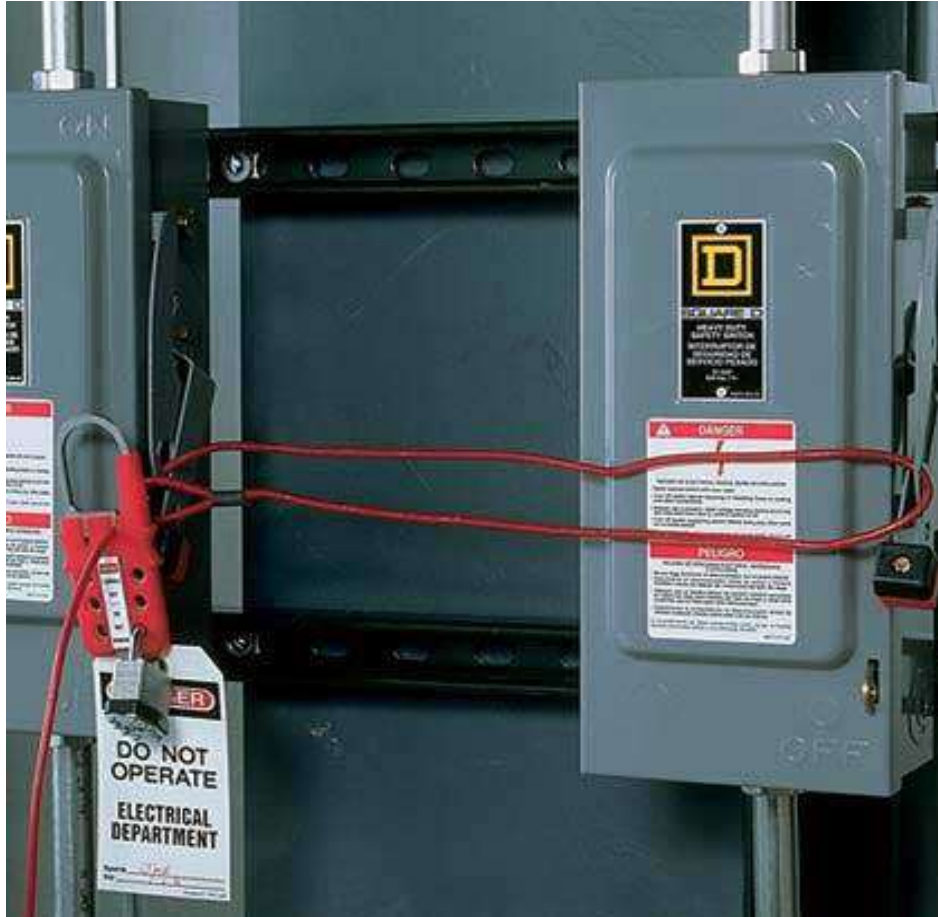




SAFE ISOLATION OF PLANT and Equipment

Course Introduction:

Failures during the isolation and reinstatement of process plant are one of the main causes of loss-of-containment incidents, and may lead to major accidents. High standards of isolation and rigorous management control are required for plant isolation and reinstatement, particularly in major hazard industries.

This training reflects our increased appreciation of the importance of human factors in safe isolations. Analysis confirms that where incidents occur, the root causes often include human failures.

An action plan should then be prepared for the implementation of any necessary improvements gained by this isolation procedures training.

Effective and lasting improvement can be achieved where all concerned, from senior management to those carrying out work on the plant, share a genuine commitment to achieving and maintaining isolation procedures of a high standard.

Course Objectives:

Upon the successful completion of this course, each participants will be able to:

- Reinstatement plant as a critical element of isolation activity
- Advice on controlling own isolations and extended term isolations
- Alterations required to reduce risks for existing plant to 'as low as reasonably practicable' ALARP
- Process isolations e.g. for intrusive maintenance on live plant
- Focus on risks to the safety of people, particularly where activities present potential major accident hazards.
- Avoiding loss of containment will also improve environmental protection and reduce business interruption
- Understands the adequacy of other arrangements, including work control systems (especially permit-to-work), operating procedures, training and competence, management of change and contingency plan

Who Should Attend?

- Plant Managers
- Operation Staff
- Process Staff
- HSE Managers, Supervisors and technicians
- Maintenance Managers, Engineers, Supervisors and technician

Course Outline:

Introduction

- Scope and target audience
- Legal considerations
- Risk reduction and ALARP
- Overview of isolation hazards

Management of Isolations

- Basic principles
- Design
- Human factors
- Case Study One: "Piper Alpha"

Management of Isolations

- Roles and responsibilities
- Training and competence
- Monitoring, audit and review
- Setting performance indicators for isolation activities

Safe Systems of Work for Isolation Activities

- Work control systems
- Documentation
- Controlling interactions with other work/systems
- Controlling changes
- Case Study Two: "BP Texas Refinery Explosion"

Key Stages of Process Isolation

- Hazard identification
- Risk assessment and selection of isolation scheme
- Planning and preparation of equipment
- Installation of the isolation
- Draining, venting, purging and flushing
- Testing and monitoring effectiveness of the isolation
- Reinstatement of the plant

Isolation Situations Requiring Specific Considerations

- Own isolations
- Arrangements for large-scale isolations
- Extended isolations

Special Compliance to Isolation Procedure

- Legal requirement
- Non-process isolation hazards
- Checklists for monitoring and review
- Valve types and issues
- Isolation methods
- Example of a selection tool to establish the 'baseline standard' for a final isolation
- Pipeline isolation requirements
- Draining, venting, purging and flushing activities
- Isolations for instrument work

Plant Isolation, Safety Tag and Lockout Procedures

- Define what is meant by Lock-out Tag-out (LOTO or Lockout/Tag out) and used for Plant& Equipment if
 - *Is in a dangerous condition;*
 - *Is being worked on;*
 - *Has not been completely installed;*
 - *Is out of service for repair or alteration*
- Identify the importance of LOTO.
- Understand the roles and responsibilities of those involved with LOTO including LOTO users, those who may come across LOTO, and employers.
- Know the requirements of the LOTO regulations and where to find them in 29 CFR1910.147.
- Know the different types of LOTO training and how they apply to the job.

Course Methodology:

A variety of methodologies will be used during the course that includes:

- (30%) Based on Case Studies
- (30%) Techniques
- (30%) Role Play
- (10%) Concepts
- Pre-test and Post-test
- Variety of Learning Methods
- Lectures
- Case Studies and Self Questionnaires
- Group Work
- Discussion
- Presentation

Course Fees:

To be advised as per course locations. This rate includes participant's manual, Hand-Outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course Timings:

Daily Course Timings:

08:00 - 08:20	Morning Coffee / Tea
08:20 - 10:00	First Session
10:00 - 10:20	Coffee / Tea / Snacks
10:20 - 12:20	Second Session
12:20 - 13:30	Lunch Break & Prayer Break
13:30 - 15:00	Last Session

