Creating Energy Control Procedures

Step 1: Identify Where Energy Control Procedures Are Needed

Energy control procedures (ECP) are required for any operations where unexpected energization, start up or release of stored energy could harm workers during the servicing or maintenance of machines and equipment.

OPERATIONS COVERED BY LOTO	OPERATIONS NOT COVERED BY LOTO
Non-repetitive or non-routine maintenance or servicing.	Minor, repetitive or routine tool changes and adjustments.
Operations that involve removal of guards or disabling of safety devices.	Minor, repetitive or routine servicing essential to normal and basic equipment/machine activity – if safeguards are in place.
Operations in which workers must place body parts into danger zones.	Work on unplugged electrical equipment or machines ***IF*** the worker performing service or maintenance has exclusive control over plug.
Clearing a jammed or blocked machine; rebuilding equipment; equipment set up.	Hot tap operations on transmission and distribution systems for gas, steam, water or petroleum products where employer can show: · Continuity of service is essential. · System shutdown is impractical. · Effective protective measures are in place.

Step 2: Pick the Controls

Energy control procedures must indicate the method used to control the release of hazardous energy for the processes you identified in Step One.

Lockout – applying a locking device to the equipment's energy isolating device – safest method – it is a physical barrier to prevent start-up.

Tagout – tag on equipment/machine notifies people the machine/equipment is being serviced so they don't start it up – riskier method and can only be used when:

- The machine/equipment being serviced isn't capable of being locked out; and
- You can demonstrate that tagout provides the same level of safety and protection as lockout/tagout.

Combination of both methods – best option.

Step 3: Create Energy Control Procedures

Energy control procedures must be specific and clear and list at a minimum:

- Name of the company and description of equipment/machine the procedure covers.
- Statement of the procedure's "intended use" or purpose it serves and statement requiring workers to comply with the procedure.
- Steps for shutting down, isolating, blocking and securing machines or equipment.
- Steps for placement, removal and transfer of LOTO devices and who's responsible for performing them.
- Steps for verifying machine or equipment is effectively locked out/energy is controlled.
- Description of LOTO sequence and how equipment/machine is returned to service.

Step 4: Authorized and Affected Employees

The individual who performs the actual energy control procedure is called an "authorized employee," – a person who locks out or tags out machines or equipment to perform service or maintenance.

An "affected employee," is one whose job requires them to operate or use the machinery or equipment being serviced or maintained; or whose job requires them to work in the area where the servicing or maintenance is performed.

Step 5: List Steps of Energy Control Procedure

The actions listed below must be performed in the following sequence before service and maintenance work can begin.

Step 1	Prepare for shutdown – authorized employees must know the type and magnitude of the energy, the hazards involved, and the means to control the energy.
Step 2	Notify affected workers. Shut down the equipment in an orderly and safe manner.
Step 3	Operate all isolating devices (valves or switches) to deenergize the equipment. Check primary and secondary sources of energy.
Step 4	Attach all LOTO devices to the energy isolating devices (and, if appropriate, personal LOTO devices to group LOTO mechanisms).
Step 5	Release all stored energy (electric charge, pressure, charged springs, etc.).
Step 6	Verify equipment energy isolation has been accomplished.

Step 6: Procedure for Releasing LOTO

There must be a procedure for releasing and removing LOTO devices and restarting equipment and machines, so they aren't removed, and power isn't accidentally restored while service/maintenance is going on.

The equipment can only be reenergized when the authorized employee verifies nonessential items have been removed from the work area; machine or equipment components are operationally intact; and all employees have been safely positioned or removed.

The authorized employee must also ensure all affected employees are notified after LOTO device(s) have been removed. Startup ***can't*** begin until all affected employees are notified.

An energy isolating device(s) must **only** be removed by the authorized employee who attached it except under these conditions. If the authorized employee isn't available, it may be removed by somebody else, if, (1) the Energy Control Procedure includes specific steps and training requirements for removal by another person; (2)

the alternative removal procedure is just as safe as removal by the authorized employee; and (3) steps are taken to verify the authorized person isn't at the facility or still working on the equipment; (4) reasonable efforts were taken to locate the employee, before he or she returns to work, and notify them the lockout/tagout device has been removed.

There must also be specific procedures to ensure the continuity of lockout or tagout protection through changes in shifts or personnel, including procedures for the orderly transfer of lockout or tagout device protection between the off-going and oncoming employees.

Step 7: Coordinate ECP's with Contractors

If you rely on an outside contractor or subcontractor to carry out energy control procedures, you and the contractor must notify each other of your lockout/tagout procedures and decide which procedures to use.

If you use your own procedure, make sure the contractor's employees understand and comply with it; if you use the contractor's procedure, make sure your employees understand and comply with it. The contractor's LOTO procedures should be at least as rigorous as your companies.

Step 8: Use the Right Lockout/Tagout Devices

You must provide locks, chains, wedges, key blocks, adapter pins, self-locking fasteners or other hardware for isolating, securing or blocking machines or equipment from energy sources. The actual lockout devices and tags used must meet US and Canadian standards.

Step 9: Periodically Inspect Energy Control Procedures

Inspect your energy control procedures at least once a year to verify the procedures and LOTO requirements are being followed. Inspections must be carried out by an authorized employee who *is not* utilizing the energy control procedure being inspected. It must include reviews with authorized employees who *are* using it (and affected employees affected by it).

Document each inspection by creating a written certification that lists the (1) identity of the machine/equipment on which the energy control procedure is being used; (2) date of the inspection; (3) employees included in the inspection; and (4) who performed the inspection.

Step 10: Provide LOTO Safety Training

You must train and instruct workers, so they have the knowledge and skills to safely carry out their role in any energy control procedures.

Authorized employees must be trained to recognize hazardous energy sources, the type and magnitude of energy available in the workplace and the necessary methods of energy isolation and control.

Affected employees must be instructed in the purpose and use of the energy control procedure.

All other employees whose work operations are or may be in an area where energy control procedures may be used must be instructed about the procedure and that restarting, or reenergizing locked out or tagged out machines or equipment is

prohibited.

Authorized and affected employees must be retrained whenever (1) their job assignments change; (2) there are changes in machines, equipment, or processes that pose a new hazard; (3) energy control procedure changes; and/or (4) you have reason to believe there are deviations from or inadequacies in the employee’s knowledge or use of the energy control procedures.

Finally, you must document LOTO training took place and is current by creating a written certification that lists each trainee’s name and the date(s) training was provided.