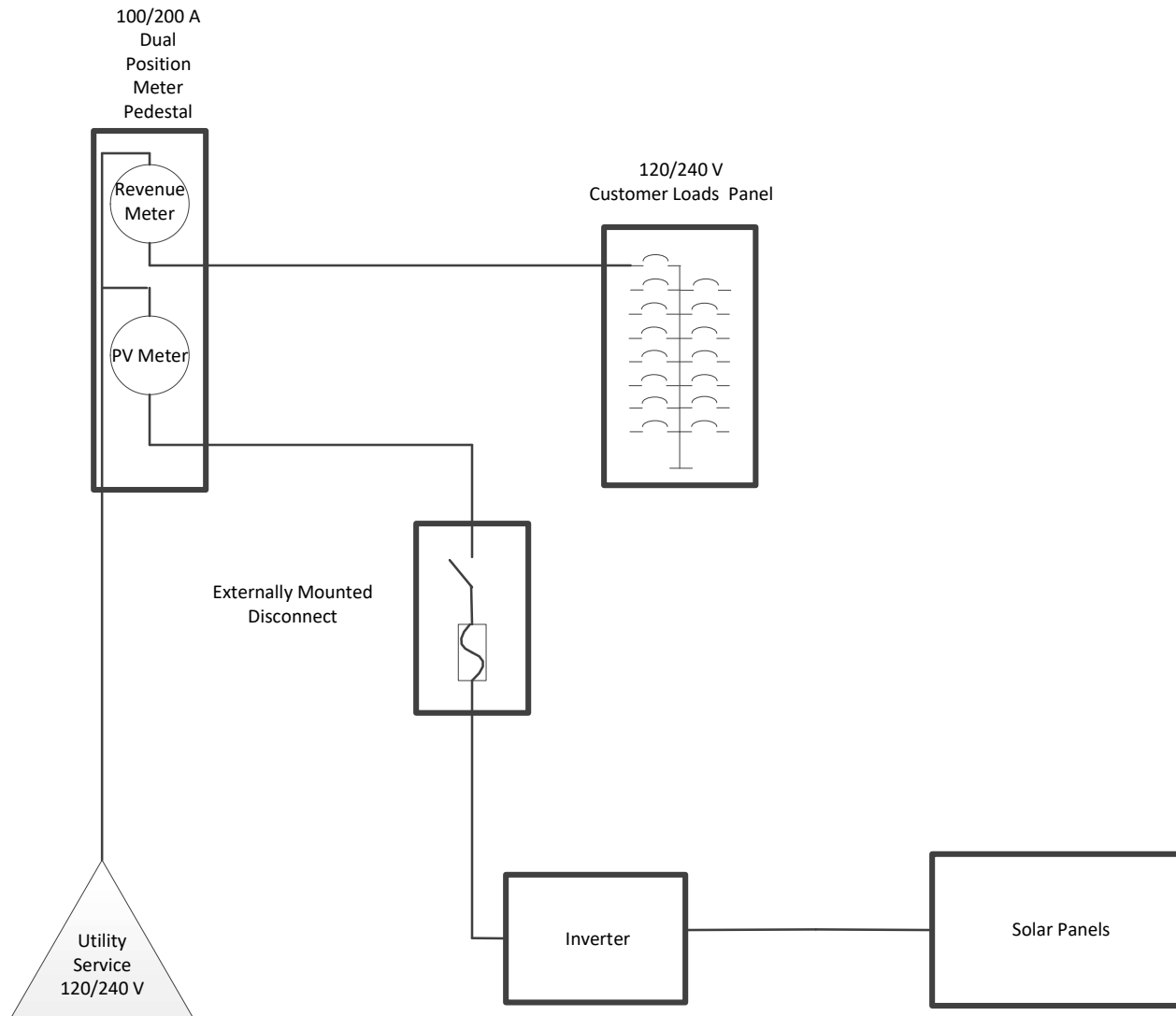


We Energies underground service - customer owned generation

solar one-line diagrams

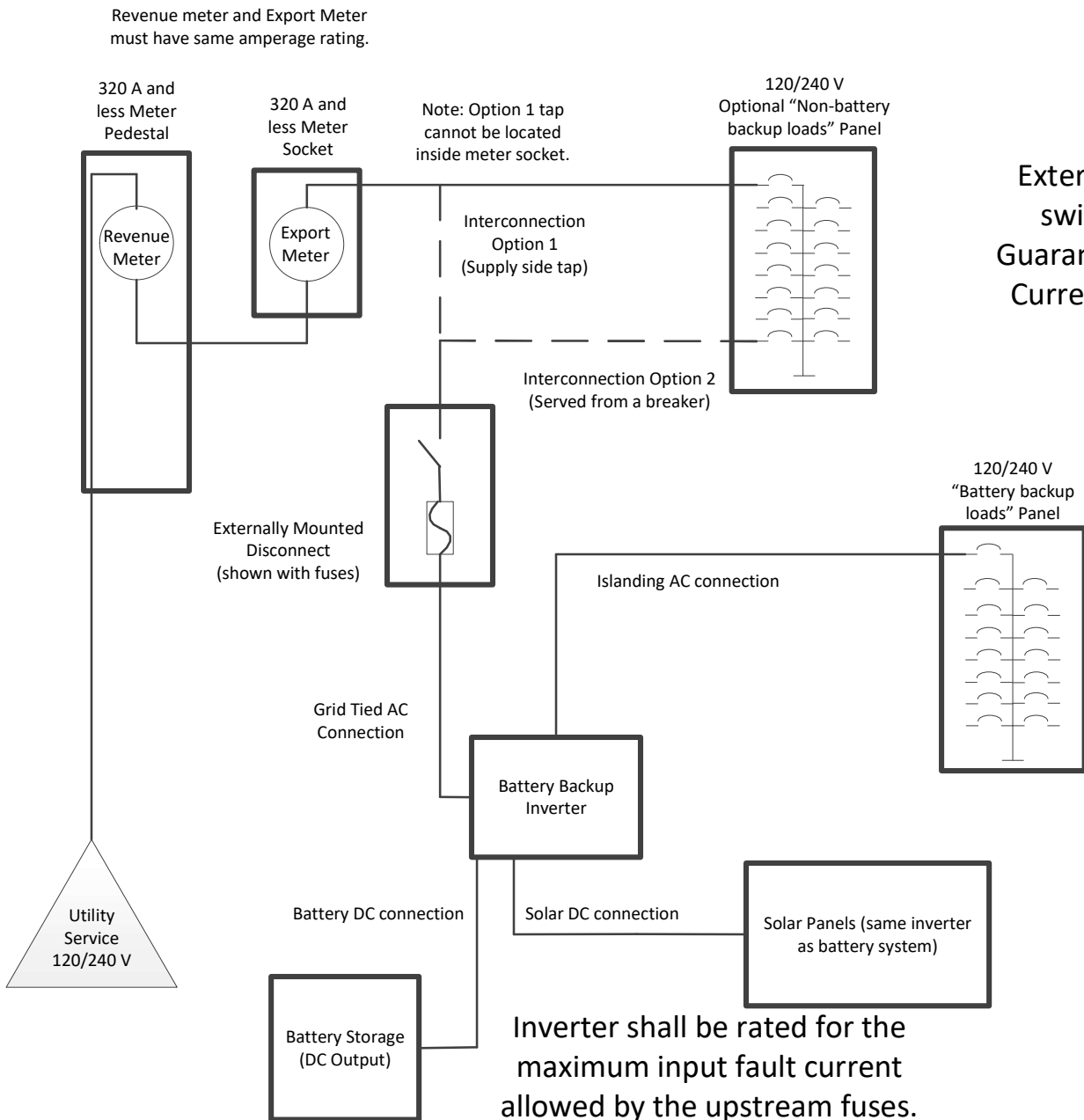
Notes:

