

NET METERING SPECIFICATIONS (2018):

GENERAL SOCKET SPECIFICATIONS:

1. Sockets shall be U.L. Listed and Approved for their location and use.
2. Sockets shall be of the rectangular sheet-metal type. Round-type sockets or cast-metal sockets are not permitted.
3. The socket rating shall equal or exceed the capacity of the service entrance equipment and conductors.
4. The socket lugs shall be sized appropriately to fit the required service conductor size. The socket lugs shall be of the Lay-in type. A grounding electrode conductor connector, connected to the neutral buss, shall be included in the sockets intended for use in residential applications.
5. Sockets may be of the ring type or ringless. Sealing rings, if required, shall be supplied by the member.
6. Automatic by-passes are not permitted under any circumstances.
7. There shall be normally not more than 3 vertical positions at any multiple socket installations.
8. All sockets at the time of installation must be equipped with the number of terminals required by the type of service to be metered.
9. All four terminal sockets shall have the capacity of adding a fifth terminal in the (6) or (9) o'clock positions, without removing the terminal blocks. When an existing installation is changed to accommodate a different type of service or rate requiring additional terminals, the additional terminals must be furnished and installed by the member at the time of the change or the socket replaced with a socket containing the proper number of terminals.
10. Cover plates shall be the approved clear plastic type. Cover plates will be used after the wiring is completed to protect the interior until a meter is installed.
11. NOTE: on 120/240 volt, three phase, Delta services, the conductor that measures 208 volt-to-ground must be connected to the right hand terminals of the socket.
12. On meter installations other than for 120/240 volt, single phase, all meter sockets shall be equipped with manual by-passes and shields for meter jaws.
13. Single phase sockets, connected to an underground service via 350 MCM and larger conductors shall be equipped with a side-bus to avoid sharp cable bends. Exception: if a side-bus socket is not available, then an acceptable alternative is a socket with enough space to allow the cable to be bent at an appropriate radius. The socket shall meet the dimensions required by NEC 312.6. That Article specifies that for one side of the socket, the space between the nearest top terminal and the wall of the socket shall be 9" minimum. Additionally, the space between the top terminal and the top of the socket shall be 5" minimum. These dimensions, and this exception, shall apply to 200 amp, and smaller sockets fed by 350 MCM cable with Lay-in style connectors. This exception is only allowed based on unavailability of the side bus sockets and not based on price differences.
14. At a minimum all equipment must conform to current Vermont Public Utilities Commission (PUC) Rule 5.100.
15. **Approved solar net metering installations only.** Where the main service (consumption) meter, net metering visible/lockable disconnect (if applicable) and second (production) meter are all adjacent to each other, extend the ground wire to the new equipment as shown in Figure A or B, whichever is applicable.

The objective of this grounding directive is to have all equipment such as meter sockets, and disconnect (if applicable) together within arm's reach (< 7') of each other bonded together and grounded to the same ground electrode. This grounding and bonding must be able to be confirmed without entering the member's premises OR without inspecting the main service entrance serving the solar installation.

IF the location of the second (production) meter, disconnect, and consumption meter are greater than 7' from each other, a separate grounding scheme similar to the grounding for the consumption meter must be provided, as shown on Figure C (below).

It is the member's responsibility and that of their contractor(s) to ensure that the overall installation meets all relevant criteria, including the applicable requirements of the National Electrical Code, the Vermont Utilities Manual and the Cooperative's membership agreement.

Approved December 2017.



