



Safety Matters

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Control of Hazardous Energy

Read more at <http://www.cdc.gov/niosh/99-110.html#1>

Workers at Risk

Workers may be exposed to hazardous energy in several forms and combinations during installation, maintenance, service, or repair work. A comprehensive hazardous energy control program should address all forms of hazardous energy [NIOSH 1983]:

Hazardous Energy:

KINETIC ENERGY:

Kinetic (mechanical) energy in the moving parts of mechanical systems



POTENTIAL ENERGY:



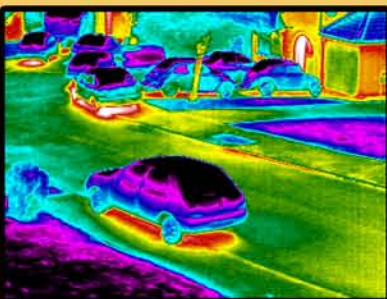
Potential energy stored in pressure vessels, gas tanks, hydraulic or pneumatic systems, and springs (potential energy can be released as hazardous kinetic energy)

ELECTRICAL ENERGY:

Electrical energy from generated electrical power, static sources, or electrical storage devices (such as batteries or capacitors)



THERMAL ENERGY:



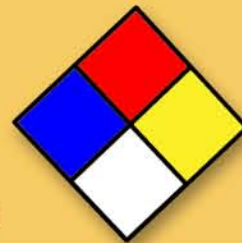
Thermal energy (high or low temperature) resulting from mechanical work, radiation, chemical reaction, or electrical resistance

Comply with OSHA Regulations

NIOSH recommends that employers implement the following steps to prevent injuries and deaths of workers who must work with hazardous energy in their jobs:

- Develop and implement a hazardous energy control program.
- Identify and label all hazardous energy sources.
- De-energize, isolate, block, and/or dissipate all forms of hazardous energy before work begins.
- Establish lockout/tagout programs that:
 - Require workers to secure energy control devices with their own individually assigned locks and keys—only one key for each lock the worker controls
 - Require that each lock used to secure an energy control device be clearly labeled with durable tags to identify the worker assigned to the lock
 - Make sure that the worker who installs a lock is the one who removes it after all work has been completed
 - Ensure that if work is not completed when the shift changes, workers arriving on shift should apply their locks before departing workers remove their locks.
- Verify by test and/or observation that all energy sources are de-energized before work begins.
- Inspect repair work before reactivating the equipment. Make sure that all workers are clear of danger points before re-energizing the system.
- Train ALL workers in the basic concepts of hazardous energy control.
- Include a hazardous energy control program with any confined-space entry program.
- Encourage manufacturers to design machines and systems that make it easy to control hazardous energy.

Remember... Safety Matters.



Comments and suggestions are always welcome and encouraged.



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