XCELERATE TRAINING INSTITUTE

your learning & development partner

ELECTRICAL ENGINEERING

Energy Isolation Plan, Procedure and Checklist

DURATION	LANGUAGE	FORMAT
5 days	**English**	**Classroom / Online**

Upcoming dates

Dates	Venue	Format	Fee
1 – 5 Mar 2027	Live online	Online (live)	**€1,200**
13 – 17 Sep 2027	Live online	Online (live)	**€1,200**
11 – 15 Oct 2027	Cairo	Classroom	**€4,800**

Register or ask a question

Online: x8ti.com/course/energy-isolation-plan-procedure-and-checklist/

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Energy Isolation Plan, Procedure and Checklist

Introduction

Employees performing service or maintenance on machinery may face risks from unexpected energization, start-up, or release of stored energy in the equipment. Modern machines pose various hazards to workers from electrical, mechanical, pneumatic, or hydraulic energy sources. Safely disengaging or making the equipment safe to work on involves removing all energy sources, a process known as ‘isolation’.

For modern plants, large industrial installations, oil and gas plants, and offshore installations, implementing reliable, practical, and cost-effective operational systems is crucial. This intensive training course provides thorough procedures for isolating equipment using recommended techniques.

Learning Objectives

Upon completing this Energy Isolation: Plan, Procedure and Checklist course by Xcelerate Training Institute, participants will be able to:

- Identify common energy hazards.
- Understand the principles of energy isolation.
- Differentiate between primary and positive isolation practices.
- Gain a basic understanding of various energy sources.
- Establish awareness of energy isolation procedures, standards, and practices.
- Comprehend common terminology related to isolations and control.
- Recognize where and when different equipment used in positive isolation should be utilized.
- Identify hazards related to loss of containment and personal injury.
- Define roles and responsibilities for achieving safe and reliable process isolation.
- Plan and conduct risk assessment processes effectively.

Training Methodology

This collaborative training program includes:

- Lectures
- Seminars & Presentations
- Group Discussions
- Assignments
- Case Studies & Functional Exercises Following the ‘Do-Review-Learn-Apply’ model.

Benefits for Your Organisation

Organizations can benefit from:

- Familiarity with current practices and techniques for using electrical and mechanical technology.
- A solid understanding of various electrical and mechanical equipment.
- Reduced costs by keeping energy isolation activities in-house.

- Minimized equipment downtime with increased technical knowledge.
- Application of good practice techniques for diagnosing problems with electrical and mechanical equipment.
- Compliance with Health & Safety and legal requirements for working with electrical and mechanical equipment.

Benefits for You

Participants will gain:

- Thorough knowledge of electricity regulations, industry practices, and safe isolation techniques.
- Ability to implement safe working behavior for Extra Low Voltage, Low Voltage, and High Voltage applications.
- Working knowledge of isolation and risk assessment procedures for plants.
- Increased awareness of different roles within the electrical safety rules domain.
- Familiarity with various instrumentation and mechanical systems.
- Skills to assess and overcome problems associated with electrical and mechanical isolation procedures.

Who Should Attend

This course is suitable for:

- Technical professionals with executive functions in electrical and mechanical isolation.
- Qualified supervisors in electrical and mechanical isolation environments.
- Employees working with electrical and mechanical isolation processes.
- Senior operational managers and those auditing, and reviewing electrical and mechanical isolation systems.
- Employees working with machines where sudden energy release could cause injury or damage.
- Plant operators and technicians in the petrochemical and manufacturing industries.
- Individuals with plant safety responsibilities in electrical and mechanical isolation.
- Plant operators and technicians in the oil and gas industry.
- Other plant personnel responsible for performing safe electrical and mechanical isolations.

Course Outline

Energy, Legislative Requirements, and Codes of Practice

- What is Energy?
- Common Energy Sources
- OSHA Requirements and Electricity at Work Regulations
- Procedures, Standards, and Approved Codes of Practice

Energy Isolation Procedure Scope, Purpose, and Authority

- Introduction to Energy Control Procedures
- Scope, Purpose, and Authority
- Periodic Inspections

- Employee Training and Retraining

Safe Systems of Work, Electrical Isolation, and LOTO

- Introduction to Energy Isolation (Electrical)
- Safe Systems of Work
- Safe Working Practices
- Electrical Isolations and Techniques
- LOTO Requirements
- Earthing Requirements for Isolation
- Problems Associated with Electrical Isolation

Documentation, Instrumentation, Control, and Associated Mechanical Systems

- Isolation Confirmation Certificates
- Introduction to Energy Isolation (Instrumentation)
- Instrument Isolation Techniques
- Intrinsically Safe Systems and Associated Dangers
- Safe Systems of Work
- ELV Isolation for Instrument Energy Sources
- ‘Block and Bleed’ Techniques
- Isolation of Instrument Piping
- Isolation of Devices & Plans Used in Process Control
- Issues/Problems Associated with Instrumentation Isolation
- Energy Control Procedures – Documentation Exceptions

Mechanical Systems, Hydraulics, Pneumatics, and Potentially Explosive Energy

- Introduction to Mechanical Energy Isolation
- Safe Systems of Work and Working Practices
- Mechanical Isolation Techniques
- Valves, Gearboxes, and Motors
- Piping, Pipe Flanges, and Joints
- Hydraulic and Pneumatic Isolation
- Issues/Problems Associated with Mechanical Isolation
- Introduction to Potentially Explosive Atmospheres
- Standards and Good Practices

Potentially Explosive Energy and Concepts

- Safe Working Practices
- Risks of Potential Electrical Energy Release
- Risks of Potential Instrument Energy Release
- Risks of Potential Mechanical Energy Release
- Ignition Energy Assessment in Oil & Gas Operations
- Overview of Equipment Concepts

Roles & Responsibilities

- Owner Departments
- Principle Investigator / Project Supervisor / Supervisor
- Faculty, Staff, and Affected Persons
- Qualified Person
- Capital Projects / Construction Project Manager
- Contractors and Joint Projects
- Outside Personnel (Contractors)
- Group Lockout/Tagout Requirements
- Periodic Inspection
- EH&S/General Safety
- Employee Training and Communication
- Additional Training
- Shift & Personnel Changes

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Registration Form

Energy Isolation Plan, Procedure and Checklist

Preferred dates: ..... Venue or online: .....

Duration: 5 days Language: .....

Please complete and email this form to us, or register online. We confirm your place and send the invoice within one working day.

Delegate information

Full name (Mr / Ms / Dr / Eng): .....

Position: ..... Telephone / mobile: .....

Official email: ..... Personal email: .....

Company information

Company name: .....

Address: .....

City / country: ..... VAT / tax number: .....

Person responsible for training & development

Full name (Mr / Ms / Dr / Eng): .....

Position: ..... Telephone / mobile: .....

Email: .....

Payment

☐ Please invoice me ☐ Please invoice my company

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Register online
Open the course page