

CONSTRUCTION NEWS SENSE



Lockout/Tagout and Shift Work

A Facilities Management and Operations Center (FMOC) electrical contractor was recently involved in an event that reconfirms the importance of continual vigilance regarding hazardous energy control. Shift change management and communicating the status of specific equipment must be enforced to ensure there is no potential for accidental exposure to a hazardous energy source. This worker did not place his own lock on the equipment which left the worker exposed to the hazard. This was a violation of his company's safety policy as well as a federal Occupational Safety and Health Administration (OSHA) standard.

The Control of Hazardous Energy Source standard, more commonly known as the Lockout/Tagout (LOTO) standard, is an OSHA program designed to prevent the unexpected start-up or energizing of machinery and equipment during guard removal and bypass, service and maintenance operations that could cause injury to employees. It is also designed to prevent the release of stored energy that could cause injury to employees.

Energy Sources

Most people immediately think of electricity as a potentially hazardous energy source. There are other sources of energy, though, that can be just as hazardous. These energy sources include thermal, chemical, pneumatic, hydraulic, mechanical and gravitational. It is important to remember that all sources of energy that have the potential to unexpectedly startup, energize or release must be identified and locked, blocked or released before servicing or maintenance is performed.

Shift Changes

A high percentage of accidents historically occur shortly after a shift change and are often due to a lack of communication. During a shift change, exiting personnel should meet oncoming personnel at the lockout/tagout device. The oncoming authorized employee should place his/her lock or tag on the energy isolating device before the exiting authorized employee removes his/her lock or tag. Exiting employees should inform oncoming employees of any problems or concerns regarding the service and maintenance of machinery or equipment.

Written Lockout/Tagout Program

In order to comply, a company must prepare a written Lockout/Tagout procedure that includes the scope, purpose, authorization, rules and techniques to be used to control hazardous energy. NFPA 70 E is required to be address safe practices for electrical work. FMOC will be changing Contract Specific Safety Plan (CSSP) requirements to include/document the NFPA 70E six steps for lockout/tagout. Training must also be provided to all employees who are authorized and affected by the lockout/tagout procedures.

Equipment

The basic equipment needed for a lock-out/tagout procedure includes locks and tags, hasps and a lock box. Both locks and tags must clearly indicate the identity of the employee who applied the device. This provides positive identification about who is servicing the machinery and equipment. The identification will also indicate who may not have finished working in a multiple lockout/tagout situation. The locks and tags must be durable enough to withstand the environment in which they will be used. Information on the locks and tags must remain legible. Locks must be substantial enough to prevent removal without the use of excessive force. Tags must be substantial enough to prevent accidental or inadvertent removal. Both locks and tags are to be standardized by color, shape or size. Tags must have a standard print and format. If an energy isolating device is not capable of being locked out, a tag is to be used. An energy isolating device is simply a mechanical device that physically prevents the transmission or release of energy.

Inspections and Training

Each energy control procedure must be inspected at least annually to ensure that the requirements of the Lockout/Tagout Standard are being met. Each inspection will be conducted by an authorized employee other than the employee who normally uses the machinery or equipment or performs the lockout/tagout procedure. After each inspection, the employer must certify that the inspection has been completed.

All employees working in an area requiring lockout/tagout procedures must be trained. Training must include:

- Purpose and function of the LOTO program
- the recognition of lockout/tagout devices and the importance of not disturbing or removing them unless authorized;
- the safe application, use and removal of energy controls; the limitations of tags in a lockout/tagout procedure.

Training must occur whenever there is a change in job assignment, a change in machinery or equipment, an energy control procedure change or a change in a process that presents a new hazard. Retraining is conducted whenever the employer believes that employees' knowledge of energy control procedures is inadequate and as part of the annual inspection.

Summary

The Control of Hazardous Energy Source Standard requires employers to isolate machinery and equipment from its energy sources and to lock them before service or maintenance is performed. The standard also requires that all employees be trained in the company's lockout/tagout policies and procedures.

Greg Kirsch, 04844





BBS Safety Observation Cards will List Four New Safety Behaviors in the New Year.

