



Centre For Industrial Solutions and Advanced Training

**Two Day`s Training Program on  
Electrical Safety in Hazardous Areas  
(Mining, O&G, Chemical),  
IE/CEA/OISD/NFPA and Applicable  
standards. Electrical Fire, Arc Flash,  
Safety Audits and Accident  
Investigation**

*19-20 Feb 2020 at Nagpur*

## Two Day`s Training Program on Electrical Safety in Hazardous Areas (Mining, O&G, Chemical), IE/CEA/OISD/NFPA and Applicable standards. Electrical Fire, Arc Flash, Safety Audits and Accident Investigation

**(19-20 Feb 2020 at Nagpur)**

### 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 Electricity. The course is designed to provide adequate knowledge about Electrical safety for the plant employees.

To provide detailed information about Electrical Hazards in Mining, Chemical and O&G areas also Arc Flash and Protection to the participants. Participants will also get to know about various National and 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 versed 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. National and International standards such as IE, Factory act, CEA Rules, OISD, 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 Contents:

Delivery Schedule: 2 Days Training Programme on High Voltage Electrical Safety				
Day	SR	Topic	Subtopic	Duration (Min)
<b>Day 1</b>	1	<b>Introduction, Objective Setting and Pre Test</b>		20
	2	Review of Electrical Safety for Electrical Equipments.	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 Explosive areas.	Hazards in Explosive Systems, HIRA for Electrical Systems in Mining, Gaseous and Oil areas. What rules says?	90
	4	Safety Related to Highly Explosive systems (Mining, O&G, Chemical)	Energized Equipment & Circuits, Enclosed Spaces Hand & Power Tools, Equipment's requirement. Material Handling & Storage, Inspection of Test Instruments.	60
	5	Concept of grounding systems and its role in Electrical 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 Power System.	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
<b>Day2</b>	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

	<b>9</b>	Personal protective equipments and clothing	Role, types, Selection and Testing procedures. SOP related to safety.	30
	<b>10</b>	Recommendations of NFPA, IE, CEA, NFPA and OISD.	Description and application of various clauses, Standards and requirement to be fulfilled for explosive areas. Communication Facilities, Testing facilities.	90
	<b>11</b>	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:** 19-20 Feb 2020 at Nagpur

**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 on confirmed nominations.

**For Registration, please do contact to,**

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

Vikas 00-91-7709012815; 8669546332; [rupali@cisat.co.in](mailto:rupali@cisat.co.in); [cisat.nagpur@gmail.com](mailto:cisat.nagpur@gmail.com);

- ❖ 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.