# Hazardous energy control plan template

[OAR 1910.147](https://osha.oregon.gov/OSHARules/div2/div2J.pdf)

## Do you need a hazardous energy control program?

Most accidents that involve hazardous energy happen an unexpected release of energy injures a worker or an unsuspecting co-worker while equipment is undergoing service or maintenance. This template is meant to help you and your operation develop a plan for controlling hazardous energy.

You may have heard of a lock out program, lock out tag out (LOTO) program, or energy control program. For the purposes of this template those names are all interchangeable.

**No**

**No**

Written program is not required

**Yes**

This standard applies and you are required to have a written energy control program

**No**

Does anyone perform service or maintenance on machines or equipment?

Is removal or bypass of a guard or safety device required?

This standard does not apply

Is any body part required to be put at the machine’s point of operation or other danger zone?

**Yes**

**Yes**

SAIF developed this energy control program template to give you the **basic** framework for an effective program required by Oregon OSHA. Keep in mind, simply filling in your company name does *not* make your program sufficient. Tailor this program to your business practices and begin building a stronger safety and health culture.

Hazardous energy sources include, but are not limited to:

* Electrical
* Mechanical
* Hydraulic
* Pneumatic
* Chemical
* Gravity
* Thermal

Equipment must be isolated from its energy source and not in use to prevent injury or death from unanticipated, uncontrolled hazardous energy.

To complete this sample program, you must:

* Conduct a hazardous energy survey to determine affected machines and equipment, types and magnitude of energy, and necessary service and maintenance tasks.
* Develop specific energy control procedures for all equipment types in your facility/workplace (see Appendix I).
* Identify the type of locks and lockout devices you need for your facility/workplace.  
    
  **Note:** This sample program purposely does not address tagout methods as they are less protective. If you are unable to secure a lockout device or need assistance in understanding this program, contact a SAIF safety representative.
* Create shift change and/or long term shut down procedures specific to your facility/workplace.
* Implement facility/workplace specific training on energy control and lockout.
* Develop a method for conducting annual inspections of energy-control procedures to ensure employees understand and use them effectively (see Appendix II).

Periodic updates and consistent implementation are important for a written policy to successfully protect employees from hazardous energy sources.

**Don’t forget to delete this page once all steps are completed.**

**Congratulations!**

## Energy control program

### Purpose

This energy control program helps protect employees who could be injured by an unexpected start-up or release of hazardous energy while performing service or maintenance on machines or equipment.

Service or maintenance includes erecting, installing, constructing, repairing, adjusting, inspecting, unjamming, setting up, troubleshooting, testing, cleaning, and dismantling machines, equipment, or processes.

This policy ensures machinery or equipment is stopped, isolated from all hazardous energy sources, and properly locked and follows Oregon OSHA Control of Hazardous Energy (Lockout/Tagout) Code OAR 437, Division 2 (29CFR 1910).

### Responsibilities

(Add position title or individual person name here) is responsible for implementing and enforcing this policy.

All employees must comply with this policy. Supervisors will enforce the use of lockout devices when employees perform service or maintenance work and may be exposed to hazardous energy.

Locking and tagging out equipment is done by an authorized employee. Authorized employees who perform service and maintenance work must follow the lockout procedures described in this policy.

An affected employee uses equipment that is being serviced under lockout procedures or works in an area where equipment is being serviced. Affected employees who work in areas where lockout procedures are used must understand the purpose of the procedures and are prohibited from attempting to restart machines or equipment that are locked or tagged out. An affected employee becomes an authorized employee when that employee’s duties include service or maintenance work on equipment.

Not following your assigned responsibility could result in amputations and other injuries or illnesses and may lead to disciplinary action.

### Lockout and tagout devices

**Lockout devices** provide a means for making a switch, valve, suspended load, compressed/tensed coil spring, or any energy source inoperative. The lockout device may be a padlock, keyed lockout device, blanking plate, restraining bar, wheel chock, chain and padlock, or any device that prevents a system from being energized or releasing stored energy until the lockout device is properly removed. The lockout device is what we will primarily use.

**Tagout devices** are prominent warnings fastened to energy-isolation devices to alert employees not to reenergize equipment being serviced. Tagout devices are easier to remove and provide employees with less protection than lockout devices. This is why we will primarily use a lockout device in conjunction with a tagout device.

Lockout devices must meet the following criteria to ensure they are effective and not removed inadvertently:

* **Durable**Lockout devices must work under the environmental conditions in which they are used. Tagout device warnings must remain legible even when they are used in wet, damp, or corrosive conditions.
* **Standardized**Lockout devices must be designated by color, shape, or size. Tagout devices must have a standardized print and warning format.
  + **Substantial**

Lockout devices must be strong enough that they can’t be removed inadvertently. Tagout devices must be attached with a single-use, self-locking material such as a nylon cable tie.

