

# Lockout / Tagout Plan

Title 29 of the Code of Federal Regulations (29 CFR) Part 1910.147

## Introduction

This Standard which went into effect on January 2, 1990 helps safeguard employees from the **unexpected** start-up of machines or equipment or release of hazardous energy while they are performing servicing or maintenance. The standard identifies the practices and procedures necessary to shutdown and lockout or tagout machines and equipment, requires that employees receive training in their role in the lockout/tagout program, and mandates that periodic inspections be conducted to maintain or enhance the energy control program.

## Administrative Duties

Ray Stewart, is responsible for establishing and implementing the written Lockout / Tagout program. Greg Hinton is also qualified by appropriate training and experience that is commensurate with the complexity of the program to administer or oversee our program and conduct the required evaluations of program effectiveness. Copies of the written Lockout / Tagout program may be obtained by Ray Stewart.

If after reading this program, you find that improvements can be made, please contact Ray Stewart. We encourage all suggestions because we are committed to the success of our Lockout / Tagout program. We strive for a comprehensive, integrated prevention system that obtains clear understanding, safe behavior, and involvement in the program from entry level of the company.

In addition, new equipment will be evaluated before purchasing to evaluate for safety issues and Lockout / Tagout.

## Energy Control Program

The lockout/tagout rule requires that the employer establish an energy control program that includes:

1. Documented energy control procedures – (Please see attached procedure)
2. An employee training program
3. Periodic inspections of the use of the procedures.

## Normal Production Operations

### Minor Servicing Tasks

Employees performing minor tool changes and adjustments and/or other minor servicing activities that are **routine**, **repetitive**, and **integral** to the use of the production equipment and that occur during normal production operations are not covered by the lockout/tagout standard, provided the work is performed using alternative measures that provide effective protection.

### Servicing and/or Maintenance Operations

If a servicing activity, such as lubricating, cleaning or unjamming the production equipment, takes place **during** production, the employee performing the servicing may be subjected to hazards that are not encountered as part of the production operation itself. Workers engaged in these operations are covered by lockout/tagout when any of the following conditions occur.

- 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; or
- 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 locks or tags must be applied to the energy-isolation devices.

In addition, when other servicing tasks occur, such as setting up equipment and/or making significant adjustments to machines, employees performing such tasks are required to lockout or tagout if they can be injured by unexpected energizing or startup of the equipment.

## Types and Sources of Hazardous Energy

### **Electrical**

Electrical is the most common form of energy associated with the standard.

### **Pneumatic**

Pneumatics is the use of compressed gas to do work.

### **Mechanical**

Stored energy in the form of springs or similar devices.

### **Hydraulic**

Hydraulics is the use of liquid to transfer pressure to do work.

### **Gravity**

When objects are released they will drop if not supported or otherwise restrained.

### **Other**

Thermal, Radioactive, Lasers, Water, Steam, Chemicals, Gases

## Energy Isolating Devices

Energy Isolating Devices are the mechanisms that prevent the transmission or release of energy and to which locks or tags are attached. This device guards against accidental startup or the unexpected re-energization of machines or equipment during servicing or maintenance. There are two types of energy-isolating devices:

1. Those capable of being locked and
2. Those not capable of being locked.

At the present time, all equipment at Whitworth Tool is capable of being locked out.

The standard differentiates between the existence of these two conditions and the use of tagout when either conditions exists. When the energy-isolating device cannot be locked out, the employer must use tagout. When using tagout, the employer must comply with all tagout related provisions of the standard and, in addition to the normal training required for all employees, must train his or her employees in the following limitations of tags:

- Tags are essentially warning devices affixed to energy-isolating devices and do not provide the physical restraint of a lock.
- When a tag is attached to an isolating means, it is not to be removed except by the person who applied it, and it is never to be by-passed, ignored, or otherwise defeated.
- Tags must be legible and understandable by all employees.
- Tags and their means of attachment must be made of materials that will withstand the environmental conditions encountered in the workplace.
- Tags may evoke a false sense of security. They are only one part of an overall energy control program.
- Tags must be securely attached to the energy isolating devices so that they cannot be detached accidentally during use.

## Requirements for Lockout / Tagout Devices

**Durability** – Lockout and tagout devices must withstand the environment to which they are exposed for the maximum duration of the expected exposure. Tagout devices must be constructed and printed so that they do not deteriorate or become illegible, especially when used in corrosive (acid and alkali chemicals) or wet environments.

**Standardized** – Both lockout and tagout devices must be standardized according to either **color, shape or size**. Tagout devices must also be standardized according to **print and format**.

**Substantial** – Lockout and tagout devices must be substantial enough to minimize early or accidental removal. Locks must be substantial to prevent removal except by excessive force of special tools such as bolt cutters or other metal cutting tools. Tag means of attachment must be non-reusable, attachable by hand, self-locking, and non-releasable with a minimum unlocking strength of no less than 50 pounds. The device for attaching the tag also must have the general design and basic characteristics equivalent to a one-piece nylon cable tie that will withstand all environments and conditions.

**Identifiable** – Locks and tags must clearly identify the employee who applies them. Tags also must warn against hazardous conditions if the machine or equipment is energized and must include a legend such as the following: **DO NOT START, DO NOT OPEN, DO NOT CLOSE, DO NOT ENERGIZE, DO NOT OPERATE**.

## Training

The employer must provide effective initial and retraining as necessary and must certify that such training has been given to all employees covered by the standard. The certification must contain each employee's name and dates of training. Ray Stewart is responsible for the training of employees in regards to lockout / tagout. Any new employee will be trained before they begin working on the floor.

