



Texas Christian University / Facilities

Standard Operating Procedure

LOCK-OUT TAG-OUT

SOP	F-004	Revision	0
Department	Facilities Administration	Date	11/3/2020
Department Director	Glenn Putnam / <i>[Signature]</i> / 11-3-2020 Print / Sign / Date		
Department Assistant VC	RICHARD BRYAN / <i>[Signature]</i> / 11/3/2020 Print / Sign / Date		

1. **Purpose / Scope:**

- A. This policy letter establishes the minimum requirements and procedures to be followed by Facilities employees and contractors for isolating equipment, machines or electrical circuits from energy sources.
- B. Every machine, piece of equipment or electrical circuit will be locked and/or tagged out before an employee performs any service or maintenance activities where the unexpected energization, start-up or release of stored energy could cause injury. This includes the de-energization of electric circuits while they are being modified or while troubleshooting to determine the source of a problem.

2. **Responsibilities:**

- A. **Assistant Vice Chancellors/Directors/ Managers-**
 - (a) Assistant Vice Chancellor/Directors/ Managers are responsible for ensuring that all personnel and contractors under their charge are properly trained and comply with the TCU Facilities lockout/tagout procedures.
- B. **Supervisors -**
 - (a) Supervisors are responsible for ensuring that their employees comply with the lockout/tagout procedures.
 - (b) Supervisors will train all their employees on the importance of lockout/tagout as well as proper lockout/tagout procedures.
 - (c) For each appropriate project or repair activity, a supervisor or authorized employee will be assigned responsibility for ensuring that the appropriate lockout/tagout devices are in-place [prior to start of the project/repair].
 - (d) The supervisor or authorized employee will ensure that lockout/tagout devices are properly identified with the name (and date) of the authorized employee installing and using them.
 - (e) Upon completion of the project/repair, the supervisor or authorized employee will verify that lockout/tagout devices can be removed without causing an unsafe condition.
- C. **Employees -**
 - (a) Employees must be trained in the TCU lockout/tagout procedures before being authorized to use/perform them.

- (b) Authorized employees performing the maintenance/repair are responsible for placing and removing lockout/tagout devices on/from all equipment, machines or projects requiring a lockout system.
- (c) Removal of lockout/tag out devices by anyone other than the person who installed the device shall require the authorized employee's approval.
- (d) Employees must transfer lockout responsibility and status of work to Supervisor/authorized employee due to any absence of duty where the equipment must be repaired immediately. See section 4C Procedure Transfer of Responsibility.
- (e) Each authorized employee shall be required to maintain his/her own lockout devices.
- (f) All defective devices to be removed from service immediately and turned into the supervisor for repair or replacement.

D. Contractors -

- (a) All TCU project/repair contractors; major capital, reshoring, general, sub, or TCU Facilities hired contractors who perform work on campus, must adhere to the same safety requirements by Implementing lock out/tag out procedures, which at a minimum, meet the same standards as prescribed by this procedure letter. See section 4F Contractors

3. **Preparations:** A survey will be made of each job or project to determine the need for a lockout system. As required, all switches, valves or other energy-isolating devices will be identified.

- A. Lockout is often required on more than one kind of energy source, depending on the type of job or project. For example:
 - (a) If the energy source is hydraulic, steam or pneumatic, the valves will need to be tagged out or locked out with a chain and lock.
 - (b) Breakers need to be tagged out and panel switches need to be locked out for an electrical circuit.
- B. A tagout system will never take the place of a lockout system. A tagout system can only be used if there is no risk of injury or damage in the event the energy is released. Except in very selective areas where it can be demonstrated that the employee will have the same level of protection with a tagout system as that provided by a lockout system; or when equipment is incapable of being locked out.

4. **Procedures:** The following sequence of activities and procedures will be followed for lockout/tagout and restart

A. **Lockout/Tagout (involving one person) -**

- (a) Supervisors/authorized employee will advise affected employees and the Control Center that a lockout/tagout system will be installed.
- (b) Control Center to log date, time, authorized employee, equipment and associated equipment identification, reason for applying lock out, estimated time of completion and building when a LOTO is applied.
- (c) If an automated system, machine, piece of equipment, or electrical circuit is in operation, it will be stopped by the normal shutdown procedure and in conjunction with the Control Center.
- (d) Any stored energy (i.e., from air, water, hydraulics, springs flywheels, etc.) must be bled from the system. Including disabling Control Center control point
- (e) Isolate the machine, equipment or electrical circuit by operating the switch, valve, manual breaker or other energy-isolating device from its energy source.

