

LOCKOUT / TAGOUT



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INTRODUCTION

This program has been implemented at **H2 Enterprises, LLC** (+ compliance with OSHA Regulation 29 CFR 1910.147, to achieve a “zero-energy state” on machines and equipment before servicing and maintenance is performed and to prevent the unexpected startup or release of stored energy that could cause injury to employees. This standard establishes minimum performance requirements for the control of hazardous energy sources that are mechanical, hydraulic, pneumatic, chemical, thermal, spring-loaded or other energy sources except electrical. Electrical hazard control will be performed by following the guidelines established in OSHA Regulation 29 CFR 1910.333.

2. RESPONSIBILITY

- a. **H2** Management has designated “authorized” employees who will perform pipeline construction and related work.
- b. When **H2** employees are assigned to perform work at client facilities, they will not initiate this LO/TO procedure, but instead will participate in permitted work which complies with that client’s LO/TO Program.
- c. Lockout/tagout will be used by designated **H2** employees for their self-protection. They will each be provided with personal color- coded, numbered locks, where no two are alike and each has its own unique key, as well as vinyl, weather/chemical resistant, imprinted, red/white/black colored tags that state “DO NOT OPERATE”, and places for their name, date and type of work being performed.

“Authorized” employees are required to inform all “affected” employees, in person, before any lockout/tagout devices are applied and after they have been removed from a machine or equipment that has been serviced or repaired. “Affected” employees only perform the duties of their job in an area in which the energy control procedure is implemented and servicing or maintenance operations are performed.

COMPLIANCE

All + employees are required to comply with the restrictions and limitations imposed upon them during the use of lockout/tagout. These “authorized” employees are required to perform the lockout/tagout in accordance with this procedure. All “affected” employees, upon observing a machine or piece of equipment that is locked out/tagged out to perform servicing or maintenance, shall not attempt to start, energize or use that machine or equipment.

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4. TRAINING

- a. **H2** will provide certified training upon initial hiring or transfer from affected status to authorized status. Retraining will be provided as required:
 - i. whenever there is a change in job assignments.
 - ii. a change in machines, equipment or processes that present a new hazard.
 - iii. a change in energy control procedures.
 - iv. whenever a periodic audit reveals inadequacy in employee knowledge and use of the energy control procedure.
- b. “Authorized” employee training will cover the following areas:
 - i. recognition of applicable hazardous energy sources.
 - ii. details about the type and magnitude of the hazardous energy sources present in the workplace.
 - iii. the methods and means necessary to isolate and control those energy sources.
- c. “Affected” employee training will cover the following areas:
 - i. recognition when the control procedure is being implemented.
 - ii. understanding the purpose of the procedure, and the importance of not attempting to start up or use the equipment that has been locked or tagged out.

5. PERIODIC INSPECTIONS

- a. **H2** Management or client facility operators will conduct documented annual or periodic inspections to assure the energy control procedures continue to be properly implemented and that the employees are familiar with their responsibilities. A review of the energy control procedure and employee responsibilities will be conducted with each authorized employee. This certification will identify the machine or equipment on which the energy control procedure was used, the date of inspection, the employee being inspected, and the person performing this inspection.

6. IDENTIFICATION OF EQUIPMENT and ENERGY SOURCES

- a. All machines or equipment with single source or multiple sources of power and stored energy have been evaluated per the guidelines documented on **H2's** Energy Source Determination Checklist. This evaluation was performed by a combined effort of members of **H2** Management and authorized employees. Annual review or periodic evaluations will determine if changes are necessary.

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7. SEQUENCE OF ENERGY CONTROL PROCEDURE

- a. **PREPARING FOR SHUTDOWN** - Notify all affected employees that a lockout/tagout system is going to be used and the reasons why. The authorized employee shall know the type of energy to be controlled on the machine or equipment and the hazards present, by following the evaluation survey forms available.
- b. **SHUTTING DOWN THE MACHINE OR EQUIPMENT** - If the machine or equipment is operating, shut it down by the normal stopping procedure (depress stop button, open toggle switch), or in a manner that reduces hazards from equipment stopping.
- c. **ISOLATION FROM THE ENERGY SOURCE(S)** - Operate energy isolation device(s) (switch, valve, blind, etc.) so that the equipment or machine is isolated from its energy source. Stored energy must be dissipated by being bled off, restrained by blocking means, disconnected or otherwise rendered safe. If the potential for a re-accumulation of stored energy exists, verification of energy isolation will be continued until service or maintenance has been completed, or this possibility no longer exists.
- d. **APPLICATION OF LOCKOUT/TAGOUT DEVICE** - to the energy isolating device, utilizing assigned individual lock(s) and tag(s) and recorded in the energy isolation book. Locks, where used, will be affixed in a manner that will hold the energy isolating devices in a "safe" or "off" position. If tags are utilized, they will be placed where a lock would have been attached, or as close as possibly located in case the tag cannot be affixed directly to the energy isolating device.
- e. **VERIFICATION OF PROPER ISOLATION OF ENERGY SOURCE(S)** - After ensuring that no personnel are exposed, attempt to start up the de-energized machine or equipment to ensure proper disconnections were made. IF start-up does not occur, then the equipment or machine has been successfully locked out/tagged out. IF start-up occurs, contact your immediate Supervisor, review the energy isolation evaluation form and then repeat the sequence of energy control procedure. Return control positions to "off" or "neutral" status after the test.
- f. **AFTER SERVICING IS COMPLETED** – Remove all servicing tools and testing equipment from the area and replace any removed guards. Ensure all employees are safely positioned or removed from equipment/machine area. Remove all lockout/tagout devices from each energy-isolating device by each employee who applied the device. Energize and proceed with testing. De-energize and reapply control measures if the service or maintenance was unsuccessful as identified by testing. If successful, verify equipment/machine operational ability by initiating start-up procedures. This procedure should be documented as to who performs each procedure and who verifies that each procedure was completed in the proper order.

