Commercial Netting and Buy-All Meter Drawings

The United Illuminating Company

Overview

- **UI Engineering review and acceptance required for all commercial installations.**
- All Points of Connection (PoC) must be approved by UI Engineering.
- System size limitations exist for each wiring diagram; Engineering consultation may be required **prior** to application submittal.
- Wiring diagrams are classified based on the existing service that the distributed generation will be connecting to.
- Chart to the right from the UI Guidebook of Requirements for Electric Service outlines the type of metering required for new and existing services.
- “DG” in all drawings stands for Distributed Generation.
- UI will only meter at UI approved voltages.

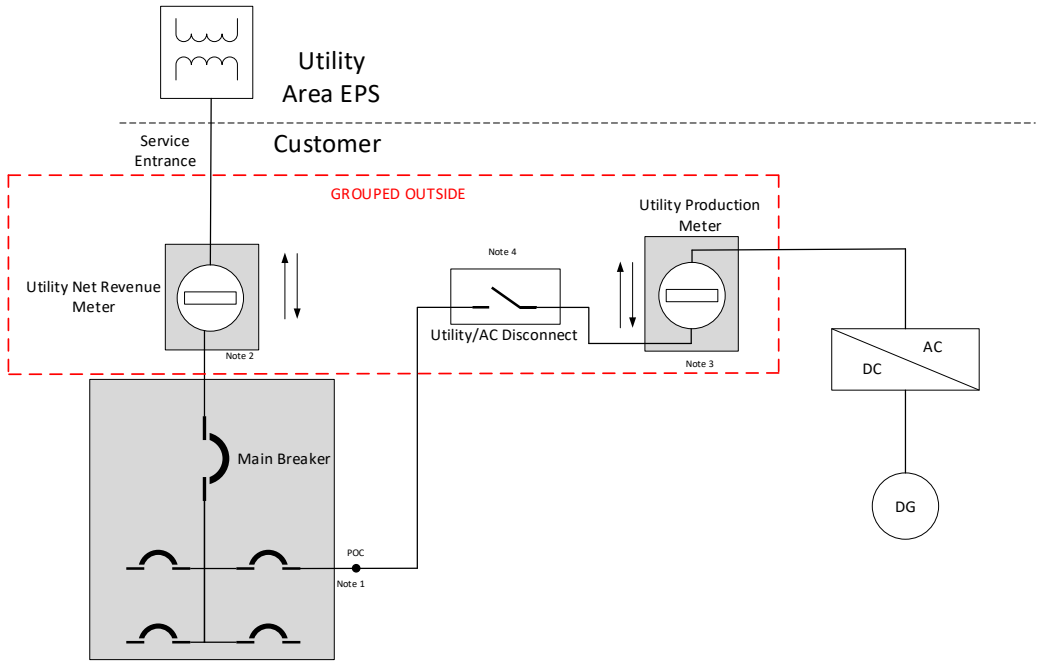
10.3 Metering Equipment

Table of available metering equipment:

Service Type	Service Voltage	# Phases	# Wires	Service Amperes	# Meter Terminals	Hot/Cold Sequence
Self-Contained Metering (320 A continuous and below)						
Residential/ Commercial	120/240	1	3	100/200/ 400	4	Hot *
Residential/ Commercial	120/208	1	3	100 / 200	5	Hot
Commercial Network	120/208	1	3	100 / 200	5	Cold
Commercial	277/480	1	3	100 / 400	5	Cold
Commercial	120/208	3	4	200 / 400	7	Hot *
Commercial Network	120/208	3	4	200 / 400	7	Cold
Commercial	277/480	3	4	200 / 400	7	Cold
Transformer-Rated Metering						
Residential	120/240	1	3	Above 400	6	Cold
Commercial	120/208	1	3	Above 400	8	Cold
Commercial Network	277/480	3	4	Above 400	13	Cold
Commercial	120/208 277/480	3	4	Above 400	13	Cold
Fire Pump	120/208 277/480	3	4	Any	13	Cold

HOT SEQUENCE: METER-SWITCH-FUSE
COLD SEQUENCE: SWITCH-FUSE-METER
* CLASS 320 METERS USED IN MULTI-METER BANKS MUST BE COLD SEQUENCE

Netting Tariff: Self Contained Hot Sequence



Actual installation may vary based on NEC and town inspector requirements.
UI will install the production meter and revenue meter with Advanced Meter Infrastructure (AMI) meters.

Note 1

- All interconnection points for the netting tariff are required to be placed behind the utility meter.
- >>> No connections are to be made within the revenue meter socket or in utility instrument transformer compartment. <<<

Note 2

- For utility meters located inside customer's facility, the interconnecting customer will be required to upgrade and have the meter relocated outside the customers facility near both the production meter and the utility disconnect switch.

