Professionals who work around electricity need up-to-date & accurate information to be effective. The Chola MS Safety Academy offers fire & electrical safety training courses from some of the best experts in the field of Safety today. Our wide-ranging course list provides the most relevant training available, from general electrical safety courses to courses customized to meet your specific need. **Our courses are all designed with the intent to create critical competency and expertise in the learner in the chosen field.**
SOME POPULAR SAFETY COURSES …

- LOTO
- Statutory Requirements
- Fire & Emergency Management
- e-HAZOP
- Confined Space Entry
- Thermography
- HAC
- Lightnining Protection
- Arc Flash
- Principles of Electrical Safety

EXCEPTIONAL TRAINING PROGRAMS BEGIN WITH EXCEPTIONAL QUALITY, CONTENT AND TRAINER EXPERTISE. WE OFFER YOU THESE…
Our Training Background

Our training modules on Risk Engineering and Safety are based upon a number of years of cumulative experience of our domain experts and engineers.

Our consulting experience and up-to-date knowledge about statutes, regulations, standards etc. form the basis of our programs. These learning modules are meticulously developed by our domain experts in consultation with Instructional designers to ensure maximum learning and retention of concepts learnt in the least amount of time.

We have a passionate team of trainers and consultants, who have the combined experience of delivering more than 5000 classroom training hours across the globe. All of whom are very experienced in the delivery of training modules and can bring out the best outcomes and participation.

- We capture and convey our experience via Case Scenarios built into the course structure.
- Because of our rich expertise and experience in consulting we are able to address complex problems and convey solutions using simple and easy to comprehend language.

Programs are designed as stepping stones or Certification Enablers to acquire Industry recognized Credentials in EHS

Faculty Profile: HSE experts with 15-20 years of domain expertise in Electrical and Industrial Safety. BEE certified Energy Auditors, Certified Thermographers, and Competent in selection of Ex-Equipments as per IEC 60079 Standards.
1. Safe Lockout and Tagout

A simple maintenance task can become a life threatening activity when working on equipments in operation. This can occur when equipment gets turned on accidently by the worker or a colleague during a maintenance operation causing serious damages and at times even fatalities. Isolation procedures often called as lockout/tagout is designed to prevent such accidents.

OBJECTIVES
The learner will become familiar with the correct LOTO procedures for maintenance operations involving energy systems such as electrical, mechanical, hydraulic, pneumatic and other systems.

Learning Outcomes
The course is designed to ensure the learner understands the following
- Hazards associated with uncontrolled energy and its identification
- Correct method of controlling that energy through a well developed lockout tagout program

COURSE COVERAGE
- What is LOTO
- Basics of LOTO
- Types of Hazardous energy
- LOTO definition
- LOTO principles
- LOTO procedures
- Practicals of LOTO implementation
- Case Studies of accidents – where LOTO could have prevented it
- FAQs

Training Aids:
- Lesson Plans;
- PowerPoint Presentations; Video/ DVD
- Handouts and Activities;

DURATION: 1 day
2. Statutory Requirements in Electrical Safety

The course covers requirements like National Electrical Code (NEC), NFPA, Central Electricity Authority (CEA) Safety Regulations etc.

OBJECTIVES

- The aim of this course is to provide knowledge and improve competence level and skills for
- Selection of appropriate standards and electrical equipment on the basis of nature of operations and establishment.
- Insights for Risk Mitigation measures based upon concepts of Hazardous Area Classification (HAC)
- Lock Out Tag Out (LOTO) operations
- Reference Standards
  - CEA Safety Regulations 2010
  - HAC reviews based upon IS5572, IS5571, 60079 series
  - LOTO concepts as per OSHA 29CFR 1910.147

Learning Outcomes

1. Simplification of complex statutory requirements & regulations in India; leading to compliance.
2. Guidelines for Selection of appropriate standards and electrical equipment on the basis of nature of operations and establishment.
3. Insights for Risk Mitigation measures including concepts of Hazardous Area Classification (HAC) and Lock Out Tag Out (LOTO)

COURSE COVERAGE

Safety Standards

- Central Electricity Authority Regulations, 2015
- Central Electricity Authority (Measures relating to Safety and Electricity Supply) Regulations, 2015
- Overview of HAC and LOTO

Training Aids:

- Lesson Plans;
- PowerPoint Presentations; Video/DVD
- Handouts and Activities;

DURATION: 1 day
3. Fire Safety and Emergency Management

OBJECTIVES

Broadly the Training and Assessment program will be developed and delivered with the following objectives:

- To create in the participants a thorough understanding of the topics, with a view to create awareness and the necessary competency in them.
- To assess and certify the participants on the level of understanding on the concept delivered.

