

Written Program for Davenport Community School District **Control of Hazardous Energy Source and Electrical Hazards** **(Lockout and Tagout)**

Purpose:

The purpose of this program is to ensure that the Davenport Community School District is in compliance with the OSHA Control of Hazardous Energy Source (29CFR1910.147) and with the OSHA Electrical Work Practice Standards (29CFR1910.333 (b) (2) (iii) (D) and (b) (2) (iv) (B)). This program is written for Davenport Community School District employees.

General Information:

Lockout is the preferred method of isolating machines or equipment from energy sources. New equipment or modification to existing equipment will be installed with lockout capability. This procedure will be used when there are limited numbers or types of machines or equipment or there is a single power source.

The Control of Hazardous Energy (Lockout/Tagout) 1910.147:

This procedure establishes the minimum requirement for the lockout of energy isolating devices whenever maintenance or servicing is done on machines or equipment. It shall be used to ensure that the machine or equipment is stopped, isolated from all potentially hazardous energy sources and locked out before employees perform any servicing or maintenance where the unexpected energization or start-up of the machine or equipment or release of stored energy could cause injury.

Compliance With This Program:

All employees are required to comply with the restrictions and limitations imposed upon them during the use of lockout. The authorized employees are required to perform the lockout in accordance with this procedure. No employee, upon observing a machine or piece of equipment, which is in lockout to perform servicing, or maintenance, shall attempt to start, energize, or use that machine or equipment. Employees failing to follow the above procedure shall be disciplined by their immediate supervisor(s) or director and may be suspended or dismissed from their position with the Davenport Community School District.

Preparation for Lockout or Tagout:

The authorized employee shall make a survey to locate and identify all isolating devices to be certain which switch(s) valve(s) or other energy isolating devices apply to the equipment to be locked or tagged out. More than one energy source (electrical, mechanical, or others) may be involved.

Sequence of Lockout or Tagout System Procedure:

1. Notify all affected employees that a lockout or tagout system is going to be utilized and the reason. Notification includes signage on equipment, at electrical panel and verbal notice to employees. The authorized employee shall know the type and magnitude of energy that the machine or equipment utilized and shall understand the hazards.
2. If the machine or equipment is operating, shut it down by the normal stopping procedure (depress stop button, open toggle, switch, etc.)

3. Operate the switch, valve, or other energy isolating device(s) so that the equipment is isolated from its energy sources(s). Stored energy (such as that in springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam or water pressure, etc.) must be dissipated or restrained by methods such as repositioning, blocking, bleeding down, etc.
4. Lockout and/or tagout the energy isolating devices with assigned individual lock(s) or tag(s).
5. After ensuring that no personnel are exposed, and as a check on having disconnected the energy sources, operate the push button or other normal operating controls to make certain the equipment will not operate. CAUTION: Return operating control(s) to “neutral” or “off” position after the test.
6. The equipment is now locked or tagged out.

Restoring Machines or Equipment to Normal Services:

1. Check the machine or equipment and the immediate area around the machine to ensure that nonessential items have been removed and that the machine or equipment components are operationally intact.
2. Check the work area to ensure that all employees have been safely positioned or removed from the area.
3. Verify that the controls are in “neutral/off” position
4. Remove the lockout devices and reenergize the machine or equipment. Machine or equipment should be tested to ensure it is functioning properly.
5. Notify affected employees that the servicing or maintenance is completed and the machine or equipment is ready for use.

Procedure Involving More than One Person:

In the preceding steps, if more than one individual is required to lockout or tagout equipment, each shall place his/her own personal lockout device or tagout device on the energy isolating device(s). When an energy isolating device cannot accept multiple locks or tags, a multiple lockout or tagout device (hasp) may be used. If lockout is used, a single lock may be used to lockout box or cabinet, which allows the use of multiple locks to secure it. Each employee will then use his/her own lock to secure the box or cabinet. As each person no longer needs to maintain his or her lockout protection, that person will remove his/her lock from the box or cabinet.

