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Abstract

The OSHA Electrical Safety standards (29 CFR 1910.331 – 335) establish uniform requirements to ensure that electrical safety-related work practices for both qualified persons (those who have training in avoiding the electrical hazards of working on or near exposed energized parts) and unqualified persons (those with little or no such training) working on, near, or with the electrical installations.

Electrical Safety

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**A. GENERAL POLICY**

1. Electrical maintenance or installation other than routine operations will be handled only by certified contractors who have been specifically trained and certified to perform such work. Electrical equipment, cords, circuits and connections will be free from recognized hazards that may cause death or physical injury to personnel. (29 CFR 1910.331 -335)
2. It is the Company’s policy that:
	1. Only authorized personnel will work on electrical systems. Stay away from electric circuits unless you are authorized to operate or work on them.
	2. Unauthorized personnel will not attempt to make repairs to electrical equipment. All unsafe electrical equipment, including appliances and lines, must be reported to Management.
	3. All electrical equipment will be properly grounded.
	4. All personnel should know how to turn off the power on each electrical device they use.
	5. Prior to commencing work on any energy containing system an energy isolation permit must be opened. The permit may remain open for a period of 12 hours.
	6. Lock Out – Tag Out

Lock Out – Tag Out:

1. The purpose of this standard is to establish lockout/tag out procedures for the safety of all personnel who perform jobs or tasks on equipment requiring lockout/tag out prior to the performance of this job or task, or maintenance to prevent unexpected releases of energy, such as electrical, hydraulic, pneumatic or mechanical.

Any energy isolating device, such as a breaker, disconnect switch, valve, etc., that is capable of being locked out shall be equipped for potential lockout. All employees and Contractors are required to adhere to these regulations. Company’s employees shall comply with the following requirements unless approved by the Manager or Foreman. (29 CFR Part 1910.147)

2. This standard covers the service and maintenance of machines and equipment that, if unexpectedly energized or started, could cause injury. Equipment covered by this standard is to have procedures developed and documented explaining how the piece of equipment should be handled.

DEFINITIONS

1. Lockout --- to put a pad lock on an energy isolating device, such as a disconnect switch or valve, after the machine has been shut down to prevent the equipment from being operated until the lockout device is removed.

2. Tag out --- to put special tags on equipment energy isolating devices to warn others the equipment must not be operated until the tags are removed by authorized personnel.

REQUIREMENTS

1.All new equipment installations, replacement equipment, or equipment undergoing major restoration shall include lockout capability.

2. Existing equipment that cannot be secured by lockout will be secured by utilizing a tag out system.

3.A tagging system capable of lockout is acceptable when the system is otherwise isolated by removing fuses, blocking a switch, removing a valve handle, etc.

4.Locks and tags will be provided. They will be durable, standardized (in color, shape and size), substantial and include the identity of the person applying the device.

5. The Lockout/Tag out Energy ControlProcedurewill be reviewed annually by a qualified person for inadequacies, roles and responsibilities. The review will be documented with the date performed, personnel involved in the inspection and the person conducting the inspection.

6. The Company will provide training as described in Safety *Training Requirements* to ensure employees understand and apply the *Lockout/Tag out Energy Control Procedure*.

7.Training records will be kept as specified by the HSE department.

PROCEDURES

1. Preparation/Installation (Use *Lockout/Tag out Energy Control Procedure*)

* 1. Shut down the machine or equipment to be worked on;

 b. Review available flow diagrams to assist in locating all isolation valves;

c. Locate all valves, switches, etc. and close, turn off or bind them to isolate

 any energy source from the machine or equipment to be worked on;

d. Place locks or tags on each energy-isolating device. Each tag will bear the name of the person applying the tag out device. Each tag will also indicate the condition to be avoided by the lockout/tag out, with appropriate labeling.

e. Relieve, disconnect or restrain any stored hazardous energy. Attempt to operate the equipment to ensure lockout/tag out devices make the equipment inoperable.

 f. Notification of Lockout/Tag out Energy Control Procedures will be reported to the designated field supervisory personnel as specified by the Field Manager/Superintendent within 1 hour of the action.

2. Restoring Machines or Equipment to Normal Seismic Operations

a. After the service and/or maintenance is complete and equipment is ready for normal seismic operations, check the areas around the machines and equipment to ensure all personnel are visually clear of any danger.

 b. After all tools have been removed from the machine or equipment, guards have been reinstalled and personnel are in the clear, remove all lockout/tag out devices. Operate the energy isolating devices to restore energy to the machine or equipment.

3.Procedure Involving more than One Person

a. Only one key should exist for a lock or set of locks. This key will be held by the locking person or designee until completion of the job or task.

4.Procedure Involving Contractors

* 1. Contractors will be expected to comply with these regulations.

Contractors will provide locks and tags when engaging in activities requiring compliance. Locks should be placed on the main energy source valve or switch and removed only when the unit is ready to return to normal service.

5.Inspection

 a. Where lockout/tag out procedures are used, a periodic inspection will be

 performed by a designated person who will not be involved in utilizing

 the energy control procedure being inspected.

6. Permit

* 1. Prior to commencing work on energized systems such as electrical, hydraulic, pneumatic, etc. a permit must be completed. Once proper signatures are acquired the permit is considered open for a period of 12 hours. If the work is not completed then the existing permit must be closed and a new one opened. The permit must be communicated to all personnel involved and any adjacent work groups that may be affected. Once the work is finished the permit must be closed and then lockout and tag out devices can be removed and the equipment returned to service.