READY TO INSPECT — FIELD CHECKLIST

Boiler feed and condensate unit annual maintenance checklist

The annual condensate 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 manufacturer's published instructions. Confirm the edition your authority having jurisdiction has adopted.

Who runs it: The boiler service tech on the annual, with the unit taken down and drained so the receiver interior and the pumps can be opened. When: Once a year, ideally at end of heating season, the pass that drains the receiver to inspect the tank interior and pulls the pumps and check valves the quarterly can only watch from outside.

Shutdown and lockout

- [ ] Boiler operator and owner agree the feed outage window
  Boiler down or on an alternate feed before the unit comes out of service, since a boiler left firing without feed water trips on low water or worse.
  No photo required

- [ ] Every pump motor and control circuit locked and tagged
  Each pump and the control and alarm circuit locked out by each worker, proven dead. Runs use the temporary release: closed up, filled, people clear, locks off by whoever hung them, re-locked after.
  1 photo required

- [ ] Returns, makeup and discharge isolated and receiver cooled
  Return, makeup and pump discharge valves closed, receiver let cool, then drained to a safe drain with hands and face clear of hot water and flash steam.
  No photo required

Receiver interior

- [ ] Receiver drained and inspected internally
  Tank drained and opened, interior checked for sediment, scale and corrosion or pitting, cleaned out, vent and overflow connections proven clear.
  2 photos required

- [ ] Receiver cover gasket checked on closing
  Manway or inspection cover seat wiped clean, gasket renewed where flattened or torn, cover drawn down in a cross pattern to the maker's torque, no weep at the joint after refill.
  1 photo required

Pumps, check valves and strainer

- [ ] Feed pumps and check valves serviced
  Each pump run and current read against nameplate, seals inspected or replaced on run hours, discharge check valves pulled and their seats and discs inspected or replaced so they hold against backfeed.
  2 photos required

- [ ] Impeller and casing inspected for cavitation erosion
  With a pump opened, impeller vanes and casing checked for the pitting hot condensate leaves when it flashes at the eye, read against the quarterly temperature log.
  1 photo required

- [ ] Strainer and makeup valve cleaned and serviced
  Strainer basket pulled and cleaned, float-operated makeup valve inspected and its seat verified holding, isolation valves operable.
  1 photo required

- [ ] Discharge piping to the boiler feed connection checked
  Discharge line from each pump to the boiler or deaerator supported, free of water hammer damage and leaks, with its isolation valves operable.
  1 photo required

- [ ] Receiver closed, refilled and locks removed for testing
  Covers, pumps and strainer closed up, valves reopened and the receiver refilled, tools and people clear, then locks removed by whoever hung them.
  No photo required

Controls, alarm and cutout

- [ ] Level control, low-water cutout and alarm tested
  Float or probe level control tested through its range, low-water cutout proven to stop the feed and any boiler interlock, alarm and pump-fault annunciation functionally tested rather than assumed.
  2 photos required
- [ ] High-level alarm proven by raising the receiver level
  Where a high-level alarm is fitted, the operator or monitoring that sees it told first, then level raised with makeup water, hands out of the receiver, until it alarms, then drawn down.
  No photo required
- [ ] Controls returned to auto and unit proven in operation
  Unit refilled and run through a full cycle with the boiler, level staging and makeup behaving, controls left in auto with no hand overrides and no standing alarm.
  1 photo required

Handover and records

- [ ] Boiler operator told the feed unit is back in service
  Boiler operator and owner told the unit is in auto and feeding, so the boiler can go back on line from its alternate feed or cold start.
  No photo required
- [ ] Annual findings filed with the boiler-room record
  Receiver interior condition, pump currents, check valve, gasket and alarm results filed with the owner, and deferred repairs listed with a date.
  No photo required