- The inverter shall be UL 1741 compliant.
- The external disconnect shall provide a visible open between its contacts, have the ability to be locked in the open position and have 24/7 ready access for utility workers.
 - Breakers (including breakers integrated in metering equipment) and air conditioner “pull out” disconnects are not acceptable.
- If the PV Disconnect Switch is not located within sight of the Utility Meter, a placard must be placed at both the meter and disconnect switch indicating the location with respect to the other. In cases where a feeder serves generation on another building, both buildings require disconnects and placards.
- Please list the one-line diagram number (example: “U3”) that is referenced on the submitted one-line diagram.
- Example one-line diagrams show the minimum required alternating current disconnects.
- One-line diagram must meet the minimum requirements of PSC 119.10
- Single phase inverters are not allowed on three phase services.
- When an updated/new one-line is submitted for review that one-line shall take precedence over all previous one-lines and will need to comply with the current requirements.
- By installing customer owned generation the customer/installer agree to address any existing issues with metering/service equipment to meet current requirements.
- One-line diagram should be located near metering equipment and protected from the environment as a permanent placard or in a weather tight enclosure..
 - A one-line diagram shall be posted onsite for energy storage systems or systems with multiple disconnect switches.



Note: One-line diagram must show the metering equipment and disconnect catalog numbers.

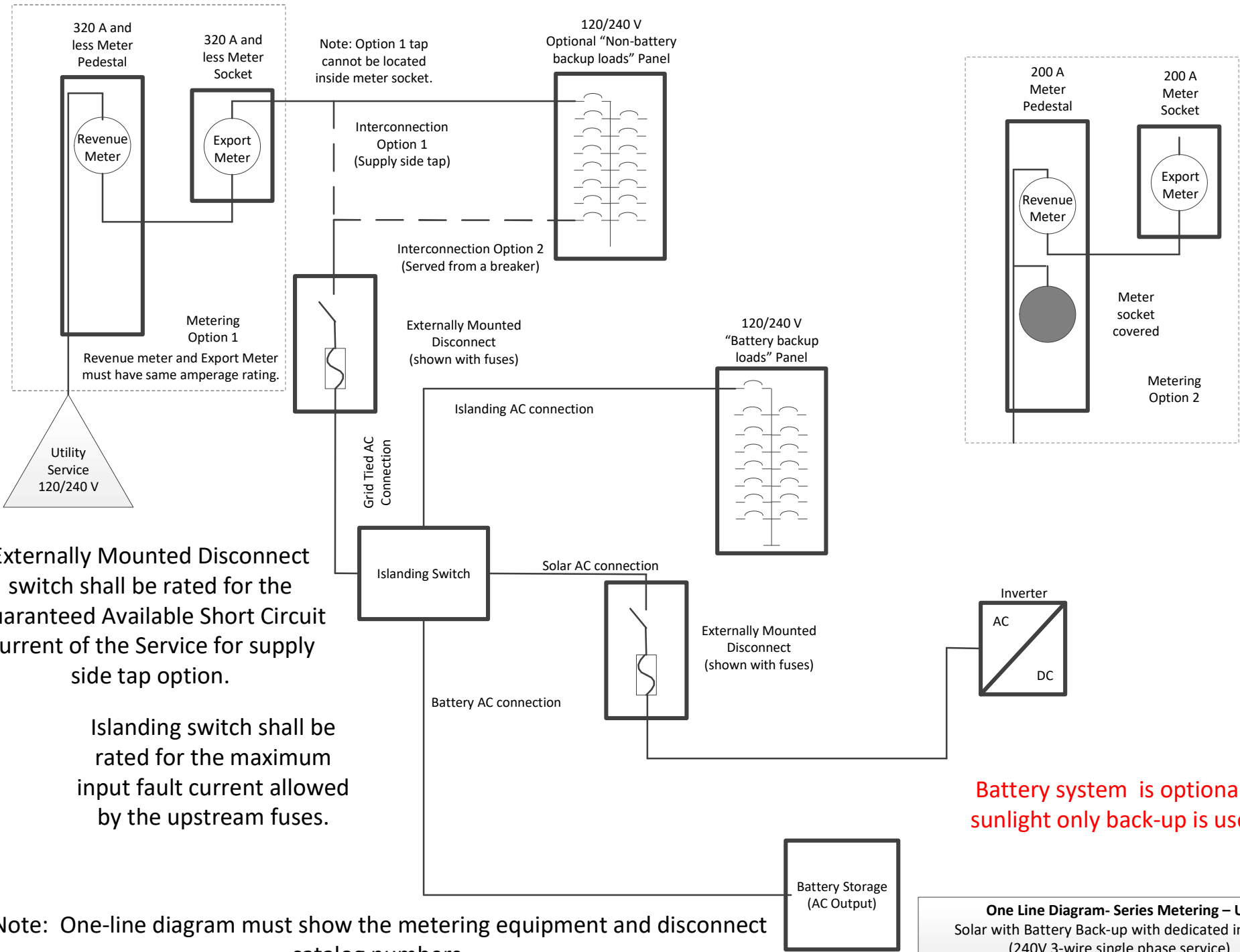
One Line Diagram – Parallel Metering – U1		
Solar with a dual position meter pedestal (200A and less, 240V 3-wire single phase service)		
Drawn: N. Bushman	Date: 5/4/2023	Page 1 of 14



Externally Mounted Disconnect switch shall be rated for the Guaranteed Available Short Circuit Current of the Service for supply side tap option.

Inverter shall be rated for the maximum input fault current allowed by the upstream fuses.

Note: One-line diagram must show the metering equipment and disconnect catalog numbers.