For the purpose of the standard, there are three types of employees:

**Employee "Affected"** – An employee who is trained to understand the purpose, function, and restrictions of the energy control program and performs their job duties in an area where the energy control procedure has been implemented and servicing or maintenance operations are performed.

**Employee "Authorized"** – An employee who has been trained to recognize the type and magnitude of the hazardous energy source present in the workplace and is knowledgeable of the methods to isolate and control the energy sources. Authorized employees implement the energy control program.

**Employee "Other"** – An employee who is trained to understand the purpose, function, and restrictions of the energy control program. An "other employee" is not "authorized" to implement the Lockout/Tagout program nor perform job functions in areas "affected" by the energy control program.

# **ENERGY CONTROL PROCEDURE**

**ALL AUTHORIZED EMPLOYEES SHALL FOLLOW THE ENERGY CONTROL PROCEDURE WHEN LOCKING OUT MACHINES OR EQUIPMENT.**

1. REVIEW THE ENERGY CONTROL PROCEDURE FORM AND PREPARE FOR SHUTDOWN.
2. NOTIFY ALL AFFECTED EMPLOYEES
3. TURN OFF THE MACHINE OR EQUIPMENT
4. LOCATE AND ISOLATE ALL ENERGY SOURCES
5. ATTACH LOCK AND TAG
6. RELEASE STORED ENERGY IF APPLICABLE
7. TEST THE OPERATING CONTROLS
8. RETURN CONTROLS TO OFF (NEUTRAL)
9. TEST ELECTRICAL CIRCUITS
10. PERFORM SERVICE OR MAINTENANCE

**FOR REMOVAL OF LOCKS AND TAGS, AUTHORIZED EMPLOYEES SHALL:**

1. KEEP EMPLOYEES A SAFE DISTANCE FROM UNIT
2. REMOVE TOOLS FROM UNIT
3. REINSTALL MACHINE GUARDING
4. REMOVE LOCKOUT DEVICES
5. TURN ON ENERGY
6. NOTIFY AFFECTED EMPLOYEES THAT UNIT IS AGAIN FUNCTIONAL

## **Outside Contractors**

Outside Contractors shall inform Whitworth Tool Inc. of their energy control procedures and Whitworth Tool Inc. shall inform outside contractors of its energy control procedures as well.

Outside contractors must comply with all lockout/tagout procedures in this policy. In addition, all Whitworth Tool Inc. authorized persons shall comply with outside contractors' lockout/tagout procedures when working with contractors.

Whitworth Tool Inc.'s maintenance department or Whitworth Tool Inc.'s supervisors or lead men shall be responsible for ensuring all Whitworth Tool Inc. authorized persons understand the outside contractor's lockout/tagout procedures. The project supervisor for the outside contractor shall be responsible for ensuring all authorized and affected persons from his/her organization understand Whitworth Tool Inc.'s energy control procedures.

Conflicts in energy control procedures shall always be resolved in the interest of safety. Neither respective lockout/tagout procedures shall be degraded.

Please note **Step #5 on the Energy Control Procedure**. An authorized employee of Whitworth Tool shall attach his/her lock/tag onto the energy isolating device prior to an outside contractor placing their lock onto the energy isolating device.

#### **Removal of Lockout/Tagout Device by Other Persons**

If a machine or equipment needs to be energized and the owner of a lockout/tagout device is not present, the device may be removed at the discretion of the Maintenance Dept. and/or Supervisor/Lead men provided that:

- It has been verified that the authorized person is not on-site, and
- All reasonable attempts to contact the authorized person have been exhausted,
- Assurances are in place that the authorized person will be notified of the removal of his device before returning to the machine or equipment, and,
- The person removing the device has assumed responsibility for the safety of all authorized and affected persons and has completed all steps required before restoring the machine to service.

#### **Lockout during Shift Change**

In the event that servicing or maintenance continues beyond a certain shift, the off-going authorized person shall not remove his/her device until the incoming authorized person is ready to attach his device. Off-going personnel are still responsible for removing their tools from the area and incoming personnel are still responsible for surveying the hazards and communicating with affected persons.

#### **Procedures Involving More Than One Person (Group Lockout)**

If more than one individual is servicing machinery or equipment, all persons shall be provided the same level of protection from energy release as afforded under standard lockout/tagout procedure. To ensure this, one authorized person shall be primarily responsible for adhering to energy control procedures and;

1. Determining the energy hazards for each group member,
2. Coordinating with all affected persons and, if applicable, between groups or departments and,
3. Ensuring the safety of each individual.

In addition to the lockout/tagout procedure, each individual shall place his/her own personal lockout or tagout device on the energy isolating devices before engaging in the servicing or maintenance operation. When an energy-isolating device cannot accept multiple locks or tags, a multiple lockout or tagout device (hasp or lock box) may be used. Each employee will then use his or her own

lock to secure the multiple lockout device. As each person no longer needs to maintain his or her lockout protection, that individual shall remove his or her lock/tag from the multiple lockout device. The authorized employee in charge of the group lockout must not remove the group lockout or tagout device until each employee has removed his/her personal device, indicating that he/she is no longer exposed to the hazards from the servicing operation.

When the activities involving group lockout or tagout extend in another work shift, or there is a change of authorized employees, the provision for shift or personnel changes must be followed.

**Periodic Inspections**

Periodic Inspections will be performed by Ray Stewart. The forms will be in the EHS Coordinator's Office.