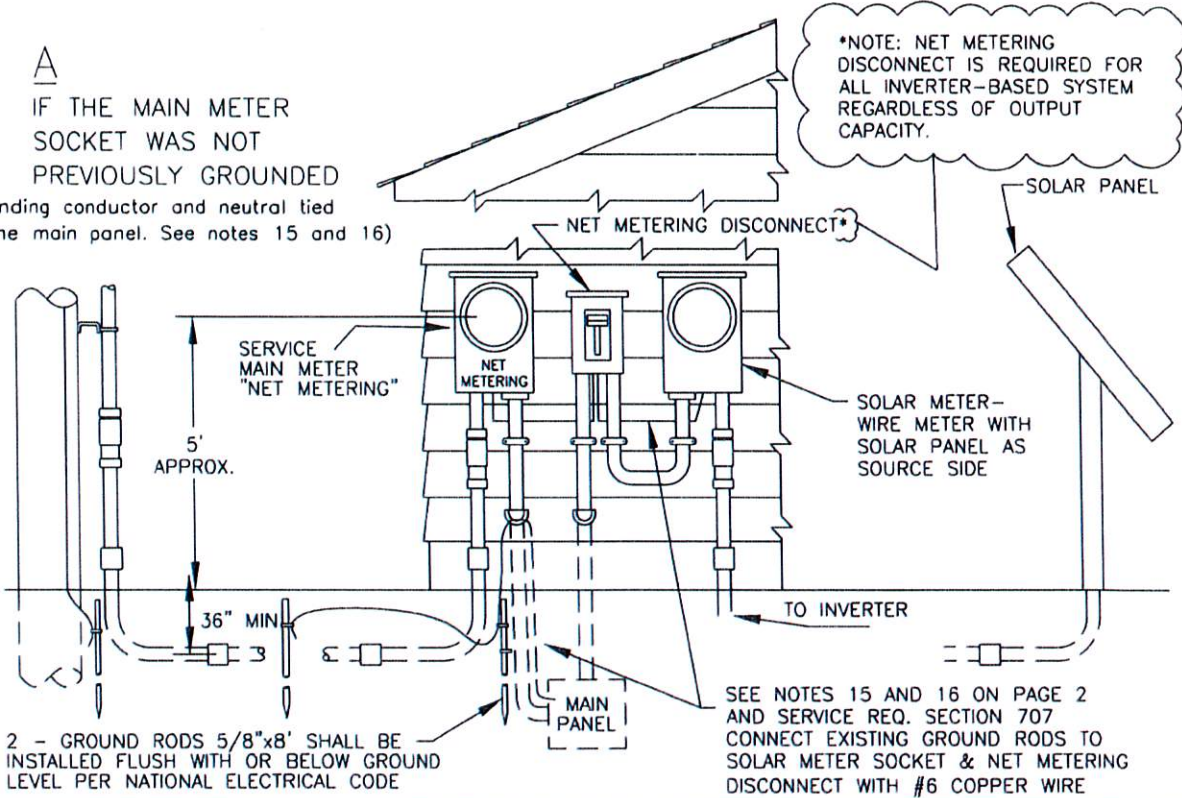
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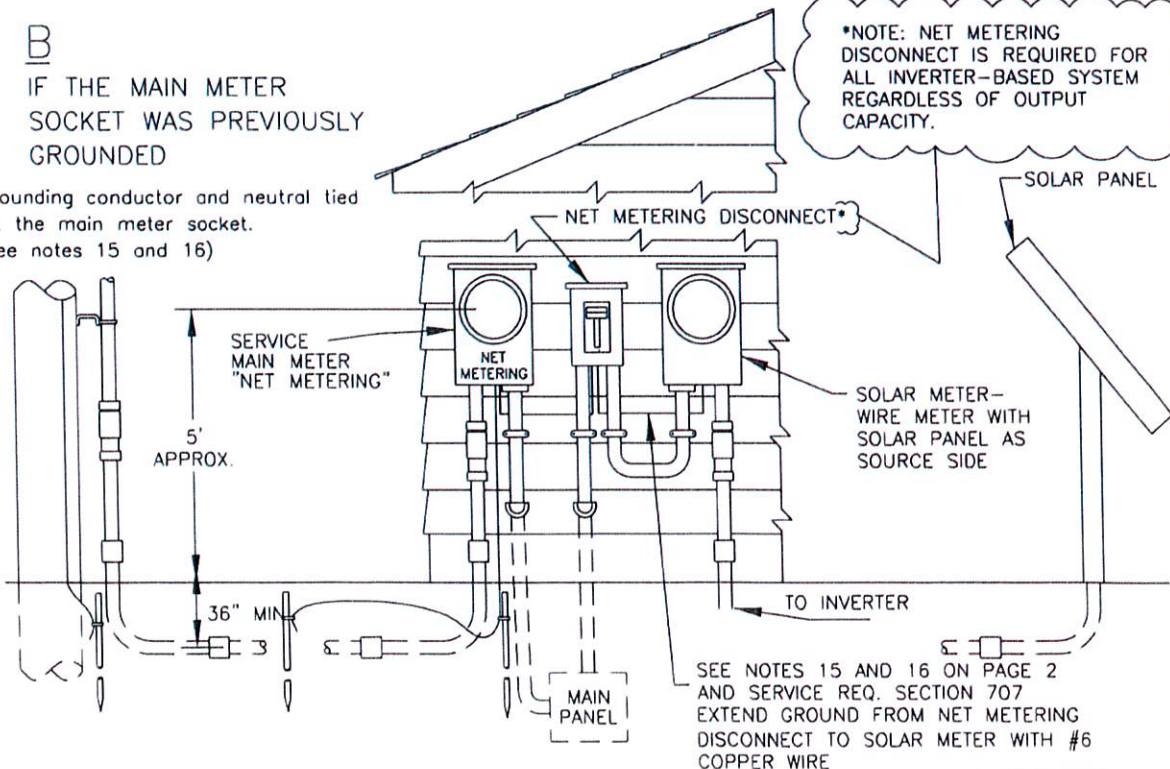
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THIS SPECIFICATION SHOWS AN UNDERGROUND SERVICE WITH THE SOLAR METER LOCATED NEXT TO THE MAIN SERVICE METER. OTHER CONFIGURATIONS ARE POSSIBLE, BUT THE SOLAR METER MUST BE ELECTRICALLY CONNECTED ON THE UTILITY GRID SIDE OF THE INVERTER WITH THE SOLAR PANEL AS ITS SOURCE.

