

Preventing Worker Deaths from Uncontrolled Release of Hazardous Energy

Cause

Review of the NIOSH FACE data indicates that three related factors contribute to injuries and deaths that occur when workers perform installation, maintenance, service, or repair work near hazardous energy sources:

- Failure to completely de-energize, isolate, block, and/or dissipate the hazardous energy source.
- Failure to lockout and tagout energy control devices and isolation points after the hazardous energy source has been de-energized.
- Failure to verify that the hazardous energy source was de-energized before beginning work.

These fatalities could have been prevented if comprehensive hazardous energy control procedures had been implemented and followed.

Recommendation

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

1. Comply with OSHA regulations.
2. Develop and implement a hazardous energy control program.
3. Identify and label all hazardous energy sources.
4. De-energize, isolate, block, and/or dissipate all forms of hazardous energy before work begins.
5. Establish lock out/tagout programs that:
 - Require workers to secure energy control devices with their own individually as signed 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 as signed to the lock;
 - Make sure that the worker who installs a lock is the one who removes it after all work has been completed; and

- If work is not completed when the shift changes, workers arriving on shift should apply their locks before; departing workers remove their locks.

6. Verify by test and/or observation that all energy sources are de-energized before work begins.

7. Inspect repair work before reactivating the equipment.

8. Make sure that all workers are clear of danger points before re-energizing the system.

9. Train ALL workers in the basic concepts of hazardous energy control.

10. Include a hazardous energy control program with any confined-space entry program.

11. Encourage manufacturers to design machines and systems that make it easy to control hazardous energy.