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## **Chapter 7 : CONTROL OF HAZARDOUS ENERGY**

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### **INTRODUCTION/OVERVIEW**

The control of hazardous energy sources, be they electrical, mechanical, hydraulic, pneumatic, chemical, thermal or gravity, must comply with OSHA Standards 1910.147 and 1926.417. The purpose of this chapter is to present the uniform procedures **CUNNINGHAM PAVING** follows to ensure that the proper requirements for the lockout of potentially hazardous energy sources have been met before any employees are permitted to perform work or conduct inspections.

There are certain servicing operations, which, by their very nature, must take place without de-energization, such as operational testing and trouble shooting of machines or equipment. Locking out or tagging out cannot be performed during those operations, since both lockout and tagout require that equipment be de-energized. Additionally, Lockout/tagout is not required when certain tasks are conducted during normal operations, such as minor adjustments or voltage reading requirements for inspections, when those activities do not increase the risk of injury to employees.

### **DEFINITIONS**

1. **Power** - All types of energy that can operate machinery and equipment such as electricity, air, liquids, and steam. The application of steam under pressure for use in heating is capable of inflicting damage and/or injury and is subject to lockout requirements.
2. **Lockout Device** - Any device that uses positive means such as a lock, either key or combination type, to hold the energy-isolating device in a safe position, thereby preventing the energizing or release of energy from machinery or equipment.

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3. **Tagout** - The placement of a tagout device on an energy-isolating device, in accordance with an established procedure, to indicate that the energy-isolating device and the equipment being controlled may not be operated until the tagout device is removed. 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 or 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. Locks and tags must clearly identify the employee of **CUNNINGHAM PAVING** who applies them. Tags must also warn against hazardous conditions if the machine or equipment is energized and must include a legend such as **DO NOT START, DO NOT OPEN, DO NOT ENERGIZE, DO NOT OPERATE**.
  4. **Energy-Isolating Device** - Any mechanical device that physically prevents the transmission or release of energy. These include, but are not limited to, manually-operated, electrical circuit breakers, disconnect switches, line valves, and blocks.
  5. **Energy Control Procedure** - A written document that contains those items of information an authorized employee needs to know in order to safely control hazardous energy during servicing or maintenance of machines or equipment.
  6. **Energy Control Program** - A program intended to prevent the unexpected energizing or the release of stored energy in machines or equipment. The program consists of energy control procedures, an employee training program, and periodic inspections.
  7. **Authorized Employee** - A qualified employee who performs servicing or maintenance on machines and equipment. Lockout or tagout is used by those employees for their protection.
  8. **Affected Employee** - One who does not perform the servicing or implement the lockout but who works in the area where such service is being performed. This employee does not need to know how to perform lockout but must be able to recognize when lockout is being used, the purpose of this procedure, and the importance of not attempting to start-up or use equipment that has been locked out.
  9. **Main Disconnect** - The electrical switch device that is used to isolate the piece of equipment from its supply of electricity.
  10. **Local Start/Stop Device** - The control device located near the equipment that is used to start-stop that equipment.
  11. **Remote Start/Stop Device** - Located away from and in some cases out of sight of the equipment it controls.

## ***PROCEDURES FOR CONTROLLING ENERGY SOURCES***

1. Lockout is **CUNNINGHAM PAVING**'s preferred method of isolation. Tagout should only be used when locks cannot be installed. Tags are not a positive lockout device. Extreme caution must be used when utilizing tags.
2. Prior to starting work, each individual must verify that isolation and de-energization have been achieved. Examples of this verification process include, but are not limited to, visual inspection, blank list, and trying the start button.

