



# Lockout/Tagout Procedures: Safeguarding Workers from Hazardous Energy

In construction projects, adherence to lockout procedures is crucial to the safety of workers. The Occupational Safety and Health Administration (OSHA) developed the Control of Hazardous Energy Standard, commonly known as Lockout/Tagout, to protect employees from potential contact with hazardous energy sources.

## UNDERSTANDING HAZARDOUS ENERGY

Various energy sources, including electrical, mechanical, hydraulic, pneumatic, chemical, thermal, and others found in machinery and equipment, can pose hazards to workers. It is vital to recognize and manage these energy sources to provide a safe working environment.

## LOCKOUT/TAGOUT PROCEDURE

The lockout/tagout procedure mandates that a designated individual, known as the authorized person, must turn off and disconnect the equipment from its energy source before performing any maintenance or servicing. Following this, the authorized person must discharge or block any stored energy, and then lock and tag the energy-isolating devices of the machine to prevent the release of hazardous energy. At Quandel, our policy strictly prohibits work on energized circuits. In exceptional cases, such as work on live panels, an electrician must develop a comprehensive safety plan and obtain approval from Quandel's Corporate Safety Director.

## THE ROLE OF THE AUTHORIZED PERSON

The authorized person plays a critical role in the lockout/tagout process and assumes the following responsibilities:

- Performing the necessary repairs or maintenance tasks
- Applying locks and tags to the energy-isolating devices

- Maintaining control over the keys to the locks
- Being the only individual authorized to remove locks or tags

## STORED ENERGY CONSIDERATIONS

Even after the energy source has been isolated, equipment may still store residual energy. Examples of stored energy include electrical energy in capacitors, retained pressure in hydraulic or pneumatic systems, fuel remaining in chemical lines, stored mechanical energy in springs or tension belts, and gravitational energy in suspended pistons. Before commencing maintenance, all stored energy must be discharged, disengaged, or blocked to eliminate potential risks.

## EXECUTING LOCKOUT/TAGOUT

The authorized person must follow the correct procedures for each specific piece of equipment they are servicing to provide a safe work environment. The general steps involved in lockout/tagout include:

- Identifying all potential energy sources associated with the equipment
- Informing affected employees about the lockout/tagout process
- Requesting affected employees to vacate the area
- Following the equipment's normal operating procedures to shut it down
- Isolating energy sources using appropriate devices specific to the equipment
- Applying locks and tags to the energy-isolating devices, including the power switch whenever possible
- Verifying that the equipment has expended all stored energy
- Blocking moving parts in a neutral position during maintenance

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**SAFETY: FIRST. LAST. ALWAYS!**

- Briefly turning on the equipment to completely remove stored energy
- Allowing the equipment to run for a short duration, if necessary, to eliminate any residual energy

## COMPLETING THE LOCKOUT/TAGOUT

Before allowing affected employees to reenter the area, the authorized person must:

- Remove tools, spare parts, and debris from the workspace
- Verify the correct reinstallation of parts, particularly safety components
- Remove locks and tags from energy isolation points.
- Re-energize the equipment safely
- Inform affected employees that they can resume their work activities

## LOCK AND TAG REQUIREMENTS

Locks and tags serve crucial roles in the lockout/tagout procedure. Locks secure energy isolation points, preventing the equipment from being energized. Tags

draw attention to the fact that the equipment is locked out. Tags should always be used with locks. Never remove locks or tags that you did not install. Locks must withstand all work conditions. Tags must be legible and have warnings like "Do not Start," "Do not Energize," or "Do not Operate."

## SUMMARY

The Occupational Health and Safety Administration estimates that lockout/tagout systems prevent 120 deaths and 50,000 injuries every year. It can't be emphasized enough how important it is to follow lockout/tagout procedures. Know what part you play and never tamper with locks and tags, especially when they're being used. A person's life and limbs could depend on it.

Control of Hazardous Energy (Lockout/Tagout) - Overview | Occupational Safety and Health Administration. [www.osha.gov/control-hazardous-energy#:~:text=The%20OSHA%20standard%20for%20the,protect%20workers%20from%20hazardous%20energy.](https://www.osha.gov/control-hazardous-energy#:~:text=The%20OSHA%20standard%20for%20the,protect%20workers%20from%20hazardous%20energy.)



## OUR PURPOSE

**Lead. Make a difference. Build a better future!**

## OUR VALUES

**Safety:** First. Last. Always!

**Steadfast Integrity:** Be honest. Treat other with respect.

**Exceptional Service:** Align goals. Add value. Develop lasting relationships.

**Commitment to Excellence:** Take ownership. Constantly improve.

**Focus on Team:** Listen. Collaborate. Communicate. Execute.

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