CRUM & FORSTER®
A FAIRFAX COMPANY
EST. 1822

RISK ENGINEERING

LOCKOUT/TAGOUT

Why is controlling the operation of mechanical equipment so important? Employees servicing or maintaining mechanical equipment can be exposed to physical harm or death if the energy exerted by the equipment is not properly controlled. Service techs, machine and equipment operators, and laborers are among the 3 million workers who service equipment and face the greatest risk. Failure to control hazardous energy accounts for nearly 10 percent of the serious accidents in many industries.

We naturally think of electricity as a potentially dangerous energy source. It's because so many different sources of energy -- chemical, thermal, hydraulic, pneumatic, gravity and mechanical -- are used to operate mechanical equipment that almost any piece of equipment with moving parts, and even those without, should be treated as potentially hazardous. All sources of energy that have the potential to unexpectedly start, energize, or release must be identified and locked, blocked, or released before servicing or maintenance is performed. OSHA, with its standard for The Control of Hazardous Energy (Lockout / Tagout), Title 29 CFR, Part 1910.147, addresses the practices and procedures necessary to disable machinery or equipment, which helps to prevent the release of hazardous energy while employees perform servicing and maintenance activities. The standard is designed to prevent the unexpected start-up of machinery and equipment, as well as its release of stored energy, which could cause injury to employees.

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C&F RISK ENGINEERS UNDERSTAND YOUR BUSINESS

Since 1822, Crum & Forster has successfully anticipated what's next. Our insurance policy is our promise to help you – the policyholder – in the event of a loss. It gives you a future benefit that you can count on. But C&F offers something more. Our Risk Engineers can help your operation right now.

Before you ever encounter a claim, our Risk Engineers can meet you and identify actual and potential loss sources. We'll conduct a thorough study of your company that includes exposures, hazards and accident trends. Together we'll review your current loss prevention efforts, physical location, loss information and other business records to pinpoint fundamental loss causes. Then we'll create an action plan with practical recommendations to strengthen existing safety programs. We can maintain an ongoing review of it to evaluate progress and effectiveness. We can even conduct a legal exposure review of your company's agreements. Everything we do is aimed at putting into place an effective loss control strategy that works consistently over time to lower your operation's risk of loss.

Our highly specialized Risk Engineers are strategically located throughout the country and have the experience, training and professionalism to provide risk management solutions to meet your business needs and contribute to your success. They have on average more than 20 years industry experience, many with roles dedicated to safety and training. And we invest not only in our insureds, but in the industry. We are members of and participate in many state associations and regularly present at industry conventions and events. These connections and experience are invaluable, and are key in assisting you in developing and deploying a modern, up-to-date safety and training program.

Our solutions are both innovative and established. Whether it's Accident Event Recorders (AERs) to help identify vehicle accident causes and tailor safety training, digital tracking systems, or online video training to assure OSHA compliance, we bring you the latest technology. Matched with the experience of our Risk Engineers, your operation benefits from the engineering awareness built over a lifetime and cutting edge safety science.

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A Lockout / Tagout (LOTO) system should be used by any employer whose employees touch energized mechanical equipment. LOTO is the placement of a lock on an energy isolating device in accordance with the established procedure so that the energy isolating device will not operate until removal of the lock in accordance with an established procedure. Lockout includes not only turning off and locking out energy sources but also bleeding off or removing any pressures that may remain. In case of gravity, blocking out or otherwise securing heavy machine parts is known as achieving ZMS. Lockout is for the protection of personnel from injury while in, on, or around machines or equipment during repair, maintenance, operation and related activities because unexpected energizing or startup of the machine or equipment.

LOTO can be used for electrical equipment repair, routine lubrication of moving machine parts, sanitation or cleaning of machinery, maintenance of high pressure, high temperature or hazardous substance pipelines, and the unjamming of equipment or making of adjustments. Whenever maintenance is performed on potentially hazardous equipment, a lockout procedure should be used. If the operation cannot be locked out, a tagout system must be used.

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Implementing a Lockout/Tagout Procedure Five Step Recommendation

1. **Establish Management Policy**
   This policy should outline the objectives of the system, assign responsibilities for meeting the objectives, and establish a procedure to ensure that the objectives are carried out.

2. **Identify All Energy Isolating Devices**
   Determine which existing switches, valves, and other equipment will be involved in the lockout system. All must be capable of being locked in the off position. All must be convenient to use and must be properly labeled as to their function.

3. **Provide Locks, Lockout Adapter Devices**
   Locks and lockout adapter devices must be made available for placement on energy isolating devices to hold them in a safe position. Key locks must be issued to each person responsible for locking out equipment. Danger Tags can be used in conjunction with locks.

4. **Establish Written Procedures**
   Written procedures should be prepared and given to all affected personnel. These procedures should contain the specific sequence for lockout, isolation, dissipation of stored energy, restoring the equipment to service, and the responsibilities of all persons concerned.

5. **Training**
   After approval by management, the written procedures should first be presented to supervisors. The employees should then be trained in the program as it affects them. Once the program is in operation, each new employee should receive the same training during his or her initial training. Retraining must be provided whenever an employee has a change in his or her job assignment.

Summary

An effective lockout / tagout system can reduce the hazards that result in serious injury to employees. Adequate planning, proper facilities, good management, supervisory support, enforcement and employee training are all contribute to making the system work. Periodic inspections must be conducted to ensure that procedures are being followed.

References:

NSC Data Sheet #237B, Methods of Locking Out Electrical Switches
ANSI Safety Standards - Various on Specific Machines and Industries
State/OSHA Safety Codes/Regulations (As Applicable)
NSC - Accident Prevention Manual for Industrial Operations - Engineering and Technology

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