

Solar PV inverter annual maintenance checklist

The annual PV inverter service is the deep pass: the measurements, cleanings and tests a quarterly round doesn't reach. This checklist keeps the full service on record with the photos that make it defensible later. Work is commonly verified against NEC (NFPA 70), manufacturer's published instructions. Confirm the edition your authority having jurisdiction has adopted.

Who runs it: The PV service tech on the annual service, with an electrician for the de-energized work. When: Once a year, part energized for the thermal scan and part shut down for the connection and disconnect work.

Connections and heat

- ☐ **DC and AC terminations scanned then torqued**
Terminations imaged under load, then powered down and torqued to the manufacturer's published values, string and combiner lugs included. 2 photos required

Safety systems

- ☐ **Rapid-shutdown initiated and confirmed**
Shutdown triggered and the array measured dropping to a safe voltage, module-level devices responding where fitted. 1 photo required
- ☐ **AC and DC disconnects operated**
Each disconnect opened and closed through its full travel, labeling correct, contacts sound with no arcing signs. 1 photo required

Grounding and enclosure

- ☐ **Equipment grounding and bonding verified**
Ground and bonding connections tight and continuous from the inverter through combiners to the array frames. 1 photo required
- ☐ **Enclosure sealing and moisture control checked**
Gaskets, vents and drains intact, any desiccant renewed where fitted, no water staining inside the enclosure. 1 photo required