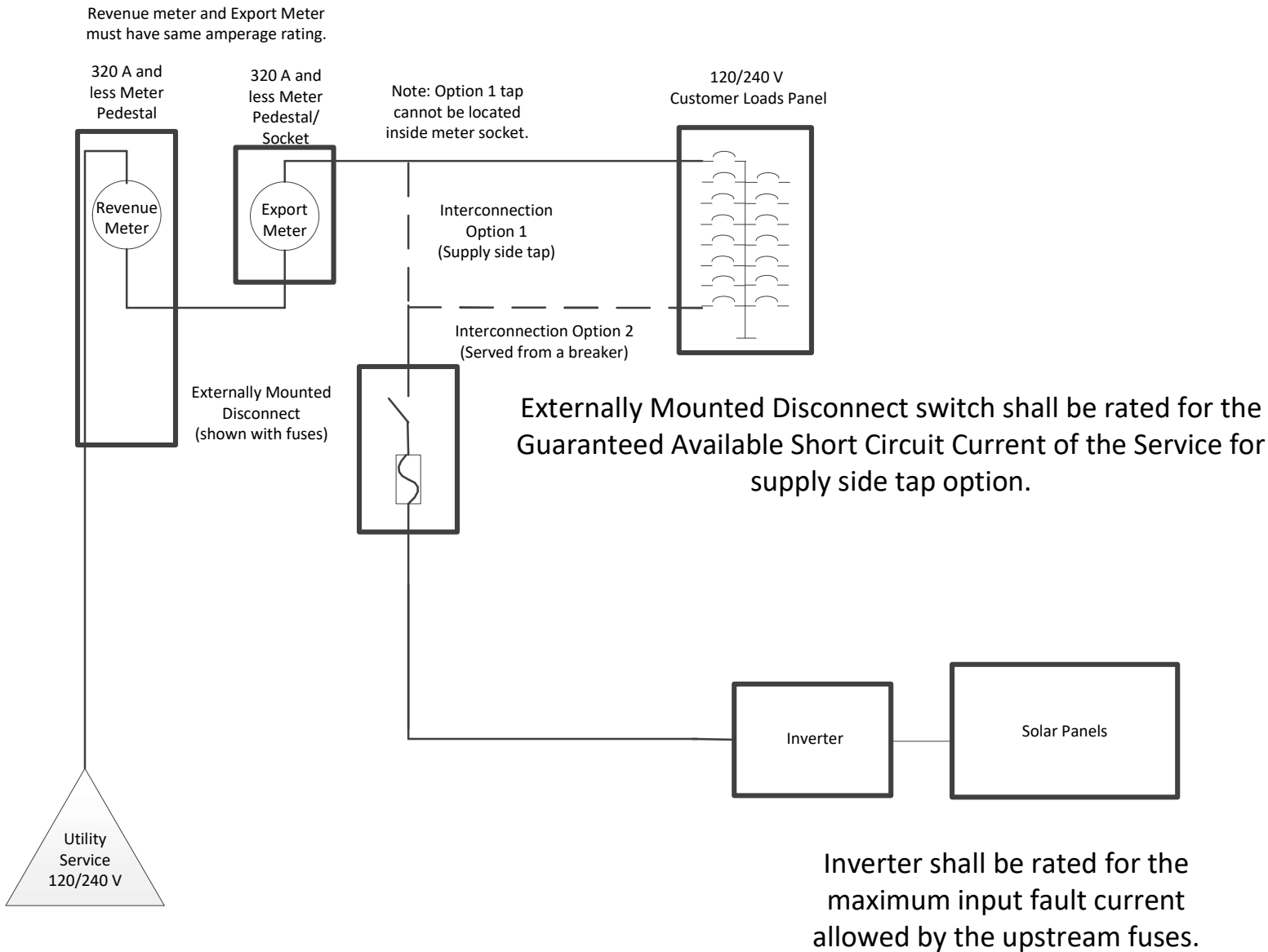


Externally Mounted Disconnect switch shall be rated for the Guaranteed Available Short Circuit Current of the Service for supply side tap option.

Islanding switch shall be rated for the maximum input fault current allowed by the upstream fuses.

Battery system is optional if sunlight only back-up is used.

Note: One-line diagram must show the metering equipment and disconnect catalog numbers.



Note: One-line diagram must show the metering equipment and disconnect catalog numbers.

One Line Diagram – Series Metering – U4
 Solar with a 320A and less meter pedestal
 (320A and less, 240V 3-wire single phase service)

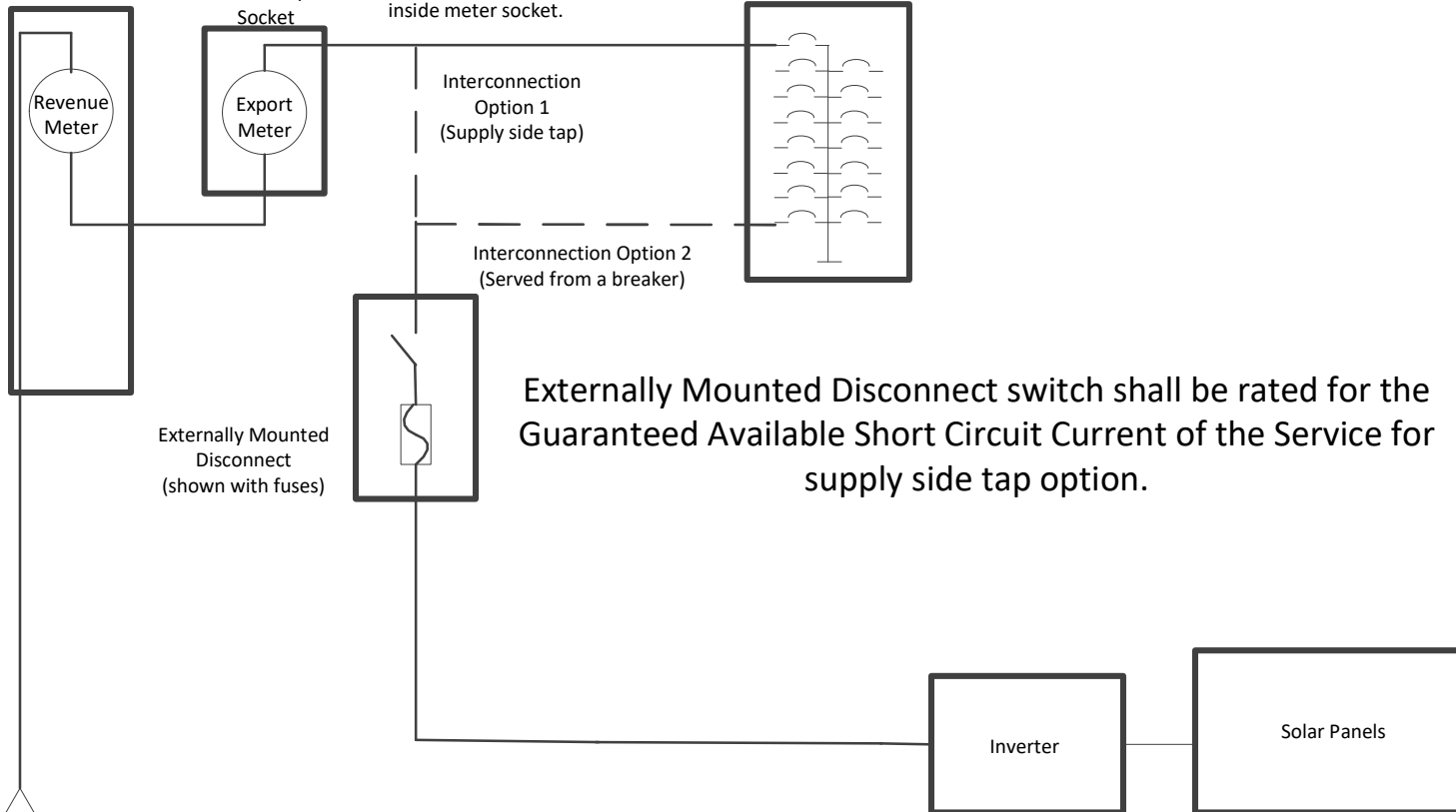
Revenue meter and Export Meter must have same amperage rating.

100/200 A Meter Pedestal

100/200 A Meter Pedestal/Socket

Note: Option 1 tap cannot be located inside meter socket.

Customer Loads Panel



Externally Mounted Disconnect switch shall be rated for the Guaranteed Available Short Circuit Current of the Service for supply side tap option.

Externally Mounted Disconnect (shown with fuses)

Interconnection Option 1 (Supply side tap)

Interconnection Option 2 (Served from a breaker)

Inverter

Solar Panels

Inverter shall be rated for the maximum input fault current allowed by the upstream fuses.

Three phase inverters are required on three phase services.

Note: One-line diagram must show the metering equipment and disconnect catalog numbers.

