Industrial Maintenance Safety and LOTO Compliance Training Course



23 - 27 Nov 2026

Boston

7500 € (Per Person)

Ref: #INM4149_112523

Course Introduction / Overview:

This course provides a comprehensive framework for mastering maintenance safety management and the critical procedures of Lockout/Tagout (LOTO). In high-risk industrial environments, the control of hazardous energy is not merely a regulatory requirement but a fundamental pillar of operational integrity and employee well-being. This program delves deep into the principles outlined in standards like OSHA's 29 CFR 1910.147, moving beyond basic compliance to instill a culture of proactive safety. Participants will explore the concepts championed by safety pioneers like Trevor Kletz, who emphasized learning from past incidents to prevent future ones. We will analyze real-world case studies and dissect the mechanics of energy-related accidents, as detailed in publications such as "LOTO: The Complete Guide to Lockout/Tagout". BIG BEN Training Center has designed this course to be intensely practical, equipping attendees with the skills to develop, implement, and audit effective energy control programs. The curriculum covers everything from identifying energy sources and writing machine-specific procedures to managing complex scenarios like group lockouts and contractor safety, ensuring a zero-energy state is achieved before any maintenance work begins.

Target Audience / This training course is suitable for:

- Maintenance Managers and Supervisors.
- Health, Safety, and Environment (HSE) Professionals.
- Plant and Facility Managers.
- Maintenance Technicians and Engineers.
- Electricians and Mechanical Fitters.
- Operations and Production Supervisors.
- Safety Committee Members.
- Project Engineers.
- Industrial Hygienists.
- Anyone responsible for implementing or overseeing LOTO programs.

Target Sectors and Industries:

- Manufacturing and Industrial Production.
- Oil and Gas Exploration and Refining.
- Power Generation and Utilities.
- Construction and Heavy Engineering.
- Pharmaceutical and Chemical Processing.
- Food and Beverage Manufacturing.
- Mining and Metals.
- Automotive and Aerospace Industries.
- Governmental bodies including public works and defense facilities.
- Logistics and Warehousing.

Target Organizations Departments:

- Maintenance and Reliability.
- Health, Safety, and Environment (HSE).
- Operations and Production.
- Engineering and Technical Services.
- Facilities Management.
- Quality Assurance and Control.
- Human Resources and Training.
- Project Management.
- Contractor Management.

Course Offerings:

By the end of this course, the participants will have able to:

- Develop and implement a comprehensive and compliant LOTO program.
- Identify all sources of hazardous energy within their specific work environment.
- Write clear, effective, and machine-specific LOTO procedures.
- Distinguish the roles and responsibilities of authorized, affected, and other employees.
- Select and use appropriate LOTO devices for various energy-isolating mechanisms.
- Conduct thorough periodic inspections and audits of the energy control program.
- Manage complex LOTO scenarios, including group lockouts and shift changes.
- Integrate LOTO procedures with other safety systems like permit-to-work.
- Investigate LOTO-related incidents to identify root causes and prevent recurrence.
- Promote a strong safety culture centered on hazardous energy control.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be immersive, interactive, and directly applicable to the workplace. We move beyond traditional lecture-based learning to foster a dynamic environment where participants actively engage with the material. The course relies heavily on case studies of real-world industrial accidents, allowing for in-depth analysis of LOTO failures and successes. Interactive group workshops will challenge participants to develop LOTO procedures for complex machinery and debate solutions for challenging scenarios. Practical demonstrations and video analysis will be used to illustrate the correct application of LOTO devices and principles. Open discussions and Q&A sessions are integral, encouraging participants to share their unique workplace challenges and gain insights from both the instructor and their peers. The learning process is reinforced through practical exercises and a final project that involves creating a LOTO program component. This hands-on approach ensures that participants not only understand the theory but also gain the confidence to apply these critical safety skills effectively in their own operational contexts.

Course Agenda (Course Units):

Unit One: Fundamentals of Industrial Maintenance Safety

- Introduction to workplace safety and health management systems.
- The psychology of safety and human factors in maintenance.
- Hazard Identification, Risk Assessment, and Control (HIRAC).
- Understanding key safety regulations and legal responsibilities.
- The high cost of accidents and the business case for safety.
- Developing a proactive safety culture within an organization.
- Introduction to Permit-to-Work (PTW) systems.

Unit Two: The Principles of Hazardous Energy Control (LOTO)

- Detailed breakdown of OSHA 29 CFR 1910.147 standard.
- Identifying types of hazardous energy (electrical, mechanical, hydraulic, etc.).
- Core concepts of energy isolation and achieving a zero-energy state.
- Roles and responsibilities of authorized, affected, and other employees.
- Types of LOTO devices and hardware selection criteria.
- Understanding the difference between lockout and tagout.
- The six essential steps for performing a standard LOTO procedure.

Unit Three: Developing and Implementing a LOTO Program

- Writing a corporate LOTO policy and program document.
- Creating effective and clear machine-specific LOTO procedures.
- Training and communication strategies for the LOTO program.
- Record-keeping and documentation requirements.
- Conducting periodic inspections and audits of the program.
- Methods for authorizing employees and maintaining competency.
- Managing and controlling LOTO devices and equipment.

Unit Four: Advanced LOTO Applications and Complex Scenarios

- Managing group lockout for large teams and complex jobs.
- Procedures for shift or personnel changes during LOTO.
- Coordinating LOTO with outside contractors and service personnel.
- Addressing non-lockable energy sources and alternative protective measures.
- LOTO for specific operations like testing or positioning of equipment.
- Integrating LOTO with confined space entry procedures.
- Troubleshooting common LOTO program implementation challenges.

Unit Five: Auditing, Incident Investigation, and Continuous Improvement

- Techniques for auditing the LOTO program for effectiveness and compliance.
- Leading and lagging indicators for measuring LOTO performance.
- Root cause analysis for LOTO-related incidents and near misses.
- The role of leadership and supervision in enforcing LOTO.
- Strategies for fostering employee ownership of the safety program.
- Best practices for continuous improvement of the LOTO system.
- Final review and development of a personal action plan.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

Beyond regulatory compliance, how can a robust LOTO program be leveraged as a driver for operational excellence and a positive organizational culture?

What unique qualities does this course offer compared to other courses?

This course distinguishes itself by treating Lockout/Tagout not as an isolated compliance task, but as an integral component of a holistic safety management system and a driver of operational discipline. While other courses may focus solely on the procedural steps of applying locks and tags, this program delves into the complex human factors, leadership responsibilities, and cultural elements that determine a program's true success or failure. We move beyond the "what" and "how" to explore the "why," using in-depth case studies to analyze the systemic failures that lead to catastrophic energy release incidents. The curriculum is uniquely structured to bridge the gap between theory and practice, challenging participants to write procedures for complex, multi-energy source equipment and manage nuanced scenarios like contractor coordination and group lockouts. Furthermore, the course emphasizes the critical skill of auditing and continuous improvement, equipping participants to not only implement a program but to sustain and enhance it over time. It is designed for future safety leaders who seek to build resilient safety systems rather than simply check a regulatory box.