* + **Identifiable**

Any employee who sees a lockout or tagout device must be able to recognize who attached it and its purpose.

* + **Individual**

Each lock set assigned to an individual must have a unique key or combination that only the user has access to.

Energy-isolating devices are the primary means for protecting (Add company name here) employees who service equipment and must be designed to accept a lockout device. Energy isolating devices must clearly identify function.

### Electrical energy sources

Lockout of electrical energy sources occurs at the circuit disconnect switch. Electrical control circuitry such as e-stops, interlocks, and control panels do not effectively isolate hazardous energy. Oregon OSHA specifically states, “Push buttons, selector switches and other control circuit type devices **are not** energy isolating devices.”

### Exposure survey

(Add company name here) employees will conduct a hazardous energy survey to determine affected machines and equipment, types and magnitude of energy, and necessary service and maintenance tasks. Each task will be evaluated to determine if it requires a lockout procedure.

### Energy control procedures

Authorized employees who lockout equipment or perform service and maintenance must follow specific written energy-control procedures (See Appendix I). The procedures must include the following information:

* The intended use of the procedure
* Steps for shutting down, isolating, blocking, and securing equipment
* Steps for placing, removing, and transferring lockout devices
* Equipment-testing requirements to verify the effectiveness of the energy-control procedures

Temporary removal of a lockout device is allowed when it is necessary to reenergize equipment, for example: when power is needed to test or position the equipment. This applies only for the time required to perform the task and the procedure must be documented.

**Before beginning service or maintenance work, authorized employees must:**

1. Inform all affected employees of equipment shutdown
2. Shut down equipment
3. Isolate or block hazardous energy
4. Remove any potential (stored) energy
5. Lockout the energy sources
6. Verify the equipment is isolated from hazardous energy and de-energized

**Before removing lockout devices and re-energizing equipment, authorized employees must:**

1. Remove tools and replace machine or equipment components
2. Inform coworkers about energy-control device removal
3. Ensure all workers are clear of the work area
4. Verify machine or equipment power controls are off or in a neutral position

**CAUTION:** Personal locks may never be removed other than by the person to whom they belong, or under the supervision of (add a person or title here) or their appointed nominee in their absence, and in accordance with established written procedure. Under no circumstances should an immediate supervisor remove another individual’s lock. We will make every effort to ensure the authorized employee knows the lockout device will be removed before they resume work at the facility.

(Add your company’s specific information on how to remove another person’s lockout device when they are not present.)

### Specific energy-control procedures

(Add company name here) has developed specific energy isolation procedures for all machines and equipment that have energy-isolating devices. (See and adjust Appendix I of this document or create your own individual specific energy-isolation procedures)

## Special lockout situations

### Energized testing

When an energy-isolating device is locked and it is necessary to test or position equipment, do the following:

1. Remove unnecessary tools and materials
2. Ensure all other employees are out of the area
3. Remove locks from energy isolating devices
4. Test
5. De-energize equipment and lockout energy-isolating devices
6. Operate equipment controls to verify the equipment is de-energized

### Contract service and maintenance

(Add company name here) employees and contractors must be aware of respective lockout procedures before the contractor does onsite work. (Add company name here) employees must understand and comply with the contractor’s energy-control procedures.

### Group lockout

When authorized employees must service equipment with several energy sources and several energy-isolating devices, employees must follow group lockout procedures. Group lockout devices must include, but are not limited to, the following requirements:

* Each authorized employee must affix a personal lockout device to the group lockout device, group lockbox, or comparable mechanism when he or she begins work. Those devices must only be removed when he or she stops maintenance work on the machine or equipment being serviced.
* Primary responsibility is assigned to an authorized employee for a set number of employees working under the protection of a group lockout device. This authorized employee will determine the exposure status of individual group members regarding the lockout of the machine or equipment.
* When more than one group (different work crews, departments, etc.) is involved, an authorized employee should be designated to coordinate affected work forces and ensure continuity of protection for all involved employees.

### Shift changes and long-term shutdowns

Employees must follow (Add company name here) specific written procedures when it is necessary to continue lockout during shift changes and long-term shutdowns.

* (Add your company specific information on how you will handle a lockout event that crosses shifts.)
* (Add your company specific information on how you will handle a lockout event for long-term shutdowns)

\* Guidance to consider from the Oregon OSHA rule: specific procedures must be used during shift or personnel changes to ensure the continuity of lockout protection, including provision for the orderly transfer of lockout device protection between off-going and oncoming employees.