Note 3

- **Production meter socket is required to be wired top (line) side inverter, bottom (load) side utility.**
- The utility AC emergency disconnect switch is required to be located on the ground level within vicinity of the utility revenue meter where our utility personnel will have 24 / 7 access to it.
- Socket for production meter follows the same guidelines as revenue meter per the UI Guidebook of Requirements for Electric Service. Socket must have a lever bypass. Line and load conductors for the production meter cannot be in the same raceway (i.e. trough). If neutral isolation is required by the local inspector, then a neutral isolation kit from the same manufacturer of the socket must be used. Splices are not allowed.

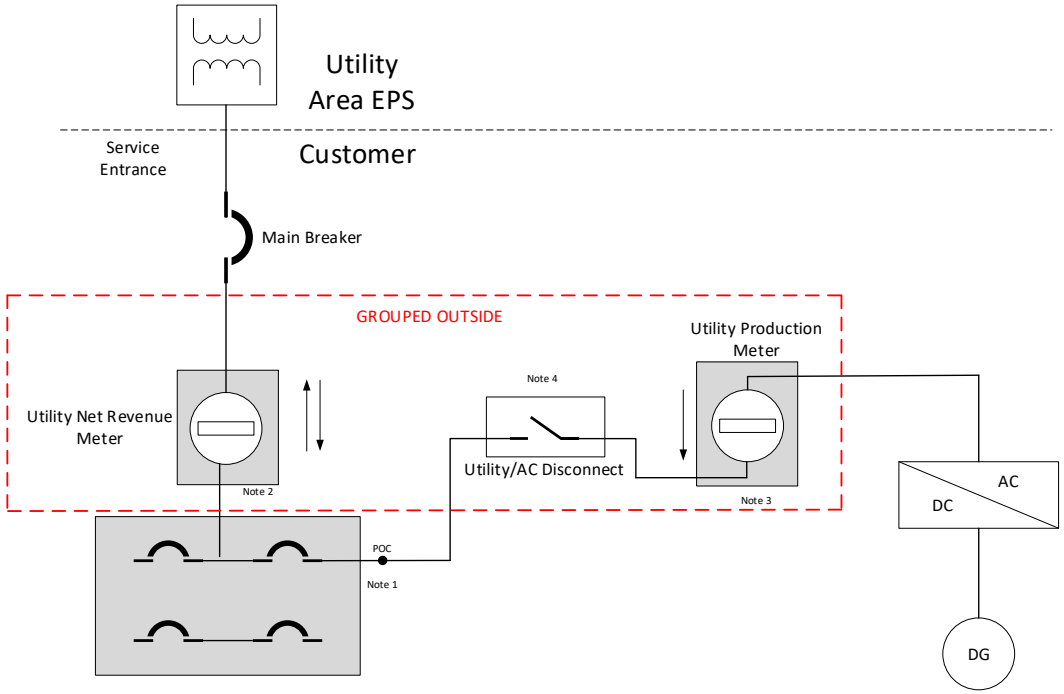
Note 4

- The utility AC emergency disconnect switch is required to be located utility side (ahead) of the Production Meter where utility personnel will be able to isolate the metering circuit.

Special Notes:

- System size may not exceed 2.0 MW; UI Engineering consultation required **prior** to application submittal if proceeding with 2.0 MW or greater.
- All meters and switches are required to be grouped unless interconnection contractor requests and is granted a written variance.

Netting Tariff: Self-Contained Cold Sequence



Actual installation may vary based on NEC and town inspector requirements. UI will install the production meter and revenue meter with Advanced Meter Infrastructure (AMI) meters.

Note 1

- All interconnection points for the netting tariff are required to be placed behind the utility meter.
- >>> No connections are to be made within the revenue meter socket or in utility instrument transformer compartment. <<<

Note 2

- For utility meters located inside customer's facility, the interconnecting customer will be required to upgrade and have the meter relocated outside the customers facility near both the production meter and the utility disconnect switch.

Note 3

- **Production meter socket is required to be wired top (line) side inverter, bottom (load) side utility.**
- The utility AC emergency disconnect switch is required to be located on the ground level within vicinity of the utility revenue meter where our utility personnel will have 24 / 7 access to it.
- Socket for production meter follows the same guidelines as revenue meter per the UI Guidebook of Requirements for Electric Service. Socket must have a lever bypass. Line and load conductors for the production meter cannot be in the same raceway (i.e. trough). If neutral isolation is required by the local inspector, then a neutral isolation kit from the same manufacturer of the socket must be used. Splices are not allowed.

