

## Controlling Hazardous Energy

What is hazardous energy? Hazardous energy is the unexpected startup or release of energy from machinery in the form of electrical, hydraulic, mechanical, pneumatic, chemical, thermal, or other sources. These hazardous energy sources are typically released during machine maintenance, cleaning, or relocation. Following proper lockout-tagout (LOTO) procedures will help eliminate hazardous energy accidents.

### Identify Hazardous Energy Equipment

First, identify all machinery that uses and can store hazardous energy. Second, identify procedures to release and block the hazardous energy. Hazardous energy can take the form of valves, moving parts, air hoses, electrical connections, and many other forms.

### Have Lockout Control Devices Ready

After the hazardous energy sources have been identified, lockout control devices are needed to prevent the accidental release of the hazardous energy. It is important to have the correct lockout control device for each energy source that has been identified as hazardous.



### Create Specific Lockout-Tagout Procedures

Specific lockout-tagout procedures must be created for each piece of equipment that has been identified to have stored hazardous energy. The procedures must identify the energy source and the lockout device used to control that source. Photographs are a great tool to help employees identify the location of the energy source during maintenance.

Procedures should be stored with the written lockout-tagout program. Laminated procedural copies can be strategically placed next to the corresponding pieces of equipment.

### Training

Training must be provided to employees that will conduct maintenance or who operate equipment that has been identified to have hazardous energy. Training should cover:

- Identifying authorized personnel who will lockout equipment and who will remove lockout devices
- Reviewing lockout procedures
- Affixing the lockout control devices correctly
- Checking to ensure the equipment energy sources have been isolated

### Authorized Personnel Only

The LOTO procedures are only effective if the authorized employee/person is adhering to them. Only the authorized employee should have the key to the lockout control devices and only that employee should remove the devices after maintenance has been completed.