A competent understanding of Fire Safety is required to understand the hazards associated with fire and reduce the potential destruction that can be caused by fire including risk to life. The program aims to provide a thorough understanding of the causes for fire, the hazards associated with fire, and fire fighting strategies and considerations.

Learning Outcomes:

At the end of the course trainees are expected to:

- Be familiar with theory and elements of fire;
- Understand the types of fires & Understand the causes of fires;
- Understand the other hazards associated with fires;
- Be familiar with the different kinds of fire extinguishers;
- Understand the assessment of the fire hazard level and risk associated with fire;
- Understand the fire fighting strategies, ground preparations and considerations before fire-fighting;
- Understand the size up consideration;
- Be familiar with roles and responsibilities during fires and the security requirements; and
- Understand the reporting, evacuation and after the fire control requirements.

Course Content:

- First Aid Basics
- Artificial Resuscitation/CPR
- Basic principles of fire
- Classification of fires
- Fire fighting Decision Criteria
- Basic principles of heat transmission and fire spread
• Common causes and consequences of fires in the workplace
• Fire risk assessment requirements Control measures
• Fire fighting strategies, ground preparation and consideration before fire fighting
• Fire warning and fire fighting equipment
• Emergency preparedness and response plan
• Requirements for fire plans Emergency evacuation procedure
• Roles and responsibilities of fire warden during fires and the security requirements; and
• Recordkeeping - Reporting, evacuation and after the fire control requirements.
• Mock Drill – Emergency Evacuation

Practical Content:

• CPR
• Practice for use of the different fire extinguishers (Dry Chemical, Carbon Dioxide, Foam, and Water)
• Emergency mock drill and evacuation exercise.
• Practical exercise includes setting a real class 1 fire and each trainee will have the chance to practice fire fighting.

Training Aids:

• Lesson Plans;
• PowerPoint Presentations; Video/ DVD
• Handouts and Activities;

Course Reference: OSHA & NFPA Standards

DURATION : 1 - 2 days
4. Mitigate Risks through eHAZOP

EHAZOP is a methodical study of electrical power systems to assess and minimize potential hazards which could be caused by failure of electrical devices and installations.

This course enables you to understand the methodology, scope and technique of an EHAZOP study. It helps you understand the aspects of planning, preparation and execution of a successful and efficient eHAZOP, and demonstrates how eHAZOP complement other hazard identification analysis. Participants will learn how eHAZOP can be applied to assure design integrity and identify & avoid operational risks. Participants will learn how to utilize eHAZOP techniques to assure the safety, security and operability of Electrical Engineering designs in addition to reducing project design costs.

OBJECTIVES

1. System Risk Analysis
2. Electrical security and Operability study
3. Operator job analysis

COURSE CONTENTS:

- Introduction to eHAZOP
- Why, Where and When to use eHAZOP
- General Principles of eHAZOP
- How eHAZOP is different from other electrical studies
- EHAZOP categories
- Understanding Guidewords
- EHAZOP Lifecycle, deliverables and documentation
- Guidance for eHAZOP Team leaders and the team
- Case Studies - based upon real world experience
- Practical demonstration - eHAZOP on an SLD

DURATION: 1 Day
5. Safe practices for Confined space entry

Incidents in Confined spaces are even today the cause for many fatal accidents and injuries. Confined spaces injuries are considered to be some of the most serious incidents in the industry; for this reason, there is a great attention given to safe confined space entry. Incident investigations reveal that workers often do not recognize or anticipate the unforeseen hazards. This course is designed to give a sound understanding of the requirements for confined space entry.

OBJECTIVES

The overall objective of this training is to protect those entering or working around a confined space. In this course you will learn the physical, chemical, and biological principles related to safe working with confined spaces.