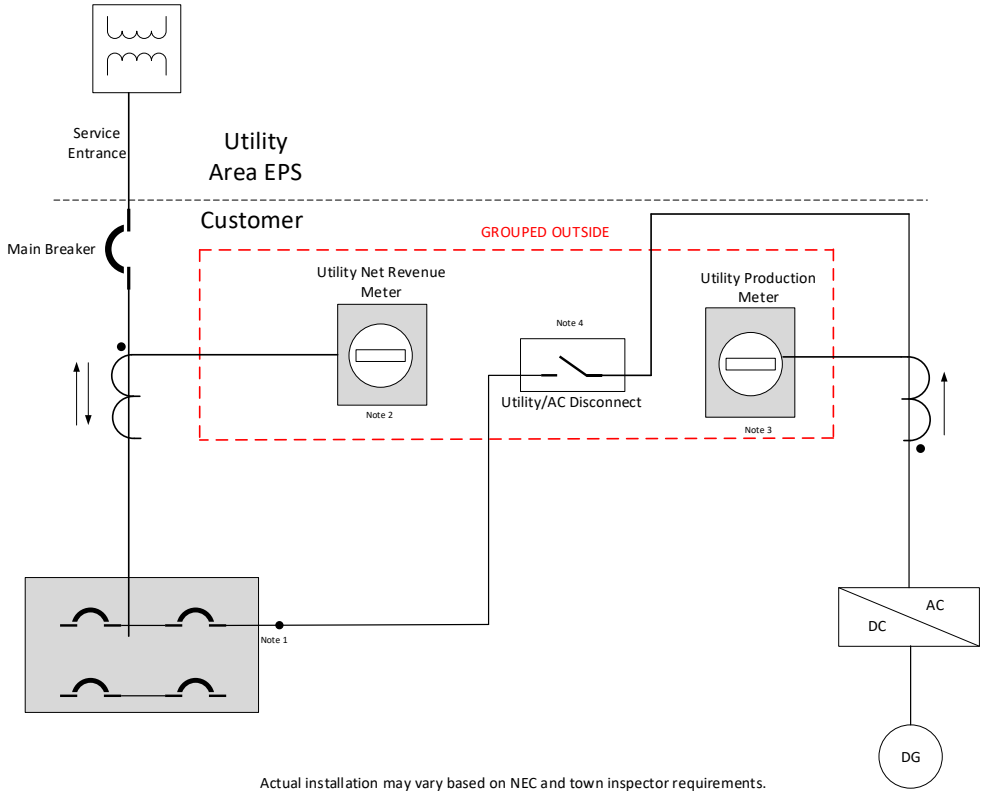
Note 4

- The utility AC emergency disconnect switch is required to be located utility side (ahead) of the Production Meter where utility personnel will be able to isolate the metering circuit.

Special Notes:

- System size may not exceed 2.0 MW; UI Engineering consultation required **prior** to application submittal if proceeding with 2.0 MW or greater.
- All meters and switches are required to be grouped unless interconnection contractor requests and is granted a written variance.

Netting Tariff: Transformer Rated



Actual installation may vary based on NEC and town inspector requirements. UI will install the production meter and revenue meter with Advanced Meter Infrastructure (AMI) meters.

Note 1

- All interconnection points for the netting tariff are required to be placed behind the utility meter.
- >>> No connections are to be made within the revenue meter socket or in utility instrument transformer compartment. <<<

Note 2

- For utility meters located inside customer's facility, the interconnecting customer will be required to upgrade and have the meter relocated outside the customers facility near both the production meter and the utility disconnect switch.

Note 3

- **Production meter CT cabinet must be labelled with LINE facing the generation.**
- The utility AC emergency disconnect switch is required to be located on the ground level within vicinity of the utility revenue meter where our utility personnel will have 24 / 7 access to it.
- Socket for production meter follows the same guidelines as revenue meter per the UI Guidebook of Requirements for Electric Service. Socket must have a lever bypass. Line and load conductors for the production meter cannot be in the same raceway (i.e. trough). If neutral isolation is required by the local inspector, then a neutral isolation kit from the same manufacturer of the socket must be used. Splices are not allowed.