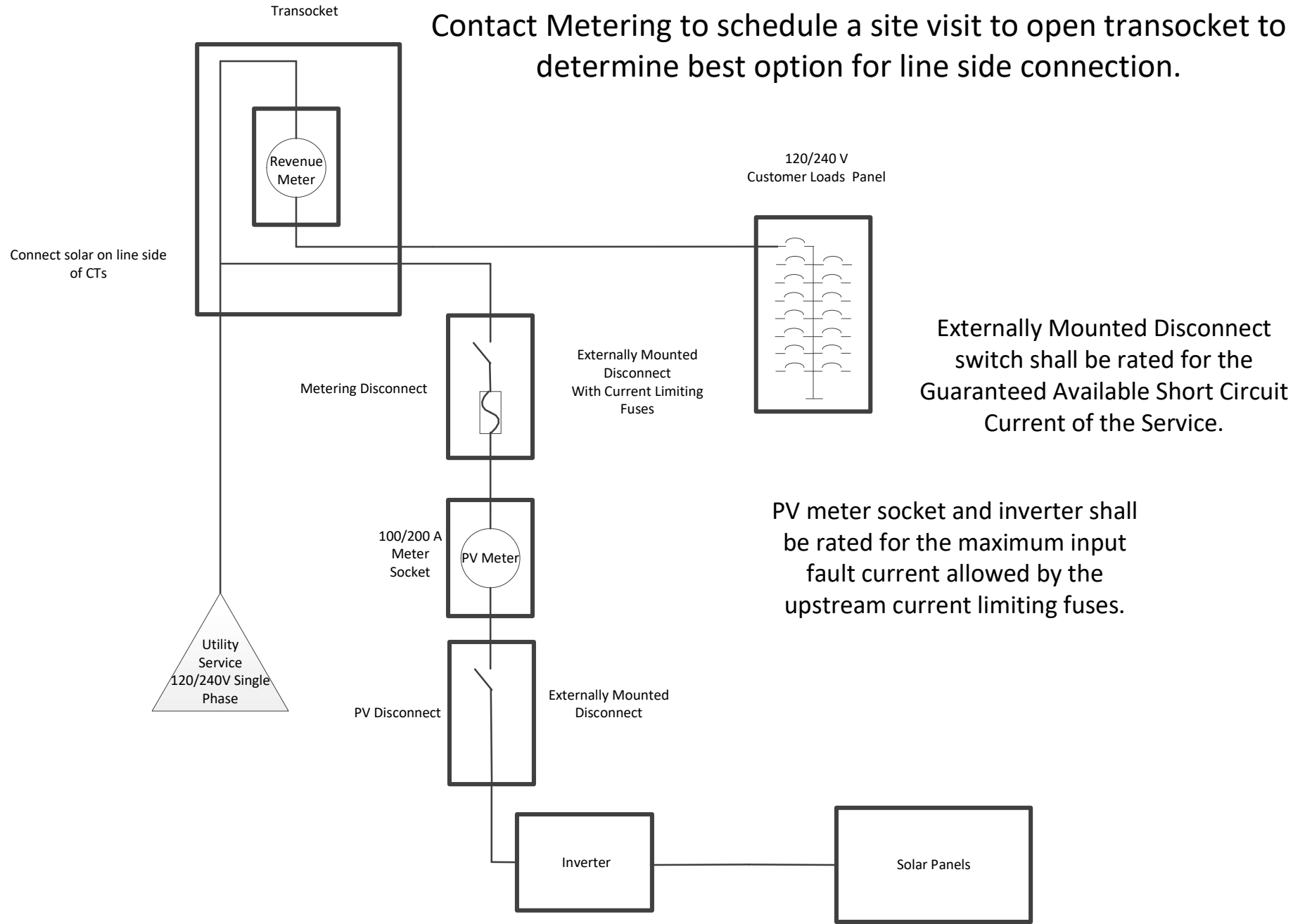
One Line Diagram – Series Metering – U5
Three phase solar
(Three phase 200A and less Service)

Drawn: N. Bushman

Date: 5/4/2023

Page 5 of 14

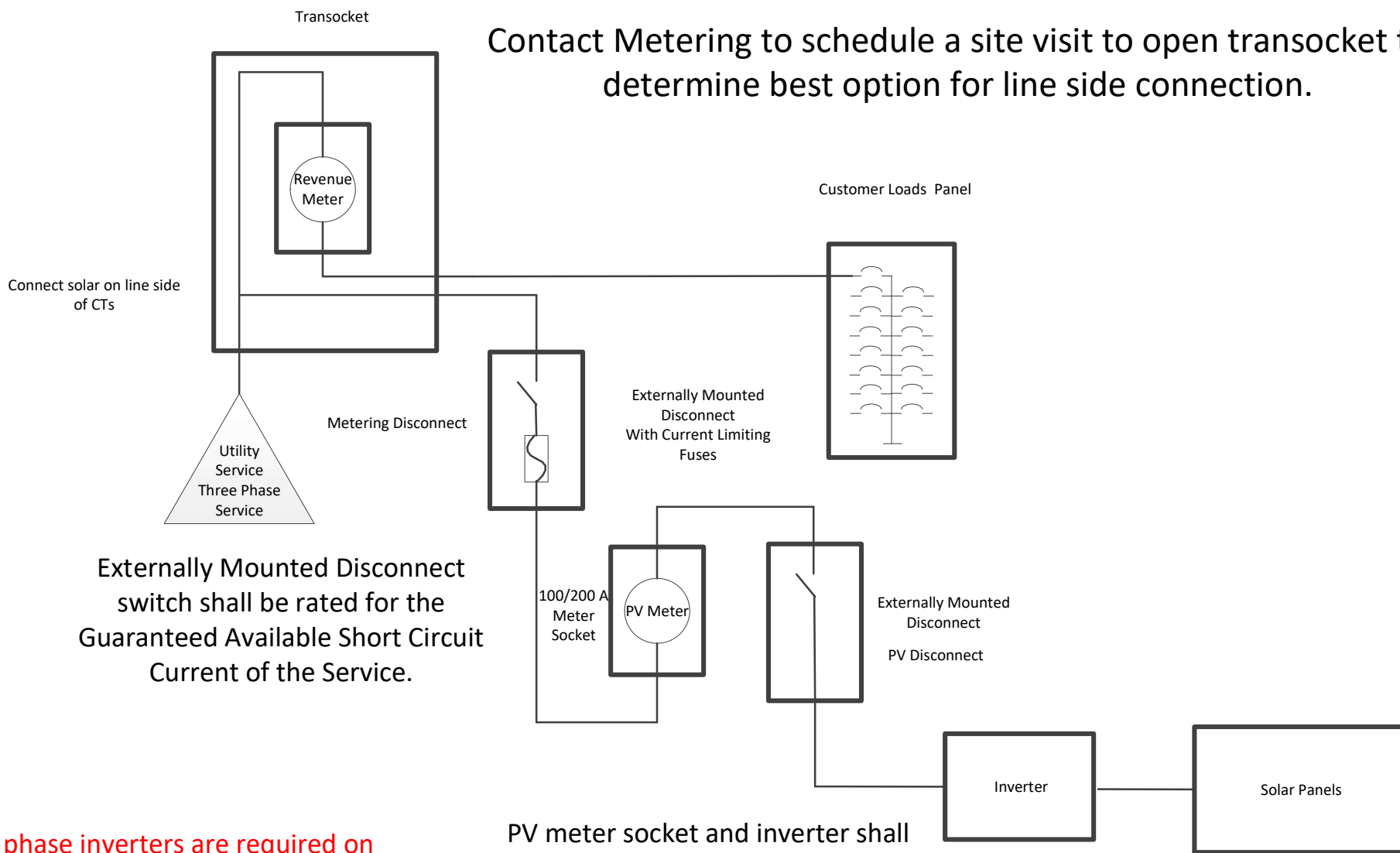
Contact Metering to schedule a site visit to open transocket to determine best option for line side connection.