COURSE CONTENTS

- Introduction to Confined Spaces – Definitions and Requirements
- Case Studies, Standards, Facts
- Hazard associated with Confined space entry
- Risk Assessment and Precautions
- Legal Requirements & Relevant permits – hot works and cold works
- Planning for confined space entry
- Review of confined space testing equipment
- Eliminating adverse conditions
- Securing and Isolating the area
- Rescue operations – equipment, personnel and types of rescue

The course has been prepared in accordance to guidelines and standards prevalent in India and abroad

DURATION : 1 – 2 days
6. Thermography : Tool for Predictive Maintenance

Thermography is used to study the heat distribution in structures or regions. The science of Thermography deals with the application of these heat readings to locate abnormal functioning in a system. For e.g, in Electrical Systems, it is used to see and ascertain the integrity of the electrical systems. Any damage may be seen as hotspots. In Tanks – To see if the insulation on the tank is intact. For example, in ammonia tanks, where the insulation is supposed to keep the whole tank cool. Ammonia is cool and any insulation damage can be detected as cold spots. Or in Buildings –To see if the building is properly insulated from outside weather. This course is designed to give a sound understanding of the science and application of Thermography.

OBJECTIVES

The course is designed to give learners and understanding of principles of infrared thermography, thermal science, principles of heat transfer, applications of the technology, image interpretation guidelines and the applicable standards. The course will also give the learner a practical-hands on experience with Thermography Cameras.

COURSE CONTENTS

- Electromagnetic spectrum;
- Thermal Science
- Infrared Detection Devices
- Function of Infrared Camera :
- Basics of Heat Transfer :
- Effect of Reflected radiation with case study
- Practicals / Hands-on experience with the Camera
- Thermal Image Interpretation: Stefan-Boltzmann Law, Kirchhoff’s law.
- Qualitative and Quantitative of Infrared Thermography
- IR window
- Safety requirements regarding safe thermographic inspections.
- Standard followed for thermography
- Reporting and documentation
- Report writing
- Examination.

COURSE REFERENCE : As per NFPA70E

DURATION : 2 DAYS
7. Hazardous Area Classification & Management

In short – all industries which handle flammable materials need Hazardous Area Classification and proper selection of electrical equipment. A plant which handles flammable materials is divided into Zones based upon the frequency of the appearance and the duration of an explosive gas atmosphere. To help select the right electrical equipment the knowledge of the zone is essential. This knowledge is essential to prevent explosions and fires which could lead to catastrophic losses.

OBJECTIVES

At the end of the course the learner will be able to understand the classification into HAC Zones, understand the different types of electrical equipment, apply the principles for electrical equipment selection in hazardous areas and solve the conflicts related to installed equipment and the requirement in existing facilities.

COURSE CONTENTS

- What is Hazardous Area Classification (HAC)?
- What is the necessity of doing HAC?
- Basics (definitions) of HAC
- Reference standards for HAC
- Zone classification – How many zones? What is nonhazardous area or unclassified area?
- How to do Area or Zone classification?
- Extent of zone and Ventilation effect
- Selection of suitable electrical equipments in Hazardous Areas
- Certification of Equipment in India
- Guidelines for Installation and Maintenance of Electrical Equipments suitable for Hazardous areas

DURATION : 1 DAY
8. Lightning Protection

Lightning strikes on a plant or building can be extremely disastrous. Yes, it is extremely harmful to both life and property and therefore its impact should be limited. Fortunately there are techniques and methods to safeguard against threats from Lightning.

OBJECTIVES

The objective of the course is to orient the learner about the hazards associated with a lightning strike on different kinds of establishments and operations. The course will direct the learner on the techniques that can be adopted to mitigate or eliminate these hazards. The learner will also understand the design behind a lightning protection system.

COURSE CONTENTS

- Concept of Lightning Protection
- Hazards associated with Lightning
- Introduction to various standards, Guidelines and recommendations on Lightning protection and safety
- Structural protection: Basic concepts, Methods of LPS, Designing of LPS for different structures
- Lightning protection for Hazardous Areas
- Lightning protection for Tank farm areas
- Lightning protection for commercial and high rise establishments
- Introduction to surge protection systems

DURATION: 1 DAY
9. Understanding and Mitigating Arc Flash Risks

Arc flash is one of the common dangers while working with electricity. Around three decades ago, Ralph Lee published his paper on a serious threat called Arc Blast Hazards. An arc flash is the light and heat produced from an electric arc, supplied with sufficient electrical energy, to cause substantial damage, harm, fire, or injury.

