Unitil Guideline for Design and Interconnection of DER document Update Summary

December 11, 2025

Last updated in April of 2017. This revision brings in information available elsewhere (e.g. TSRG Common Technical Standards Manual) into the Unitil DER Interconnection Guidelines.

General Updates

- Layout of sections within the document is new
- Any reference to a size threshold is now “greater than XXX” replacing “XXXX or larger”
    - Example: RMAC is required for Facilities greater than 500 kVA
    - Some exceptions may apply if Tariff overrides. Example being the ESS Operational Tariff draft language requires SCADA at 250 kVA or larger

Section Additions and Updates – Condensed section language

Facility Import/Export Limiting

A Facility intending to limit import/export power flow across the PCC shall incorporate design requirements relevant to the manner in which the limiting is accomplished.

Power Control Systems

- Shall be UL3141 Certified
- Response time delay not to exceed 10 seconds

Utility Grade Relay

- System as a whole shall be Certified for intended use
- ANSI 32 Element
- Response time delay not to exceed 10 seconds

Nameplate Reduction (i.e. De-Rating)

- Rating capacity changes shall be implemented by the manufacturer or their representatives
- The affected equipment shall have a replacement nameplate or engraved phenolic placard affixed indicating the Reduced Rating Capacity
- A letter from the manufacturer confirming the Reduced Rating Capacity and referencing the serial numbers of the affected equipment shall be provided to the Company

Energy Storage Systems

ESS shall incorporate design requirements relevant to the manner in which they will operate.

Charging Method: ESS designed to charge from the Company EPS, either as the sole charging source or supplemental to a co-located DER charging source, shall supply a load data sheet for evaluation through the standard load request process at the Company. ESS charging solely from co-located DER are exempt from this requirement, assuming all conditions of section 3.2.11 are met.

Discharging Method: ESS designed to limit discharge to on-site consumption only shall comply with all conditions of section 3.2.11. ESS designed to discharge as a grid forming source for co-located DER during loss of Company EPS source shall incorporate a Microgrid Interconnection Device in the Facility design to completely isolate the Facility from the Company EPS during these operations.

Remote Monitoring and Control: ESS 250 kVA and larger shall comply with Remote Monitoring and Control requirements in section 3.3.3.

Wholesale Charging: Stand-alone ESS requesting wholesale distribution service under the FG&E Wholesale Distribution Tariff shall comply with the following design requirements applicable to the configuration of charging load, critical service load[1], and station service load[2] at the Facility:

- ESS Charging Load: Dedicated meter required. Critical service loads are permitted to be behind this meter.

- Station Service Load: Dedicated Meter required unless station service load and charging load are behind one PCC. If behind one PCC, two meters are required. One at the PCC ("PCC meter") and a second meter positioned electrically in series behind the PCC meter and measuring only charging load.

- Critical Service Load: Dedicated meter required if critical service loads are supplied by station service and wholesale distribution service is requested for the critical service loads.

[1] Critical service loads include the HVAC for ESS only, fire suppression system, and inverter controller for ESS.

[2] Station service loads include the heating, lighting, air conditioning, and office equipment needs of the buildings at the ESS site, and for operating the electric equipment that is on the ESS site.

Additional Design Requirements – Facilities Larger Than 500 kVA

Recloser

A Company owned electronic recloser is required at all Facilities larger than 500 kVA. Replaces the requirement for a motor operated switch for Facilities of this size

One-Line Diagram

A PE Stamp is required for Facilities larger than 25 kVA

Facility Grounding Analysis

Facility Grounding analyses will demonstrate compliance with IEEE 1547 effective grounding criteria such that no Facility will cause over voltages that exceed equipment ratings or disrupt the coordination of ground fault protection on the EPS.

Facilities larger than 250 kVA are required to go through a Facility Grounding Analysis.

Changes to the Interconnection Application

Brought in the language from TSRG Common Technical Standards Manual which describes in general terms what would be considered a significate vs moderate change to an interconnection application.

Timing

Document will be published to our website by year end. Any questions or comments prior to publishing can be emailed to kitesj@unitil.com