- (f) Install the appropriate lockout device and warning tag on the energy-isolating device. Generally, this will require installing a lock. It could also require chains, hasps, etc., however, to ensure that lockout is complete.
 - (g) After ensuring that all personnel are clear and in a safe position, test the equipment by operating the normal on/off switch to ensure that it will not operate. CAUTION: The switch must be returned to the neutral or off position after the test.
 - (h) Upon completion of repair/maintenance, the lock out can be removed and a tag out installed for testing purposes. After approval of satisfactory repair/maintenance, the tag out and lock out can be removed permanently.
 - (i) Once the LOTO has been removed and equipment has been approved for service, the authorized employee must notify the Control Center of the release of equipment for service.
 - (j) The Control Center is to log the date and time of release of equipment for normal operation.
- B. Lockout/Tagout (multiple) -**
- (a) If more than one individual is required to lockout/tagout (i.e., each has his/her own maintenance/repair action), each shall place his/her lockout device and/or warning tag on the energy-isolating device.
 - (b) If the energy-isolating device cannot accept multiple locks or tags, a multiple lockout or tagout hasp will be used.
 - (c) A single lock may be used for a lockout if the key is placed in a key safe, lockbox or cabinet, which allows the use of multiple locks to secure it. Each employee requiring a lockout will use his/her lock on the safe/lockbox/cabinet until such time as he/she no longer needs lockout protection. At that point, the employee will remove his/her lock [from the safe/lockbox/ cabinet].
- C. Transfer of Responsibility -**
- (a) Authorized employees must meet to transfer locking device and tag at the same time so as the equipment is not able to become energized.
 - (b) In the event of an emergency absence of the authorize employee.
 1. The LOTO equipment must stay in place until the employee returns, or
 2. Only the Supervisor may remove the lock, when necessary, to install their own LOTO and assumes responsibility based on the documented reason(s) of why it was installed in the first place. If deemed necessary, the supervisor can transfer authority to another authorized employee using the transfer of authority protocol.
 3. The Control Center must be notified of the transfer of responsibility and to whom the responsibility is transferred to.
 4. The Control Center must log the date and time of the transfer of responsibility
- D. Training -**
- (a) Supervisors are responsible for one-on-one training, with each of their employees, including, but not limited to, the following:
 1. Type of equipment or operations requiring lockout.
 2. The difference between lockout and tagout, and when it is appropriate to use each.
 3. Lockout and restarting procedures.

- (b) Each department will be responsible for the procurement and distribution of the appropriate lock out/tag out devices and tags to their employees. Each authorized employee is responsible for retaining an inventory of lock out/tag out devices and tags with their names on each tag. When employee's inventory has been depleted and only then, can the employee obtain a back-up set of devices and tags from the Warehouse. The Warehouse will retain an inventory of lock out/tag out devices and tags as backup inventory.
- E. **Exempt Equipment -**
 - (a) Cord- and plug-connected electric equipment, which is controlled by unplugging the equipment from the energy source; and under the exclusive control of the authorized employee performing the maintenance. Otherwise, cord cap lockboxes shall be used.
 - (b) Hot tap operations involving the transmission and distribution systems for substances such as gas, steam, water or petroleum products when they are performed on pressurized pipelines. However, it must be demonstrated that continuity of service is essential; shutdown of the system is impractical; documented procedures are followed; and special equipment is used which will provide proven effective protection for employees.
- F. **Contractors -**
 - (a) All TCU project/repair contractors; major capital, reshoring, general, sub, or TCU Facilities hired contractors who perform work on campus, must adhere to the same safety requirements by implementing lockout/tagout procedures, which at a minimum, meet the same standards as prescribed by this standard operating procedure.
 - (b) Each contractor shall be provided with a copy of this standard operating procedure. Additionally, each shall be required to provide Facilities with its written requirements for implementing lockout/tagout. These individual written procedures must be approved by the Facilities Mechanical/Electrical Managers – depending on the scope of work, and shall be maintained on file in the Facilities Control Center.
 - (c) Each time that a contractor needs to perform operations where lockout/tagout control is required, or where the energy source to equipment is to be interrupted, a contractor representative shall be required to notify the Control Center of the same, via email, verbal, or in writing.
 - (d) Upon receipt of the request, the Control Center will verify that the contractor has an acceptable procedure on file. If not, the contractor may not proceed further, until such time as a plan has been approved and is in-place.
 - (e) If an acceptable plan is in-place, the contractor representative shall be required to acknowledge via signature that he/she has been trained in implementing the procedures. Upon receipt of an acknowledgement, the appropriate Facilities department manager shall be notified of the request and shall approve the same before the contractor shall be authorized to proceed.
 - (f) Following Facilities approval, the Contractor shall be responsible for their own necessary locks, hasps or tags, and shall coordinate lock out/tag out of system with authorized employee and Control Center.
 - (g) All non-administrative employees are required to read and acknowledge understanding of the contents of this policy letter in writing.

5. **Quality Assurance & Quality Control:**

A. NA

6. **References:**

A. Title 29 of the Code of Federal Regulations (CFR) Part 1910.147 (OSHA)

B. NFPA 70E

7. **Revision Control:**

A. Refer to the Facilities SOP for Standard Operating Procedures, **Section 8. Revision Control.**

