



The methodology of an Electrical Safety Audit, as per the Central Electricity Authority (CEA) guidelines issued in 2010, involves a systematic and comprehensive evaluation of the electrical systems and practices in an organization. Here is a general outline of the methodology for conducting an Electrical Safety Audit as per CEA 2010:

- **Planning and Preparation:**
  1. Define the objectives and scope of the audit.
  2. Identify the areas, departments, or facilities to be audited.
  3. Form a competent audit team with knowledge and experience in electrical safety.
  4. Collect relevant documentation, including electrical drawings, equipment records, maintenance logs, safety procedures, etc.
  
- **Preliminary Assessment:**
  1. Review the organization's electrical system, including power sources, distribution networks, equipment, and infrastructure.
  2. Identify potential hazards and risks associated with electrical installations.
  3. Evaluate compliance with applicable electrical codes, regulations, and standards.
  4. Assess the effectiveness of existing electrical safety policies, procedures, and training programs.
  
- **On-site Inspection and Data Collection:**
  1. Conduct a physical inspection of electrical installations, equipment, and work areas.
  2. Inspect switchboards, panel boards, transformers, generators, motors, control systems, grounding systems, etc.
  3. Verify the condition and integrity of electrical wiring, cables, and protective devices.
  4. Collect data on electrical load, power quality, earthing resistance, insulation resistance, etc.
  5. Identify and document any non-compliance, deficiencies, or unsafe practices.
  
- **Hazard Identification and Risk Assessment:**
  1. Identify potential electrical hazards such as electrical shock, fire, electrocution, arc flash, etc.



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2. Assess the severity and likelihood of each identified hazard.
3. Evaluate existing risk control measures and their effectiveness.
4. Prioritize hazards based on their level of risk and potential impact.

- Compliance Evaluation:

1. Assess compliance with CEA guidelines, relevant electrical codes, and safety standards.
2. Evaluate compliance with electrical licensing requirements and documentation.
3. Review the organization's maintenance and testing procedures for electrical equipment.
4. Verify the availability and adequacy of safety signage, labels, and warning systems.

- Documentation and Reporting:

1. Prepare a comprehensive report detailing the findings, observations, and recommendations.
2. Document non-compliance, deficiencies, hazards, and associated risks.
3. Include photographs, measurements, test results, and supporting evidence.
4. Provide recommendations for corrective actions, improvements, and mitigation measures.
5. Present the report to the management of the audited organization.



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