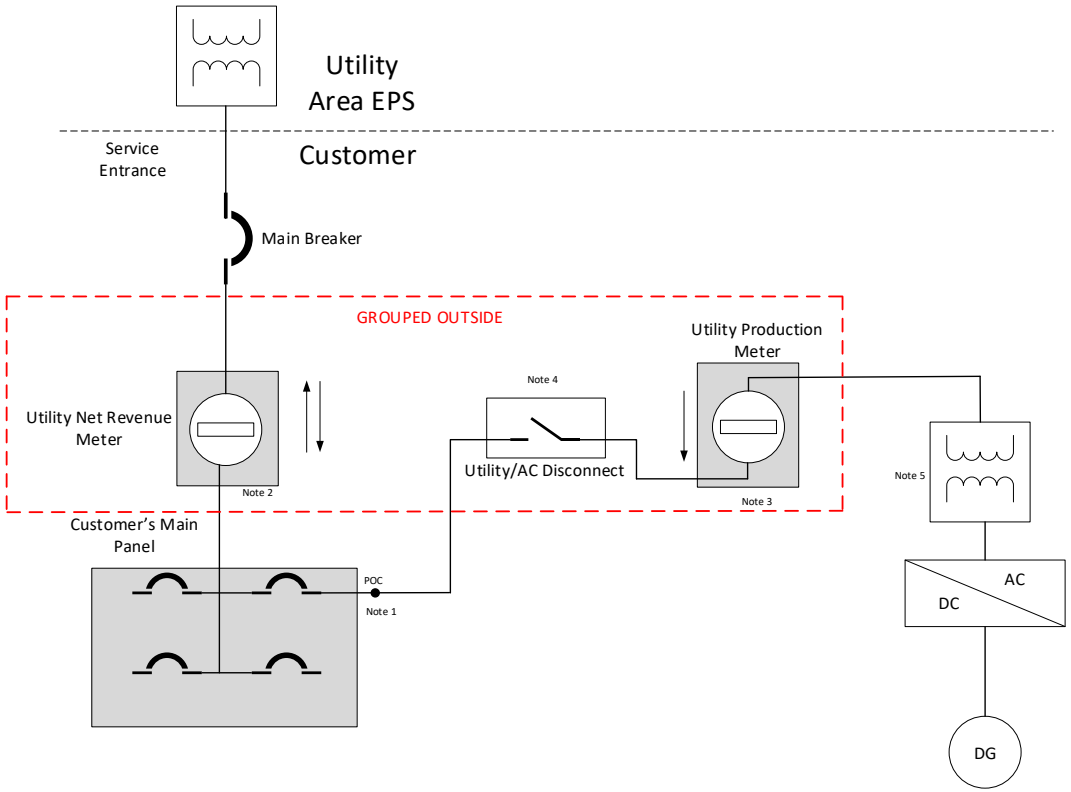
Note 4

- The utility AC emergency disconnect switch is required to be located ahead of the Production Meter where utility personnel will be able to isolate the metering circuit.

Special Notes:

- System size may not exceed 2.0 MW; UI Engineering consultation required **prior** to application submittal if proceeding with 2.0 MW or greater.
- All meters and switches are required to be grouped unless interconnection contractor requests and is granted a written variance.

Netting Tariff with Customer Owned Transformer



Actual installation may vary based on NEC and town inspector requirements. UI will install the production meter and revenue meter with Advanced Meter Infrastructure (AMI) meters.

Note 1

- All interconnection points for the netting tariff are required to be placed behind the utility meter.
- >>> No connections are to be made within the revenue meter socket or in utility instrument transformer compartment. <<<

Note 2

- For utility meters located inside customers facility, the interconnecting customer will be required to upgrade and have the meter relocated outside the customers facility near both the production meter and the utility disconnect switch.

Note 3

- **Production meter socket is required to be wired top (line) side inverter, bottom (load) side utility.**
- The utility AC emergency disconnect switch is required to be located on the ground level within vicinity of the utility revenue meter where our utility personnel will have 24 / 7 access to it.
- Socket for production meter follows the same guidelines as revenue meter per the UI Guidebook of Requirements for Electric Service. Socket must have a lever bypass. Line and load conductors for the production meter cannot be in the same raceway (i.e. trough). If neutral isolation is required by the local inspector, then a neutral isolation kit from the same manufacturer of the socket must be used. Splices are not allowed.
- Production meter should be installed at the same voltage as the service voltage.

Note 4

- The utility AC emergency disconnect switch is required to be located ahead of the Production Meter where utility personnel will be able to isolate the metering circuit.

