

MAINTENANCE PROGRAM

Program Element

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Each agency shall develop and implement: “a maintenance program for state-owned vehicles, equipment and grounds under control of the agency.”

Definition: A maintenance program encompasses procedures to ensure state-owned vehicles, equipment and grounds are maintained through scheduled preventive maintenance, inspection and repair.

What are the *minimum* standards for an agency maintenance program?

Guidelines and Criteria: Preventive maintenance programs for facilities, state-owned vehicles, equipment and grounds must be developed at the agency level to ensure that equipment, facilities, grounds and vehicles are maintained free of recognized hazards. This includes boilers, fire protection systems, specialized equipment and emergency equipment. This program also requires establishment of special procedures for jobs subject to serious accidents such as those involving working on electrical equipment, high pressure systems, working in confined spaces or operating potentially dangerous specialized equipment.

At a minimum each agency maintenance program must consist of the following elements:

- Written schedules of routine inspection, adjustment, cleaning, lubricating and testing of equipment.
- Safety procedures, such as lockout/tagout for employees working on equipment where an unexpected source of energy could result in personal injury or damage to the system. This includes high pressure water, gas, steam or electricity.
- Buddy systems for employees required to work in confined spaces.
- Special training and safety procedures for employees operating specialized hazardous equipment such as X-ray equipment, laser producing equipment etc.
- Written maintenance and testing schedules for overhead hoists and lifting devices.
- Identification of personal protective equipment requirements for specific jobs or areas where there is an increased risk of injury due to hazardous operations or equipment in the area. This includes posting of warning signs and procedures to restrict entry to authorized employees only.

Development of this program appears significant, where do I start?

Supervisors are the key to developing this program. They are aware of equipment and processes used within their area of responsibility that may fall into this category. Without their involvement it is likely that equipment or processes that should be included in the plan will be overlooked.

The first step in developing this program is conducting work area surveys to identify potential hazardous operations and/or equipment. The next step is to assign responsibility for the development of preventive maintenance and testing schedules, procedures to ensure that new items of equipment (or new potentially hazardous operations) are included in the schedule and a periodic review to ensure the program is effective.

What are some examples of equipment or processes that would fall under this program?

An example of some of the equipment or processes that should be included in this program are:

- State-owned vehicles
- Fire protection systems
- Emergency alarms
- Overhead hoists or cranes
- Boilers
- Elevators
- High-pressure piping systems (water, gas, vapor etc.)
- Electrical work

How do I determine if I need to establish a lockout tagout program?

If a work place survey has been conducted it will identify work processes or procedures that require the establishment of a lockout tagout program. Basically, the standard covers *the servicing and maintenance of machines and equipment* in which the unexpected energization, start-up or release of stored energy could cause injury. This is intended to apply to energy sources such as electrical, mechanical, hydraulic, chemical, nuclear and thermal.

What is meant by the terms lockout and tagout?

Lockout/tagout is the common term used to describe the overall program.

Lockout is the placement of a lockout device on an energy isolation device (circuit breaker, slide gate, line valve, disconnect switch, etc.) to ensure that the energy isolating device and equipment being controlled cannot be operated until the lockout device is removed. A lockout device utilizes a positive means such as a lock (key or combination type) to hold an energy isolating device in a safe position and prevent the energization of a machine or equipment. The lockout device must be substantial enough to prevent removal without use of excessive force or unusual techniques.

Tagout is the placement of a tagout device (a tag or other prominent warning device and a means of attachment) on an energy isolation device to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

What are the minimum requirements for a “lockout/tagout program?”

A lockout/tagout program must consist of a written program and employee training.

Written Program

OSHA 29 CFR 1910.147 (c) (4) covers the minimal acceptable written program procedures. It must include:

1. A specific written statement of the intended use of the procedure.
2. Specific procedural steps are taken for shutting down, isolating, blocking and securing machines or equipment to control hazardous energy. This must be done for each piece of equipment, unless it is a duplicate.
3. Specific procedural steps for the placement, removal and transfer of lockout devices and the responsibility for them.
4. Specific requirements for testing the effectiveness of the lockout devices, tagout devices and other energy control measures.

Where can I find out more information on lockout/tagout programs?

Training

Training for employees must cover the purpose and use of the energy control procedure and all other employees whose work operations are or may be in an area where energy control procedures may be utilized. When tagouts are used, employees must be instructed in the limitations of these devices.

Employee retraining must be provided for all authorized and affected employees whenever there is a change in their job assignments, a change in machines, equipment or processes that present a new hazard or when there is a change in the energy control procedures.

There are several excellent web sites available that will give you more information on lockout/tagout requirements, sample programs and guidelines. They are as follows:

Lockout/tagout Interactive Training Program

<http://www.osha.gov/dts/osta/lototraining/index.html>

Whether an employee is a recent hire or an experienced employee, this program will expand their knowledge of the Lockout/Tagout (LOTO) standard. The program has three major components. You can go through these components at your own pace and in any sequence:

Tutorial: Explains the standard in a question/answer format.

Hot topics: Contains five abstracts with a detailed discussion of major issues. Relevant highlighted sections of the all-inclusive documents are linked here.

Interactive case studies: Seven simulated LOTO inspections are presented. You will be making decisions on the application of the LOTO standard, based on information presented on the screen.

29 CFR 1910.147, the Control of Hazardous (Lockout/Tagout) - Inspection Procedures and Interpretive Guidance

<http://www.osha.gov/dts/osta/lototraining/tutorial/tu-overvw.html>

This site will give you information on the purpose of the program, scope of the program, and interpretation of program requirements as well as an overview of what an OSHA inspector would look for during a site inspection of your workplace.

**Oklahoma State University Program for the Control of
Hazardous Energy**

<http://www.pp.okstate.edu/ehs/manuals/Lock-tag.htm>

Sample program developed by the Oklahoma State University
Environmental Safety and Health Office