Residential Solar Photovoltaic Systems

Contractors must complete and submit this checklist, a roof layout of solar panels and a one-line diagram online at MyBuildingPermit.com or in person at City Hall.

Project Information

Project Address: Parcel Number(s):
 Property Owner: Owner Phone:
 Contractor Name: Contractor License No.:
 Contractor Phone:

Describe PV system, including manufacturer and model number of major equipment:

Electrical Permit Submittal Checklist

	Yes	No	N/A
PV modules, inverters, and combiner boxes are identified for use in PV systems	<input type="checkbox"/>	<input type="checkbox"/>	
The inverters are listed and labeled in accordance with UL 1741 and are listed for utility interaction. [WAC 51-51 M2302.4]	<input type="checkbox"/>	<input type="checkbox"/>	
The AC interconnection point is on the load side of service disconnect. [NEC 705.12(B)]	<input type="checkbox"/>	<input type="checkbox"/>	
The system meets all current NEC, City and Washington Cities Electrical Code requirements	<input type="checkbox"/>	<input type="checkbox"/>	
For Split-Bus modules, the AC interconnection is one of the six service disconnects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Is the system grounded or ungrounded?	<input type="checkbox"/>	<input type="checkbox"/>	
Has DC Ground-Fault Protection been provided and properly labeled?	<input type="checkbox"/>	<input type="checkbox"/>	
Is the PV disconnect permanently marked and installed in a readily accessible location?	<input type="checkbox"/>	<input type="checkbox"/>	
Are PV source or output circuits on or inside a building in a metal raceway and marked?	<input type="checkbox"/>	<input type="checkbox"/>	
Has the system been grounded at one single point ?	<input type="checkbox"/>	<input type="checkbox"/>	
Are the mounting structures or systems used for equipment grounding ?	<input type="checkbox"/>	<input type="checkbox"/>	
Has the grounding electrode system been installed?	<input type="checkbox"/>	<input type="checkbox"/>	

Maximum load added to the panelboard is based on the rating of the panelboards bus/main OCPD combination.
 Maximum inverter OCPD may be no greater than 120% of the panelboard bus rating minus the panelboard main

OCPD rating in accordance with NEC 705.12(D)(2)(3)(b)

Acceptable combinations include (check combination that applies):

- 100 amp bus/100 amp main OCPD - 3,840 watts, maximum 20 amp inverter OCPD.
- 125 amp bus/100 amp main OCPD - 9,600 watts, maximum 50 amp inverter OCPD.
- 125 amp bus/125 amp main OCPD - 4,800 watts, maximum 25 amp inverter OCPD.
- 150 amp bus/150 amp main OCPD - 5,760 watts, maximum 30 amp inverter OCPD.
- 200 amp bus/200 amp main OCPD - 7,860 watts, maximum 40 amp inverter OCPD.
- 225 amp bus/225 amp main OCPD - 8,640 watts, maximum 45 amp inverter OCPD.
- 225 amp bus/200 amp main OCPD - 13,440 watts, maximum 70 amp inverter OCPD.
- Other - Electrical Permit with Plan Review Required

Note 1: Listed un-altered factory main/bus combination. Alteration of the panelboard main OCPD will require plan review.

Note 2: The circuit conductors and overcurrent devices shall be sized to carry not less than 125 percent of the maximum currents as calculated in 690.8(A). The rating or setting of overcurrent devices shall be permitted in accordance with 240.4(B) and (C). NEC 690.8(B)(1)

Note 3: If a panelboard employs a snap switch rated 30 amperes or less in any branch circuit, it cannot be rated more than 200 amperes unless there is a supply side overcurrent protection at 200 amperes or less within the panelboard. This requirement does not apply to panelboards equipped with circuit breakers. Section 408.36(A) of the NEC.

I have attached an Electrical One-Line Diagram that includes:

- | | | |
|--|---|--|
| <input type="checkbox"/> Wire sizes | <input type="checkbox"/> Metering | <input type="checkbox"/> Overcurrent devices and sizing |
| <input type="checkbox"/> Conduit Sizes | <input type="checkbox"/> Grounding electrode conductors | <input type="checkbox"/> Disconnect co-located with production meter |

Comments:

Electrical Permit Manufacturer's Specification Sheet Requirements

Provide manufacturer's specification sheet for all components but not limited to:

1. Modules
2. Inverter
3. Microinverter
4. Power Optimizers
5. Any Alternate Power Sources
6. Mounting/racking systems

All required markings and labels are provided

A diagram of the roof layout of all panels, modules, clear access pathways and approximate locations of electrical disconnecting means and roof access points.

Building Permit Exemption Checklist

	Yes	No
PV system is designed and proposed for a detached one- or two-family dwelling or townhouse not more than three stories above grade or detached accessory structure that is code compliant to setbacks and height, or code allows expansion of nonconformity for solar modules.	<input type="checkbox"/>	<input type="checkbox"/>
Modules installed do not exceed the highest point of the roof.	<input type="checkbox"/>	<input type="checkbox"/>
Specify roof pitch (rise/run):		
Rooftop is made from lightweight material such as a single layer of composition shingles, metal roofing, lightweight masonry, or cedar shingles.	<input type="checkbox"/>	<input type="checkbox"/>
The installation will comply with the manufacturer's instructions.	<input type="checkbox"/>	<input type="checkbox"/>
The installation will meet the requirements of NFPA 70 National Electric Code, and all required electrical permit(s) must be obtained from the Authority Having Jurisdiction to administer the electrical code.	<input type="checkbox"/>	<input type="checkbox"/>
The installation will meet the requirements of the International Fire Code as amended by WA State. If yes, indicate which option will be used to meet the IFC access regulations:	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> The dwelling will be sprinklered, so no access pathways are required The total array does not exceed 33% of the total roof area and does not exceed 1,000 sq. ft. in total area and 18" minimum unobstructed pathways will be provided along each side of all horizontal ridges		
<input type="checkbox"/> Pathways meeting IFC Sections 605.11.3.2.1 through 605.11.3.2.4 are to be provided		
The PV system is designed for the wind speed of the local area, and will be installed per the manufacturer's specifications	<input type="checkbox"/>	<input type="checkbox"/>
The ground snow load does not exceed 70 pounds per square foot.	<input type="checkbox"/>	<input type="checkbox"/>
Total dead load of modules, supports, mountings, raceways and all other appurtenances weigh no more than four pounds per square foot.	<input type="checkbox"/>	<input type="checkbox"/>
Enter total dead load of system (psf):		
To address uplift, modules are mounted no higher than 18" above the surface of the roofing to which they are affixed.	<input type="checkbox"/>	<input type="checkbox"/>
Supports for solar modules are installed to spread the dead load across as many roof-framing members as needed to ensure that no point load exceeds fifty (50)pounds.	<input type="checkbox"/>	<input type="checkbox"/>
The photovoltaic modules and supporting structure will be constructed of noncombustible materials or fire-retardant treated wood equivalent to that required for the roof construction.	<input type="checkbox"/>	<input type="checkbox"/>
Roof and wall penetrations will be construction. flashed and sealed to prevent entry of water, rodent, and insects.	<input type="checkbox"/>	<input type="checkbox"/>

PV modules are listed and labeled with a fire classification in accordance with UL 1703. [IRC M2302.2.3]

If you answered yes to all of the above questions in Section 3, your project does not require a building permit. An Electrical permit is still required.

Acknowledgements

As the property owner or authorized representative of the above listed property, I attest that all information in this checklist is accurate to the best of my knowledge. Inaccurate information may result in having to modify or remove the installation.

Owner/Agent Name Printed:

Owner/Agent Signature:

Date: