ELECTRICAL PANEL INSPECTION CHECKLIST

(Monthly Visual Inspection — Building Staff)

Monthly Visual Inspection

For the Month of ....., Date .....

TASK	STATUS
Verify all electrical panel doors are closed, latched, and undamaged. Panels must not be left open or propped open.	
Check that the area in front of every panel has the required clearance: 36 inches minimum (OSHA/NEC). No storage, equipment, or obstructions within this zone.	
Inspect panel exteriors for signs of heat damage: discoloration, melting, scorching, or a warm-to-the-touch enclosure. Report immediately if found.	
Listen at each panel for buzzing, humming, or crackling sounds. These indicate loose connections, arcing, or failing breakers.	
Look for evidence of moisture, water stains, or condensation on or near panels. Water and electricity are a fire and shock hazard.	
Check for evidence of pest activity around panels: droppings, nesting material, gnaw marks on wiring. Report to pest control and an electrician.	
Verify all panel directories (circuit schedules) are present, legible, and accurate. Every breaker should be labeled with the circuit it controls.	
Confirm that arc flash warning labels are posted on all panels per NFPA 70E. Labels must show incident energy, PPE requirements, and flash protection boundary.	
Check that all breakers are in the fully ON or fully OFF position. A breaker sitting in a tripped (middle) position must be investigated before resetting.	
Verify that all knockout holes are covered. Open knockouts allow dust, moisture, and pests into the panel enclosure.	
Additional Task:	

Instructions:

Building staff can perform these monthly visual checks without opening the panel. Do NOT open panel covers or touch any electrical components unless you are a qualified person per NFPA 70E. If you hear buzzing, smell burning, or see discoloration, keep people away from the panel and contact a licensed electrician immediately. The 36-inch clearance zone in front of every panel is an OSHA and NEC requirement — it is not optional storage space.

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ELECTRICAL PANEL INSPECTION CHECKLIST

(Quarterly Detailed Inspection — Qualified Person)

Quarterly Detailed Inspection

from ..... to .....

TASK	1ST	2ND	3RD	4TH
De-energize the panel per your facility's lockout/tagout (LOTO) procedures before opening the panel cover. Verify zero energy with a voltage tester.				
Remove the panel cover and visually inspect all wiring, bus bars, and connections for signs of overheating: discolored insulation, melted wire, carbon tracking, or burnt smell.				
Check all wire terminations and lug connections for tightness. Loose connections are the #1 cause of electrical panel fires.				
Inspect breakers for signs of damage, discoloration, or tripping history marks. Replace any breaker that shows physical damage.				
Verify that no breakers are double-tapped (two wires on a single-pole breaker terminal) unless the breaker is rated for it.				
Check for proper wire sizing. Undersized wires connected to oversized breakers are an overload hazard.				
Inspect the neutral bus bar and ground bus bar for secure connections. Verify that neutral and ground wires are separated (in main panels) or bonded (in sub-panels) per NEC requirements.				
Check for any signs of water intrusion inside the panel: rust, mineral deposits, or moisture on components.				
Vacuum dust and debris from inside the panel enclosure using a non-conductive nozzle. Accumulated dust is a fire accelerant.				
Reinstall the panel cover securely. Update the inspection log with findings, date, and inspector name.				
Additional Task:				

Instructions:

This page requires a qualified person as defined by NFPA 70E: someone trained in electrical safety, arc flash hazards, and lockout/tagout procedures. Never open an energized panel without proper PPE and authorization. Loose connections are found in 40–60% of panels that have not been recently maintained — connection tightness is the single most important check on this page. Always de-energize and verify zero energy before removing panel covers.

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ELECTRICAL PANEL INSPECTION CHECKLIST

(Annual Infrared Thermographic Scan)

Annual Infrared Thermographic Scan

For the Month of ....., Date .....

