



TEXAS TECH UNIVERSITY™

Operating Policy and Procedure

OP 60.06: Lockout/Tagout Program

DATE: January 11, 2022

PURPOSE: The purpose of this Operating Policy/Procedure (OP) is to prevent personal injury and property damage due to the unexpected energization or start-up of machines and equipment or release of stored energy where repairs and/or maintenance are underway.

REVIEW: This OP will be reviewed in September of every fourth year by the Assistant Vice President for Environmental Health & Safety with substantive revisions forwarded through the Associate Vice President for Research to the Vice President for Research & Innovation. This OP will be reviewed again in 2025.

REFERENCES

[29 Code of Federal Regulations, 1910.147](#), “The Control of Hazardous Energy (Lockout/Tagout),” and the *Accident Prevention Manual Engineering and Technology*, 10th Edition 1996.

POLICY/PROCEDURE

1. Definitions

- a. Affected Employee – An employee whose job requires her/him to operate or use a machine or equipment under lockout/tagout or whose job requires her/him to work in an area where repairs or maintenance are being performed under lockout/tagout procedures.
- b. Authorized Employee – A person who locks or tags a machine or equipment to perform repair or maintenance. The authorized employee and the affected employee can be the same person.
- c. Energy-Isolating Device – A mechanical device that physically prevents the release of energy. Examples: manually operated circuit breaker, a disconnect switch, a line valve, or a block. This does not include a push button, selector switch, or other circuit-type devices.
- d. Lockout Device – A device with the positive means to hold an energy-isolating device in the safe position and prevent the energizing of a machine or equipment. This could be a keyed or combination lock.
- e. Tagout – The placement of a tag on the energy-isolating device to indicate that the machine or equipment may not be operated until the tag is removed.
- f. Tagout Device – A warning device such as a tag with means of attachment that can be secured to an energy-isolating device to indicate that the machine or equipment may not be operated until the tagout device is removed.
- g. Energized – Connected to an energy source or containing residual or stored energy.

- h. Energy Source – Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.
- i. Servicing and/or Maintenance – Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, maintaining, and/or servicing machines or equipment. These activities include lubrication, cleaning, or unjamming machines or equipment and making adjustments or changes where the employee may be exposed to the unexpected energization or startup of the equipment or release of hazardous energy.
- j. Initiator – The authorized employee initiating the tagging out of a system, component, or sub-component who is responsible for preparing paperwork and obtaining proper signatures.
- k. Lead Operator – The designated lead operator who has shift responsibility for the plant or tasks at that specific time.
- l. Superintendent – The duly appointed superintendent or, in her/his absence, the manager of the department.
- m. Tag Number – A number that specifically identifies one tag and its location, and refers to the appropriate equipment on the service sheet. Example: tag number 2010-3; “2” is the year, “010” is the sheet number, and “3” is the tag number.

2. General Provisions

- a. When any new equipment is acquired or equipment is updated, the equipment will be designed in such a way that it will accommodate a locking device as required by OSHA in January 1990.
- b. A lockout device and tag shall be affixed to an energy-isolating device to disable machines or equipment from unexpected energization, startup, or release of stored energy.
- c. When a lockout device cannot be attached to the machine or equipment physically, a tag shall be attached to the energy-isolating device.
- d. Protective materials and hardware such as locks, tags, etc., shall be provided by the employer and used only for controlling energy and not any other purpose and shall meet the following requirements:
 - (1) Lockout and tagout devices shall be capable of withstanding the environment in which they will be used.
 - (2) Tagout devices shall be constructed and printed in such a way to ensure that exposure to weather conditions or damp locations will not cause the tag to deteriorate or the message on the tag to become illegible.
 - (3) Tags shall not deteriorate when used in corrosive environments such as around acid and alkali chemicals.
 - (4) All locks and tags shall be standardized in at least one of the following criteria: color, shape, or size. Tags shall have the same print and format.
 - (5) Tags shall include a legend such as the following: DO NOT START, DO NOT OPEN, DO NOT CLOSE, DO NOT ENERGIZE, DO NOT OPERATE.

