



Centre For Industrial Solutions and Advanced Training

## **Two Day`s Training Program on High Voltage Safety, Factory Acts, IE/CEA and Applicable standards. Safety Audits and Methods, Arc Flash and Mitigation Techniques.**

*24-25 April 2019 and 13-14 August @Nagpur , Maharashtra*



## **Two Day Training Program on**

### ***HIGH VOLTAGE SAFETY, FACTORY ACTS, IE/CEA AND APPLICABLE STANDARDS. SAFETY AUDITS AND METHODS, ARC FLASH AND MITIGATION TECHNIQUES.***

**(24-25 April 2019 and 13-14 August @Nagpur , Maharashtra)**

#### **Description:**

The course is aimed to build the capacity of senior and junior supervisory staff to develop and adopt electrically safety procedures to prevent accidents, promptly respond and take measures to tackle any emergency or hazardous situation because of High Voltage Electricity. The course is designed to provide advanced knowledge about High Voltage 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, High Voltage Electrical safety procedures & accident prevention techniques. **National and International standards such as IE, Factory act, CEA Rules, 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.



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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”

## Course Contents:

Delivery Schedule: 2 Days Training Programme on High Voltage Electrical Safety					
Day	SR	Topic	Subtopic	Duration (Min)	
Day 1	1	Introduction, Objective Setting and Pre Test		20	
	2	Fundamentals and requirements of High Voltage Electrical Safety	Overview of Electrical Power Systems, High voltage electrical equipments such as Circuit Breakers, Cables, Transmission lines, Transformers, Motors, Control Panels, etc. Faults in power systems and overview of protection systems.	90	
	3	Electrical safety in high voltage systems	Hazards in high voltage systems, Electrical shock and its effect on human body, Causes of high voltage electrical shock and its control, Fire hazards in high voltage systems and its mitigation.	90	
	4	Safety Related to	Energized Equipment & Circuits, Enclosed Spaces	Ladders & Platforms, Excavations, Hand & Power Tools Material Handling & Storage, Inspection of Test Instruments.	60
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			Material Handling & Storage, Inspection of Test Instruments.		
5	Concept of grounding systems and its role in HV safety	Types of grounding systems, Neutral earthing, Protective earthing, concept of Step and Touch potential, Practical approach for safe grounding systems, Protection against corrosion, Earth resistivity testing, Residual current devices.	90		
6	Safety from Lightning , surge voltages and harmonics in high voltage systems	Over voltages in power systems, causes and effects, Lightning surges, types and effects, Lightning zones and requirements, Measures for protection against Lightning and other overvoltage conditions, Surge protection of equipments, harmonics in power system and protection.	120		
Day2	7	Design level safety for electrical equipments	Description of design parameters for safe operation of high voltage equipments.	60	
	8	Safe work practices and safe conditions for HV equipments.	Safe operation, testing and maintenance, Condition monitoring of HV Cables, Switchgears, Motors, transformers, Circuit Breakers.	105	



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	9	Personal protective equipments and clothing	Role, types, Selection and Testing procedures. SOP related to safety.	30
	10	Recommendations of NFPA, IE, CEA, relating to HV safety	Description and application of various clauses, Standards and requirement to be fulfilled. Overhead Lines- Line Clearance, Communication Facilities, Testing facilities.	90
	11	Arc Flash and Mitigation	What is Arc Flash and reasons?	120
			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:** 24-25 April 2019 and 13-14 August @Nagpur, Maharashtra

**Nonresidential Participation fees:** INR 16000/- per delegate (Excluding GST@18%, includes training material hard copies, Tea, Lunch & snack, excluding lodging and Boarding)

**Payment:** ECS/NEFT/DD in favor of "Centre for Industrial Solutions and Advanced Training" Payable at Nagpur, Maharashtra, India. Account No: 0509102000003353 Bank: IDBI, Wardha- 442001, MS, India; IFSC Code: IBKL0000509; Swift Code IBKLINBBNGP; MICR Code 442259001, GSTN: 27ABBPW5589J1ZV.

**Venue:** To be informed as per location once received confirmation of participation.

**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 Employee Assessment.
- ❖ Job Fitting exercise and assessment for Employees.

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