

Purpose

To provide general safety guidelines and procedures for machine safeguarding. This program will cover the following topics: general machine safeguarding safety, electrical emergency response, and lockout/tagout procedures.

Program

GENERAL MACHINE SAFEGUARDING:

1. Never operate a piece of equipment without guards in place, or other features of the machinery in proper operating order. This applies to covers on electrical equipment, photo-electric fences on operating points of shears, press brakes, etc, and shields or guards on rotating devices (like lathes, drill presses, etc).
2. All machines/equipment missing guards should be Tagged OUT OF SERVICE until the missing guards are replaced.
3. Only employees trained in operation of the subject equipment should be permitted to operate the equipment. Operators should be retrained at regular intervals, and safe operating procedures should be reviewed periodically.
4. Only authorized personnel (maintenance, contractors, etc.) may access electrical switchgear and transformer rooms.
5. Employees need to wear appropriate clothing when using machinery. All jewelry or any personal items may not worn in the vicinity of operating equipment, especially types involving rotation, automatic feed mechanisms, and cycling processes. Gloves should not be worn where there is a chance that fingers or hands can be pulled into the operating point of the equipment.
6. For individuals with long hair, beards, or other issues relating to work around equipment, supervisors need to evaluate the particular hazards of the operation and provide safeguards as required (caps or nets for long hair).
7. Employees must obey all operating instructions and warning signs posted for the equipment and equipment operation. No alterations, modifications, or short-cuts in procedures may be made.
8. Do not walk through, over, or under any equipment unless some provisions have been made for people to access safely.
9. Keep working areas around operating equipment clean and free of waste material at all times.
10. Although minor adjustments and certain cleaning operations may be permitted to be performed while the equipment is operating, these procedures must be carefully designed so the operator or maintenance employee does not become exposed to hazardous conditions. Lockout and tagout procedures need to be



followed without exception for the majority of equipment adjustment, maintenance and cleaning operations.

ELECTRICAL EMERGENCY RESPONSE:

The following instructions provide guidelines for handling two types of electrical emergencies.

1. **Electric Shock.** When someone suffers serious electrical shock, he or she may be knocked unconscious. If the victim is still in contact with the electrical current, immediately turn off the electrical power source. If you cannot disconnect the power source- **do not touch** the victim and immediately call 911 for assistance.

IMPORTANT: Do not touch a victim that is still in contact with a power source; you could electrocute yourself. Have someone call for emergency medical assistance immediately.

2. **Electrical Fire.** If an electrical fire occurs, try to disconnect the electrical power source, if possible. If the fire is small, you are not in immediate danger, and if you have been trained in fighting fires, use any type of fire extinguisher except water to extinguish the fire.

IMPORTANT: Do not use water on an electrical fire.

LOCKOUT/TAGOUT PROCEDURES:

Lockout/tagout procedures are used to isolate hazardous energy sources from electrical, hydraulic, or pneumatic machinery. Furthermore, when service or maintenance work is required, lockout and tagout devices help ensure personal safety from possible energy releases. All employees whose work involves hazardous energy sources must be trained in lockout/tagout procedures.

Before performing service or maintenance work on machines, turn them off and disconnect them from their energy sources. To further ensure employee safety, "lockout" using energy-isolating devices and "tagout" to notify others in the area.

The following section provides information on lockout/tagout procedures. Only authorized employees may apply lockout/tagout devices. The following steps provide a brief outline of approved application procedures.

- Notify employees that the equipment requires service or maintenance and is scheduled for shutdown and lockout/tagout.
- Use established procedures to identify the type, magnitude, and hazards of the equipment's energy source. Make sure you know the proper methods for controlling the energy source.

- If the equipment is currently operating, shut it down using normal shutdown procedures.
- Isolate the equipment from its energy source by activating the energy-isolating device(s). Either lockout or tagout the energy-isolating device(s).
- Dissipate or restrain stored and residual energy using methods such as grounding, repositioning, blocking, bleeding, etc. (Capacitors, springs, hydraulic systems, and air/gas/water pressure system may contain stored or residual energy.)
- Ensure that all employees are removed from the equipment. Then, test the equipment for successful isolation by attempting to operate it.

IMPORTANT: After verifying isolation, return the controls to neutral or off.

REMOVING LOCKOUT/TAGOUT DEVICES:

When service and maintenance are completed, authorized employees may remove lockout/tagout devices and return equipment to normal operations. The following steps provide a brief outline of approved removal procedures.

1. Inspect the work area and remove any nonessential items. Make sure the isolation equipment is intact and in good working condition.
2. Ensure that all employees are safely removed from the equipment.
3. Verify that the equipment controls are in neutral or off.
4. Remove the lockout/tagout devices and re-energize the equipment.
5. Notify employees that the equipment is ready for operation.