

Information Bulletin

NUMBER 11

Lockout - Tagout

Every year over one hundred workers lose their lives as a result of equipment which was not properly de-energized during set-up or repairs. Approximately thirty thousand employees are injured in what are often considered to be preventable accidents.

Many hazardous energy sources such as electrical, mechanical, pneumatic, hydraulic and thermal energy are present during the production of products or building construction. Other less frequent or often overlooked sources of stored energy include power presses.

Lockout of an energy source involves placing a lock on an actuating device, such as a circuit breaker or shutoff valve. This procedure must ensure that the equipment the device controls cannot be started until the lock is removed.

Tagout, on the other hand, is simply placing a tag or label on an isolating device to warn others not to restore energy to the equipment.

Lockout Procedures

Set up a program, publish it and train your employees. The program can be as simple as providing lockout devices on equipment and assigning workers their own locks. Strict programs may require the worker to obtain the lock from the office and sign a register indicating what equipment is being locked out and when the work will be finished. This allows management to keep track of down equipment.

- Determine which switch will de-energize the equipment.
- Open the switch, preferably with the equipment running as proof that the switch is the right one.
- Attempt to operate the equipment with the normal operating controls.

- Place a padlock on the switch in the open position.

Use lockout devices that accept more than one pad lock if more than one person works on the equipment at any one time. The lockout is placed on the switch in the open position. All padlocks must be removed before the lockout will come off.

There must be only one key for each padlock and it must be kept in the possession of the worker.

Locks and any other equipment required for energy control (chains, blocks, shorting bars, pins, etc.) shall be provided by the employer and must be designated for energy control exclusively. They shall not be used for any other purpose.

The lockout device (padlock) must identify the person who attached it. Where padlocks are controlled through an office, a number can refer back to the log where the worker will be identified.


Check the voltage, short out capacitors, relieve pressure from hydraulic and air systems, place springs in neutral position, etc.

Each worker's lock remains on the switch or lockout device until his/her work is done.

Any work performed on the de-energized equipment must be done with that worker's padlock in place. Do not rely upon someone else's padlock. Do not rely upon the disconnect switch being in sight. Lockout must be used.

Provide a specific procedure for ensuring orderly transfer of control devices from one shift to the next.

Inform contractors of the lockout/tagout procedures and the prohibition against tampering with energy isolation devices.



When a device can be locked out, a lockout must be used.

Exception: If a tagout procedure can provide equal employee protection, it may be used.

Tags have several limitations. For them to provide full employee protection, workers must be informed of these limitations:

Tags must be legible and understood by all employees (multi-lingual). Tags must have a consistent typestyle, layout and format and must identify the person who applies to them.

Tags are little more than a means of warning. If the meaning is not understood, they may provide the worker with a false sense of security.

The tags and their attachment must be compatible with the workplace, atmosphere and must be firmly attached.

Tags do not provide physical restraint.

Proper authority is required before tags can be removed, ignored or otherwise invalidated. The attaching device must be non-reusable, be capable of being affixed by hand, and require at least 50 pounds of pressure to remove.

Many programs require that tags be obtained from the office and log entries be made indicating what is to be tagged out, the date and time tagged and expected time back on-line. The tag is dated and must be returned to the office when the equipment is put back in service.

Substantial force must be required to remove a lockout or tagout device by someone other than the worker who applied it.

You must classify your employees!

- Employees must be authorized to physically lock or tagout a machine.
- *Affected* employees are those whose jobs require them to:

Operate equipment that is subject to lockout/tagout procedures;

Work in areas where lockout/tagout is used.

Procedures

Explain the program's purpose, describe its scope and identify authorized employees. Detail procedures on shutdown, equipment isolation, device application and removal, stored energy dissipation, and verification that lockout/tagout conditions are achieved. Document the procedures unless all of the following can be demonstrated by the employee:

- Energy cannot be stored or re-accumulated after shutdown;
- There is only one source of energy isolation;
- Isolation of that single source completely de-energizes the equipment;
- The machine is locked out during service;
- A single lockout device provides complete lockout;
- Worker performing the task has exclusive control of the lockout device;
- No hazard to any other worker is created by the lockout being performed;
- No prior accidents or incidents involving, unexpected activation of the machine have occurred during maintenance or service.

Training

Authorized employees must be trained in:

- Hazardous energy source recognition;
- Type and magnitude identification of energy sources.
- Methods and means for isolation and control of energy.
- Affected employees must be instructed on the purpose and use of lockout/tagout procedures.
- Other employees only need instruction on the procedures but not their use. The prohibition on trying to restart equipment that has been locked/tagged out must be emphasized.

As this bulletin may not be sufficient to completely institute a lockout/tagout procedure please contact your Farmers agent or Farmers Loss Control Department for additional information.