READY TO INSPECT — FIELD CHECKLIST

Power distribution unit annual maintenance checklist

The annual power distribution unit 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 NFPA 70B, NEC (NFPA 70). Confirm the edition your authority having jurisdiction has adopted.

Who runs it: The electrician on the annual de-energized service, coordinated with a scheduled shutdown. When: Once a year during a planned outage, since torqueing terminations and opening the transformer section means the unit has to come down.

Outage coordination

- [ ] Outage window agreed with the users of every fed load
  Owner and the departments on each branch told the window, loads shut down in order or moved to an alternate source, and agreement recorded before the main opens.
  No photo required

- [ ] Every source feeding the unit locked out and tested dead
  Upstream feeder locked and tagged, the second input and any separate control supply too, then absence of voltage tested at input, transformer and output before covers open.
  1 photo required

De-energized inspection

- [ ] Terminations torqued and marked
  Lugs and terminations torque-verified to the manufacturer's published values, re-torqued only where found loose, and torque-marked so the next tech sees they were done.
  2 photos required

- [ ] Bus, lugs and insulators inspected
  No discoloration, pitting or heat tracking on bus joints, lugs and standoffs, connections clean and tight.
  1 photo required

- [ ] Interior vacuumed and cooling fans spun by hand
  Dust vacuumed, not blown, from breaker, transformer and fan compartments, fans turning freely with no bearing drag, filters cleaned or replaced per the maintenance schedule.
  1 photo required

- [ ] Metering current transformers and sensor leads inspected
  Current transformers seated around their conductors, sensor leads and harness plugs latched, branch sensors included where fitted, no cracked cases or loose wires.
  1 photo required

- [ ] Insulation resistance measured on output bus and feeders
  Megohm readings on feeders and output bus, and transformer windings where fitted, recorded against last year's baseline, with electronic metering and surge devices isolated first.
  1 photo required

Transformer section

- [ ] Transformer connections and ventilation checked where fitted
  Winding and tap connections tight, no heat discoloration, cooling openings clear and the section vacuumed clean.
  No photo required

Grounding and protection

- [ ] Grounding and bonding verified back to the source
  Ground and bonding connections tight and continuous, enclosure and neutral references confirmed as intended.
  1 photo required

- [ ] Breakers exercised while de-energized
  Branch and main breakers operated through their travel, any that feel stiff or won't seat flagged for replacement.
  1 photo required

Return to service

- [ ] Interior cleared and every cover refastened before energizing
  Tools, grounds and debris out, covers and dead-fronts refastened, and each lock and tag removed by the person who hung it before the feeder closes.
  1 photo required

- [ ] Display readings checked against a calibrated meter
  After restart, voltage and current on each phase measured under the energized-work procedure and matched to the metering display, any drift noted for calibration.
  1 photo required

- [ ] Source transfer tested on dual-input units, owner warned first
  Owner and the fed departments warned, load moved to the alternate source through the static transfer switch and back, no drop at the loads, events matching the log.
  No photo required

- [ ] Torque, megohm and metering results sent to the owner
  Results compared with last year, open deficiencies listed, and the report kept against the unit as next year's baseline for the owner to accept.
  No photo required