

**“Control of Hazardous Energy (Lockout/Tagout)”**  
**(Provided by Safety Consultation and Training Section-Nevada Division of Industrial Relations)**

The lockout/tagout standard (1910.147) covers the servicing and maintenance of machines and equipment in which the unexpected start-up or the release of stored energy could cause injury to employees. The energy source could be electrical, mechanical, hydraulic, pneumatic, chemical, thermal or other energy.

**The standard does not apply:**

- While servicing or maintaining cord and plug connected electrical equipment providing the plug is under the exclusive control of the employee conducting the service or maintenance.
- During the “hot tap” operations that involve transmission and distribution systems for gas, steam, water, or petroleum products on pressurized pipelines, when continuity of service is essential, shutdown of the system is impractical, and employees are provided with alternative protection which is equally effective.

**The standard will apply under the following conditions:**



- ☞ The employee must either remove or bypass machine guards or other safety devices, resulting in exposure to hazards at the point of operation.
- ☞ The employee is required to place any part of his or her body in contact with the point of operation of the operational machine or piece of equipment.
- ☞ The employee is required to place any part of his or her body into a danger zone associated with a machine operating cycle.

In the above situations, the equipment must be de-energized and lock or tags applied to the energy-isolation devices. When tags are used on energy-isolating devices capable of being locked out, the employer must provide additional means to assure a level of protection equivalent to that of locks.

**Energy Control Program:**

Employers have the flexibility to develop a program that meets the needs of their particular workplace and the particular types of machines and equipment being maintained or serviced. The Energy Control Program will contain:

- ☞ Energy control procedures
- ☞ Employee training, and
- ☞ Periodic inspections certified by the employer.

**Energy Control Procedure:**

Energy control procedures must be control potentially hazardous energy activities covered by the standard. The the scope, purpose, authorization, rules, control hazardous energy sources as compliance. The procedure will include,



developed, documented, and used to sources whenever workers perform energy control procedure must outline and techniques that will be used to well as the means used to enforce but is not limited to, the following:

- ✓ Statement on how the procedure will be used.
- ✓ The procedural steps needed to shut down, isolate, block, and secure machines or equipment.
- ✓ The steps designating the safe placement, removal, and transfer of lockout/tagout devices and who have the responsibility for them.
- ✓ Specific requirements for testing machines or equipment to determine and verify the effectiveness of locks, tags, and other energy control measures.

### Mandatory Procedural steps:

The standard requires employers to establish procedures for isolating machines or equipment from the input of energy and affixing appropriate locks or tags to energy-isolating devices to prevent any unexpected energization, start-up, or release of stored energy that would injure workers. The steps must include the following:

- Preparation for shutdown.
- Notification of affected employees of the application of lockout/tagout devices.
- Shutting down the machine or equipment.
- Isolating the machine or equipment from all potential energy source(s) powering or controlling the machine.
- Applying the lockout or tagout device(s) to the energy isolation device(s).
- Safely releasing all potentially hazardous stored or residual energy.
- Verifying the isolation of the machine(s) or equipment prior to the start of service or maintenance work.

### When the work is completed, the following steps are required:

- Insure the machine or equipment is operationally intact.
- Clear area of employees.
- The employee who applied the device shall remove the lockout/tagout device.
- Affected employees will be notified that the devices have been removed before equipment is started.

### Training:

- ⇒ The goal of training is to ensure employee proficiency in the energy control procedures. Training is dependent on the employee's activity. The requirements identify specific training for authorized, affected, and other employees.
- ⇒ Retraining is conducted whenever there is a change in job assignments, a change in machines, equipment or processes that present a new hazard, or whenever there is a change in the energy control procedures.
- ⇒ The employer is to certify the training has been accomplished.



### Periodic Inspection:

- ◆ Conducted at least annually.
- ◆ Conducted to correct any deviations or inadequacies in the program or procedure.
- ◆ Includes a review of the employee's responsibilities under the procedure inspected.