READY TO INSPECT — FIELD CHECKLIST

Power factor correction capacitor bank quarterly maintenance checklist

A quarterly capacitor bank 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 70B, NEC (NFPA 70). Confirm the edition your authority having jurisdiction has adopted.

Who runs it: The facility electrician on the quarterly round, reading the bank energized through the door or viewing window. When: Every quarter, timed against a loaded part of the day so the controller is actually calling stages in and the power factor reading means something.

Before approaching the bank

- [ ] Arc-flash label and capacitor warning signs read on the enclosure
  Arc-flash label legible with its study date and the stored-energy warning in place, with any missing or faded sign reported to the owner.
  1 photo required

- [ ] Bank read with doors shut, PPE from the risk assessment
  Bank read through the closed door or viewing window only, with PPE chosen from the site's arc-flash risk assessment for the approach, not from the label alone.
  No photo required

- [ ] Enclosure doors latched with no missing fasteners or damage
  Every door and panel on the bank closed and fastened, no bent panels, broken hinges or gaps that would let dust or a hand in.
  1 photo required

Cans and fuses

- [ ] Capacitor cans checked for bulging and leaking
  No swollen, domed or split cases, no oil or dielectric weeping at the bushings or seams, no scorching on a can face.
  2 photos required

- [ ] Fuse indicators read across the stages
  Each capacitor fuse or blown-fuse indicator checked, none popped or discolored, no stage limping along on a lost phase.
  1 photo required

- [ ] Floor under the enclosure checked for seeping fluid
  No dielectric fluid stain or drip at the enclosure base or on the floor beneath it, with any found reported as a leaking can for the outage.
  1 photo required

Switching and controller

- [ ] Contactor or stage switching observed
  Stages pulling in and dropping out cleanly as the controller calls them, no contactor chattering or a stage stuck in or out.
  1 photo required

- [ ] Controller and power factor reading checked
  Controller displaying a corrected power factor near target, no alarm or fault code, reading cross-checked against actual stage current.
  2 photos required

- [ ] Controller step status and settings compared with the design
  Steps shown available match the design stage list and the target power factor matches the design or commissioning setting, with any locked-out step or changed setting noted.
  1 photo required

- [ ] Harmonic warning signs reported to the engineer
  A harmonic alarm on the controller, humming cans, repeat fuse failures or overheating reported to the engineer for a power quality review, not adjusted in the field. No photo required

Cooling and heat

- [ ] Ventilation clear and cans not overheating
  Cooling vents and any fans clear and running, cans scanned through IR windows where fitted, otherwise left to the annual, and room airflow reaching the bank. 1 photo required
- [ ] Room ambient temperature read against the nameplate rating
  Room or enclosure temperature read and compared with the ambient rating on the bank nameplate, with a reading above it reported to the owner. 1 photo required
- [ ] Reactor section listened to and checked for heat on detuned banks
  On detuned banks, no new hum, vibration or heat from the reactor section felt at the closed enclosure. Not applicable to banks built without reactors. No photo required

Findings and follow-up

- [ ] Power factor and steps available trended by quarter
  Power factor, steps available, fuse indicators and room temperature logged beside last quarter's, so a stage that has dropped out shows as a trend with a date. No photo required
- [ ] Failed cans, fuses and steps queued for the outage with parts
  Each bulged can, blown fuse, faulted step or hot reading reported to the owner, so the annual outage scope includes it and parts are ordered ahead. No photo required