

Informative Annex G Sample Lockout/Tagout Program

This informative annex is not a part of the requirements of this NFPA document but is included for informational purposes only.

Lockout is the preferred method of controlling personnel exposure to electrical energy hazards. Tagout is an alternative method that is available to employers. The sample program and procedures that follow are provided to assist employers in developing a lockout/tagout program and procedures. The sample program and procedures can be used for a simple lockout/tagout or as part of a complex lockout/tagout. A more comprehensive procedure will need to be developed, documented, and used for the complex lockout/tagout.

LOCKOUT/TAGOUT PROGRAM

FOR [COMPANY NAME]

OR

TAGOUT PROGRAM FOR [COMPANY NAME]

1.0 Purpose. This procedure establishes the minimum requirements for lockout /tagout of electrical energy sources. It is to be used to ensure that conductors and circuit parts are disconnected from sources of electrical energy, locked (tagged), and tested before work begins where employees could be exposed to dangerous conditions. Sources of stored energy, such as capacitors or springs, shall be relieved of their energy, and a mechanism shall be engaged to prevent the reaccumulation of energy.

2.0 Responsibility. All employees shall be instructed in the safety significance of the lockout/tagout procedure. All new or transferred employees and all other persons whose work operations are or might be in the area shall be instructed in the purpose and use of this procedure. *[Name(s) of the person(s) or the job title(s) of the employee(s) with responsibility]* shall ensure that appropriate personnel receive instructions on their roles and responsibilities. All persons installing a lockout/tagout device shall sign their names and the date on the tag *[or state how the name of the individual or person in charge will be available]*.

3.0 Preparation for Lockout/Tagout.

3.1 Review current diagrammatic drawings (or their equivalent), tags, labels, and signs to identify and locate all disconnecting means to determine that power is interrupted by a physical break and not de-energized by a circuit interlock. Make a list of disconnecting means to be locked (tagged).

3.2 Review disconnecting means to determine adequacy of their interrupting ability. Determine if it will be possible to verify a visible open point, or if other precautions will be necessary.

3.3 Review other work activity to identify where and how other personnel might be exposed to electrical hazards. Review other energy sources in the physical area to determine employee exposure to those sources of other types of energy. Establish energy control methods for control of other hazardous energy sources in the area.

3.4 Provide an adequately rated test instrument to test each phase conductor or circuit part to verify that they are de-

energized (see Section G.11.3). Provide a method to determine that the test instrument is operating satisfactorily.

3.5 Where the possibility of induced voltages or stored electrical energy exists, call for grounding the phase conductors or circuit parts before touching them. Where it could be reasonably anticipated that contact with other exposed energized conductors or circuit parts is possible, call for applying ground connecting devices.

4.0 Simple Lockout/Tagout. The simple lockout/tagout procedure will involve G.1.0 through G.3.0, G.5.0 through G.9.0, and G.11.0 through G.13.0.

5.0 Sequence of Lockout/Tagout System Procedures.

5.1 The employees shall be notified that a lockout/tagout system is going to be implemented and the reason for it. The qualified employee implementing the lockout/tagout shall know the disconnecting means location for all sources of electrical energy and the location of all sources of stored energy. The qualified person shall be knowledgeable of hazards associated with electrical energy.

5.2 If the electrical supply is energized, the qualified person shall de-energize and disconnect the electric supply and relieve all stored energy.

5.3 Wherever possible, the blades of disconnecting devices should be visually verified to be fully opened, or draw-out type circuit breakers should be verified to be completely withdrawn to the fully disconnected position.

5.4 Lockout/tagout all disconnecting means with lockout/tagout devices.

Informational Note: Examples of additional safety measures when tagout only is used include opening, blocking, or removing an additional circuit element.

5.5 Attempt to operate the disconnecting means to determine that operation is prohibited.

5.6 A test instrument shall be used. (See G.11.3.) Inspect the instrument for visible damage. Do not proceed if there is an indication of damage to the instrument until an undamaged device is available.

5.7 Verify proper instrument operation on a known source of voltage and then test for absence of voltage.

5.8 Verify proper instrument operation on a known source of voltage after testing for absence of voltage.

5.9 Where required, install a grounding equipment/conductor device on the phase conductors or circuit parts, to eliminate induced voltage or stored energy, before touching them. Where it has been determined that contact with other exposed energized conductors or circuit parts is possible, apply ground connecting devices rated for the available fault duty.

