

Centre For Industrial Solution and Advanced Training

***Training Program on Electrical Arc  
Flash, Earthing, Electrical Safety &  
Auditing, International Standards  
IEEE, NESC, OSHA & NFPA***

*11-12 Sept 2017 at Nagpur*





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***2 Day`s Training Program on  
INTERNATIONAL STANDARDS IEEE, NESC, OSHA & NFPA  
Electrical Arc Flash, Earthing, Electrical Safety & Auditing,  
(11-12 Sept 2017 at Nagpur)***

**Description:**

The course is aimed to build the capacity of senior and junior supervisory staff to adopt electrically safe procedures to prevent accidents and promptly respond and take measures to tackle any emergency or hazardous situation because of electricity. The course is designed to provide advanced knowledge about electrical safety for the plant managers and supervisors.

To provide detailed information about Arc Flash, Electrical Hazards and Protection to the participants. Participants will also get to know about various International standards on Electrical safety & regulations regarding Arc flash.

**Who should attend?**

Plant managers and supervisors, Safety officers, practicing engineers all those who are not much well verse with electrical safety & Auditing. The program will be very much useful to all new joiners to take futuristic step towards work strategies.

**Course will focus on the following learning objectives:**

1. An in-depth understanding of Arc Flash, Analysis, electrical safety procedures & accident prevention techniques. International standards such as **IEEE, IS, NFPA and NESC** related to this.
2. Learning how to manage the situation after an accident has occurred and investigation
3. Participatory learning to get an insight of management of Electrical risk
4. Learning to cope with the critical situations created by the various hazards due to electricity.



## Course Objectives:

Personnel who are exposed to electrical hazards must understand the basics of electrical hazards and safe work practices outlined in company's Safe Operating Practices (SOPs) in order to implement the procedures and bring improvement in electrical safety performance. The course objective is to provide each individual with an overview of management of electrical safety by knowing the hazards that are applicable to their workplace by giving them the necessary exposure of the intricacies of electrical safety to the plant managers and the supervisors before conducting the audit. At the end of the course, each participant will become familiar with compliance responsibilities set forth by the statutory regulations. Emphasis will be placed on the use of compliance management techniques when dealing with electrical safety in the workplace.

## When participants complete the course they will be able to:

- ❖ Recognize the hazards of electricity & take preventative measures
- ❖ Avoid making body an electrical conductor
- ❖ Avoid causing damage to the equipment or conductors
- ❖ Take emergency measures to rescue someone who has received a shock

## Course Contents:

1. Review of electrical safety awareness of the participants
2. Obligations and duty of Individual, Supervisor & organization
3. Fire of electrical origin and its avoidance.
4. Electrical Safety Audit (ESA)
  - ❖ Purpose of Electrical Safety Audit
  - ❖ Is Electrical Safety Audit Mandatory?
  - ❖ Audit Objectives & Scope.
  - ❖ Audit Methodology
  - ❖ Audit Modus Operandi
  - ❖ Periodicity of Electrical Safety Audits
  - ❖ Safety Audit for Transformer, Distribution System, Switchgears etc.



## 5. Management of Electrical Risk.

- ❖ Hazards associated with electrical systems
- ❖ Common Causes of Electrical Accidents
- ❖ Unsafe Acts & Unsafe Conditions
- ❖ Overloading of Cable Trays
- ❖ Hazards from Electrical Tools
- ❖ Accident Prevention ways
- ❖ Fuse Vs Circuit Breaker
- ❖ Competent and Authorized person-- defined & explained
- ❖ Accident investigation Process
- ❖ Statutory provisions
- ❖ Electrical Risk management techniques.

## 6. Earthing System Management

Importance & Objectives

Types of earthing

## 7. Other electrical safety related issues

- ❖ Review of impact of power quality on electrical safety
- ❖ Review of Impact of fault level on electrical safety.
- ❖ Safety Feature for Electrical Switchgear
- ❖ Arc resistant switchgear
- ❖ Harmonics sources and their impact on safety
- ❖ Harmonics Mitigation

## 8 .Condition Monitoring

- ❖ Purpose
- ❖ Switchgear Diagnostics
- ❖ Transformer Diagnostics
- ❖ Risk Assessment

## 9. Accident Case Studies & Prevention Measures.



- ❖ Complications in Permit-to-work system.
- ❖ Shortcuts taken LOTO procedures
- ❖ Cable tray mismanagement
- ❖ Electrical tools and PPE management
- ❖ Electrical Safety by Design Criteria

## 10. Learning Contents Arc Flash:

- What is Arc Flash and reasons?
- Exposure to Arc Flash
- Various Regulations (OSHA, IS, NESC & NFPA)
- Protection and Safety
- Application of PPE
- Arc Flash Boundary
- Testing and de-energization of Electrical Equipment's
- Hazard Assessment and methods of Control
- Electrical Safety: Need and Working methodology
- On site Study methodology for Arc Flash Hazard Identification
- Various Case studies

### Registration:

**Dates of the program:** *11-12 Sept 2017 at Nagpur*

**Participation fees:** Rs. 15000/- per delegate (Excluding GST@18%, Training program includes training material hard copies, Tea, Lunch & snack, excluding lodging and Boarding)

**Payment:** ECS/NEFT/DD in favor of "Centre for Industrial Solution and Advanced Training" Payable at Nagpur, Maharashtra, India. Account No: 0509102000003353  
Bank: IDBI, Wardha- 442001, MS, India; IFSC Code: IBKL0000509; Swift Code  
IBKLINBB007; MICR Code 000259000.



## Centre For Industrial Solution and Advanced Training

AN ISO 9001:2015 CERTIFIED

(Technical- Electrical/Mechanical/Automation/Chemical, Behavioral & Soft Skill, Safety, Business Excellence, Safety & Energy Audit)

“A complete Training Solution Under One roof”

*Venue: KEC International Training Centre, Butibori, Nagpur, MH and SAN Techno Mentors Pvt Ltd. Kothrud Pune*

*For Registration, please do contact to,*

*We prefer on line Registration through our web [www.cisat.co.in](http://www.cisat.co.in).*

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- ❖ Do contact for any In-house Training program at your plant or location of known to you as per business need.
- ❖ We can do undertake Skill management, Design, Development, Delivery, implementation and Assessment of all of your need.
- ❖ We also developed a comprehensive online Learning Management System for L&D which is one of the best in world. Do ask for Demo.