Basic Rules for using Lockout or Tagout System Procedure:

All equipment shall be locked out or tagged out to protect against accidental or inadvertent operation when such operation could cause injury to personnel. Do not attempt to operate any switch, valve, or other energy isolating device where it is locked or tagged out.

Accidents Concerning Lockout/Tagout:

Maintenance Supervisor and/or Custodial Supervisor will be responsible for fully investigating all lockout/tagout accidents, and reporting the cause of such accident to Operations Supervisor. If the accident involved the control of hazardous energy with a single lockout source, a specified procedure will be written and included in appendix F before work is continued. If the accident involved a specific procedure for a piece of equipment, the lockout/tagout specific procedure will be evaluated and modified (if necessary) prior to authorizing work to continue

Prior to writing a specific procedure and evaluating an existing procedure the Energy Source Determination Checklist will be completed. (Appendix D)

Initial Evaluations:

Initially all machines with multiple sources of power and stored energy shall be evaluated by the Energy Source Determination Checklist (Appendix D). This evaluation will be made by an authorized employee who is not involved in the lockout of subject equipment. Those involved in the lockout/tagout and those affected by the lockout/tagout may participate in the evaluation.

Periodic Evaluations:

Periodically (at least annually) the effectiveness of the entire program will be evaluated by Maintenance Supervisor, Custodial Supervisor, and Operations Supervisor. These annual evaluations will be conducted during the month of December each year. The date of the inspection/evaluation will be documented on the Annual Inspection Report (Appendix C) and maintained as a part of this program until the next annual evaluation replaces it.

Training:

Training shall be given to all authorized, affected and other personnel as required by 29CFR 1910.147 ©(7). Key Points for Lockout/Tagout Training Program (Appendix I) and the illustrated overview of the standard (Appendix J) shall be used as a training outline along with the appropriate sections of the standard. Maintenance Supervisor and Custodial Supervisor will conduct initial training and prepare a record certifying that the employee training has been accomplished. Appendix K will be used as the Training Record. Maintenance Supervisor, and/or Custodial Supervisor will conduct retraining when ever reestablishment of employee(s) proficiency and whenever new or revised control methods and procedures are developed.

Electrical Lockout/Tagout 29CFR1910.333 (b) (2) (iii) (D):

Electrical work required a lock and a tag to be used together. However, a tag can be used by itself only if the electrical disconnection source does not have lockout capabilities.

Locks can be placed without a tag only under the following conditions:

1. Only one circuit or piece of equipment is deenergized.
2. The lockout period does not extend beyond the work shift.
3. Employees exposed to the hazards associated with reenergizing the circuit or equipment are familiar with this procedure.

Electrical Test Verification of Deenergized Circuits 29CFR190.333 (b)(iv)(B)

A qualified person shall use test equipment to test the circuit elements and electrical parts of equipment to which employees will be exposed and shall verify that the circuit elements and equipment parts are deenergized. The test shall also determine if any energized condition exist as a result of inadvertently induced voltage or unrelated voltage backfeed even though specific parts of the circuit have been deenergized and presumed to be safe. If the circuit to be tested is over 600 volts, nominal, the test equipment shall be checked for proper operation immediately before an immediately after this test.

Work on Energized Circuits

Approval must be obtained from Maintenance Supervisor, prior to any work on energized circuits. Maintenance Supervisor and a qualified person will verify that by deenergizing circuits that it will create additional or increased hazards or it is infeasible due to equipment design or operational limitations.

Note: Working on energized parts requires the wearing of appropriate personal protective equipment. Maintenance Supervisor will be responsible for specifying appropriate personnel equipment to be used by Davenport Community School District employees to ensure compliance with 29CFR1910.335. Personnel protective equipment for electrical hazards shall meet, be used and maintained in accordance with ANSI J6.1 through J6.7

Preparation for Lockout or Tagout

The authorized employee shall make a survey to locate and identify all isolating devices to be certain which switch(s), valves(s) or other energy isolating devices apply to the equipment to be locked or tagged out. More than one hazardous energy source and/or means of disconnect (electrical, mechanical, or other) may be involved. If more than one energy source or stored energy, consult the appendices E and F for specific procedures and then follow the specified procedure. In the case that a machine or piece of equipment does not have a specific procedure, contact Maintenance Supervisor or Operations Supervisor at 386-3351 Immediately no work can proceed until Maintenance Supervisor writes and provides the authorized person with a specific procedure.

