



Electrical Safe Work Practices & Procedures

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(OH&S Code Part 15)

Please review this step-by-step procedure carefully to acquaint yourself with safe operation procedures associated with this job task. Where in doubt ask your supervisor.

Electricity, used properly, is one of the best friends man can have. However, improper use and lack of respect can KILL. Some areas of concern to construction workers are:

1. Overhead power lines.
2. Underground power lines.
3. Portable electric tools.
4. Temporary electrical supplies to field shacks/offices.

Only licensed electricians and qualified technical personnel are authorized to repair or make alterations to electrical equipment.

Safety-related work practices must be employed to prevent electrical shock or other injuries resulting from either direct or indirect electrical contacts when work is performed on or near equipment/circuits that may be energized.

The specific safety-related work practices must be consistent with the nature and extent of the associated electrical hazards.

De-energized Parts

Live parts that workers may be exposed to must be de-energized before the workers work on them or work near them, unless the employer can demonstrate that de-energizing introduces additional or increased hazards or that de-energizing is not feasible due to equipment design or operational limitations.

Examples of increased or additional hazards include the following:

Deactivation of emergency alarm systems

Shutdown of hazardous locations ventilation equipment

Removal of illumination for an area

Live parts that operate at less than 50 volts-to-ground do not need to be de-energized if there will be no increased exposure to electrical burns or to explosion due to electric arcs.

De-energizing Power tools are simple pull the plug do not repair power tools if the electrical cord is still connected to power. It is not good enough to just turn off the switch

Underground Power lines.

ALWAYS request a power line location before you dig. Even if you are sure there is no power line in the area - HAVE THE APPROPRIATE UTILITY COMPANY CONFIRMS IT.

If you are working in the area of overhead power lines, contact the utility company and ask:

1. What voltage the line is carrying?



2. Is it necessary to protect the line either by sheathing or isolating?

Portable electric tools should be checked before use for frayed cords, cracked plugs, - 3 pin plugs (unless the tool is double insulated - this will be indicated on the tool).

Energized Parts

If the exposed live parts are not de-energized due to increased or additional hazards that would result from de-energizing, the lack of feasibility of de-energizing, or some other valid reason, other safety-related work practices must be used to protect workers who may be exposed to the electrical hazards involved.

These safety-related work practices must also protect the workers against contact with energized circuit parts indirectly through some other conductive object.

The safety-related work practices used must be suitable for the conditions under which the work will be performed and for the voltage level of the exposed electric conductors or circuit parts.

ELECTRICITY LOCKOUT

This lock-out/tagging policy has been adapted for the protection of the Contractor's employees and workers in the performance of their work on electrical equipment and systems which may be energized during any stage of the following activities:

1. Construction.
2. Alterations to existing facilities.
3. Commissioning of electrical or process systems.
4. Maintenance of electrical equipment and process systems.

Lock-out/tagging procedures become an important requirement during any of the foregoing activities when any piece of equipment or system represents a potential hazard to life and property. These procedures are intended to supplement but not replace any requirements dictated by Occupational Health and Safety or any other contractual obligations.

In some instances an owner may insist their existing lock-out procedures be used, in which event the Contractor's supervisor shall examine the Owner's procedures and ensure they are completely equal to the Contractor's standards before complying with his request. There may be variances in certain procedures for specific equipment on various sites to formulate safe lock-out procedures needed for special activities.

Contractor's policy places full responsibility on management and project supervisors to fully enforce lock-out procedure requirements and does not expect employees to work under procedures sub-standard to those in this manual.

LOCK-OUT

Lock-out requirements come into effect when a system or pieces of equipment are energized and their accidental operation could be a potential hazard to life and property. Lock-out tagging requirements are applicable to all energy sources, i. e. electricity, any compressed gasses, compressed air, hydraulics, steam, piping and vessels associated with specific electrical installations.



LOCK-OUT APPARATUS

- Scissor type “gang lock” (to be used wherever possible)
- Lock-out tags
- Keyed locks (identified by number for issue to individual workers)
- Master key (issued only to project supervisor or appointed designates). Master key to remain in strict custody of the recipient during the course of a project
- Lock-out log book

LOCK OUT PROCEDURES

Following procedure prior to the removal of a lock shall be adhered to:

Before work commences on electrically driven machinery or electrical power line and associated equipment, the equipment shall be made safe for work by means of the following procedures.

1. Contractor’s personnel are not to work on any equipment or system that represents a safety hazard unless it is locked-out or tagged.
2. Contractor, owner, and supervisors are to determine what equipment items have to be locked-out.
3. The owner/contractor shall appoint a responsible employee to assist in location the necessary switches, breakers, relays including fuses that have to be locked-out, blocked or removed.
4. Contractor’s project supervisor or his/her appointed designate shall install either a scissor type gang lock or tag isolating the device.
5. Contractor’s project supervisor is to arrange a pre-job meeting with all workers involved including the owner or principal contractors to review a job plan for the purpose of establishing awareness of individual responsibilities. Where required, written instructions are to be distributed.
6. The contractor’s designate shall satisfy themselves that the equipment or system is correctly and fully locked-out and recorded inoperative.
7. Workers who will be working on the equipment shall in addition to the supervisor place their own individual locks in the isolating device(s).
8. An individual worker (maintenance or operator) will be assigned to be in charge of the work on a specific piece of equipment.
9. A designated person (electrician, foreman, or operator) shall open the switch on the main electrical power supply control for that piece of equipment, as well as any other control or switches through which the equipment can be energized. This is to be done in the presence of the individual to whom the work has been assigned.
10. The designated person shall remain at the open switch while the individual workman locks in the open position and tags it, noting date and signature. The designated person then puts on his lock. It will be the job of the designated person to try and operate the equipment to ensure the power is off. The designated person and/or the workman shall ensure all parts, extensions and attachments have been



secured against accidental movements and that hazardous conditions of pressure and tension have been neutralized. Whenever employees are working independently of each other on the same machinery, they will also be required to lockout and tag the control.

11. Only the worker who installed a safety lock can remove it. The Site Manager is the only other person who can authorize a safety lock to be removed. After the following conditions are met.

- A. Attempt to locate and have the employee who installed the lock remove it.
- B. Ensure the machinery can be safely operated.
- C. Account for all workers on the job and the whereabouts of the person who affixed the safety lock.
- D. Inform Corporate Safety of the circumstances.

12. When the work is completed and after all personal locks have been removed, the company supervisor is to make a final check of the equipment before removing their lock to ensure that is safe to operate before proceeding with clearing the lock-out.

13. Double shift workers leaving the job site will remove their personal locks which are to be immediately replaced by personal locks issued to workers coming on shift.

14. A master key for personal locks shall be kept by the company supervisor in a secure location and shall only be used by that supervisor or his designate exercising the following procedure.

Failure to follow these steps prior to the removal of locks and tags may result in serious injury to fellow workers or damage to equipment.

The company will provide safety locks with one key. They will be painted bright red. No one is to possess duplicate keys to safety locks or have duplicate keys made. On completion of using locks and keys, they will be returned to the assigned place.

The company will also provide tags and multiple lock out devices.

Related Documentation:

Defective Equipment
Trenching & Excavation.
Lockout SWP