READY TO INSPECT — FIELD CHECKLIST

# Uninterruptible power supply (UPS) annual maintenance checklist

The annual UPS 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 UPS service tech on the annual, coordinated with a maintenance window for the protected load. When: Once a year, scheduled when critical loads can be moved to bypass and when a real discharge test won't leave equipment unprotected.

## Coordination and lockout

- [ ] Bypass window agreed with the owner for critical loads
  Owner and the users of the protected loads told the window, the transfer sequence and the fallback, and their agreement recorded before any load moves to bypass.
  No photo required

- [ ] Battery disconnect locked and tagged before cell work
  Battery breaker locked and tagged; the string stays live, so insulated tools and acid PPE. Reclosed by whoever locked it once cell work is done, before the bypass and discharge tests.
  1 photo required

## Battery service

- [ ] Individual cell or block voltage and impedance measured
  Each block read and compared across the string, outliers on voltage or impedance flagged, readings logged for trending against prior years.
  2 photos required

- [ ] Battery terminals torqued and connections cleaned
  Inter-cell links and terminals torque-verified or resistance-measured, re-torqued only where found loose, corrosion cleaned, anti-oxidant reapplied where specified.
  1 photo required

- [ ] Battery stands, trays and cabling inspected
  Stands and trays sound and anchored, cable insulation not cracked or chafed on tray edges, no cracked jars or bulging cases on the rear tiers.
  1 photo required

- [ ] Battery date codes read against the design life
  Date code or install label on the blocks read and compared with the manufacturer's design life, so replacement is budgeted before the string fails.
  1 photo required

## Transfer and bypass

- [ ] Manual bypass operated and verified
  Load transferred to bypass and back per the sequence, no interruption to the protected equipment, indicators tracking the actual path.
  2 photos required

## Capacity proof

- [ ] Runtime confirmed by a discharge or load-bank test
  Unit run on battery under a known load to a defined endpoint, actual runtime compared against the rating and last year's result.
  1 photo required

- [ ] Calibration and firmware checked
  Runtime and load calibration verified, controller firmware level noted against the manufacturer's current release.
  1 photo required

## Module service and return

- [ ] Module interior cleaned and cooling fans checked
  Load on maintenance bypass in the agreed window, rectifier input, bypass input and battery breakers locked, the manufacturer's DC discharge wait kept, then dust cleared and fans spun.
  1 photo required

- [ ] Module input, output and bypass lugs torque-verified
  Power lugs inside the module torque-verified or resistance-measured, re-torqued only where found loose, no heat discoloration or cracked insulation at the terminations.
  1 photo required

- [ ] Locks removed and UPS back in normal mode
  Locks cleared by the person who hung them, module restarted, load returned from bypass in sequence, front panel in normal mode with no active alarm.
  No photo required

- [ ] Annual results logged as next year's baseline
  Battery readings, runtime result, torque and firmware level entered against the UPS and shared with the owner so next year is compared against this one.
  No photo required