CONCEPT

Permit-to-Work, Confined Space Entry and LOTO: Energy Isolation and Safe Systems of Work

Permit-to-Work, Confined Space Entry and LOTO: Energy Isolation and Safe Systems of Work

Technical depth: Practitioner · **Practical mode:** Simulation

Introduction

A large share of fatalities in industry happen during maintenance and non-routine work: a line opened that was not isolated, a vessel entered before the atmosphere was tested, a machine restarted while someone was inside it. Permit-to-work, confined space and isolation procedures exist to prevent exactly these events, yet they often decay into paperwork. This Core Concept course trains the people who issue, receive and isolate under permits to apply these controls to a verifiable standard. Through time-pressured simulations, participants build a Safe Systems of Work Pack for a high-risk task at their own site.

Course Objectives

- Explain how permit-to-work, confined space entry and energy isolation fit together as a safe system of work
- Operate a permit-to-work lifecycle from request and risk assessment through issue, suspension, handback and close-out
- Plan and control confined space entry, including atmospheric testing, attendance and rescue arrangements
- Apply lockout/tagout and isolation methods that achieve and verify a zero-energy state
- Detect and respond to permit and isolation failures under changing site conditions
- Produce a Safe Systems of Work Pack for a high-risk task at the participant's own site

Target Audience

- Permit issuers and area authorities in operations, utilities and production
- Performing authorities and maintenance supervisors who receive permits and lead work crews
- Isolating authorities and electrical, mechanical and instrument technicians who apply isolations
- Gas testers, confined space attendants and standby rescue personnel
- HSE officers who audit permit and isolation compliance in the field

Course Outline

Day 1: Safe Systems of Work and High-Risk Activities

- Safe Systems of Work and the Place of Permit-to-Work in the Hierarchy of Controls
- High-Risk Activity Inventory: Hot Work, Confined Space, Energy Isolation and Line Breaking
- Fatal Incident Patterns Behind the IOGP Life-Saving Rules
- Permit-to-Work System Elements: Authorisation, Communication, Cross-Referencing and Handover
- Current Permit System Review Using a Permit Sample Audit Checklist

Day 2: Permit, Confined Space and Isolation Standards

- Permit Lifecycle: Request, Risk Assessment, Issue, Suspension, Handback and Close-Out
- Permit Roles: Area Authority, Performing Authority, Isolating Authority and Gas Tester
- Confined Space Identification, Classification and Entry Risk Assessment
- Prevention of Unexpected Start-Up Under ISO 14118
- Isolation Hierarchy: Positive Isolation, Double Block and Bleed and Single Valve Isolation

Day 3: Issuing Permits, Entering Confined Spaces and Isolating Energy

- Permit Form Completion with Job Safety Analysis Attachment
- Atmospheric Testing Sequence with Flammable Gas and Oxygen Detectors Under IEC 60079-29-2
- Confined Space Entry Permit, Attendant Duties and Entry Log
- Lockout/Tagout Procedure: Lock, Tag, Try and Zero-Energy Verification
- Group Lockout, Lock Boxes and Isolation Certificates

Day 4: Rescue, Changed Conditions and Isolation Failure

- Confined Space Rescue Plan: Non-Entry Retrieval, Breathing Apparatus and Rescue Team Readiness
- Shift Handover, Long-Duration Permits and Changed Conditions
- Simultaneous Operations and Permit Conflict Matrix
- Isolation Failure Modes: Passing Valves, Stored Energy and Bypassed Interlocks
- Permit System Field Verification Audits and Compliance Indicators

Day 5: Simulations and the Safe Systems of Work Pack

- Permit Desk Simulation: Issuing and Suspending Permits Under Changing Plant Conditions
- Confined Space Emergency Simulation: Casualty Retrieval Drill Timeline
- LOTO Simulation: Multi-Energy Equipment Isolation and Restoration
- Safe Systems of Work Pack Drafting
- Simulation Debrief and Peer Review Against the IOGP Life-Saving Rules

Skills You Will Gain

- Permit-to-Work Administration
- Confined Space Entry Control
- Atmospheric Monitoring
- Hazardous Energy Control
- Isolation Verification
- Rescue Planning
- Permit Compliance Auditing

Why Attend This Course

- Return to work with a Safe Systems of Work Pack for a real high-risk task at your site, tested in simulation
- Know when to refuse, suspend or withdraw a permit and how to justify that decision
- Practise the first minutes of a confined space emergency before you face one
- Compare permit and isolation practice with operators and contractors from other sectors and countries

Conclusion

Permits, confined space controls and isolations protect people only when every signature reflects a real check in the field. This course moves from the principles of safe systems of work, through the permit lifecycle, confined space classification and isolation standards, to hands-on permit issue, atmospheric testing and lockout/tagout, and on to the rescue, handover and isolation failures where controls break down. The final day tests that material in simulations and produces a Safe Systems of Work Pack for a high-risk task at participants' own sites.