Note: One-line diagram must show the metering equipment and disconnect catalog numbers.

One Line Diagram – Parallel Metering – U6		
Solar with transocket (Single Phase Service 400-800A)		
Drawn: N. Bushman	Date: 5/4/2023	Page 6 of 14

Contact Metering to schedule a site visit to open transocket to determine best option for line side connection.



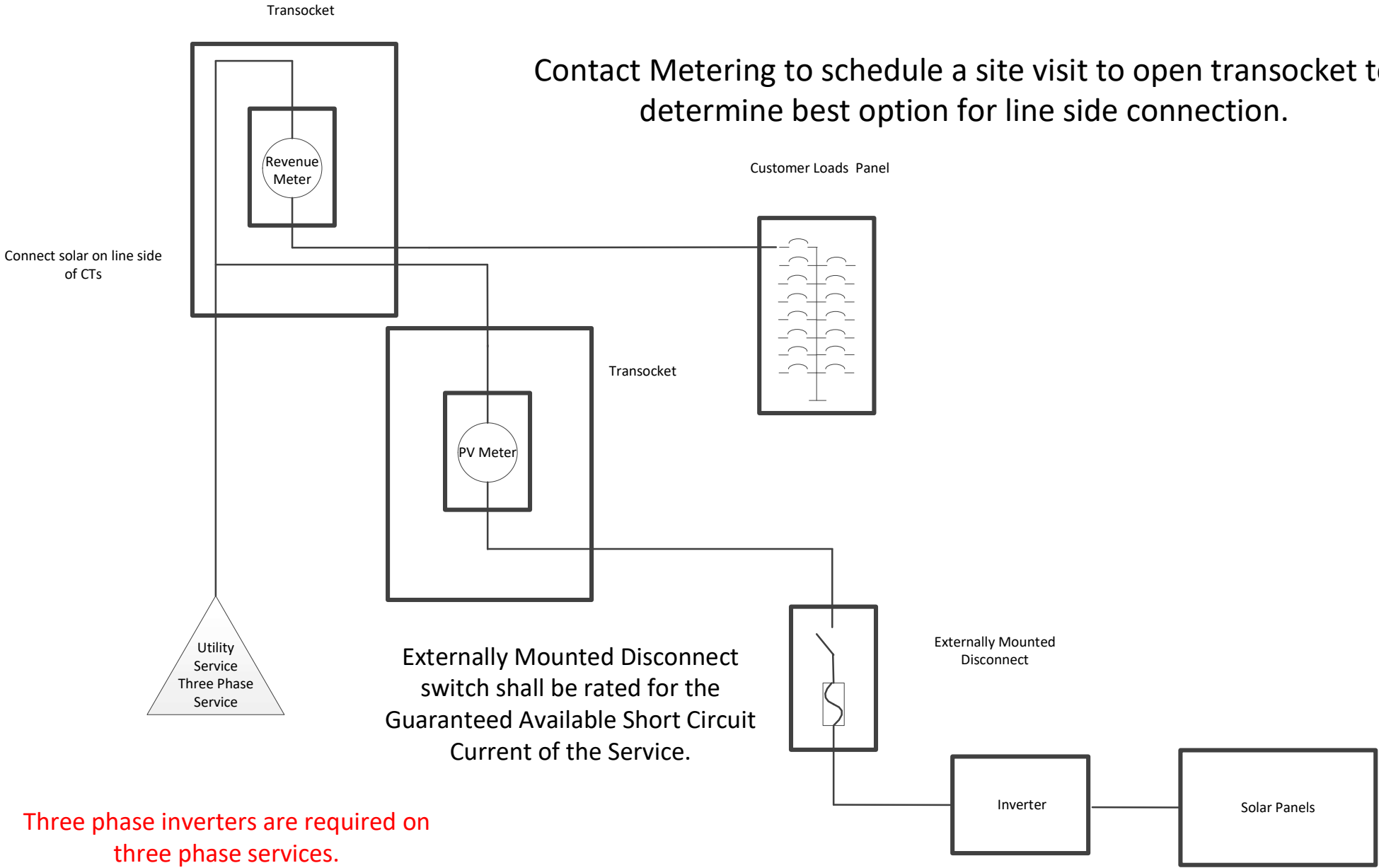
Externally Mounted Disconnect switch shall be rated for the Guaranteed Available Short Circuit Current of the Service.

PV meter socket and inverter shall be rated for the maximum input fault current allowed by the upstream current limiting fuses.

Three phase inverters are required on three phase services.

Note: One-line diagram must show the metering equipment and disconnect catalog numbers.

Contact Metering to schedule a site visit to open transocket to determine best option for line side connection.