- e. Procedures shall clearly outline rules and techniques to be utilized for the control of hazardous energy and the means to enforce compliance, including specific:
 - (1) Steps for shutting down, isolating, blocking, and securing machines or equipment and warning employees;
 - (2) Steps for placement, removal, and transfer of lockout devices or tags and identification of the person responsible for them;
 - (3) Requirements for testing to determine and verify effectiveness of lockout devices and other control measures;
 - (4) Steps in situations when a lock or tag must be removed to move or reposition a machine or equipment for repair;
 - (5) Procedures to be incorporated when outside personnel engage in on-site activities that are within the scope of this policy;
 - (6) Procedures when group lockout or tagout is required; and
 - (7) Procedures for a change of shift or personnel involved in a lockout/tagout.
- f. Inspections shall be performed at least annually to ensure that the procedures and requirements are being followed.
 - (1) The inspection shall be performed by an authorized person other than the person utilizing the lockout/tagout procedure.
 - (2) The inspection shall be used to identify any deviations and discrepancies in the procedure.
 - (3) Where lockout is used, the inspection shall include a review between the inspector and each authorized employee to ensure that procedures are being utilized.
 - (4) Where tagout is used, the inspection shall include a review between the inspector and each authorized employee and affected employees to ensure that employees are performing the procedures correctly.
 - (5) The employer shall certify that the inspections have been performed. The certificate shall identify the machine or equipment on which the energy control procedure was being used. It shall include the date, person performing the inspection, and the employees included in the inspection.
- g. Training and communication shall be provided to ensure that energy control programs are understood and that knowledge and skills required for safe application are acquired by employees. The training shall include the following:
 - (1) Employees shall receive training in recognition of hazardous energy sources and methods necessary for energy isolation and control.
 - (2) Employees who operate or work in areas where lockout procedures are used shall be trained to ensure that they do not attempt to restart machines or equipment that are locked out or tagged out without permission.

- h. When tags are used, employees shall be trained in the limitations of tags.
 - (1) Tags are only warning devices and do not provide the physical restraint that locks do.
 - (2) When a tag is attached to an energy source, it shall not be removed without the permission of the authorized person who put it there. It shall not be bypassed, ignored, or defeated.
 - (3) Tags must be legible and understandable by affected employees in order to be effective.
 - (4) Tags must be made of material that will withstand the environmental conditions in which they are used.
 - (5) Tags must be attached so as not to be accidentally detached during use.

3. Lockout/Tagout Procedures

- a. Each employee whose work requires them to be in the lockout/tagout program will be issued locks that are keyed alike for that one employee. These can be colored coded to identify that particular employee or shop. They will be issued tags to be used in conjunction with the lock. In cases where a lock cannot be used, the employee or shop will use a tag.

Exception: When the authorized employee who applied the lock or tag is not available, the device may be removed only by the supervisor, provided that:

- (1) It has been verified that the authorized employee is not available.
 - (2) Every reasonable effort has been made to contact the employee and let him or her know that their device has been removed.
 - (3) Ensure that the authorized employee is informed before returning to work that her/his device has been removed.
- b. When a locking device cannot be used to physically prevent start-up, a tag should be used and, if possible, circuit elements, valve handles, etc., should be removed to make it as safe as possible.
 - c. The lockout/tagout procedure will follow a sequence and will be done only by authorized personnel.

The process is as follows:

- (1) The type of energy, hazards associated with it, and how to control the hazards shall be determined.
- (2) A determination shall be made as to which employees will be affected and, therefore, notified of the lockout/tagout procedure to be used.
- (3) All energy-isolating devices shall be installed in a manner that will hold the machine or equipment in a safe on/off position.
- (4) Tagout devices will be fixed in such a way that operation of machine or equipment is prohibited.

- (5) Tags will be used with locks. The tags shall be placed at the same location as the lock. If this is not possible, the tag shall be placed in such a place as to make it obvious not to operate the device.
- (6) Following the lockout or tagout of the energy device, all potentially hazardous stored or residual energy shall be released, disconnected, or restrained to a safe condition.
- (7) Prior to working on a machine or equipment that has been locked out or tagged out, the authorized person shall verify that the energy source has been isolated. If there is a chance of re-accumulation of energy, the authorized person shall continue to monitor the job to ensure that re-energization does not occur.

d. Release from Lockout or Tagout Procedures

Before lockout or tagout devices are removed, steps shall be taken by the authorized person. These are as follows:

- (1) The work area shall be checked to ensure that all employees are clear before the lockout devices are removed and the energy resupplied to the equipment. Affected employees shall be notified that the lockout has been removed.
 - (2) Each lockout/tagout device shall be removed by the employee who placed it there.
- e. When the authorized employee who applied the lock or tag cannot be contacted, steps shall be followed to ensure the safety of all employees involved in the lockout/tagout procedure.