Sequence of Lockout or Tagout System Procedure

1. Notify all affected employees that a lockout or tagout system is going to be utilized and the reason therefore. Notification includes signage on equipment, at energy source (ie: electrical panel) and verbal notice to employees. The authorized employee shall know the type and magnitude of energy that the machine or equipment utilizes and shall understand the hazards thereof.
2. If the machine or equipment is in operation, shut it down by the normal stopping procedure. This is usually done by depressing stop button, open toggle switch, etc. In addition, ensure that all stored energy is dissipated or properly restrained.
3. Operate the switch, valve, or other energy isolating device(s) so that the equipment is isolated from the energy source(s). Stored energy such as the springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, etc. must be dissipated or restrained. Combinations of these energy sources and any stored energy will require a specific procedure, consult the appendices E and F for the specific procedures.
4. Lockout and/or tagout the energy isolating devices with assigned individual locks(s) or tag(s). NOTE: If the machine will accept locks the system shall be locked out. Tags may only be used when the machine or system does not have lockout capability, in this case a specific procedure must be developed. Remember when tags are used, in addition to informing affected employees, all other employees who have access in the building will be briefed on the area, machine, and type of hazard tagged out.
5. After ensure that no personnel are exposed, and a check on having disconnected the energy sources, operate the push button or other normal operating controls to make certain the equipment will not operate. CAUTION: Return the operating control(s) to “Neutral or Off” position after the test.
6. The equipment is now locked out or tagged out.

Restoring Machines or Equipment to Normal Production Operations

1. After servicing and/or maintenance is complete and equipment is ready for normal production operations, check the area around the machines or equipment to ensure that no one is exposed.

2. After all tools have been removed from the machine or equipment, guards have been reinstalled and employees are in the clear, remove all lockout or tagout devices. Operate the energy isolating devices to restore energy to the machine or equipment.

Procedure Involving More Than One Person

In the proceeding steps, if more than one individual is required to lockout or tagout equipment, each shall place his/her own assigned lockout device or tagout on the energy isolating device(s). When an energy isolating device cannot accept multiple locks or tags, a multiple lockout or tagout device (hasp) may be used. If lockout is used, a single lock may be used to lockout the machine or equipment with the key being placed in a lockout box or cabinet which allows the use of multiple locks to secure it. Each employee will then use his/her own assigned lock to secure the box or cabinet. As each person no longer needs to maintain his or her lockout protection, that person will remove his/her lock from the box or cabinet.

Basic Rules For using Lockout or Tagout System Procedure

All equipment shall be locked out or tagged out to protect against accidental or inadvertent operation when such operation could cause injury to personnel. Do not attempt to operate any switch, valve, or other energy isolating device where it is locked or tagged out.

Removing Lockout or Tagout Devices By Other Than the Employee Who Applied the Device.

Locks will only be removed in cases where the authorized employee who applied it is not available. Locks will only be removed by Maintenance Supervisor or his designee after speaking to Tom Hunt. The employee who had his lock removed will be notified by Maintenance Supervisor prior to returning to the work site.

Informing Outside Contractors.

All quote and bids will include in their scope of work information regarding the LOTO program. The program will be available for review by all contractors at all buildings.

Shift Outside Personnel Changes

In the rare case of shift or personnel changes, a change over period will be established so that the authorized employees may exchange their assigned locks/tags. Authorized personnel assuming control of lockout of equipment will be fully briefed in the scope and stage of the work by those whom are being relieved.

Current Personnel:

Maintenance Supervisor- Tom Hunt
Custodial Supervisor- Donna Nepl Cooper
Operations Supervisor- Donna Nepl Cooper