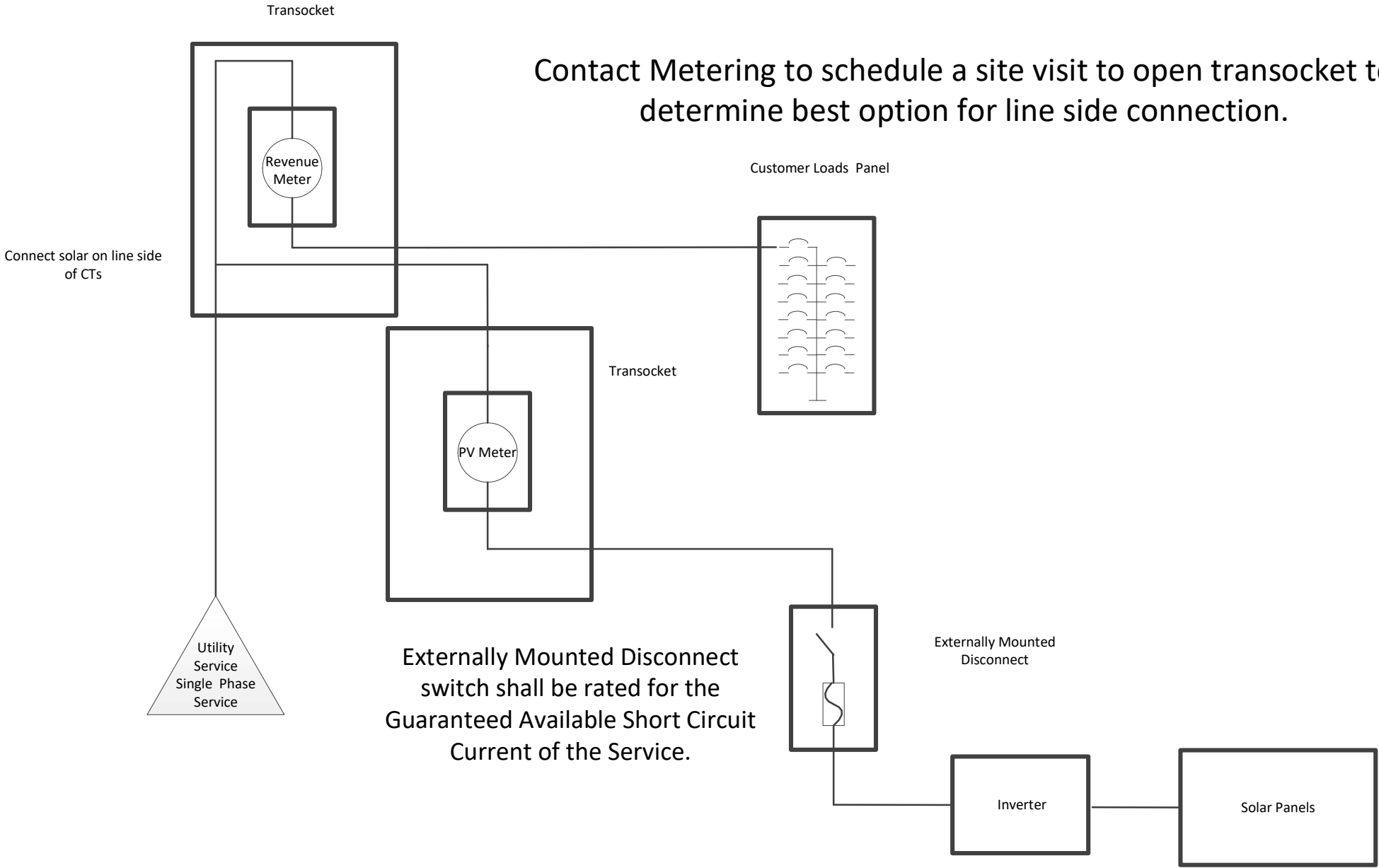
Connect solar on line side of CTs

Externally Mounted Disconnect switch shall be rated for the Guaranteed Available Short Circuit Current of the Service.

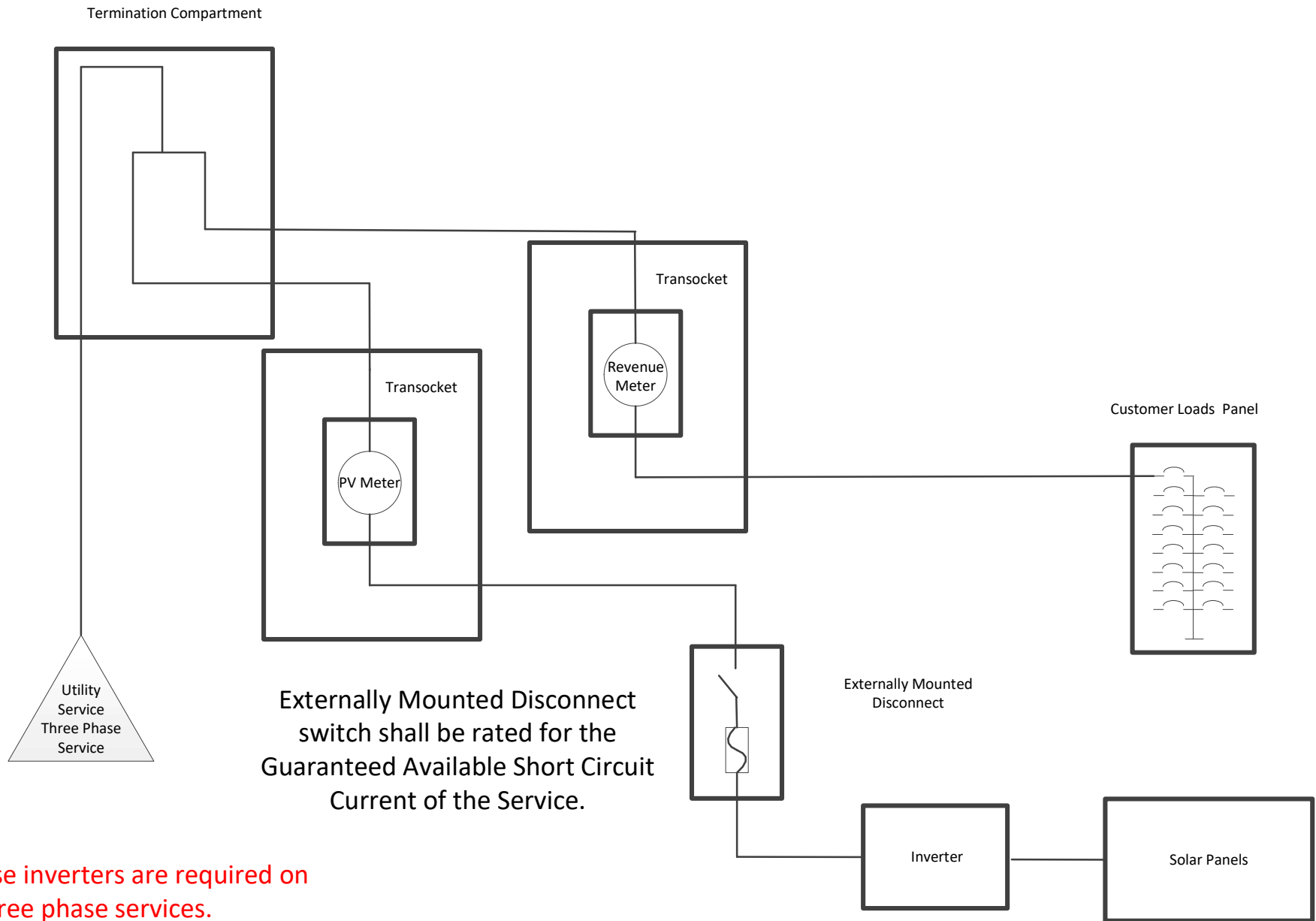
Three phase inverters are required on three phase services.

Note: One-line diagram must show the metering equipment and disconnect catalog numbers.

Contact Metering to schedule a site visit to open transocket to determine best option for line side connection.

