

Chapter 14: Customer Generation

The following requirements are for Seattle City Light customers who are installing Customer Generation Systems (i.e. wind, solar, etc.) on SCL's electrical distribution system.

Definitions

Customer generation: The ability for customers to generate power from sources interconnected with the Seattle City Light distribution system through their service connection.

Generating capacity: The aggregate capacity of all grid connected generating sources and/or energy storage units in a single installation measured at the point of system connection with SCL.

Net metering: The ability for customers to generate and supply power to Seattle City Light through their service connection in accordance with the section 21.49.082 of the Seattle Municipal Code.

Net Metering

Seattle City Light will allow net metering up to 100 kW of generating capacity from the following sources: water, wind, solar energy, or biogas from animal waste as a fuel. Installations above 100 kW of generating capacity will be reviewed on an individual basis.

While customer generation is allowed, net metering is not authorized in the SCL Network Areas. See the "Customer Generation within the City Light Network Service Areas" section below for more information.

All installations must be inverter based. If a non-inverter based generating source is proposed, it will be subject to review by City Light Engineering, and will be subject to standard engineering charges.

If net metering is being installed on an existing service, the location of the interconnection meter base must meet all current requirements for access and placement as defined in chapter eleven of this manual, entitled "Metering Equipment Location".

Exception: If the net meter base is located on a houseboat or floating home, the net meter must be moved to the dock adjacent to the structure.

Engineering review is required for the following installations:

- Any system over 10KW, residential or commercial
- Any battery back-up system of any size, residential or commercial
- All network area systems of any size, residential or commercial

A lockable disconnect switch that is readily accessible to utility personnel is required for any system with a generating capacity greater than 25kW. Location of said disconnect switch must be approved by the utility prior to equipment installation.

Exception: Network area systems have special disconnect requirements. See the section of this chapter entitled "Customer Generation within the City Light Network Service Areas" for more information.

Any alterations to the SCL distribution system that are required to accommodate customer generation will be at the installer's expense.

All customers who interconnect with the City Light distribution system shall submit a signed interconnection application and agreement to City Light prior to commencing generation. The customer will also submit an electrical diagram and riser diagram showing the construction of the generation system, proposed metering locations and how the system interconnects to the building's electrical system.

Line side taps are not allowed in meter bases.

City Light may reject an application for net metering under certain conditions including but not limited to the following conditions.

- If the Generating Facility aggregated with all other generation facilities on a line section exceeds 15% of the line section's annual peak load as most recently measured at the substation, or calculated for the line section.
- If the total generation interconnected on a single-phase shared secondary exceeds 20 kilovolt-amps (kVA)
- If interconnecting a single-phase Generating Facility on a transformer center tap neutral of a 240-volt service causes an imbalance of more than 20% between the two sides of the nameplate rating of the service transformer.

For generation within a spot network located in a non-network area, please see the requirements for network generation in the next section.

Customer Generation within the City Light Network Service Areas

Seattle City Light has network service areas in downtown Seattle (including the South Lake Union neighborhood), parts of the University District, and parts of First Hill. To determine if a location is within a network service area, please see our network maps on the Seattle City Light website at <http://www.seattle.gov/light/electricservice/map.asp> or consult with City Light Customer Engineering.

All network installations will be subject to approval by SCL engineering, and must meet all requirements listed in chapter eight of this manual. ("Primary & Secondary Services in Network Areas")

For interconnection of a Generating Facility within a Spot Network or Area Network, compliance with IEEE Std 1547.6 is required. As such, customers may generate to offset load but back feed that would adversely affect network protector operations is not allowed. To prevent back feed, the aggregate generating capacity of the network may not exceed 50% of the Network's anticipated minimum load. If solar energy Generating Facilities are used exclusively, only the anticipated daytime minimum load shall

be considered. City Light may select any of the following methods to determine anticipated minimum load:

- A) The Network's measured minimum load in the previous year, if available;
- B) Five percent of the Network's maximum load of the previous year;
- C) The applicant's good faith estimate, if provided; or
- D) City Light's good faith estimate if provided in writing to the Applicant along with the reasons why City Light considered the other methods to estimate minimum load inadequate.

In addition, the Generating Facility may be required to use a minimum import relay and/or other protective scheme as required by City Light. This equipment will be installed at the customer expense. At the Utility's discretion, the requirement for minimum import relays or other protective schemes may be waived.

A system disconnect that is readily accessible to utility personnel with twenty-four (24) hour access as defined in Seattle Municipal Code: Chapter 21.49.110, Section N is required for all systems. Location of said disconnect must be approved by the utility prior to equipment installation.

The customer will provide permanent phenolic signage and a map, at the utility's direction, to be placed in the Network Vault of the generating property. Signage will state the generation capacity; location of generation equipment; location of system disconnects and location of interconnected billing meter.

Production Metering

A production meter is required if the customer is participating in the Washington State Production Incentive program. The program is open to customers with generation from the following sources: Solar Thermal Electric, Solar Photovoltaics, Wind, and Anaerobic Digestion.

Meter installations will be subject to the standard installation rate for billing meters of the same voltage and phasing. All production meters must meet City Light and City of Seattle requirements for height, clearance, signage and accessibility, as defined in the chapter eleven of this manual entitled "Metering" and in the Seattle Municipal Code: Chapter 21.49.110, Section N

Systems incorporating battery back-up will be subject to engineering review and may require more than one production meter, or meters with special configurations.

Production Meters are not allowed to be Current Transformer Meters unless the generating ampacity exceeds 225 amps.

Customer or installer-provided production meters are not permitted.

Production Meter Location Guidelines:

- **Single Family Homes, Duplexes, Triplexes, and parcels with Accessory Dwelling Units (ADU's):** The production meter is to be co-located with the net meter. Variances may be granted at the ESR's discretion, in consultation with Technical Metering.
- **Houseboats and Floating Homes:** Due to the nature of houseboat installations, the following location rules apply:
 - If the net meter is located on the floating structure, the net meter must be relocated to a meter pedestal on the dock, and the production meter co-located with the net meter.
 - If the net meter is located on the dock, the production meter may be co-located with the net meter.
 - If the net meter is located on the shore, the production meter may be located on a meter pedestal on the dock adjacent to the floating structure.
- **Townhomes:** If the net meter for the array is located at the unit that the array is on, the production meter should be co-located. If there is a meter pack for all of the units at the point of termination, then the production meter may be located at the unit where the array is located.
- **Multi-Family buildings:** The production meter can be located in the closest approved meter room to the array, even if the net meter is located on a different floor.
- **Commercial structures:** Production meter locations need to be approved by a City Light Customer Engineering Representative prior to installation.
- **Signage:** The customer will provide permanently affixed phenolic signage at the production and net meter sockets, indicating their function. (i.e.net or production).

For all installations where the net meter and production meter are not co-located, the customer will provide additional permanently affixed phenolic signage that states the location of the corresponding meter.

Revision Date	Revision
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November 4 th , 2015	Clarified language on engineering review, added exception on disconnect switch in network service areas, added prohibition on customer on installer- provided production meters.
November 30 th , 2015	Clarified language on interconnection in network areas.