



OVER-THE-COUNTER BUILDING PERMIT CHECKLIST FOR RESIDENTIAL SOLAR PHOTOVOLTAIC SYSTEMS: ROOFTOP MOUNTED

Contractors can apply for an Over-The-Counter (OTC) permit where the PV system meets the requirements listed in this Checklist. All project plans and supporting documentation must be provided on site for the inspector.

-----TO BE COMPLETED BY APPLICANT-----

1 Project Information

Property Owner Name:			
Project Address:		Parcel #	
	City:	State:	ZIP:
Day Phone:			
Contractor Name			
Contractor License #:			
Contractor Day Phone:			
PV system description (include manufacturer and model # of PV modules and inverters):			

2 Determine if your project qualifies for expedited permitting:

	Yes	No
1. 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. [IRC 101.2]	<input type="checkbox"/>	<input type="checkbox"/>
2. Modules on pitched roofs do not exceed the highest point of the roof unless approved by the local jurisdiction.	<input type="checkbox"/>	<input type="checkbox"/>
3. 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"/>
4. The installation shall comply with the manufacturer's instructions. [IRC M2302.2]	<input type="checkbox"/>	<input type="checkbox"/>
5. The installation shall 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. [IRC M2302.2]	<input type="checkbox"/>	<input type="checkbox"/>
6. The installation shall meet the requirements of the International Fire Code as amended by WA State. [IRC M2302.2]	<input type="checkbox"/>	<input type="checkbox"/>
7. The PV system is designed for the wind speed of the local area, and will be installed per the manufacturer's specifications. [IRC M2302.2.1(1)]	<input type="checkbox"/>	<input type="checkbox"/>
8. The ground snow load does not exceed 70 pounds per square foot. [IRC M2302.2.1(2)]	<input type="checkbox"/>	<input type="checkbox"/>
9. Total dead load of modules, supports, mountings, raceways and all other appurtenances weigh no more than four pounds per square foot. [IRC M2302.2.1(3)]	<input type="checkbox"/>	<input type="checkbox"/>
Enter total dead load of system (lbs/ft ²):		

10. To address uplift, modules are mounted no higher than 18" above the surface of the roofing to which they are affixed. [IRC M2302.2.1(4)]	<input type="checkbox"/>	<input type="checkbox"/>
11. 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"/>
12. The photovoltaic modules and supporting structure shall be constructed of noncombustible materials or fire-retardant treated wood equivalent to that required for the roof construction. [IRC M2302.2.1]	<input type="checkbox"/>	<input type="checkbox"/>
13. Roof and wall penetrations shall be flashed and sealed to prevent entry of water, rodents, and insects. [IRC M2302.2.2]	<input type="checkbox"/>	<input type="checkbox"/>
14. PV modules are listed and labeled with a fire classification in accordance with UL 1703. [IRC M2302.2.3]	<input type="checkbox"/>	<input type="checkbox"/>
Comments:		

➔ If you answered yes to all of the above questions, the project qualifies for the over-the-counter permitting process.

3 Submit this Checklist, Site Plan, and other required permit application forms to:

[insert contact info for jurisdiction having authority]

➔ 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.

Applicant Signature:	Date:
Applicant Name (Please Print):	

-----TO BE COMPLETED BY CITY STAFF-----

Qualifies for OTC Building Permit?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Permit Application #:
Staff Initials _____	Date:		

This form has been approved for use by the Olympia Community Planning and Development (CPD) Department.



Keith Stahley, Director,
Community Planning and Development

11/28/2017
Date

OVER-THE-COUNTER ELECTRICAL PERMIT CHECKLIST FOR RESIDENTIAL SOLAR PHOTOVOLTAIC SYSTEMS

Contractors can apply for an Over-The-Counter (OTC) permit where the PV system meets the requirements listed in this Checklist and use a template electrical diagram provided by the City or other approved diagram. All project plans and supporting documentation must be provided on site for the inspector.

-----TO BE COMPLETED BY APPLICANT-----

1 Project Information

Property Owner Name:			
Project Address:		Parcel #	
	City:	State:	ZIP:
Day Phone:			
Contractor Name			
Contractor License #:			
Contractor Day Phone:			
PV system description (include manufacturer and model # of PV modules and inverters):			