### Training

Employees who may be exposed to hazardous energy will receive training before assignment to ensure they understand (Add company name here)’s energy control policy and have skills to apply, use, and remove energy controls. The training will include the requirements of 1910.147 and the following:

* Affected employees will be trained in the purpose and use of energy control procedures.
* Authorized employees will be trained to recognize hazardous energy sources, the type and magnitude of energy in the workplace, the methods and means necessary for isolating and controlling energy, and the means to verify the energy is controlled.
* Employees who work where energy control procedures are used will be trained about the procedures and the prohibition against starting locked or tagged out machines.
* Employees will be retrained annually to ensure they understand energy control policy and procedures.
* Authorized and affected employees will be retrained when their job assignments change, energy control procedures change, equipment or work processes present new hazards, or when they don’t follow energy control procedures.
* Current training records will be maintained for each authorized and affected employee, including the employee’s name and the training date. These records are located (name where the training records will be maintained)

### Inspections of written energy control procedures

(Add company name here) will perform and document annual inspections of energy control procedures to ensure employees understand and use them effectively. (See and adjust Appendix II of this document or create your own individual specific evaluation form) Annual inspections must identify the machine or equipment on which the energy control procedure was used, date of the inspection, the employees included in the inspection, and the person performing the inspection.

This inspection will:

* Be performed by an authorized employee other than the one(s) utilizing the energy control procedure undergoing inspection.
* Be conducted to correct any deviations or inadequacies identified.
* Include a review between the inspector and each authorized employee of the employees’ responsibilities in the energy control procedure being inspected.

If an inspector finds employees are not following an energy control procedure or the procedure is not protecting them, employees must be retrained, and the procedure’s deficiencies corrected.

## Appendix I

### Machine specific lockout procedure

|  |  |  |
| --- | --- | --- |
| **Process/equipment:** |  | |
| **Equipment ID #:** | **Date:** |  |
| **Energy sources:**  (electrical, mechanical, hydraulic, pneumatic, chemical, gravity, thermal, or others) |  | |
| **Location of energy control sources:**  (Disconnect switches, breakers, valves, block, or others) |  | |
| **Authorized employees:** |  | |
| **Shut down procedures:** (How to turn off all equipment) | | |
| **Machine/equipment isolation:** (Energy sources shut off—dissipated to isolate the source) | | |
| **Apply lockout devices:** (Affixed to ensure the energy source will not be activated) | | |
| **Verification of isolation:** (Try to start the machine to ensure all energy sources are identified and properly locked out.) | | |
| **Perform work:** | | |
| **Removal of lockout devices:** (Make sure all tools are removed from the work area and all guards placed back on equipment prior to restarting equipment.) | | |
| **Restore energy:** (Advise all affected employees that machine will be restarted.) | | |
| **Verification by:** | | |

## Appendix II

### Lockout inspection form

Department:

Equipment type and serial number:

Inspection conducted by:

Equipment location:

Inspection date:

|  |  |
| --- | --- |
| **Authorized employees using this procedure.** | **Has the employee been trained in the procedure?** |
| Employee name: | ☐ Yes ☐ No |
| Employee name: | ☐ Yes ☐ No |
| Employee name: | ☐ Yes ☐ No |
| Employee name: | ☐ Yes ☐ No |
| Do *authorized* employees know the location of the written procedure? | ☐ Yes ☐ No |
| Do *authorized* employees have access to the procedure? | ☐ Yes ☐ No |
| Are *affected* employees notified when the procedure is being used? | ☐ Yes ☐ No |
| Have *affected* employees been trained to recognize when the procedure is being used and instructed not to remove lockout devices or start de-energized equipment? | ☐ Yes ☐ No |
| Can energy-isolating devices be locked out?  Note: When you replace, renovate, or modify machines and equipment, ensure the energy-isolating devices will accept lockout devices. New equipment and equipment renovated or modified after January 2, 1990, must be capable of being locked out. | ☐ Yes ☐ No |
| Did each *authorized* employee lockout all energy sources? | ☐ Yes ☐ No |
| Does this procedure involve group lockout? | ☐ Yes ☐ No |
| Did the *authorized* employees verify the equipment was de-energized? | ☐ Yes ☐ No |
| Did the *authorized* employees follow the lockout procedure? | ☐ Yes ☐ No |

|  |  |
| --- | --- |
| Does the lockout procedure adequately protect employees? | ☐ Yes ☐ No |
| If not, list and describe the deficiencies requiring corrective action. | |
| **If this is a lockout procedure**, did the inspector review responsibilities with all authorized and affected employees? Note: A review can be accomplished by meeting with employees individually or in a group. | ☐ Yes ☐ No ☐ Not applicable |