

Centre For Industrial Solutions and Advanced Training

“Electrical Safety in High Voltage and Hazardous Areas (Mining), IE/CEA/OISD/NFPA and Applicable standards. Electrical Fire, Arc Flash and mitigation techniques, Safety Audits and Accident Investigation”

⚠ DANGER

**Electrical
Hazard.**





Two Day Training Program on

Electrical Safety in High Voltage and Hazardous Areas (Mining), IE/CEA/OISD/NFPA and Applicable standards. Electrical Fire, Arc Flash and mitigation techniques, Safety Audits and Accident Investigation

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 (as per requirements):

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
- ❖ Audit of Electrical systems.

Course Contents:

Delivery Schedule: 2 Days Training Programme on High Voltage Electrical Safety- 30-31, May, 2024 in Kolkata and 27-28 June 24, at Nagpur

Day	SR	Topic	Subtopic	Duration (Min)
Day 1	1	Introduction, Objective Setting and Pre-Test		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	Energized Equipment & Circuits, Enclosed Spaces	60



Centre For Industrial Solutions and Advanced Training

AN ISO 9001:2015 CERTIFIED

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

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		to Highly Explosive systems (Mining, O&G, Chemical)	Hand & Power Tools, Equipment's requirement. Material Handling & Storage, Inspection of Test Instruments.	
	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
Day2	7	Design level safety for electrical equipments	Description of design parameters for safe operation of high voltage equipments. Electrical Safety Audit.	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
	9	Personal protective equipments and clothing	Role, types, Selection and Testing procedures. SOP related to safety.	30
	10	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
	11	Short Circuit Calculations, Arc Flash and Mitigation	What is Arc Flash and reasons? Exposure to Arc Flash Various Regulations (OSHA, IS, NESC & NFPA) Short Circuit Calculations, 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	120



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	Identification	
	Various Case studies	

- ❖ 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.

or Registration, please do contact to, Vikas 00-91-7709012815;

Email: cisat.nagpur@gmail.com; vikas@cisat.co.in;

Looking forward further communication from you soon.

With Best Regards and Thanks,

Mrs. Rupali

Director Business Development

Centre For Industrial Solutions and Advanced Training (An ISO 9001:2015 Certified)

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(HR Services, Behaviour Analysis/Training-Technical- Electrical/Mechanical/Automation/Chemical, Behavioral, Soft Skill, Safety, Outbound, Business Excellence, Safety Audit, Energy Audit, Skill Gap Analysis/Automation Solution/Sales & Service; PLC/Drives, Productivity and Time and Motion Study, Improvement Projects, TPM, 5S and Six Sigma Implementation, Technicians Training)