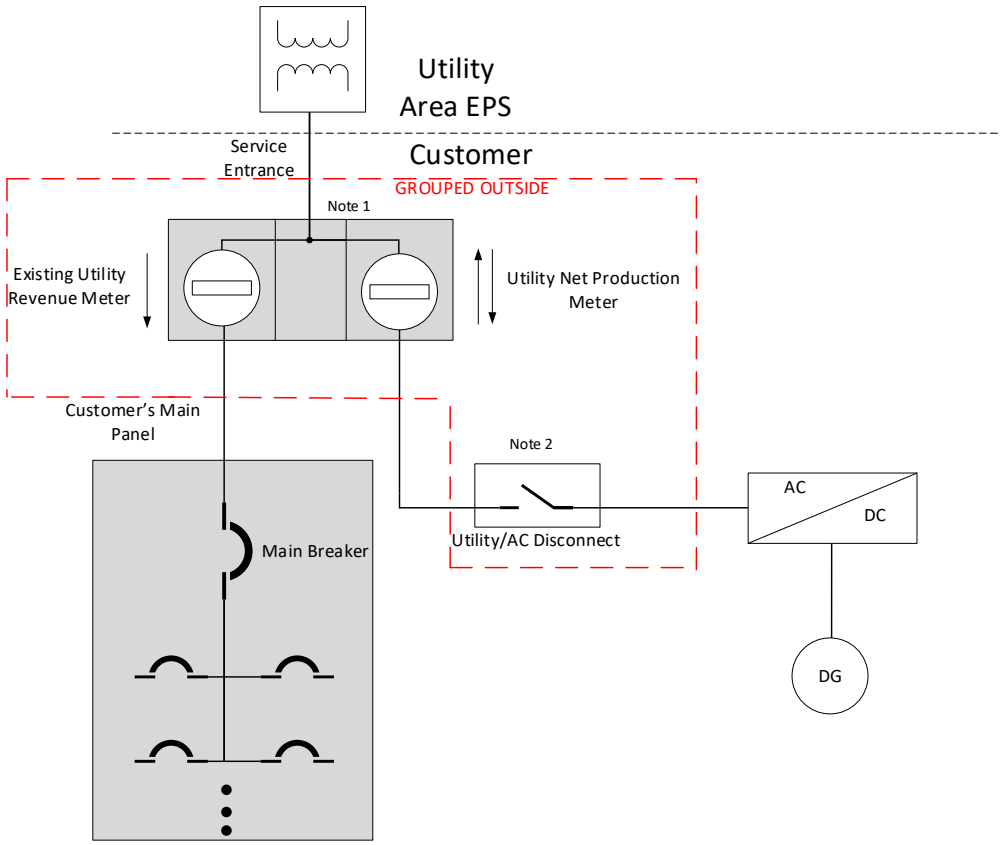
Note 5

- Configuration of customer owned transformer for DG must be approved by UI engineering. UI will not allow an ungrounded Y configuration on the utility side of the of customer owned transformer.

Special Notes:

- System size may not exceed 2.0 MW; UI Engineering consultation required **prior** to application submittal if proceeding with 2.0 MW or greater.
- All meters and switches are required to be grouped unless interconnection contractor requests and is granted a written variance.

Buy-All: Self-Contained Hot-Sequence



Actual installation may vary based NEC and town inspector requirements. UI will install the production meter and revenue meter with Advanced Meter Infrastructure (AMI) meters.

Note 1

- **PoC (Point of Connection) must be approved by UI engineering.**
- For Utility meters located inside customer's facility, the interconnecting customer will be required to upgrade and have the meter(s) relocated outside the customers facility near both the net production meter and the utility disconnect switch.
- Utility net production meter socket must follow the same guidelines as a typical revenue meter per the UI Guidebook of Requirements for Electric Service.
- Additional meter must be on the same building as the utility revenue meter.
- Service increase may be required to accommodate for the addition of an extra meter. (i.e. 100A service may need to increase to 200A)

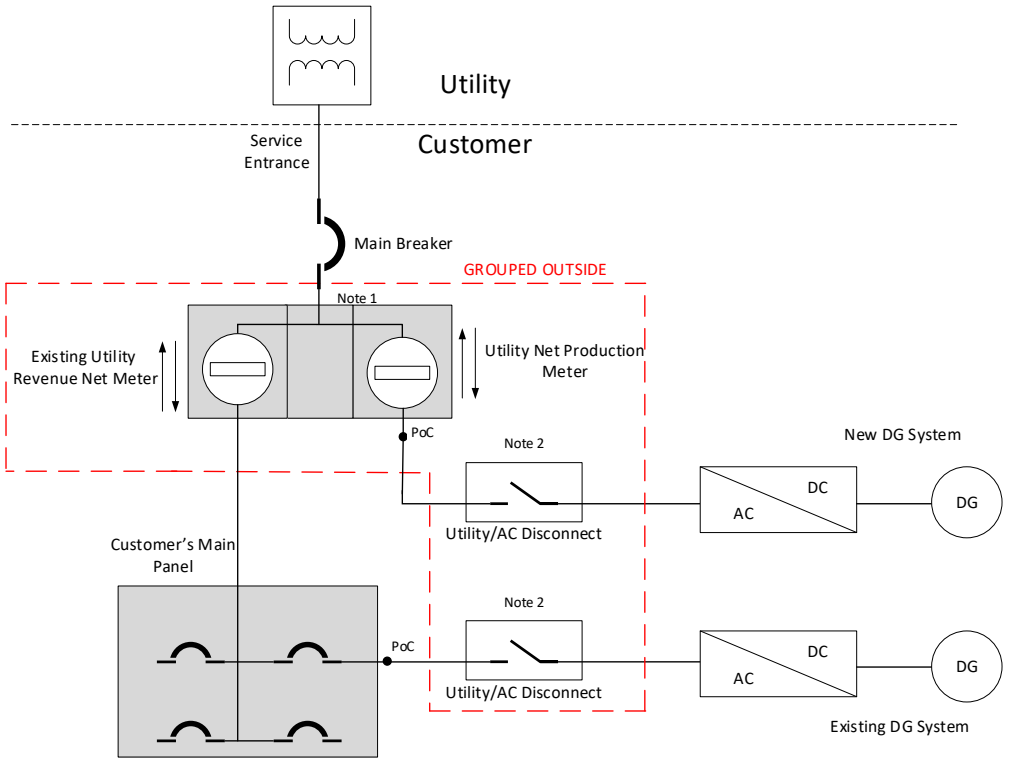
Note 2

- The utility AC emergency disconnect switch is required to be located on the ground level within vicinity of the utility revenue meter where our utility personnel will have 24 / 7 access to it.

Special Notes:

- System size may not exceed 2.0 MW; UI Engineering consultation required **prior** to application submittal if proceeding with 2.0 MW or greater.
- All meters and switches are required to be grouped unless interconnection contractor requests and is granted a written variance.