**A**  
IF THE MAIN METER SOCKET WAS NOT PREVIOUSLY GROUNDED  
(Grounding conductor and neutral tied in the main panel. See notes 15 and 16)



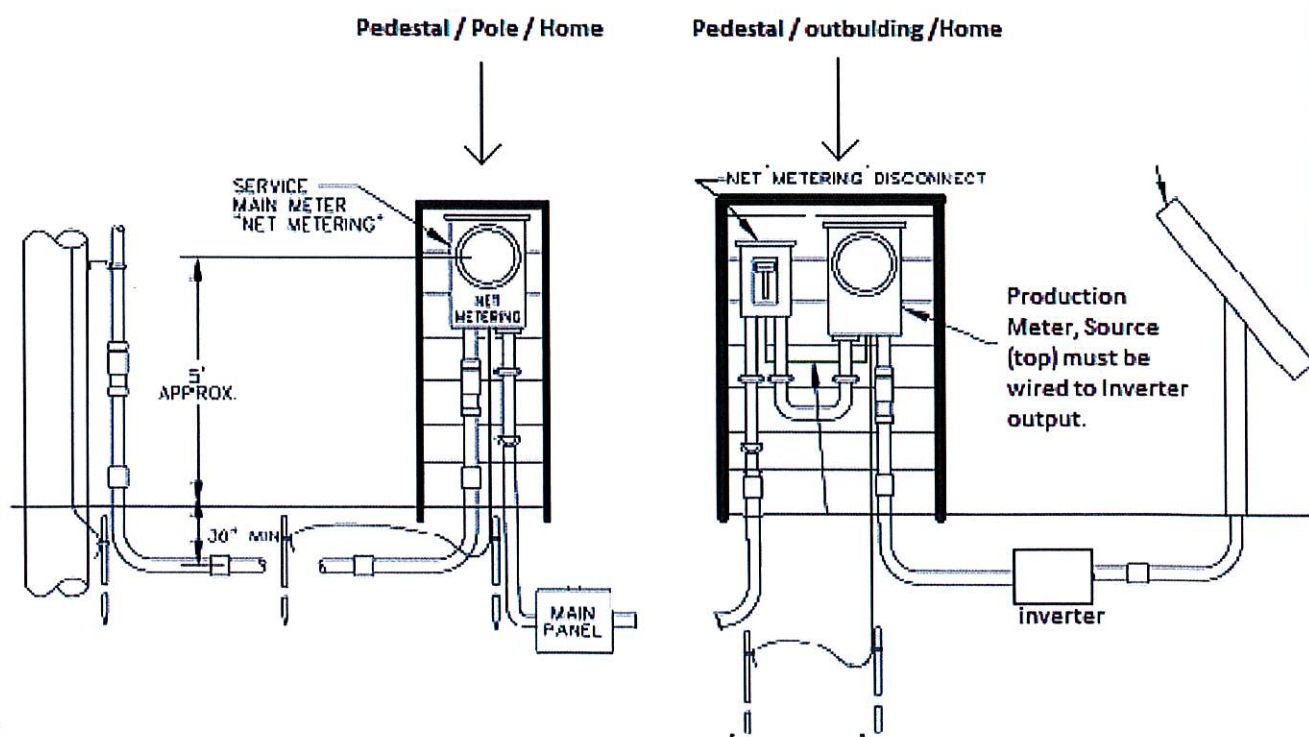
**B**  
IF THE MAIN METER SOCKET WAS PREVIOUSLY GROUNDED  
(Grounding conductor and neutral tied at the main meter socket. See notes 15 and 16)



