NFPA 110 Generator Testing Compliance Checklist

2026 Edition

8-Page Audit-Ready Template for Facility Engineers

Brought to you by ASO Genset

Weekly inspections | Monthly tests | Annual load bank testing | 3-year documentation log

How to Use This Checklist

Use this template as a practical inspection and testing record for emergency generator maintenance programs. Keep completed pages with your maintenance records so they are easy to present during audits.

Monthly records	Use one checklist page for each monthly generator test. Attach readings, photos, and maintenance notes when needed.
Annual record	Complete the annual load bank form at year end or during the scheduled annual compliance event.
Retention	Keep documentation for at least 3 years for audit traceability.
Audit readiness	Present the signed weekly, monthly, annual, and retention logs together during inspections.

Recommended Workflow

1	**Inspect**	Complete weekly visual and fluid checks.
2	**Test**	Run monthly operational test and log readings.
3	**Verify**	Confirm stable voltage, frequency, alarms, and cool-down.
4	**Archive**	Store PDF or scanned copy in the maintenance system.

Notes

This checklist is designed for field documentation and internal preparation. Always confirm final compliance requirements with the applicable edition of NFPA 110 and your local authority having jurisdiction.

Weekly Inspection Checklist

Complete one row or copy this page for each weekly inspection. Record actual values where practical.

- ☐ Visual inspection (no leaks, damage)
- ☐ Coolant level
- ☐ Engine oil level
- ☐ Fuel level (>= 50%? Note actual %)
- ☐ Battery voltage (12V/24V)
- ☐ Block heater operating temp
- ☐ Generator room temperature
- ☐ No unusual sounds when idle
- ☐ All gauges showing normal

Monthly Testing Checklist

Pre-Test

- ☐ All inspection items completed (above)
- ☐ Fuel >= 75% capacity
- ☐ ATS in AUTO position
- ☐ Load disconnected from utility

Test Execution

Start time	
Time to power	_____ seconds (Pass if Type 10: <10s)
Run duration	_____ min (>= 30 min required)
Load applied	_____ % (>= 30% required)
Voltage stable	_____ V
Frequency stable	_____ Hz
Alarms	No alarms during test: ☐ Yes ☐ No

Post-Test

- ☐ Cool-down completed (>= 5 min)
- ☐ Returned to AUTO
- ☐ Fuel topped up
- ☐ Logged in maintenance system

Annual Load Bank Test Form

Pre-Test Documentation

☐ Load bank capacity (kW): _____
☐ Test plan reviewed
☐ Insurance / liability confirmed

Load Steps & Duration

25% load	30 min		☐
50% load	30 min		☐
75% load	30 min		☐
100% load	60 min		☐
Total test	>= 2 hours		☐

Performance Data

25%				
50%				
75%				
100%				

☐ Pass / Fail
☐ Photos taken (control panel + load bank)
☐ Report saved

Documentation Retention Log

3-Year Retention Tracker

Use this table to verify that weekly, monthly, and annual records are complete and easy to retrieve.

2024	52	12	1		
2025	52	12	1		
2026	52	12	1		

Record Control

Tip

For audit readiness, keep signed checklists, test reports, photographs, alarm logs, corrective actions, and vendor service reports together under the same generator asset ID.

Common Failures & Fixes

Use these quick checks to guide first-level troubleshooting before escalating to a qualified service team.

Generator does not start within 10 seconds	Battery, fuel filter, glow plug, starter relay	Check battery voltage, fuel supply, engine preheat status, and recent alarm history.
Voltage sag at 75% load bank step	AVR issue, alternator wear, fuel restriction	Compare voltage trend across load steps and inspect AVR settings, fuel filters, and alternator connections.
Frequency unstable during test	Governor tuning, fuel quality, step load too aggressive	Verify RPM stability, fuel condition, and whether load was applied in proper increments.
Low coolant or high temperature alarm	Coolant leak, blocked radiator, fan belt, water pump	Inspect coolant level, hoses, radiator airflow, belts, and temperature sensor readings.
Battery charger alarm	Charger failure, loose terminals, aging battery	Check charger output, terminal corrosion, battery age, and float voltage.
ATS fails to transfer	ATS control fault, utility sensing issue, interlock problem	Confirm ATS AUTO status, control power, utility sensing, and transfer logs.
Excessive wet stacking / smoke	Long low-load operation, poor combustion	Schedule load bank testing and inspect injectors, air filters, and exhaust temperature trend.
Unexpected alarms during cool-down	Sensor fault, cooling system issue, delayed shutdown setting	Record exact alarm code, verify cool-down duration, and compare against controller settings.

Need Help with NFPA 110 Compliance Design?

ASO Genset's compliance engineering team supports facility teams that need reliable standby power systems, practical test planning, and audit-ready documentation.

✓	NFPA 110 system design review
✓	Annual load bank testing
✓	JCAHO audit preparation
✓	Generator room, ATS, fuel system, and load testing documentation support

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	Emergency standby generator compliance, maintenance, and load bank testing support

Checklist Owner Sign-Off

Disclaimer: This template is for documentation support and does not replace final review by qualified professionals or the authority having jurisdiction.