

LOCKOUT/TAGOUT SAVES LIVES AND REDUCES COSTS AT CONSTRUCTION WORKSITES!

- Approximately 10% of all industrial accidents are caused by failure to properly control hazardous energy. According to OSHA, this leads to 250,000 incidents, resulting in 50,000 injuries and over 100 fatalities every year
- Studies have shown that energy control programs can reduce injury rates by 25 to 50 percent!

There are numerous sources of energy at construction worksites:

- **Electrical:** Alternating and direct current sources as well as static electricity or stored energy devices
- **Mechanical Potential:** Sources of energy that derive their power from gravity (including items that could cause damage by falling, slipping or rolling) as well as from compression
- **Hydraulic:** From fluids pressurized to perform work such as those used to operate heavy equipment such as backhoes and front-end loaders
- **Pneumatic:** From gaseous systems operating at positive (compressed) pressure or negative (vacuum) pressure
- **Chemical:** Released through simple contact with chemicals, or results from the combination of different substances or gases
- **Thermal:** Heat that comes from electrical, chemical action, friction and combustion

The main sources of worksite incidents that result in serious injuries or death are often electrical and involve:

- Accidental contact with power lines
- Improper lockout procedures
- Attempting to work on live electrical components

Lockout means that a physical barrier has been installed to prevent restarting or reactivating an energized component. **Tagout** means placing tags on equipment or machinery to notify workers not to start or operate the equipment. It generally occurs right after the lockout and serves to notify others that someone is actively working on the equipment, and that it shouldn't be started or reactivated while the locks and tags are engaged.

While important, tags are not acceptable to substitute for locks.

LO/TO Regulations & Standards

- Federal LO/TO requirements for construction are covered in 29 CFR 1926.417, *Lockout and tagging of circuits*, and for general industry in 29 CFR 1910.147, *The Control of Hazardous Energy (lockout/tagout)*
- Work on electrical circuits and components is covered under 29 CFR 1910, Subpart S, *Selection and Use of Electrical Work Practice*
- Some equipment-specific OSHA standard (eg, for cranes) also have their own LO/TO requirements
- In 2003, the American National Standards Institute (ANSI) updated its standard Z244.1 Controls of Hazardous Energy - Lockout/Tagout & Alternative Methods. ANSI standard are voluntary consensus standards, but often form the basis of new or revised OSHA regulations
- For more information on the OSHA standards, go to www.osha.gov
- For information on ANSI Z244.1 go to www.ansi.org

What OSHA Says

1926.417(a) Controls.

Controls that are to be deactivated during the course of work on energized or deenergized equipment or circuits shall be tagged.

1926.417(b) Equipment and circuits.

Equipment or circuits that are deenergized shall be rendered inoperative and shall have tags attached at all points where such equipment or circuits can be energized.

1926.417(c) Tags

Tags shall be placed to identify plainly the equipment or circuits being worked on.

Worksite Examples of Hazardous Energy Control

- Equipment Control
- Unplugging a power saw before changing the blade
- Simple plug lockout
- Valve lockout

