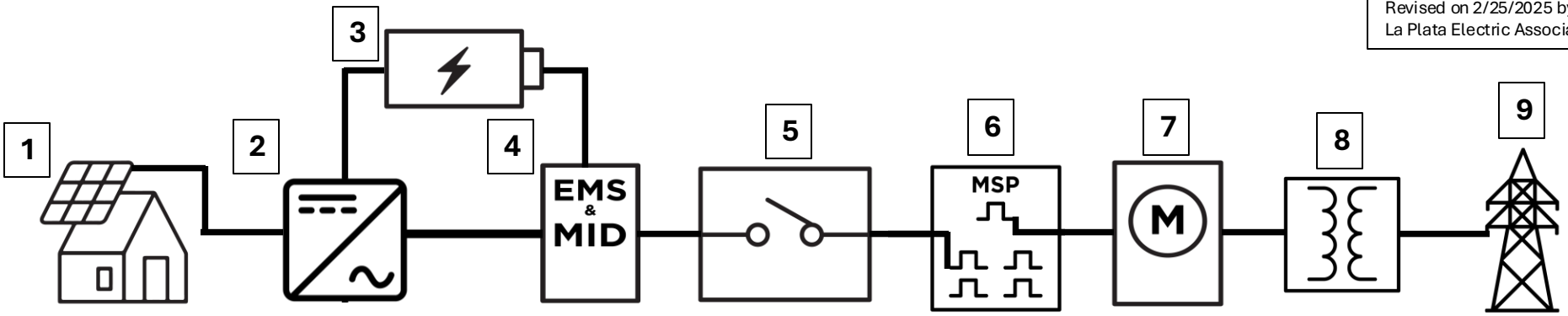
Example One Line Diagram & Requirements for Solar Generation Interconnection to LPEA's Grid for PV systems with batteries for LPEA

Single phase & smaller than 50kW

Revised on 2/25/2025 by
La Plata Electric Association



KEY

1 = Solar Panels
2 = Inverter
3 = Battery System
4 = Energy Management System & Microgrid Interconnection Device
5 = AC Disconnect
6 = Main Service Panel
7 = Utility Meter
8 = Transformer
9 = LPEA's Grid

Things that must be included in the diagram

(1) Number of PV Modules, Make & Model and PV System size with DC and AC ratings
(2) Make and Model. Must be UL 1741 SB Compliant
(3) Make, Model, Size (kWh), and Continuous Power output (kW).
(4) Make and Model
(5) Labeled as "LPEA Accessible AC Disconnect"
(6) Info on the service panelboard voltage, amperage rating, and main disconnect(s) size

- Member's (owner's) name
- Address (include units #'s)
    - Make sure the address matches exactly what's on LPEA's Energy Bil
- Indicate size of wires connecting components
- Date of revised drawing

Other notes

(1) Panel DC size must be projected (using LPEA approved methods) to produce less than 150% of the energy consumed by the service.
(2) Inverter must be programmed with LPEA's required settings. See LPEA's most recent Interconnection Standards on the Installers Resources page of our website. All inverters must be UL 1741 SB listed.
(2) Non-export modes or export limited inverter settings may be used to address transformer loading or feeder capacity issues.
(2) Must be UL 1741 SB Compliant
(2/3/4) The exact configuration of the inverter, energy management system, microgrid interconnection device, and battery will depend on the equipment manufacturer, AC/DC coupling, and absence/presence of a backup panel.
(5) An AC disconnect must be unobstructed, clearly labeled, and accessible by LPEA. The AC disconnect must sit on the utility side of the entire solar, battery, inverter and MID/EMS system (1/2/3/4) and be capable of de-energizing or isolating it from the grid. Service panel breakers may be used as an accessible AC disconnect (5/6) if they are outdoors and if the inverter (or combiner for microinverters) is visible from and near the service panel.
(7) Line side taps may be approved on load side of main disconnect.
(8) Systems will not be approved if their AC capacity in aggregate with other generation on the transformer exceeds 100% of the nameplate capacity of the LPEA transformer serving the service.