After testing and/or repositioning attempts have been made, and if determined to be satisfactory, the equipment or machine is then returned to the control of the affected

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employee(s). Again, if unsuccessful, repeat isolation procedure(s) for further maintenance or repair.

8. GROUP LO/TO

- a. When multiple service groups or crafts are required to perform service or maintenance work on the same equipment at the same time, provisions will be made for all crafts to participate in a group lockout/tagout effort. The responsible person for the will initiate the group LO/TO and the applied locking device will not be removed until written assurances and visual inspections have determined it safe to remove the controlling LO/TO device.
- b. (All sign-offs are completed and locks/tags removed.)
- c. Should an authorized personnel or shift change occur, the continuity of the LO/TO shall be maintained always.

9. REMOVING LOCKOUT/TAGOUT DEVICES BY OTHER THAN THE EMPLOYEE WHO APPLIED THE DEVICE:

- a. In cases where the employee who applied the device is not available to remove only the H2 Director, HSE/Safety Coordinator, or client facility authorized personnel can remove. Any employee who had their lock/tag removed will be notified by the Safety Director/ Safety Coordinator/client facility authorized personnel performing this necessity, prior to their returning to the work site.

10. OUTSIDE PERSONNEL (Contractors)

- a. H2 Management will inform all outside contractors of the elements of this program and ensure work efforts covered by this procedure are fully coordinated and complied with.

11. NON-APPLICABLE SITUATIONS

- a. **MSC's** hazardous energy control procedure does not apply for the following situations:
 - i. While servicing or maintaining cord and plug connected electrical equipment, if the equipment is unplugged from the energy source and the plug remains under the exclusive control of the employee performing servicing or maintenance.
 - ii. Employees engaged in performing service or maintenance tasks that do not expose them to the unexpected startup of machines or equipment, energizing, or release of hazardous energy. (Examples include but are not limited to: lubricating, cleaning, or un-jamming some equipment.)

NOTE: IF an employee must either remove or bypass machine guards or other safety devices, resulting in exposure to hazards at the point of operation, or the employee is

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required to place any part of their body in contact with a point of operation of the operational machine or piece of equipment, or the employee is required to place any part of their body into a danger zone associated with a machine operating cycle, THEN the energy control procedure as outlined in this program MUST BE FOLLOWED.

12. ELECTRICAL LOCKOUT/TAGOUT REQUIREMENTS 29 CFR 1910.333

- a. Safety-related work practices shall be employed to prevent electric shock or other injuries resulting from either direct or indirect electrical contacts, when work is performed near or on equipment or circuits which are or may be energized.
- b. Understand that when work performed on or near exposed de-energized parts (conductors and electrical equipment parts) is being performed on equipment, it is "energized" unless adequately locked and tagged out of service.
- c. A lock and a tag shall be placed on each disconnecting means used to de-energize circuits and equipment on which work is to be performed. The lock shall be attached to prevent persons from operating the disconnecting means.
- d. If the equipment does not permit a locking device to be attached, a tag will be used instead, but it must be supplemented by at least one additional safety measure that provides a level of safety equivalent to that obtained using a lock. (Examples: remove isolating circuit element, block controlling switch, open extra disconnecting service.)
- e. Verification of de-energized conditions shall be met before any circuits or equipment can be considered and worked on as "de-energized". A qualified person shall use testing equipment to verify de-energizing has been accomplished. If an energized condition is discovered, it must be determined that this condition resulted from inadvertently induced voltage or unrelated voltage back-feed, even though specific parts of the circuit have been de-energized and presumed to be safe.

Non-compliance by any **H2** employee with any part of this described program will result in disciplinary action as outlined in the Company's Corrective Action and Disciplinary Program found in this manual.