

SOP 04 – Electrical Safety

S04.1 Purpose

The purpose of this Standard is to describe the steps while carrying out electrical work. Electrical safety is crucial to EESL operations as electrical hazards can cause burns, shocks and electrocution (death).

S04.2 Scope

This Standard is mandatory and applies to EESL and its contractors for the on-site implementation of the programs.

S04.3 References

- Indian Electricity Act 2003
- Indian Electricity Rules 2005

S04.4 General operating procedure for electrical safety

Workers may get exposed to safety hazards from contact with live power lines during on-site work. The prevention and control measures associated with live power lines/cables includes:

- Only trained and certified workers shall be allowed to install, maintain, or repair electrical equipment.
- Deactivate and properly ground live power cables before work is performed on, or in close proximity to the lines.
- Ensure that live-wire work is conducted by trained workers with strict adherence to specific safety and insulation standards. Qualified or trained employees working on transmission or distribution systems shall:
 1. Distinguish live parts from other parts of the electrical system.
 2. Determine the voltage of live parts.
 3. Understand the minimum approach distances outlined for specific live line voltages.
 4. Ensure proper use of special safety equipment and procedures when working near, or on, exposed energized parts of an electrical system
- Workers shall not approach an exposed, energized or conductive part even if properly trained unless:
 1. The worker is properly insulated from the energized part with gloves or other approved insulation;
 2. The energized part is properly insulated from the worker and any other conductive object; or
 3. The worker is properly isolated and insulated from any other conductive object (live-line work)

- Strict procedures for de-energizing and checking of electrical equipment shall be in place before any maintenance work is conducted. If de-energizing is not possible, electrical installations should be moved or insulated to minimize the hazardous effects;
- In order to protect workers from electric shock in case of a faulted circuit to conductive equipment, all non-current carrying conductive components must be bonded together with a conductor of sufficient size. The impedance of the complete ground-fault circuit (phase conductor and bonding conductor) should be low enough to ensure sufficient flow of ground-fault current for fast operation of the proper circuit protective devices, and to minimize the potential for stray ground currents on solidly grounded systems.
- Assume that all overhead wires are energized at lethal voltages. Never assume that a wire is safe to touch even if it is down or appears to be insulated.
- Never touch a fallen overhead power line. Call the electric utility company to report fallen electrical lines.
- Stay at least 10 feet (3 meters) away from overhead wires during on-site activities. If working at heights or handling long objects, survey the area before starting work for the presence of overhead wires.
- Never operate electrical equipment while you are standing in water.
- If working in damp locations, inspect electric cords and equipment to ensure that they are in good condition and free of defects, and use a ground-fault circuit interrupter (GFCI).

History of amendments

The latest versions of the Documentation Format must be used at all times. This page needs to be updated whenever there is a change in the version number of the documents.

S. No	Date of amendment	Version	Details of amendment
1.	DD.MM.YYYY	01	Initial approval of the documentation format

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