2 Determine if your project qualifies for an Over-the-Counter electrical permit


	Yes	No	N/A
1. PV modules, inverters, and combiner boxes are identified for use in PV systems.	<input type="checkbox"/>	<input type="checkbox"/>	
2. The inverters are listed and labeled in accordance with UL 1741 and are listed for utility interaction. [IRC M2302.4]	<input type="checkbox"/>	<input type="checkbox"/>	
3. The AC interconnection point is on the load side of service disconnect. [NEC 690.64(B)]	<input type="checkbox"/>	<input type="checkbox"/>	
4. The system meets all current NEC, City and Washington Cities Electrical Code requirements.	<input type="checkbox"/>	<input type="checkbox"/>	
5. For Split-Buss modules the AC interconnection must be one of the six service disconnects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Maximum load added to the panelboard is based on the rating of the panelboards bus/main OCPD combination in accordance with NEC 705.12(D)(2)(3)(b), and is limited to (check combination that applies): <input type="checkbox"/> 225 amp bus/200 amp main OCPD - 13,440 AC watts, maximum 70 amp inverter OCPD. <input type="checkbox"/> 225 amp bus/225 amp main OCPD - 8,640 AC watts, maximum 45 amp inverter OCPD. <input type="checkbox"/> 200 amp bus/200 amp main OCPD - 7,860 AC watts, maximum 40 amp inverter OCPD. <input type="checkbox"/> 150 amp bus/150 amp main OCPD - 5,760 AC watts, maximum 30 amp inverter OCPD. <input type="checkbox"/> 125 amp bus/125 amp main OCPD - 4,800 AC watts, maximum 25 amp inverter OCPD. <input type="checkbox"/> 125 amp bus/100 amp main OCPD - 9,600 AC watts, maximum 50 amp inverter OCPD.			

<input type="checkbox"/> 100 amp bus/100 amp main OCPD - 3,840 AC watts, maximum 20 amp inverter OCPD. <input type="checkbox"/> 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.	
7. I have attached the following Electrical One-Line Diagram: <input type="checkbox"/> Standard Electrical Diagram- 6 Strings or Less <input type="checkbox"/> Standard Electrical Diagram- 4 Strings or Less <input type="checkbox"/> Standard Electrical Diagram- Micro Inverter <input type="checkbox"/> None of the above- Electrical Permit with Plan Review Required	
Comments:	

 **If you answered yes to all of the above questions, your project qualifies for over the Over-the-Counter electrical permit.**

3 Submit this Checklist, the Electrical Permit Application, One-line Diagram, and Site Plan to:

[insert contact info for jurisdiction having authority]

 **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**

Applicant Signature:	Date:
Applicant Name (Please Print):	

-----TO BE COMPLETED BY CITY STAFF-----

Qualifies for Electrical OTC? <input type="checkbox"/> Yes <input type="checkbox"/> No Staff Initials _____ Date:	Permit #:
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Solar PV Electrical One-Line Diagram Requirements

The electrical one-line diagram must be used to accurately represent the electrical components of the solar PV system and shall include:

- The correct conductor sizing based on the ambient temperature, number of conductors, and distance of conduit off the roof.
- The correct “Output circuit” conductors sizing from the combiner to the inverter based on the number of strings multiplied by the “Max amps.”
- Where a combiner box is installed, or where more than two strings of modules are electrically connected together in “parallel,” each individual string shall be protected by its own overcurrent protection device or feeders are for the sum of the short circuit current of all strings. The fuse or breaker shall be listed as being suitable for use in a DC circuit and shall meet or exceed the maximum voltage of the circuit. The rating of the fuse or circuit breaker shall not be larger than the maximum size specified on the lowest rated module in the string.
- Per NEC Section 690.31(E), metallic raceway and enclosures must be used where DC wiring is installed inside of the house.
- Grounding on the DC side of the inverter requires a minimum #8 copper grounding electrode conductor run un-spliced from the factory identified system grounding terminal of the inverter to the grounding electrode system of the house.
- The inverter shall be listed and labeled by a recognized electrical testing laboratory and be identified as “Utility interactive.”
- Inverter ground fault protection (GFP) shall comply with NEC 690.5.
- A performance meter and a safety disconnect switch may be required to be installed between the PV power source and the electrical utility equipment. Contact the local serving utility for requirements. Where a performance meter is required by the local utility to record the power produced by the PV system, the output wiring from the inverter shall always connect to the “LINE” side terminals of the meter.
- Where disconnect switches (with or without fuses) are installed in the circuit from the inverter output terminals to the house electrical panel, the wiring originating at the inverter(s) shall always connect to the “LOAD” side terminals of ANY disconnect that has been installed.
- The connection to the service panel shall be through a dedicated circuit breaker that connects to the panel bus bars in an approved manner.
- “Load Side Taps” where the inverter AC wiring does not terminate using a dedicated breaker or set of fuses are prohibited under ANY condition by NEC 690.64(B).
- The location of the PV backfed breaker must be identified per 690.64(B)(7) with the following verbiage:
“WARNING INVERTER OUTPUT CONNECTION. DO NOT RELOCATE THE OVERCURRENT DEVICE.”
- Where it is not possible to locate the PV breakers at opposite ends of the panel bus, the sum of the two PV breakers is not permitted to exceed 100% of the bus rating per NEC 690.64(B)(7)
- Per NEC 690.53, a permanent label for the DC power source shall be installed at the PV DC disconnecting means. This label shall show the following:
 - Rated maximum power-point current.
 - Rated maximum power-point voltage.
 - Maximum system voltage.
 - Short circuit current of the PV system.