



## ELECTRICAL H&S, SAFE ELECTRICAL ISOLATION (LOTO), RESETTING TRIPS & OVERLOADS

### Electrical H&S, Safe Electrical Isolation (LOTO), Resetting Trips & Overloads

**Duration:** 1 day

**Aims:** The purpose of this 1 day course is to equip delegates with a comprehensive understanding of Electrical Health & Safety in the workplace. Attendees will learn how to conduct themselves safely so as not to cause death or injury to themselves or their colleagues. They will also learn how electricity can cause a shock, burns, fire & explosion & how to perform the following very important High Risk activities:

- Reset Trips (Circuit Breakers) – MCB, RCD, RCBO
- Reset Overloads (Motor Overloads & Motor Protective Circuit Breakers) – MPCBs
- Perform Safe Electrical Isolation (Isolate, Lock OFF & Check for DEAD) via various safety devices

**Objectives:** For specific course objectives see Training Record Log.

*Note, it is beyond the scope of this course to cover Resetting Trips related to VSDs & Safety Relays*

#### Content

##### **H&S at Work Act 1974 & implications**

Importance of the Act  
Duty of the Employer & Employee

##### **EAWR Regulations 1989 & PUWER 1998**

Importance of the regulations  
What is “a Competent Person”?  
Delegate Exercises & Competency test

##### **Risk Assessment**

Responsibilities of the Employer & Employee  
What are the Hazards?  
The importance of communication

##### **Hazards & Effects of Electricity**

Electric shock  
Burns, Fires, Explosion  
Insulation, Connections  
Work area considerations  
First Aid, a reminder of the basics

##### **Fundamentals of Electricity**

Volts, Current & Resistance  
AC & DC voltages  
Single & 3 Phase supplies

##### **Electrical Hand tools & PPE**

Regulations/Standards (VDE)  
Correct tool for the job  
PPE (Personal Protective Equipment)  
Signs, barriers, labels & feedback

##### **Brief overview of guidelines regarding In Service Inspect & Testing (was PAT testing)**

##### **Simple Electrical Test Equipment**

Regulations/Standards  
Voltage Testers, Proving Units & Multi-meters  
Delegate Exercises

##### **Faults & Symptoms that trip MCBs, RCDs & MPCBs**

The difference between Intermittent & Permanent faults  
The difference between an Open Circuit, Short Circuit & Leakage to Earth  
Effects of Motors Overheating & Overloads situations  
Re-Setting Trips, Circuit Breakers & Motor Protection  
Circuit Breakers  
Knowing one’s own limitation  
The benefit of feedback for maintenance people  
Delegate Exercises

##### **Electrical Control/Switch-Gear Recognition**

Switches, Isolators  
Fuses, MCBs, MPCBs, Overloads & RCDs

##### **Electrical Control Cabinet Overview**

Hazards, Safety & Responsibilities  
IP Ratings, Colour Coding, RED, Green Amber & IP2X  
Identifying Key Safety Components

##### **Isolating, Locking OFF & Checking for DEAD**

LOTO (Lock Off & Tag Out)  
Importance & Implications of this Responsibility  
Hazards & Safety Considerations  
Importance of procedures  
Importance of Site Electrical H&S procedures  
Delegate Exercises & Knowledge Appraisal

#### **Special Note**

*This course is all about raising the level of awareness regarding Electrical H&S issues for a wide range of employees. Obviously the course is directly applicable to maintenance personnel (electrical or mechanical) but should be of interest to **all employees** who work on or near equipment or machinery powered by electricity as working safely is a shared responsibility for all. **All employees need to have regard to safe working**, be able to spot potential hazards & dangers in the workplace & should be able to act safely & appropriately at all times.*