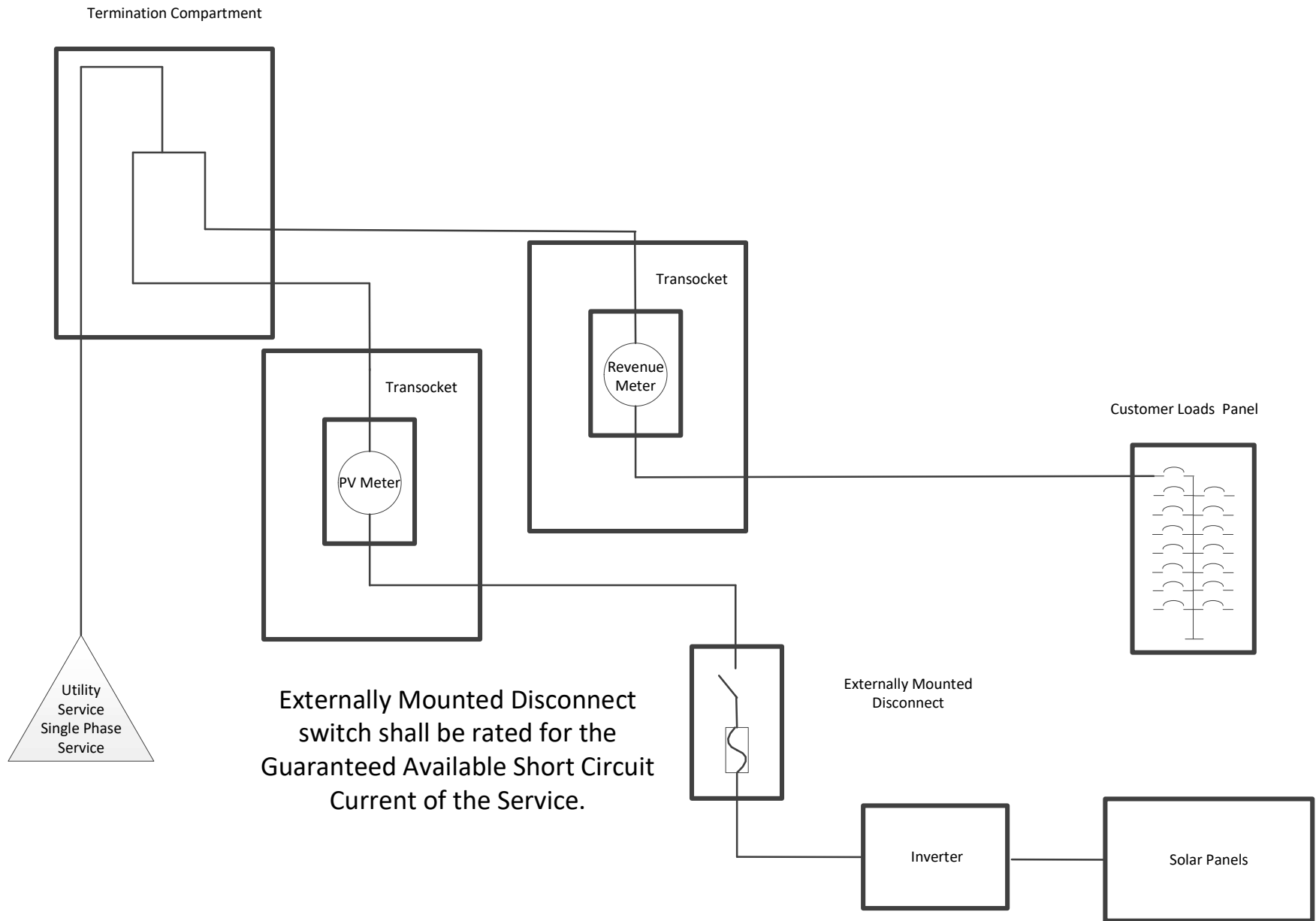


Note: One-line diagram must show the metering equipment and disconnect catalog numbers.



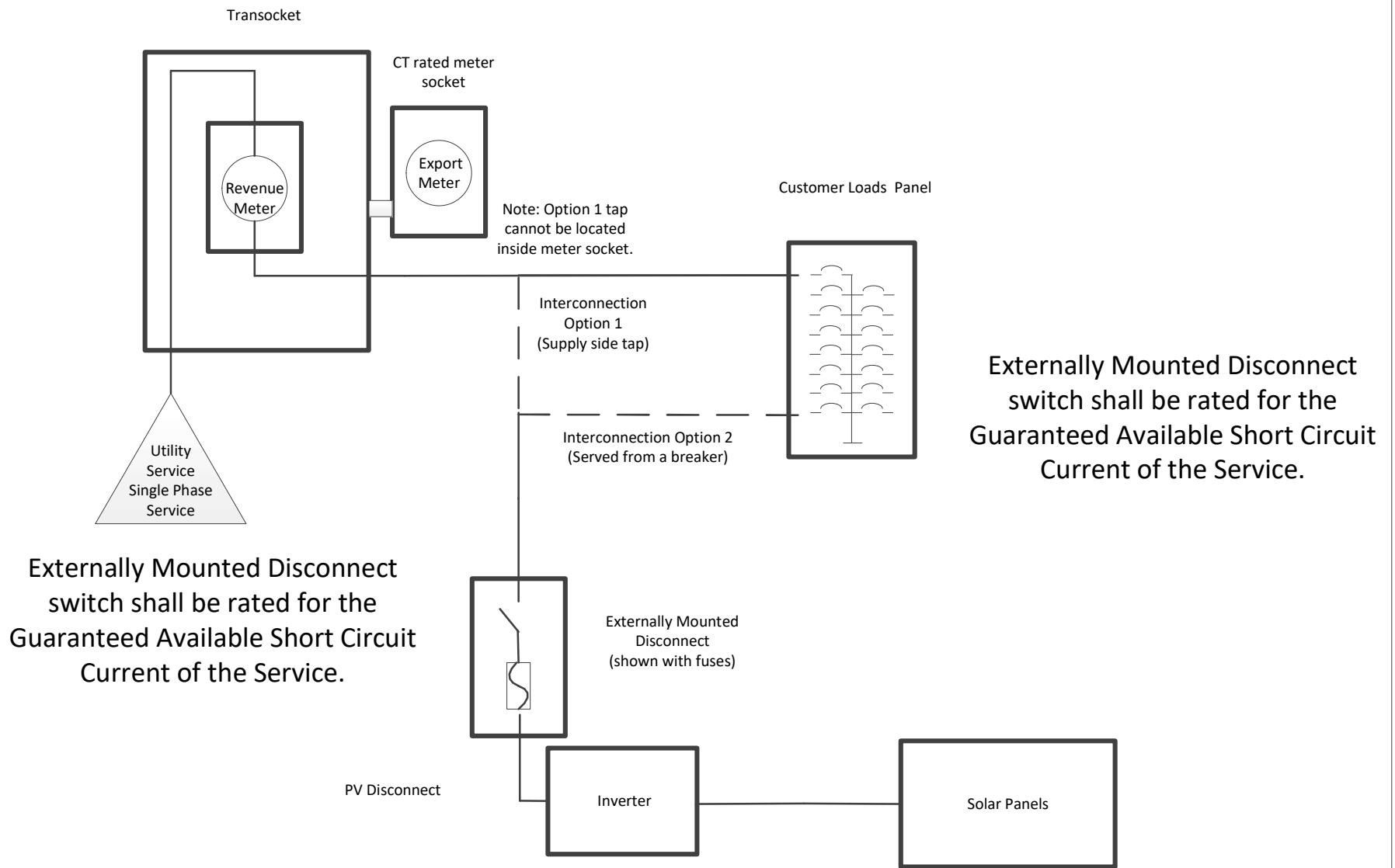
Three phase inverters are required on three phase services.

Note: One-line diagram must show the metering equipment and disconnect catalog numbers.



Externally Mounted Disconnect switch shall be rated for the Guaranteed Available Short Circuit Current of the Service.

Note: One-line diagram must show the metering equipment and disconnect catalog numbers.



