



HSE159

Safe Work Practices for Confined Space Entry

Course Introduction:

The hazards of confined spaces are not new yet every year many accidents occur which are unfortunately often fatal.

Entry into confined spaces for maintenance, repair or statutory inspections is a common task in industrial plants. Although a frequent event many accidents occur in confined space and unfortunately often fatal. These accidents occur because personnel are either insufficiently trained or have had their awareness blunted by experience.

The course encompasses the hazards, the stringent precautions, and the safe systems of work necessary as well as their practical application. The final day is devoted in bringing together all this knowledge in a table top exercise

Course Objectives:

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

- Gain a clear understanding of what is a confined space
- Identify the hazards of a confined space such as taking all the necessary precautions before entering
- Maintain the confined space as a safe place to work
- Recognize the different methods of cleaning and isolation
- Employ efficient planning for confined space entry
- Ensure that all safety measures are being taken
- Eliminate accidents in confined spaces through understanding the risk
- Determine common confined spaces tasks and precautions

Who Should Attend?

This course is intended for personnel that are involved in confined space entry and planning such work, this would include planning personnel, safety personnel and entry supervisors, authorized entrants and authorized attendants.

Course Outline:

Day 1:

Pre-Test

- Introduction

- Definitions - OSHA Terminology
- Risk Assessment
- Risk assessment exercise – Syndicate groups
- Reading PIDs
- Work Permit Systems
- Contractors
- Video – “Valero Refinery” and discussion

Day 2:

Occupational Health Hazards/Chemical substances Hazards

- Body Uptake
- Toxic effects
- TLV – OEL etc.
- Air contaminants – Dust, Smoke Mist etc.
- H₂S and Pyrophoric Iron
- Hazard communication
- MSDS
- Physical Hazards
- Noise
- Temperature
- Illumination
- Vibration
- Washing and Changing Facilities
- Contaminated Areas and Control

Day 3:

Atmosphere Testing

- Oxygen Levels
- Flammable Levels
- Toxic contents
- Frequency of Testing
- Testing Techniques
- Emptying the Confined space
- Slops, Flare, Product recovery, Environmental concerns
- Pipeline Opening
- Cleaning of Confined spaces prior to entry
- What is the internal structure of the confined space – Packing, Trays, and Baffles?
- Is there an Internal Lining?

- What substances did the confined space contain?
- Personnel Training and Duties
- Authorized Supervisor
- Authorized Entrant
- Authorized Attendant
- Rescue Arrangements
- Gas freeing of Tanks, Vessels
- Use and hazards of Steam
- Use and hazards of Water
- Use and hazards of inert gas
- Use of chemicals
- Isolation
- Positive Isolation
- Lockout Tag Out
- Maintaining Isolation

Day 4:

PPE Requirements

- Entry with Breathing Apparatus/Entry without Breathing Apparatus
- Types of RPE
- Air Quality for RPE
- Ventilation
- Entry into fired Equipment. Isolation
- Entry into Tanks
- Floating Roof
- Fixed Roof Single top man way
- Fixed Roof Twin top man ways
- Lighting
- Scaffolding
- Common Maintenance task and problems in confined spaces
- Furnaces
- Refractory repair
- Tube Repair, renewal
- Tube Cleaning
- Convection Bank Cleaning
- Vessels and Tanks
- Cleaning
- Internals Removal
- Hot work

- Shot blasting
- Painting
- Method Statement
- Check Lists
- Boxing Up, Hand Over and De-Isolation
- Video – “A Fatal Decision” and discussion

Day 5:

Table top exercise:

A desktop syndicate exercise to plan an entry into a confined space. The syndicates will be given a PID and written details of the process. They will be required to programme the steps and precautions for entry and cleaning prior to maintenance and the precautions for the maintenance tasks to be undertaken – de-pressure, initial isolation, gas freeing and precautions, final positive isolation and isolation positioning, cordoning off the area, PPE required etc.

Post Test

Course Certificate:

International Center for Training & Development (ICTD) will award an internationally recognized certificate(s) for each delegate on completion of training.

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 the course location. 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

