



**MISSISSIPPI STATE UNIVERSITY™**  
MS AGRICULTURAL AND FORESTRY  
EXPERIMENT STATION

# MAFES DAWG TRACKS

Locking or tagging out equipment is a way to control hazardous energy.

## What is hazardous energy?

Energy sources including electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other sources in machines and equipment can be hazardous to workers. During the servicing and maintenance of machines and equipment, the unexpected startup or release of stored energy can result in a devastating outcome to workers.

## What are the consequences?

Workers servicing or maintaining equipment may be seriously injured or killed if hazardous energy is not properly controlled. Injuries may include electrocution, burns, crushing, cutting, lacerating, amputating, or fracturing body parts, and others.

- A steam valve is automatically turned on burning workers who are repairing a downstream connection in the piping.
- A jammed conveyor system suddenly releases, crushing a worker who is trying to clear the jam.
- Internal wiring on a piece of equipment electrically shorts, shocking worker who is repairing the equipment.

Craft workers, electricians, machine operators, and laborers are among the 3 million workers who service equipment routinely and face the greatest risk of injury. Workers injured on the job from exposure to hazardous energy lose an average of 24 workdays for recuperation.



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## What can be done to control hazardous energy and protect employees?

- ✓ Implement lockout/tagout (LOTO) practices and procedures.
- ✓ Use true locking devices for equipment that can be locked out. Tags may be used in lieu of lockout devices only if the tagout program provides employee protection equivalent to that provided through a lockout program.
- ✓ Ensure that new or overhauled equipment is capable of being locked out.
- ✓ Use only lockout/tagout devices authorized; ensure that they are durable, standardized, and substantial.
- ✓ Ensure that lockout/tagout devices identify the individual users.
- ✓ Establish a policy that permits only the employee who applied a lockout/tagout device to remove it.
- ✓ Train all employees.

## The following is a basic outline necessary to disable equipment to prevent a hazardous energy release:

1. Scene survey – identify all potential hazards.
2. Notify affected people of LOTO and reason for it.
3. Shut machine down with normal procedures.
4. Isolate from source – turn off disconnects, breakers, valves; dissipated stored energy or restrain (blocking/ bleed-down...)
5. Lockout/tagout – use assigned lock/tag; key must remain with person who applied lock.
6. Test – operate normal controls to ensure equip will not operate; use meter to verify electrical circuits.
7. Proceed with work or repairs.
8. Remove all tools from work area, reinstall guards, & ensure everyone is clear.
9. Remove LOTO and restore energy.
10. Proceed with normal start up.

## Sources:

<https://www.osha.gov/SLTC/controlhazardousenergy/>

[https://www.osha.gov/OshDoc/data\\_General\\_Facts/factsheet-lockout-tagout.pdf](https://www.osha.gov/OshDoc/data_General_Facts/factsheet-lockout-tagout.pdf)