READY TO INSPECT — FIELD CHECKLIST

Battery energy storage system (BESS) quarterly maintenance checklist

A quarterly battery energy storage system 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 NFPA 855, manufacturer's published instructions. Confirm the edition your authority having jurisdiction has adopted.

Who runs it: The facilities or ESS service tech on the quarterly round, observing and documenting the state of the system rather than clearing any fire-safety function. When: Every quarter, walked with the BMS screen photographed so a slow-building cell imbalance is caught on the log before it trips the system.

Enclosure and thermal

- [ ] **Battery treated as energized for the whole walk**
  DC stays live in the modules even with the disconnects open, so doors stay shut; only the manufacturer's or integrator's tech opens them, under the site's energized-work procedure.
  No photo required
- [ ] **Ventilation openings and clearances checked clear**
  Intake and exhaust louvers unobstructed, nothing stored against the enclosure, code and manufacturer clearances around the unit kept.
  2 photos required
- [ ] **Thermal-management operation observed**
  Cooling or conditioning running as expected, cabinet temperature reading within the normal band shown on the display, no ice, condensate pooling or fan fault.
  2 photos required
- [ ] **Enclosure shell, doors and seals checked**
  No dents, rust-through or water staining, door gaskets whole, doors latched and locked, pad and anchors sound with no settling at the base.
  1 photo required
- [ ] **Cooling filters or coolant checked for the type fitted**
  Air-cooled units: intake filters and condenser coil clear. Liquid-cooled units: coolant level on the gauge or display within the manufacturer's range, no drips at hoses.
  1 photo required
- [ ] **Floor, base and containment checked dry and clear**
  No coolant, condensate or electrolyte on the floor or in any containment, sills and drains free of debris, no standing water under the enclosure.
  1 photo required

BMS status

- [ ] **Module and rack status and alarms read off the BMS**
  State of charge, per-rack voltages and temperatures within range, any active or latched alarm photographed and recorded for the qualified party.
  2 photos required
- [ ] **Cells and modules checked for swelling, leak or heat**
  No visible swelling, venting, electrolyte residue or discoloration, no localized heat or smell at any module during the walk.
  2 photos required
- [ ] **Alarm and event history since the last visit reviewed**
  BMS event log paged back to the last round, trips, thermal warnings and communication losses photographed and recorded, including any that cleared on their own.
  1 photo required
- [ ] **BMS communication with the site controller confirmed**
  No communication-loss alarm between the BMS, the power conversion system and the site controller, and any remote monitoring view showing the same state as the local screen.
  1 photo required

Life-safety interface (observe only)

- [ ] Fire detection, suppression and gas-detection interface observed in normal state
  Detection, suppression and gas-detection panels showing normal and not in trouble, recorded as observed. Functional testing stays with the qualified fire party.
  1 photo required

- [ ] Explosion control vents or exhaust checked unobstructed
  Deflagration vent panels or explosion-prevention exhaust, whichever the design uses, intact and clear, nothing stored or mounted in the vent discharge path.
  1 photo required

- [ ] Emergency response information posted for the fire department
  Emergency response plan or fire department information sheet and the manufacturer's or integrator's round-the-clock contact posted at the fire-service point, still current.
  1 photo required

Records and handover

- [ ] Operating mode and reserve confirmed with the owner
  System in the mode the owner expects, such as standby, backup reserve or scheduled cycling, with the reserve state of charge held where the owner set it.
  No photo required

- [ ] Quarterly BMS readings and findings logged
  State of charge, alarm history, thermal status and any flagged module entered against the unit and sent to the manufacturer's or integrator's service tech.
  No photo required