TASK	STATUS
Schedule an annual infrared (IR) thermographic inspection with a certified Level I (or higher) thermographer per NFPA 70B.	
Ensure all panels are under minimum 40% normal load during the scan. Panels under no load will not show resistive heating from loose connections.	
Thermographer scans all breakers, bus bars, wire terminations, and connections with a calibrated thermal imaging camera.	
Document all thermal anomalies with calibrated images showing the temperature differential (ΔT) above ambient or an identical component.	
Classify findings by NFPA 70B priority: Priority 1 (ΔT > 15°C or >40°C above ambient) = immediate de-energization. Priority 2 (ΔT 4–15°C) = repair within 2 weeks. Priority 3 (ΔT 1–4°C) = monitor and schedule repair.	
Generate a written IR inspection report with images, findings, severity classifications, and recommended corrective actions for each panel.	
Address all Priority 1 findings before the panel is returned to normal service.	
File the IR report and schedule follow-up scans to verify that all corrective actions resolved the identified anomalies.	
Provide copies of the IR report to your insurance carrier if required by your policy.	
Additional Task:	

Instructions:

NFPA 70B recommends annual infrared scanning of all electrical distribution equipment under load. Panels must be under at least 40% normal load for the scan to detect resistive heating. The thermographer must be certified (Level I minimum per ASNT or equivalent). Many commercial insurance carriers require annual IR scans and may offer premium discounts for facilities with documented programs. Priority 1 findings (ΔT >15°C) require immediate action — do not return the panel to service until repaired.

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ELECTRICAL PANEL INSPECTION CHECKLIST

(Annual Comprehensive Inspection — Licensed Electrician)

Annual Comprehensive Inspection

Date .....

TASK	STATUS
Schedule a licensed electrician for a full annual inspection and preventive maintenance of all electrical panels and distribution equipment.	
De-energize panels per LOTO procedures. Perform full connection torque verification on all breaker terminals, lug connections, bus bar bolts, and ground/neutral bars to manufacturer specifications.	
Test all breakers for proper operation: manually trip and reset each breaker. Replace any that fail to trip, reset, or feel mechanically stiff.	
Perform insulation resistance testing (megger test) on main feeders and branch circuit wiring to identify insulation degradation before it causes a fault.	
Verify grounding system integrity. Test the main grounding electrode conductor connection and measure ground resistance.	
Inspect the main service entrance: meter base, service disconnect, main breaker, and utility connections for condition and code compliance.	
Verify all GFCI and AFCI breakers (or outlets) are functioning. Test using the built-in test button and verify they trip and reset properly.	
Update the arc flash study if any changes have been made to the electrical system (new panels, breaker replacements, service upgrades). Arc flash labels must reflect current conditions.	
Inspect transfer switches and emergency power connections (if applicable). Verify proper operation under simulated outage conditions.	
Provide a written inspection report listing all panels inspected, findings, repairs completed, and recommendations for future action.	
Additional Task:	

Instructions:

Annual comprehensive inspection must be performed by a licensed electrician. NFPA 70B (2023 edition) is now a mandatory standard, not a recommended practice. This means documented electrical maintenance is a code requirement for commercial facilities. Connection torque verification, breaker testing, and insulation resistance testing are the three highest-value tasks in any annual service. Keep the written inspection report on file — it is your proof of compliance.

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ELECTRICAL PANEL INSPECTION CHECKLIST

Documentation and Compliance

Date .....

TASK	STATUS
Maintain an electrical panel inventory: location, panel designation, voltage, amperage rating, number of circuits, and age/installation date for every panel.	
Log every inspection with date, inspector name (and license number for annual service), findings, and corrective actions taken.	
File all infrared thermographic reports with calibrated images, severity classifications, and follow-up verification records.	
Keep a current arc flash study on file. NFPA 70E requires arc flash labels on all panels. Update the study whenever the electrical system is modified.	
Document all breaker replacements, repairs, and modifications with date, electrician name, and parts/equipment used.	
Maintain lockout/tagout (LOTO) procedure documentation for every panel, accessible to all authorized personnel.	
Keep copies of the current single-line diagram for the facility's electrical distribution system. Update whenever changes are made.	
Retain all electrical inspection and maintenance records for a minimum of 5 years for insurance, OSHA, and code compliance.	
Additional Task:	

Instructions:

NFPA 70B requires a documented electrical preventive maintenance program. NFPA 70E requires arc flash labels on all panels. OSHA 29 CFR 1910.303 requires electrical equipment to be maintained in a safe condition. Insurance carriers routinely review electrical maintenance records after fire or equipment damage claims. Missing or incomplete records can result in claim denial. Retain all records for a minimum of 5 years.

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