

Electrical Preventative Maintenance Checklist

A preventive maintenance checklist for electrical distribution systems in public commercial buildings typically includes various tasks and inspections to ensure safety and reliability such as:

1. Visual Inspections:

- Check for any signs of damage, wear, or overheating in electrical panels, switchgear, transformers, and other equipment.
- Look for loose connections, frayed wires, or corroded components.
- Ensure that proper labeling is in place for circuit breakers, fuses, and switches.

2. Electrical Panel Maintenance:

- Tighten electrical connections to prevent overheating and reduce the risk of electrical faults.
- Clean dust and debris from panels and equipment to maintain proper ventilation.
- Verify that panel doors are secure and properly sealed.

3. Circuit Breakers and Fuses:

- Test and exercise circuit breakers to ensure proper operation.
- Check for any tripped breakers or blown fuses and replace them as necessary.
- Inspect and clean contacts to maintain good electrical conductivity.

4. Grounding and Bonding:

- Inspect grounding systems and connections for corrosion or damage.
- Measure ground resistance to ensure it falls within acceptable limits.
- Verify proper bonding between electrical equipment and grounding systems.

5. Transformers:

- Inspect transformer oil levels and condition (if applicable) and perform oil sampling as required.
- Check for any signs of leakage, overheating, or abnormal noise.
- Verify that cooling systems (fans, radiators) are clean and operational.

6. Electrical Cables and Wiring:

- Inspect cables for any signs of wear, damage, or insulation deterioration.
- Verify cable connections are tight and properly secured.

- Check cable routing to ensure it complies with safety standards.
- 7. Emergency and Exit Lighting:**
 - Test emergency and exit lighting systems regularly, including battery backup.
 - Replace batteries or bulbs as necessary.
 - Ensure all emergency lighting fixtures are clean and free from obstruction.
- 8. Power Quality:**
 - Monitor power quality parameters such as voltage, current, and frequency.
 - Check for harmonics, voltage sags, or other disturbances.
 - Inspect surge protection devices and ensure their proper functioning.
- 9. Fire and Smoke Detection Systems:**
 - Test fire alarm and smoke detection systems regularly.
 - Replace batteries, test alarm sounders, and check system functionality.
 - Inspect and clean smoke detectors and other components.
- 10. Electrical Safety Equipment:**
 - Inspect and test safety equipment such as ground fault circuit interrupters (GFCIs), residual current devices (RCDs), and arc fault circuit interrupters (AFCIs).
 - Verify that safety labels and warning signs are in place and legible.

Remember that the specific checklist items may vary depending on the size and complexity of the electrical distribution system in your commercial building, local regulations, and industry standards. It's always recommended to consult with a qualified electrical professional or refer to applicable codes and guidelines for a comprehensive preventive maintenance checklist.