Buy-All w/Existing PV: Self-contained Cold-Sequence



Actual installation may vary based on NEC and town inspector requirements.
UI will install the production meter and revenue meter with Advanced Meter Infrastructure (AMI) meters.

Note 1

- **PoC (Point of Connection) must be approved by UI engineering.**
- For Utility meters located inside customer's facility, the interconnecting customer will be required to upgrade and have the meter(s) relocated outside the customers facility near both the net production meter and the utility disconnect switch.
- Utility net production meter socket must follow the same guidelines as a typical revenue meter per the UI Guidebook of Requirements for Electric Service.
- Additional meter must be on the same building as the utility revenue meter.
- Service increase may be required to accommodate for the addition of an extra meter. (i.e. 100A service may need to increase to 200A)
- Class 320 meter sockets used in multi-meter banks must be cold sequence.

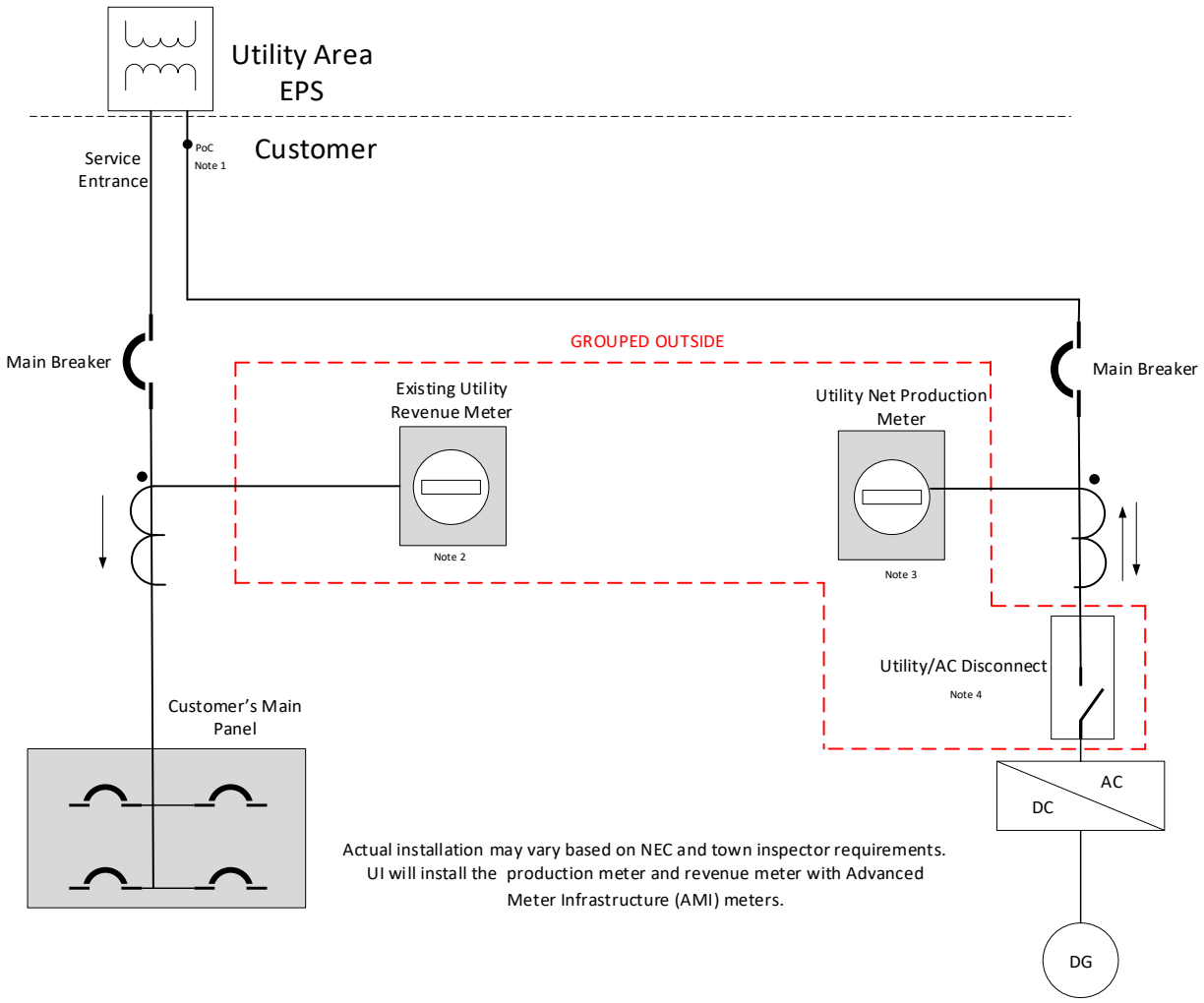
Note 2

- The utility AC emergency disconnect switch is required to be located on the ground level within vicinity of the utility revenue meter where our utility personnel will have 24 / 7 access to it.

Special Notes:

- System size may not exceed 2.0 MW; UI Engineering consultation required **prior** to application submittal if proceeding with 2.0 MW or greater.
- All meters and switches are required to be grouped unless interconnection contractor requests and is granted a written variance.

