

List hazardous energy sources on site

Explain dangers

Serious and fatal accidents have occurred when people assumed that electricity or machinery was turned off but it wasn't. Electric shock, sudden movement of sharp machine parts, release of pressure, falling counterweights—these are just some hazards that can result when energy is unexpectedly released.

Identify controls

- Lockout and tagging ensures that hazardous energy sources are under the control of the workers needing protection.
- **Lockout** often involves workers using a padlock to keep a switch in the “off” position, or to isolate the energy of moving parts.
- **Tagging** is how you tell others that the device is locked out, who locked it out, and why.

There are four basic actions in any lockout.

- 1) Identify all energy sources connected with the work.
- 2) De-energize, disable, redirect, or stop all energy from doing what it normally does.
- 3) Apply restraint devices (e.g., lock, scissors, chain, or block) to keep the system from starting up while you work on it.

4) Confirm that you've reached a zero energy state.

- Forms of energy that you must lock out include electrical, mechanical, potential (stored energy, such as in suspended loads), hydraulic, pneumatic, thermal, and chemical.
- It's not always easy to identify every source of energy. Machines or systems usually contain several forms of energy. A press may be hydraulically powered, for instance, but electrically controlled. Locking out the hydraulic power is not enough. Locking out the electricity is not enough. Gravity can still cause a raised ram to drop. There may also be potential energy stored in pistons or springs.
- To identify energy sources, you may need to trace wiring, lines, and piping in and out of the equipment. Specifications, drawings, operating manuals, and similar information will also help.
- A lock is your personal lock that can only be opened with your key.
- Once you apply the lock or other restraint device, you have to **tag** it. The tag must indicate 1) who you are, 2) who you work for, 3) why the machine or system is locked out, and 4) the date when the lockout was applied.
- Once each energy source has been locked out and tagged, you must test the equipment to verify a zero energy state.
- Many plants or industrial establishments will have specific procedures for lockout and tagging.

Know the law

Section 190 of the Construction Regulation (O. Reg. 213/91) lists the requirements for lockout and tagging.

Demonstrate

Show sample lockout devices and tags. Explain your project's lockout procedures. Identify situations on site where lockout and tagging would be necessary. Review recent applications of lockout and tagging.