To kick off the New Year, four new safety behaviors have been added to the BBS “blue card”: Electrical Awareness (mandatory behavior); Line of Fire; Slips/Trips/Falls; and PPE – All. Five behaviors have been removed: Proper Tool for the Job; Alignment; Eyes on Path; Footing and Housekeeping. The BBS program increases worker safety awareness through behavior based safety observations. Increased safety awareness helps to prevent workplace accidents/injuries. The principal goal of the safety program is to ensure the safety of all personnel while on the job at Sandia.

Having thoroughly evaluated the collected data, the BBS Construction Steering Committee determined the Safety Observation Card was due for a change. Three of the nine observed safety behaviors consistently received high percentages of "safe" ratings. The data suggested different safety behaviors should be captured from construction sites. Observing the four new safety behaviors will enhance the safety climate at SNL New Mexico. The new design of the BBS “blue card” is shown below with the four behaviors that were added highlighted.

Line of Fire

Ensuring workers are positioning themselves out of the path of a moving object, either overhead or in-line.

Example of a Safe Observation: Workers are cognizant of all moving heavy equipment and overhead cranes on a work site; barriers and signage are in place.

Example of Concern Observation: Workers are unaware of moving heavy equipment and overhead cranes on a work site; barriers and signage are not in place.

Slips/Trips/Falls

Ensuring workers are aware of potential hazards that could cause a slip/trip/fall accident on a construction site.

Example of Safe Observation: Workers identify uneven floor surfaces, remove construction debris in a timely manner, and minimize the placement of tools and equipment on the floor.

Example of Concern Observation: Workers do not maintain an orderly work environment free of potential slips/trips/falls hazards.

BBS Safety Observation Card - Construction Contractors				
Behavior	Safe	Concern	What Concerned me?	Why --Workers response to concern*
<i>Pre-Job Inspection (Mandatory)</i>				
<i>Electrical Awareness (Mandatory)</i>				
Get Help				
Line of Fire				
Slips/Trips/Falls				
PPE All				
Fall Protection/Anchor Point				
Other behavior				
Rev 2: 11/18/2008				*Keep asking why of worker until valid why reached

PPE All

Ensuring workers wear the proper PPE for the construction task being performed.

Example of Safe Observation: Workers involved in concrete placement are wearing safety glasses, work gloves, and rubber boots.

Example of Concern Observation: Workers installing dry wall with screw guns to framed wall panels are not wearing safety glasses.

Electrical Awareness

Ensuring workers (both electrical and non-electrical tradesmen) are evaluating the work area as well as the assigned project task for potential electrical safety hazards.

Example of a Safe Observation: Workers conduct pre-task hazard analysis to determine pre-existing electrical hazards and methods for mitigating them.

Example of a Concern Observation: Workers fail to identify, eliminate, or mitigate clearly visible electrical hazards.

Get Help

Ensuring workers are seeking the help necessary for lifting/carrying tasks associated with a construction project.

Example of a Safe Observation: Workers on a construction site share the responsibility of lifting/carrying supplies and materials as a team.

Example of a Concern Observation: Workers on a construction site do not share lifting/carrying responsibilities.

Fall Protection/Anchor Point

Ensuring workers are wearing proper PPE for fall protection and ensuring workers check all anchor points prior to hooking up to them. Note: Workers are evaluated only from a BBS behavioral standpoint to ensure fall protection is worn and workers are not assuming PPE is safe without checking all anchor points.

Example of a Safe Observation: A worker puts on fall protection gear prior to climbing onto an elevated surface; a worker verifies an anchor point is safe to use prior to clipping onto it.

Example of a Concern Observation: A worker does not put on fall protection gear prior to climbing onto an elevated surface; a worker fails to verify the safety of an anchor point prior to clipping onto it.

If you have any questions or comments regarding these changes, please contact any BBS Construction Steering Committee member. Thank you for your continued support of the BBS Construction Safety Program. Behavioral Based Safety is making an enormous difference in the overall safety climate at SNL, NM.

Bryant Reeves, 04847