

Safety Measures for Electrical Works at Electric Center

1. Introduction

This document outlines the safety measures for *Electric Center*, a company involved in electrical work, including high tension (HT) and low tension (LT) systems, as well as panel design and installation. Electrical work carries inherent risks, so strict adherence to safety protocols is essential for protecting employees, clients, and equipment.

1.1 Scope

These safety procedures apply to all employees, contractors, and visitors at *Electric Center* engaged in electrical installations, maintenance, and servicing of HT, LT, and control panels.

1.2 Purpose

The purpose of this document is to ensure safe working conditions and compliance with all relevant safety regulations to prevent accidents and injuries.

2. Legal and Regulatory Compliance

Electric Center follows relevant safety standards and laws to ensure safe electrical work, including:

- **Indian Electricity Rules, 1956**
- **The Electricity Act, 2003**
- **IS 732:2019** – for electrical wiring
- **IS 3043:2018** – for earthing systems
- **IS 13947** – for electrical panels
- **National Electrical Code (NEC)** (referenced as a technical guide)

Compliance with these regulations is mandatory for all projects.

3. Risk Assessment and Hazard Identification

Before any electrical work, perform a risk assessment to identify potential hazards such as:

- **Electrical Shock**
- **Arc Flash**
- **Fire**
- **Falls from Heights**
- **Overloading and Short Circuits**

Mitigation strategies must be developed for each identified risk.

4. Personal Protective Equipment (PPE)

All workers must wear the necessary PPE for the task:

- **Electrical Insulating Gloves** (Class 0 or Class 1 for LT, Class 2 for HT)
- **Flame-Resistant Clothing (FRC) or Arc Flash Suit**
- **Insulated Rubber Boots**
- **Safety Glasses or Face Shields**
- **Hearing Protection**
- **Hard Hats**
- **Rubber Insulating Mats**

Inspect PPE regularly and replace when damaged.

5. Safe Work Practices

5.1 High Tension (HT) Electrical Work

- **Lockout/Tagout (LOTO):** Always de-energize HT systems before starting work. Use proper LOTO procedures to avoid accidental re-energization.
- **Insulated Tools:** Use insulated tools rated for HT work.
- **Clear Work Area:** Keep the work area clear of unnecessary personnel and equipment.

5.2 Low Tension (LT) Electrical Work

- **De-Energization:** Ensure that systems are de-energized and properly tested before beginning work.
- **Proper Sizing:** Use cables and fuses that are correctly rated for the load.
- **Circuit Protection:** Ensure that circuit breakers are rated appropriately to prevent overcurrent.

5.3 Electrical Panel Design and Installation

- **Panel Location:** Install panels in dry, accessible areas, with sufficient clearance for maintenance.
- **Proper Labeling:** Label panels with voltage ratings, circuit information, and warnings.
- **Inspection:** Conduct regular inspections for wear, overheating, and loose connections.

5.4 Working with Control Panels and Switchboards

- **De-Energization:** Ensure all panels are de-energized before maintenance.
 - **Locking Mechanisms:** Use lockout/tagout devices to prevent unauthorized access.
 - **Component Ratings:** Ensure that all components in control panels are correctly rated for the intended loads.
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6. Emergency Procedures

6.1 First Aid for Electrical Shock

- **Immediate Action:** Disconnect the power immediately using insulated tools or the circuit breaker.
- **Call for Help:** Notify emergency services and inform them of the situation.
- **CPR:** If necessary, administer CPR until help arrives.

6.2 Fire Safety

- **Extinguishers:** Keep CO2 or dry chemical fire extinguishers near electrical equipment.

- **Evacuation:** Ensure all employees are familiar with the evacuation plan in case of fire.

6.3 Incident Reporting

Report all accidents, injuries, and near-misses promptly. Conduct investigations to determine causes and take corrective actions.

7. Training and Awareness

- **Safety Training:** Provide training on electrical safety, proper use of tools, and emergency procedures.
 - **Regulatory Compliance:** Train employees on relevant laws and standards.
 - **Drills:** Conduct regular emergency drills to ensure employees know how to respond to electrical hazards.
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8. Equipment Maintenance and Inspection

- **Routine Inspections:** Inspect tools, machines, and electrical installations regularly.
 - **Testing:** Use calibrated testing equipment to verify the integrity of electrical systems.
 - **Preventive Maintenance:** Establish a schedule for the maintenance of all equipment, including HT and LT systems.
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9. Conclusion

Electric Center is committed to maintaining a safe work environment through adherence to safety protocols, use of proper PPE, risk assessments, and regular training. By following these guidelines, we can minimize the risk of accidents and ensure the safety of all involved.

Document Control

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