Buy-All: Transformer rated – Option 1



Note 1

- **Point of Connection (PoC) for the buy all tariff must be reviewed by UI engineering prior to installation.**
- >>> No connections are to be made within the revenue meter socket or in utility instrument transformer compartment. <<<

Note 2

- For utility meters located inside customer's facility, the interconnecting customer will be required to upgrade and have the meter relocated outside the customers facility near both the production meter and the utility disconnect switch.

Note 3

- **Production meter CT cabinet must be labelled with LINE facing the Utility.**
- The utility AC emergency disconnect switch is required to be located on the ground level within vicinity of the utility revenue meter where our utility personnel will have 24 / 7 access to it.
- CT cabinet for production meter follows the same guidelines as revenue meter per the UI Guidebook of Requirements for Electric Service.

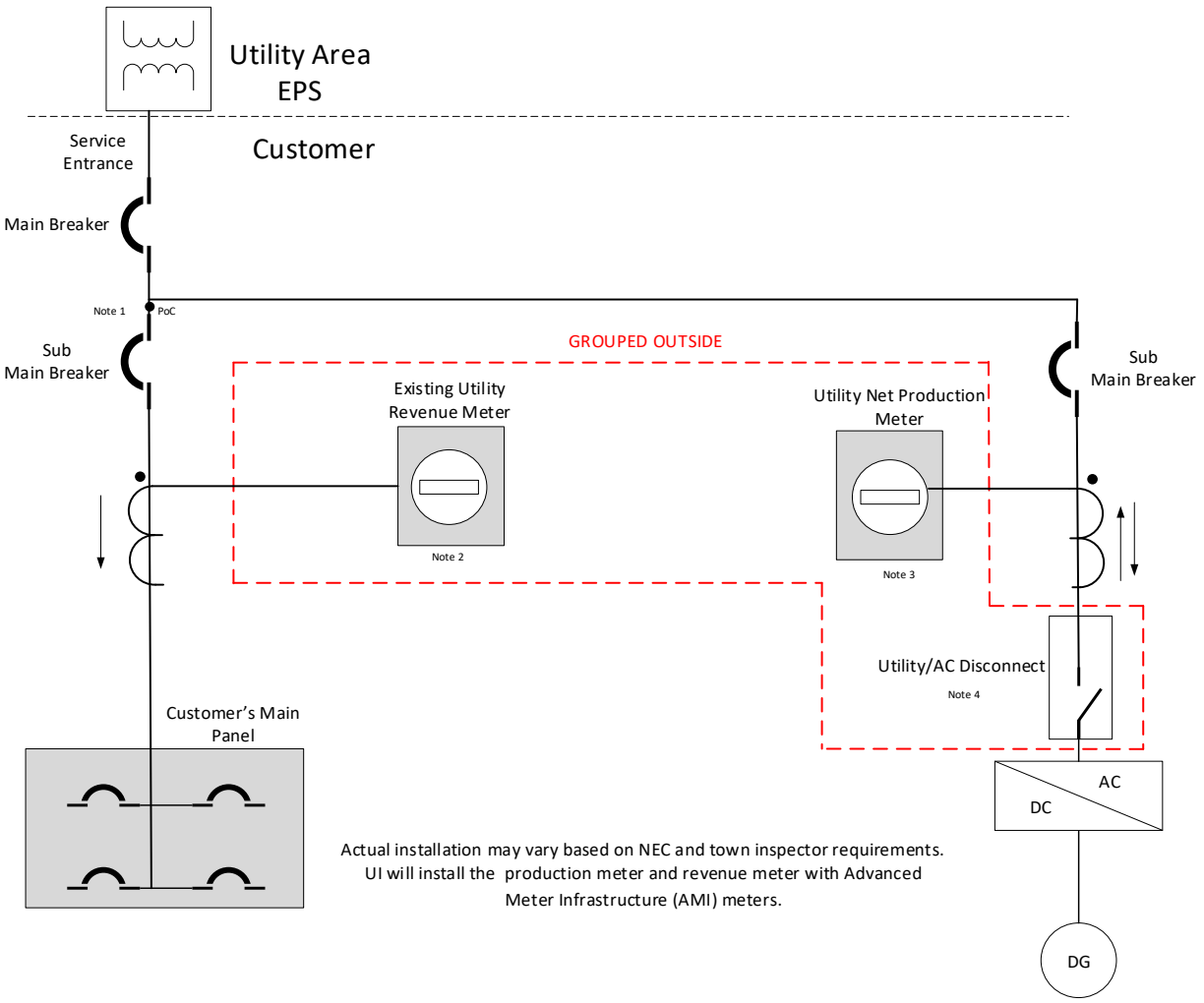
Note 4

- Customer's main breaker cannot be used in lieu of a utility disconnect for distributed generation.

Special Notes:

- System size may not exceed 2.0 MW; UI Engineering consultation required **prior** to application submittal if proceeding with 2.0 MW or greater.
- All meters and switches are required to be grouped unless interconnection contractor requests and is granted a written variance.

