

Standby generator set annual maintenance checklist

The annual standby generator 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 110. Confirm the edition your authority having jurisdiction has adopted.

Who runs it: The generator service lead, often coordinated with the electrical contractor for the ATS work. When: Once a year, scheduled with building management since it typically requires a planned load transfer or bank load.

Notice and shutdowns

- ☐ **Owner given notice of the load test and standby outage**
Building management told when the set will be loaded and out of auto, and whether building load or a load bank will carry the test. No photo required
- ☐ **Engine safety shutdowns tested by the manufacturer's method**
Low oil pressure, high coolant temperature and overspeed shutdowns simulated as the manufacturer allows; the set stops and shows the right alarm. 1 photo required

Load and engine

- ☐ **Load bank or building load test run at rated capacity**
Percentage of nameplate load reached and held for the documented duration, with readings recorded. 2 photos required
- ☐ **Coolant hoses, belts and radiator inspected**
Hoses supple with no swelling or cracking, belts within tension spec, radiator fins clear of debris. 2 photos required
- ☐ **Coolant sample or condition tested**
Freeze protection and inhibitor levels within range, no rust or oil contamination. 1 photo required

De-energized service

- ☐ **Set locked out and tagged for the de-energized work**
Output breaker open, charger and starting circuit locked and tagged by each worker; the ATS run takes the procedure's temporary release (guards on, people clear), then the set is re-locked for terminations. 1 photo required
- ☐ **Engine oil and filter changed with a sample for the lab**
New filter marked with the date and engine hours; oil sample sent for analysis and the lab report kept with the set's record. 1 photo required
- ☐ **Alternator insulation resistance tested and trended**
Tested per the manufacturer with the regulator isolated, reading recorded and compared with last year's result, and a falling trend flagged. 1 photo required
- ☐ **Starting batteries load tested with PPE on**
Face shield and gloves on, each battery load or conductance tested against its rating, and the install date on the case noted. 1 photo required

Fuel system

- ☐ **Fuel system and day tank inspected**
Tank level gauges accurate, vent lines clear, fuel polished or sampled if age warrants it. No photo required
- ☐ **Fuel lines, filters and transfer pump checked**
No weeping at fittings, filters replaced on schedule, transfer pump cycles correctly. No photo required

- ☐ **Fuel tank containment checked dry and clean**
Sub-base rupture basin or day-tank containment free of fuel, water and debris, any leak sensor clean and free to move, and fuel found in the space traced to its source. **No photo required**

Transfer and connections

- ☐ **Automatic transfer switch exercised under simulated outage**
ATS senses simulated utility loss, starts the set, transfers load, then re-transfers and cools down on retransfer. **2 photos required**
- ☐ **Electrical connections and terminations torqued**
Lugs, breaker terminals and grounding connections checked for heat marks, torque verified or resistance measured per the manufacturer, re-torqued only where found loose. **2 photos required**
- ☐ **Set returned to service in auto after the annual**
Guards and covers refitted, locks removed by whoever hung them, output breaker closed, controller in auto with no alarms, owner told. **1 photo required**