Management shall make a thorough search to contact the employee who has a locking device on equipment to inform her/him that the equipment has been energized. Documentation will be placed in a file to verify that this procedure was followed. It shall be signed and dated by the management. The employee shall be notified by some means that the lockout/tagout has been released before he/she returns to work.

f. In situations where lockout/tagout devices must be removed in order to reposition or move a machine to complete work, the following procedures shall be followed:

- (1) Clear the machine of employees, tools, and material.
- (2) The employee who installed the locking device shall be the one to remove it.
- (3) Energize to run or position the equipment.
- (4) De-energize the equipment and reapply the lockout/tagout procedure before continuing work on the equipment.

g. Group lockout/tagout shall utilize a procedure that affords a level of protection equal to a single person lockout/tagout situation. The procedure is as follows:

- (1) An authorized person will be responsible for a set number of employees working under the protection of a group lockout/tagout device.
- (2) Each authorized person shall attach her/his lock and tag to a group lockout device such as a scissor device for multiple locks. Employees shall remove their own lock and tag when they have completed their part of the job.

NOTE: A group lockbox will be maintained by one authorized person in the event there is not enough room to install a scissor-type device to a main isolating switch. This will be a box with a multiple locking device that each employee can attach her/his lock to before beginning work. The lockbox will contain the key to the main isolating device. After all employees have finished their job and removed their lock from the lockbox, the responsible employee will take the main isolating device key and clear the lockout/tagout procedure as per releasing lockout/tagout protocol.

- h. When a lockout/tagout operation overlaps a shift, the following procedure shall be followed:

The authorized person shall ensure that when one employee removes her/his lock from the isolating device, the employee coming on duty will install her/his lock. All affected employees will be notified of the personnel or shift change.

- i. Whenever outside servicing people are to be engaged in the lockout/tagout procedures of Texas Tech University, the on-site manager will ensure that the contractor has a copy of the TTU lockout/tagout procedures. TTU will also request a copy of the contractor's lockout/tagout plan to ensure that it is using safe practices while working for the university. This shall be documented and signed by both parties concerned and filed in the lockout/tagout file. If there are any differences between the two plans, the affected employees shall be notified of the differences.
- j. Employee training shall be provided to ensure that the purpose of the energy control programs is understood and required knowledge and skills are in place. The training procedure shall be as follows:
- (1) All employees who are to be authorized will be given a copy of the lockout/tagout program. The trainer will discuss and explain the policy and procedures to ensure that all employees understand and comply with the program.
 - (2) All other employees whose work area could come under the lockout/tagout program will be trained in the prohibition of attempting to restart equipment that is locked out or tagged out.
 - (3) Retraining shall be provided if there is a change in the process, in job assignment, in machines, or in the energy control procedure. Retraining shall also be performed if the periodic inspection reveals any deviations from the energy control procedures.
 - (4) Employees shall certify that training has been kept up to date by signing and dating the "Lockout/Tagout Training Certificate" each time they participate in training and retraining, with a copy placed in their personnel file.
- k. A periodic inspection of the energy control procedure shall be performed at least annually to ensure that the requirements of the program are being met. The periodic inspection procedure is as follows:
- (1) A periodic inspection shall be performed by an authorized employee other than the one utilizing the energy control procedure.
 - (2) The inspection shall be used to correct any deviations observed.

- (3) Where *lockout* is used, a review between the inspector and each authorized and affected employee of that employee's responsibilities under the energy control procedure will be included.
- (4) Where *tagout* is used, a review between the inspector and each authorized and affected employee of that employee's responsibilities under the energy control procedure will be included.
- (5) The periodic inspection shall be certified as follows:

A written report shall be sent to the employer to certify that periodic inspections have been performed. The report shall include the identity of the machine or equipment, the date, the employees included in the inspection, and the person performing the inspection.
- (6) A follow-up report shall be sent to the employer within 45 days if deficiencies were found. The report will prescribe actions to be taken and expected dates of abatement.