Buy-All: Transformer rated – Option 2



Note 1

- **Point of Connection (PoC) for the buy all tariff must be reviewed by UI engineering prior to installation.**
- >>> No connections are to be made within the revenue meter socket or in utility instrument transformer compartment. <<<

Note 2

- For utility meters located inside customer's facility, the interconnecting customer will be required to upgrade and have the meter relocated outside the customers facility near both the production meter and the utility disconnect switch.

Note 3

- **Production meter CT cabinet must be labelled with LINE facing the Utility.**
- The utility AC emergency disconnect switch is required to be located on the ground level within vicinity of the utility revenue meter where our utility personnel will have 24 / 7 access to it.
- CT cabinet for production meter follows the same guidelines as revenue meter per the UI Guidebook of Requirements for Electric Service.

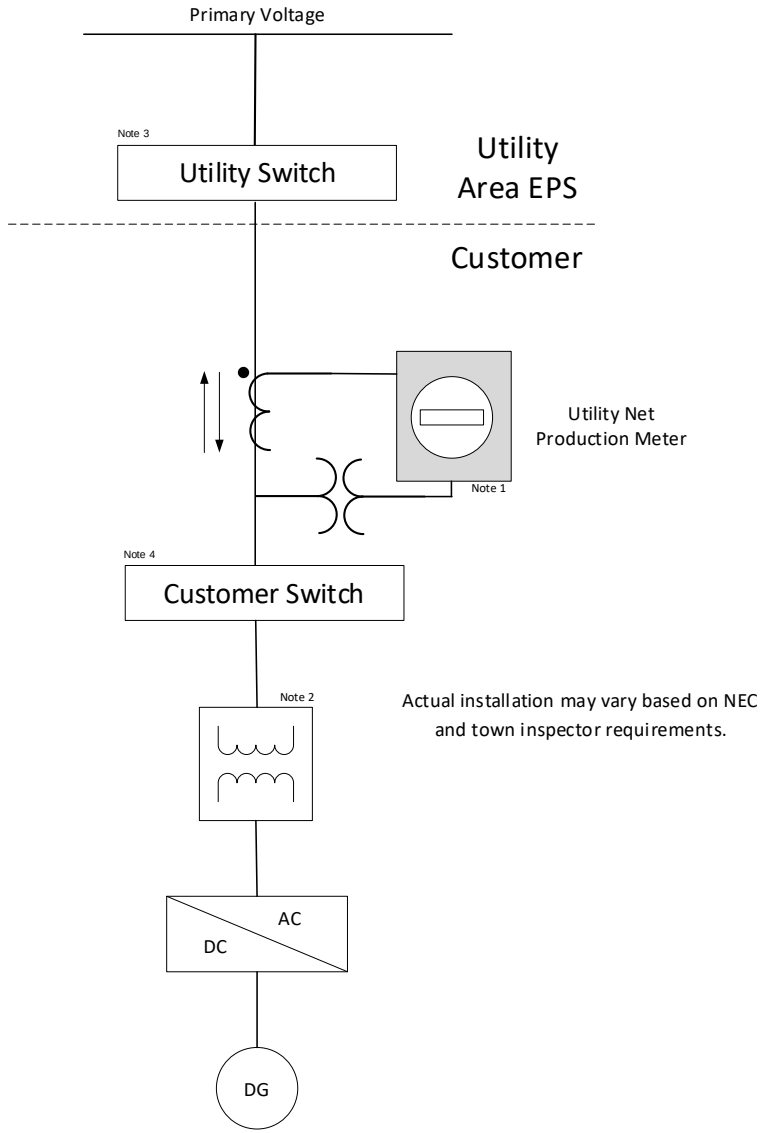
Note 4

- Customer's main breaker cannot be used in lieu of a utility disconnect for distributed generation

Special Notes:

- System size may not exceed 2.0 MW; UI Engineering consultation required **prior** to application submittal if proceeding with 2.0 MW or greater.
- All meters and switches are required to be grouped unless interconnection contractor requests and is granted a written variance.

Buy-All: Stand-Alone Installation



Note 1

- Equipment specifications for metering will be given upon UI engineering review.

Note 2

- Customer owned transformer configuration must be reviewed by UI engineering. UI will not allow an ungrounded Y configuration on the utility side of the customer owned transformer.

Note 3

- Utility owned switch; Utility infrastructure modification details to be provided at time of engineering review.

Note 4

- Customer owned switch; Designated Utility AC emergency disconnect (Isolation Device) per compliance with Interconnection requirements.
- The Utility AC emergency disconnect switch is required to be located on the ground level within vicinity of the utility production meter where our utility personnel will have 24 / 7 access to it.
- Main breaker cannot be used in lieu of a utility disconnect for distributed generation.

Special Notes:

- Installation may exceed 5.0 MW generation threshold **however** incentive program may change; Incentive compliance must be confirmed with Non-Residential Energy Solutions program.