## FIGURE C

**Washington Electric Coop, 2014 Net Meter Installation Specifications, when Main Service Meter is more than an arm's length distance from Net Meter Disconnect Switch and Solar Production Meter.**

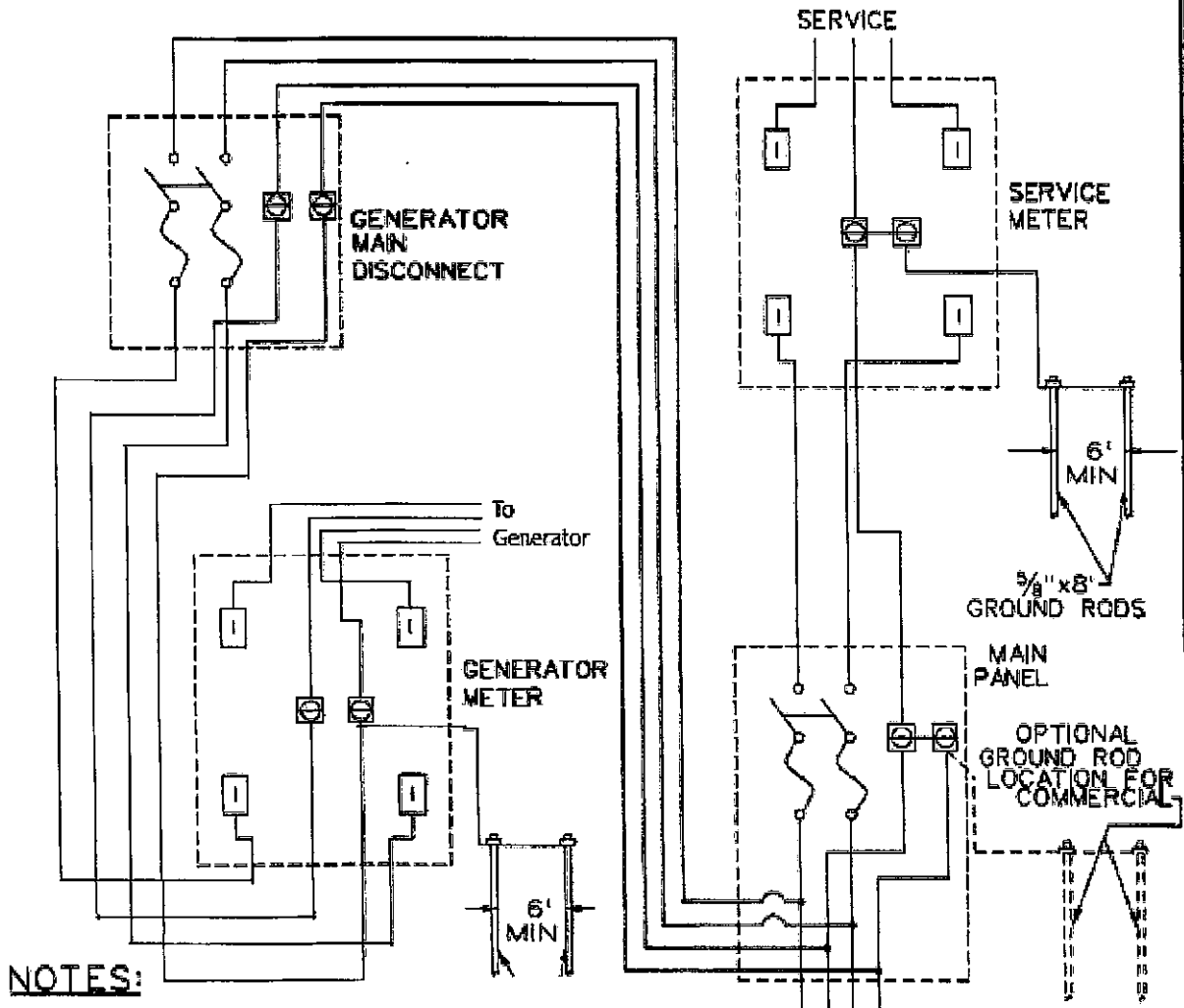
**This specification shows an underground service with the solar production meter located remotely, more than an arm's length from main service meter, other configurations are possible, but the solar production meter must be electrically connected to the Inverter output, with the Inverter as its source. Also note that the Net Metering Disconnect Switch must be wired electrically between the Solar Production Meter and the Main Service Panel.**