OBJECTIVES

The objective of the course is to orient the learner about the hazards associated with an arc flash. The course will direct the learner on the techniques that can be adopted to mitigate or eliminate these hazards. How to conduct an arc flash study, what are the possible outcomes and how to analyse the results and take safety measures will be the focus of the program.

COURSE CONTENTS

- Basic Principles of Electrical Safety
- Introduction to ARC flash
- Working near or in energized equipments
- What Is Arc flash and Arc blast?
- Reasons for Arc flash, Hazards and Properties of Arc Flash
- ARC Blast and its effects
- Why ARC flash study should be done?
- Regulations for ARC flash
- What is ARC flash Boundaries?
- Factors which determines Arc flash boundaries?
- Arc Flash Hazard Analysis – Methodology IEEE 1584
- Steps involved in conducting ARC flash Study?
- Software tools available
- Hazard Risk category levels
- PPE for ARC flash protection
- Recent developments in Arc flash protection

DURATION : 1-2 DAYS
10. Principles of Electrical Safety

Electrical hazards continue to threaten safety of people and property in the form of shocks, burns, injury, fire and explosion. With electricity having become an indispensable part of our life, electrical risks are to be managed effectively. Electrical Safety audit are commonly done to avoid the above reason in most Factories, Construction sites. The manpower employed in such tasks may know the skill but be unaware of safe practices or accompanying hazards especially while working in hazardous areas. What was considered as minor lapses have led to catastrophic incidents in the past.

OBJECTIVES

This training enables you to understand the methodology, scope and technique how to handle the electrical equipments along with statutory compliance with respect to Central Electricity Authority / India Electrical rules. It helps you understand the aspects of planning, preparation and execution of a successful and how efficiently we can utilize the machines. Participants will learn how these methods/technique can be applied to avoid operational risks.

COURSE CONTENTS

- Electrical Hazards and its various issue.
- Effect of electrical current on human beings
- Electric Arc and Flash
- Electrical Burns – Joule burns, Flash burns
- Effects of AC and DC & Dangerous voltage level
- Mitigation measures of various electrical hazards
  - LOTO, Electrical PPE’s, Earthing, Protection System – RCCB’s, MCB’s, Fuses
  - Selection of Portable equipments – Classes, Safe Voltage levels, Safe Working clearance
- Multimeter selection and safe usage
- Battery and its associated hazards
- Electrical fire and its prevention
- Electrical Safety Management system
- Electrical Accidents – Case Study discussions.
- Emergency Preparedness and procedure
- Electrical Preventive Maintenance
- Fire Hazardous related to electrical installations.

DURATION : 1 DAY
Partial list of Clients

- AIRTEL
- HITACHI
- PHILIPS
- TOSHIBA
- ACCENTURE
- DELL
- INTEL
- BSNL
- VODAFONE
- SHARP
- IFFCO
- TATA CHEMICALS
- CAIRN
- BHARAT PETROLEUM
- HINDUSTAN PETROLEUM
- INDIAN OIL
- ONGC
- CPCL
- CASTROL
- ADITYA BIRLA
- HINDUSTAN LEVER
- BOMBAY DYEING
- JSW
- AREVA
- ASHOK LEYLAND
- HERO HONDA
- TOYOTA
- TVS
- HYUNDAI
- VOLVO
- BIOCON
- ABB
- KIRLOSKAR
- NESTLE

- TATA CONSULTANCY SERVICES
- LAFAERGE
- ACTION CONSTRUCTION
- SYSCON
- HINDUSTAN ZINC
- SHELL
- COROMANDEL ENGINEERING
- AHLUWALIA CONTRACTS
- MOHITE ASSOCIATES
- GUJARAT GAS COMPANY
- ETA STAR
- RECKITT BENCKISER
- PROMINENT BUILDERS & PROMOTERS
- L&T HYDROCARBONS
- TI DIAMOND CHAIN
- EAGLE RISK MANAGEMENT
- GMR, BASIN BRIDGE,
- ST-CMS ELECTRIC COMPANY
- MONSANTO
- RANBAXY LABORATORIES
- OILCO SERVICES
- ZUARI FERTILIZERS
- GE INDIA TECHNOLOGY CENTRE
- HINDUSTAN ORGANIC CHEMICALS
- SHOPPERS STOP
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