5.10 The equipment, electrical source, or both are now locked out (tagged out).

6.0 Restoring the Equipment, Electrical Supply, or Both to Normal Condition.

6.1 After the job or task is complete, visually verify that the job or task is complete.

6.2 Remove all tools, equipment, and unused materials and perform appropriate housekeeping.

6.3 Remove all grounding equipment/conductors/devices.

6.4 Notify all personnel involved with the job or task that the lockout/tagout is complete, that the electrical supply is being restored, and that they are to remain clear of the equipment and electrical supply.

6.5 Perform any quality control tests or checks on the repaired or replaced equipment, electrical supply, or both.

6.6 Remove lockout/tagout devices. The person who installed the devices is to remove them.

6.7 Notify the owner of the equipment, electrical supply, or both, that the equipment, electrical supply, or both are ready to be returned to normal operation.

6.8 Return the disconnecting means to their normal condition.

7.0 Procedure Involving More Than One Person. For a simple lockout/tagout and where more than one person is involved in the job or task, each person shall install his or her own personal lockout/tagout device.

8.0 Procedure Involving More Than One Shift. When the lockout/tagout extends for more than one day, it shall be verified that the lockout/tagout is still in place at the beginning of the next day. When the lockout/tagout is continued on successive shifts, the lockout/tagout is considered to be a complex lockout/tagout.

For a complex lockout/tagout, the person in charge shall identify the method for transfer of the lockout/tagout and of communication with all employees.

9.0 Complex Lockout/Tagout. A complex lockout/tagout plan is required where one or more of the following exist:

- (1) Multiple energy sources (more than one)
- (2) Multiple crews
- (3) Multiple crafts
- (4) Multiple locations
- (5) Multiple employers
- (6) Unique disconnecting means
- (7) Complex or particular switching sequences
- (8) Lockout/tagout for more than one shift; that is, new shift workers

9.1 All complex lockout/tagout procedures shall require a written plan of execution. The plan shall include the requirements in G.1.0 through G.3.0, G.5.0, G.6.0, and G.8.0 through G.12.0.

9.2 A person in charge shall be involved with a complex lockout/tagout procedure. The person in charge shall be at the procedure location.

9.3 The person in charge shall develop a written plan of execution and communicate that plan to all persons engaged in the job or task. The person in charge shall be held accountable for safe execution of the complex lockout/tagout plan. The

complex lockout/tagout plan must address all the concerns of employees who might be exposed, and they must understand how electrical energy is controlled. The person in charge shall ensure that each person understands the electrical hazards to which they are exposed and the safety-related work practices they are to use.

9.4 All complex lockout/tagout plans identify the method to account for all persons who might be exposed to electrical hazards in the course of the lockout/tagout.

One of the following methods is to be used:

- (1) Each individual shall install his or her own personal lockout or tagout device.
- (2) The person in charge shall lock his/her key in a lock box.
- (3) The person in charge shall maintain a sign-in/sign-out log for all personnel entering the area.
- (4) Another equally effective methodology shall be used.

9.5 The person in charge can install locks/tags or direct their installation on behalf of other employees.

9.6 The person in charge can remove locks/tags or direct their removal on behalf of other employees, only after all personnel are accounted for and ensured to be clear of potential electrical hazards.

9.7 Where the complex lockout/tagout is continued on successive shifts, the person in charge shall identify the method for transfer of the lockout and the method of communication with all employees.

10.0 Discipline.

10.1 Knowingly violating the requirements of this program will result in *[state disciplinary actions that will be taken]*.

10.2 Knowingly operating a disconnecting means with an installed lockout device (tagout device) will result in *[state disciplinary actions to be taken]*.

11.0 Equipment.

11.1 Locks shall be *[state type and model of selected locks]*.

11.2 Tags shall be *[state type and model to be used]*.

11.3 The test instrument(s) to be used shall be *[state type and model]*.

12.0 Review. This program was last reviewed on [date] and is scheduled to be reviewed again on [date] (not more than 1 year from the last review).

13.0 Lockout/Tagout Training. Recommended training can include, but is not limited to, the following:

- (1) Recognition of lockout/tagout devices
- (2) Installation of lockout/tagout devices
- (3) Duty of employer in writing procedures
- (4) Duty of employee in executing procedures
- (5) Duty of person in charge
- (6) Authorized and unauthorized removal of locks/tags
- (7) Enforcement of execution of lockout/tagout procedures
- (8) Simple lockout/tagout
- (9) Complex lockout/tagout
- (10) Use of single-line and diagrammatic drawings to identify sources of energy
- (11) Alerting techniques
- (12) Release of stored energy

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| (13) Personnel accounting methods | (15) Safe use of test instruments |
| (14) Temporary protective grounding equipment needs and requirements | |