**Grounding for this type of installation: The Main Service Meter base and the Solar Production Meter base will have separate grounds, Grounds will consist of two electrodes bonded together and separated by at least 6 feet at each Meter base, the ground from the Solar Production Meter Base will be extended to the disconnect switch with #6 Copper. See the above referenced drawing.**

# GENERATION IN PARALLEL WITH UTILITY SYSTEM NET METERING - WITH GENERATION METER

THREE WIRE, SINGLE PHASE SERVICE



## NOTES:

1. THE GENERATOR MAIN DISCONNECT SHALL BE LOCATED WITHIN TEN FEET OF, AND IN VIEW OF, THE SERVICE METER OR THERE SHALL BE A PLACARD WITH DIRECTIONS TO THE DISCONNECT PER NEC.
2. THE GENERATOR DISCONNECT SHALL BE MARKED 'GENERATOR DISCONNECT SWITCH' WITH PERMANENT LETTERS A MINIMUM OF 2" HIGH. THE DISCONNECT SWITCH MUST BE LOCKABLE IN THE OPEN POSITION, WITH A STANDARD UTILITY PADLOCK WITH A 3/8" SHANK.
3. THE SERVICE METER WILL HAVE A DETENTED REGISTER THAT WILL MEASURE DELIVERED ELECTRICITY MINUS ANY GENERATED ENERGY; OR, IT SHALL HAVE TWO SEPARATE INTERNAL REGISTERS.
4. THE GROUNDING ELECTRODE CONDUCTOR CONNECTION SHOWN IN THE METER SOCKET, MAY BE LOCATED IN THE MAIN PANEL ON COMMERCIAL INSTALLATIONS. SEE PARAGRAPH 707A.
5. LOW VOLTAGE THREE-PHASE INSTALLATIONS ARE TO BE CONSTRUCTED SIMILARLY.
6. METALLIC ENCLOSURES WITHIN ARM'S REACH SHALL BE BONDED TOGETHER IN SUCH A WAY TO PREVENT THE BONDING CONDUCTOR FROM CARRYING RETURN CURRENT.

**VERMONT UTILITIES  
ELECTRIC SERVICE REQUIREMENTS**

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