READY TO INSPECT — FIELD CHECKLIST

Steam boiler quarterly maintenance checklist

A quarterly steam boiler 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 ASME boiler and pressure vessel code, manufacturer's published instructions. Confirm the edition your authority having jurisdiction has adopted.

Who runs it: The boiler operator or service tech on the quarterly steam-plant round. When: Every quarter, weighted into the heating season while the boiler is making steam and carrying load.

Boiler room walk-down

- [ ] Steam trim, header and valve packing walked for leaks
  No steam plume or hiss at packing glands, flanges, the header or trim connections, and no wet insulation or water marks on the floor under the boiler.
  1 photo required

- [ ] Boiler room steam traps checked for blow-through or backup
  Traps on the header drip and boiler room lines read by temperature or ultrasound across the trap and compared with the last survey; a trap blowing steam or backed up is tagged.
  1 photo required

- [ ] Blowdown discharge route checked and people cleared first
  Blowdown lines run to the blowoff tank or the site's safe discharge point, and anyone in the room is told and kept clear of the discharge before any valve is opened.
  No photo required

Water level and cutoff

- [ ] Gauge glass blown down and true level confirmed
  Gauge glass blowdown valves cycled, water returning to the correct level cleanly, glass clear and not fouled or showing a false steady reading.
  2 photos required

- [ ] Try cocks opened to cross-check the glass level
  Where try cocks are fitted, each opened in turn with the face kept out of the discharge: steam above the water line, water below, agreeing with the glass.
  No photo required

- [ ] Low-water cutoff tested by lowering the level
  Water level dropped through blowdown until the cutoff trips the burner, and the alarm activates, before the level reaches the danger point.
  1 photo required

- [ ] Auxiliary low-water cutoff blown down and trip checked
  Where a second float cutoff is fitted, its chamber blown down per the manufacturer while firing and attended; the burner stops, and a manual reset type holds it off until reset.
  No photo required

Safety valve and pressure

- [ ] Safety relief valve observed, not force-lifted if stuck
  Valve and discharge piping checked for weeping, corrosion or a seized try-lever; a stuck valve is tagged for the service tech, never forced open by hand.
  1 photo required

- [ ] Operating pressure read and logged
  Steam pressure gauge reading matches the operating range and the pressure control setpoint, logged against the prior visit for trending.
  1 photo required

- [ ] Pressure control settings read against the recorded settings
  Operating control cut-in and differential and the high-limit setting read on their scales and matched to the log; the high limit sits below the safety valve set pressure. A mismatch is reported.
  1 photo required

Water treatment and combustion

- [ ] Blowdown performed and treatment checked
  Bottom and surface blowdown done per the plant routine, chemical feed confirmed and a treatment sample showing dissolved solids within the target range.
  1 photo required

- [ ] Burner flame, combustion and feedwater observed
  Steady flame with clean ignition and no rollout, feedwater pump and receiver cycling normally, condensate returning rather than running to drain.
  2 photos required

- [ ] Feedwater or condensate return pump checked where fitted
  Running pump's seal and casing not leaking, coupling guard or shaft cover in place, no cavitation rattle or bearing noise, and motor temperature by IR compared with the last reading.
  No photo required

Return to service

- [ ] Blowdown valves shut tight and boiler left in automatic
  Every blowdown and drain valve used on the round closed, the blowdown line cooling rather than passing, glass valves open and the burner cycling on the operating control.
  1 photo required

- [ ] Round results written to the plant log and reported
  Cutoff trip results, pressure control settings and trap findings written into the plant log, with any deficiency reported to the owner before the tech leaves site.
  No photo required