

## Toolbox Talk: Identifying Hazardous Energy Sources & When Lockout/Tagout Is Required

**Standard:** 29 CFR 1910.147 The Control of Hazardous Energy (Lockout/Tagout) standard

### Purpose

This toolbox talk is designed to help employees recognize hazardous energy sources and understand when lockout/tagout (LOTO) procedures must be applied. Failure to properly control energy during servicing or maintenance is one of the leading causes of serious workplace injuries.

### What Is Hazardous Energy?

Hazardous energy is any form of energy that can cause injury if it is released unexpectedly. It is not limited to electricity—many types of energy can pose serious risks.

### Common Types of Hazardous Energy:

- **Electrical Energy:** Live wires, energized circuits, equipment panels
- **Mechanical Energy:** Moving parts, rotating shafts, springs, flywheels
- **Hydraulic & Pneumatic Energy:** Pressurized fluids or air systems
- **Thermal Energy:** Heat, steam, hot surfaces
- **Chemical Energy:** Reactive substances, stored chemicals
- **Stored or Residual Energy:** Energy that remains after shutdown (capacitors, compressed springs, elevated machine parts)



### When Is Lockout/Tagout Required?

LOTO must be used whenever an employee is exposed to hazardous energy during:

- Servicing or maintenance of equipment
- Clearing jams or blockages
- Cleaning, adjusting, or lubricating machinery
- Repairing or replacing parts
- Any activity where guards are removed or safety devices are bypassed

If equipment could **start up unexpectedly** or release stored energy, LOTO is required.

### Why Identification Matters

Many incidents occur because workers fail to recognize all energy sources involved. Simply turning off a machine does **not** make it safe.

### **Potential consequences include:**

- Amputations and crushing injuries
- Electrical shock or burns
- Exposure to high-pressure releases
- Severe or fatal injuries from unexpected startup

### **Key Safety Reminders**

- Always identify **all** energy sources before starting work
- Never assume equipment is de-energized
- Use proper shutdown and isolation procedures every time
- Verify isolation before beginning work (“try-start” method)
- Follow company-specific LOTO procedures without shortcuts

### **Discussion Questions**

1. What types of hazardous energy are present in the equipment we use daily?
2. Have all energy sources been identified before servicing begins?
3. What steps do we take to verify zero energy?

### **Takeaway Message**

Recognizing hazardous energy is the first step in preventing serious injuries. If there is any possibility of unexpected startup or energy release, lockout/tagout procedures must be applied—no exceptions.

