READY TO INSPECT — FIELD CHECKLIST

Solar PV inverter quarterly maintenance checklist

A quarterly PV inverter round is short on purpose: it catches the wear items that fail between annual services. This checklist is sized for a tech with a phone. Every item says what to look at and the photo that proves the round happened. 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 or electrical service tech on the quarterly round. When: Every quarter, energized during daylight so the unit is producing and cooling faults show under real load.

Approach and labels

- [ ] PV source circuits treated as live on the approach
  DC conductors stay energized whenever light reaches the array, even with the inverter off, so no cover is opened on the round and PPE follows the site's arc-flash risk assessment.
  No photo required
- [ ] Inverter nameplate and warning labels legible
  Nameplate ratings and the PV and dual-source warning labels on the unit readable, a faded or missing label reported to the owner.
  1 photo required

Status and production

- [ ] Status indicators and event log reviewed
  Fault and warning history read from the display or portal, not just the front light, recurring trips noted for follow-up.
  1 photo required
- [ ] Output compared against the other units on site
  Instantaneous output read and compared against the other inverters or strings under the same sky, any low outlier flagged.
  1 photo required
- [ ] Production since the last round compared with expected yield
  Energy total read from the display or monitoring portal and compared with the expected figure for the season and weather, a shortfall flagged for follow-up.
  1 photo required
- [ ] DC input and AC output values read off the display
  DC voltage and current per input and AC voltage and frequency read against the nameplate range, any value outside it noted for follow-up.
  1 photo required
- [ ] Active fault indicators clear on the display
  No active ground-fault indication, or arc-fault where fitted, and the insulation reading compared with last quarter for a falling trend where the inverter reports one.
  1 photo required

Cooling

- [ ] Cooling fans, heatsink and filters checked
  Fans running, heatsink fins and intake filters clear, no dust blanket driving the unit into thermal derate.
  1 photo required
- [ ] Airflow clearance around the inverter kept open
  Nothing stored against the unit or its heat sinks, the maker's side and top clearances kept, and no new equipment or shade blocking the exhaust path.
  1 photo required

Enclosure

- [ ] Enclosure sealed and mounting secure
  Cover gaskets and cable entries sealed, no moisture, corrosion or pest signs at vents, seams and conduit entries, mounting and conduit tight to the wall.
  1 photo required

- [ ] DC and AC disconnects closed, guarded and lockable
  Handles undamaged and in the on position, covers closed, lock provisions intact and disconnect labels legible, all checked without opening either switch.
  1 photo required

- [ ] Rapid shutdown initiator reachable on building-mounted arrays
  Initiator at its marked location set to run, nothing stored in front of it and its placard legible; looked at only, never operated on the quarterly round.
  No photo required

- [ ] String combiners walked where the array uses them
  Combiner covers closed and latched, no heat marks, water or broken conduit at the enclosure, fuse status lights clear where fitted; boxes left closed on the round.
  No photo required

Monitoring and records

- [ ] Monitoring alerts confirmed reaching the owner
  On sites with a monitoring link, the portal shows the inverter reporting with no data gap since the last round and alert notices reaching someone the owner names.
  No photo required

- [ ] Round findings and production shortfall sent to the owner
  Yield against expected, recurring faults and low inputs sent to the owner, with any item that needs the DC side opened put on the annual service list.
  No photo required