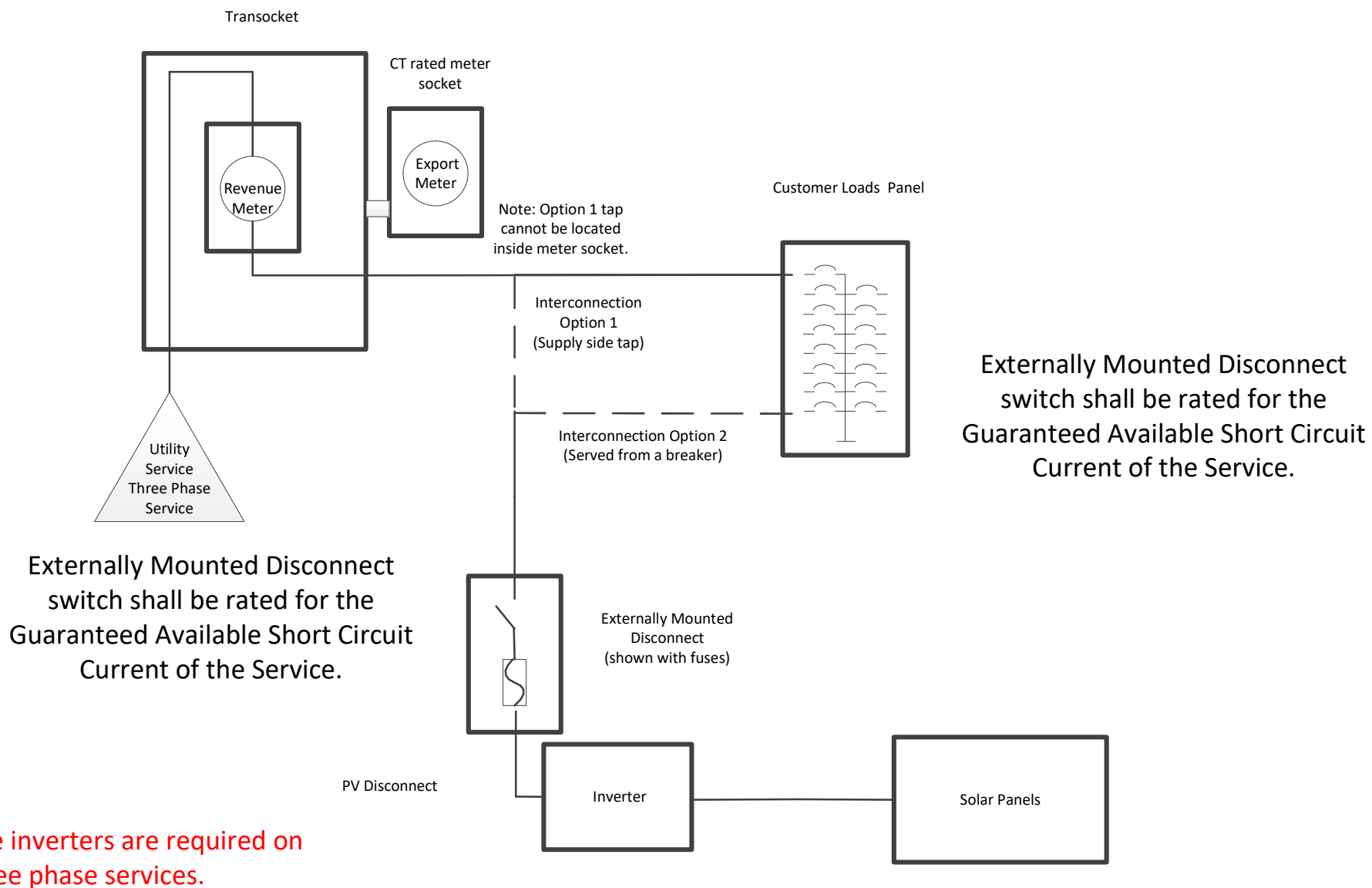
Note: One-line diagram must show the metering equipment and disconnect catalog numbers.

One Line Diagram –Series Metering – U12
 Solar with transocket
 (Single Phase Service 400-800A)

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Date: 5/4/23

Page 12 of 14



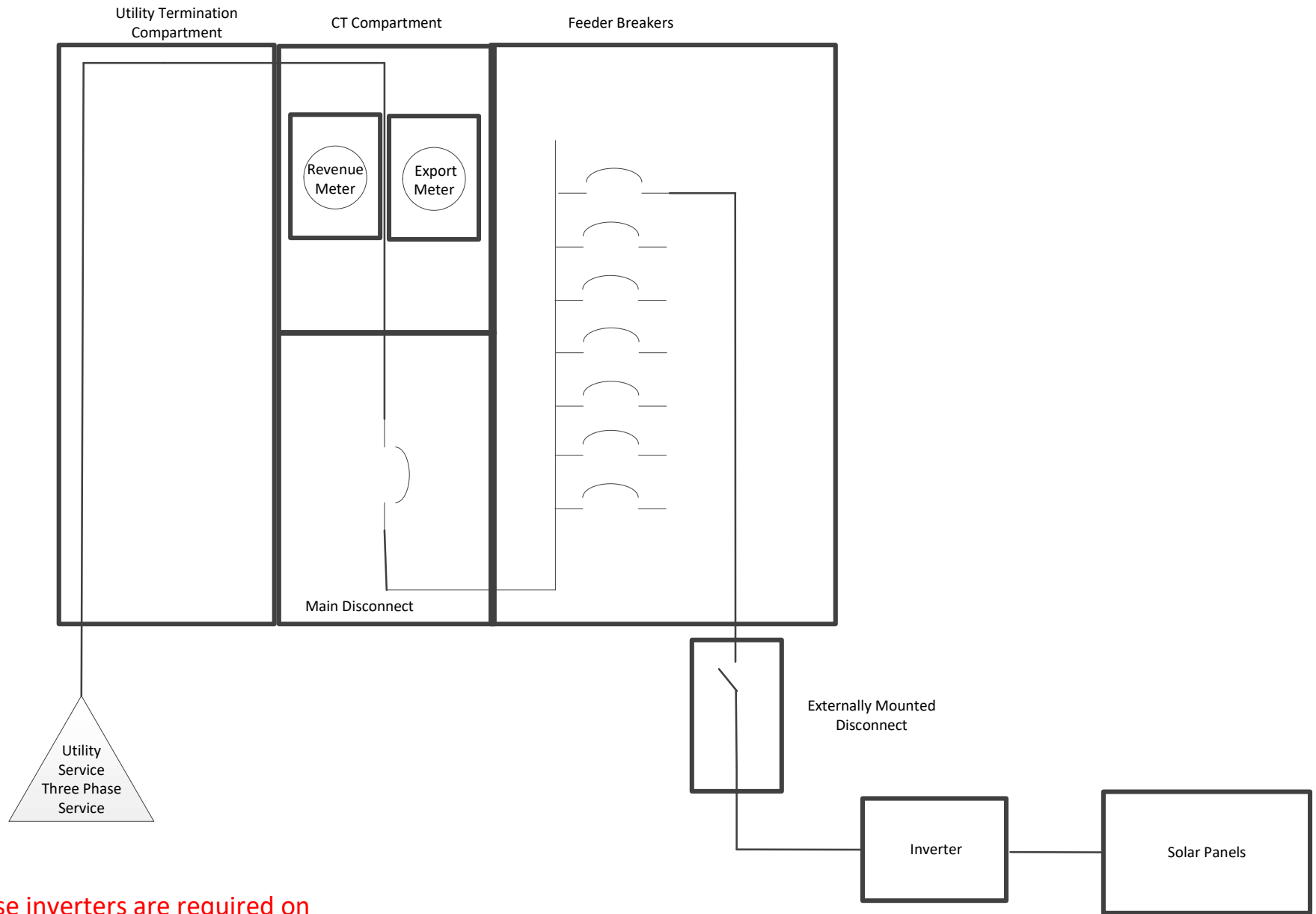
Note: One-line diagram must show the metering equipment and disconnect catalog numbers.

One Line Diagram –Series Metering – U13
 Solar with transocket
 (Three Phase Service 400-4000A)

Drawn: N. Bushman

Date: 5/4/23

Page 13 of 14



Three phase inverters are required on three phase services.

Note: One-line diagram must show the metering equipment and disconnect catalog numbers.

One Line Diagram – Series Metering – U14 Solar with switchgear. (4-wire three phase service)		
Drawn: N. Bushman	Date: 5/4/23	Page 14 of 14