Lockout/Tagout

1.1 PURPOSE

1.1.1 The purpose of this policy is to prevent injury to TERRY R PITT CONSTRUCTION employees by requiring specific precautions be taken before and during service, maintenance, or repair activities on equipment.

1.2 RESPONSIBILITIES

1.2.1 Affected/Other employees

1.2.1.1 Understand the purpose and use of equipment isolation procedures

1.2.1.2 Recognize locks and tags

1.2.1.3 Do not remove locks and tags

1.2.1.4 Do not operate equipment with locks and tags

1.2.1.5 Recognize hazardous energy sources and the means to control them

1.2.1.6 Initiate, follow, and complete equipment isolation procedures

1.2.2 Authorized employees

1.2.2.1 Know the overall safety and job execution of equipment-isolation procedures

1.2.2.2 Have clear and complete communication to all affected personnel

1.2.2.3 Have authorization of job completion and return to service

1.2.2.4 De-energize the electrical equipment they are qualified to secure

1.2.2.5 Verify electrical circuits have been isolated and tested

1.2.2.6 Verify that electrical equipment can be safely re-energized

1.2.3 Supervisor

1.2.3.1 Verify that equipment specific procedure sheets are completed for the servicing, maintenance, and/or repair of each piece of equipment.

1.2.3.2 Verify the annual verification of compliance is completed for each equipment specific procedure sheet kept on file.

1.3 GENERAL PROVISIONS

1.3.1 TERRY R PITT CONSTRUCTION will maintain a lockout/tagout station within facilities and provide lockout/tagout materials at jobsites to comply with the 29 CFR 1910.147, where applicable. The purpose will be to provide locking and tagging hardware for use on jobsites as required by OSHA and this written program.

1.3.2 TERRY R PITT CONSTRUCTION will follow procedures to prevent incidents resulting from unexpected energizing or startup, release of stored energy, and/or exposure to harmful materials during cleaning, servicing, or adjusting of machines, equipment, or pipeline systems.

1.3.3 TERRY R PITT CONSTRUCTION will establish the minimum requirements used to warn other workers that they will not operate a device that has been locked or tagged out.

1.3.4 This procedure will apply to all personnel working in or on TERRY R PITT CONSTRUCTION facilities and jobsites. This procedure will be followed by employees whose duties require them to service and maintain equipment/ systems in which unexpected energization, startup of equipment/system, or the release of stored energy could cause injury.

1.3.5 TERRY R PITT CONSTRUCTION will establish general guidelines which must be adhered to by authorized employees prior to performing any repair or maintenance activity.

1.3.6 TERRY R PITT CONSTRUCTION will ensure that all power sources are turned off and/or disabled. Systems may be powered by single source or combination of sources. Potential energy may be in the form of electrical**,** pneumatic (air), hydraulic, thermal, solar, mechanical, pressurized systems, or kinetic energy.

1.3.7 LOTO will be performed only by the authorized employee who is performing servicing or maintenance. Employees performing a servicing activity (ex. repair, installation) or maintenance must strictly adhere to the requirements of the standard and this program when:

1.3.7.1 It is necessary to either remove or bypass a machine guard or other machine safety device to affect the servicing activity and by doing so, the employee greatly increases risk of exposure to point of operation and related hazards.

1.3.7.2 Other employees are directed to operate machinery or equipment while it is being cleaned or serviced.

1.3.7.3 Power must be left on in the system in order to make adjustments or troubleshoot a system. When such is the case, the below additional procedures will apply:

1.3.7.3.1 At least one person will act as a standby person to immediately shut power to the system if needed.

1.3.7.3.2 At least one person who is trained in first aid will be immediately available.

1.3.7.3.3 At least one person who has knowledge of the process system will be immediately available.

1.3.7.3.4 Emergency services, including rescue, must have been established.

1.3.7.3.5 Other applicable safety regulations (including NEC) will be complied with.

1.3.8 Push button control panels offer easy accessibility and convenience to the operator, but may be only one of many power sources. Employees should remain aware that simply pushing a button to stop or turning off a piece of equipment does not de-energize the system.

1.3.9 Lockout refers to the act of blocking the flow of energy from the power source to the equipment. Such a device must be substantial enough to hold the energy-isolating device in an immovable position. Employees will use silver colored Master locks in accordance with this program. A lockout device is usually a key lock arrangement that secures a valve or lever in the *OFF* position.

1.3.10 Tagout refers to the practice of placing a tag on the energy-isolating device to warn others that equipment is not to be engaged due to the presence of another employee in the danger area. TERRY R PITT CONSTRUCTION employees will use laminated tags with a white background and red lines and lettering thereon, in accordance with this program.

1.3.10.1 Tags should never be bypassed or ignored, even if it appears to be without lock.

1.3.10.2 A tag is sometimes used alone when it is not possible to lockout the energy source or when it has been demonstrated that a tag alone will effectively prevent accidental start-up by representing a visible means of communicating hazards to affected workers.

1.3.10.3 Whenever a tag is used in the place of a lock, the tag should be treated by TERRY R PITT CONSTRUCTION employees as it were a lock, and should be removed only by the individual who placed it there.

1.3.11 Periodic inspections of the energy control procedure must be conducted at least once a year to ensure that the procedure is being followed. The program shall address who performs the inspection (it must be someone other than those actually using the lockout/tagout in progress). A certified review of the inspection including date, equipment, employees, and the inspector should be documented.

1.3.12 TERRY R PITT CONSTRUCTION requires locks and tags to comply with this policy.

1.3.13 Lockout and tagout devices will meet the following requirements: durable, standardized, substantial, and identifiable.

1.4 LOTO PROCEDURE

1.4.1 Notify all affected employees that a lockout or tagout will be implemented and the reason for the lockout/tagout. Names, titles, and method of notification will be on the lockout/tagout record book.

1.4.2 Shut down the equipment by normal stopping procedures.

1.4.3 De-energize the equipment at the power source(s) and lock the switch (or use other lockout measures to control energy) in the *OFF* position. De-energization is performed by disconnecting the equipment from its energy source and bleeding any residual energy remaining in the machine.

1.4.4 Employee initiating lockout will obtain a lock and tag from the lockout board and place it on the lockout box. Lockout and/or tagout the energy isolating devices with lockout locks and a personalized tag. The *personalized tag* will include the name of the individual placing the device.

1.4.5 Before an authorized or affected employee turns off a machine or equipment, the authorized employee will have knowledge of the type and magnitude of the energy, the hazards of the energy

to be controlled, and the methods or means to control the energy.

1.4.6 The machine or equipment will be turned off or shut down using the procedures established for the machine or equipment. An orderly shutdown will be utilized to avoid any additional or increased hazard(s) to company employees as a result of the equipment stoppage.

1.4.7 Notify all affected employees that a lockout or tagout will be implemented and the reason for the lockout/tagout.

1.4.8 Shut down will be accomplished by established procedures for the specific machine or equipment.

1.4.9 Isolate the equipment from the power source(s) and lock the switch (or use other lockout measures to control energy) in the *OFF* position.

1.4.10 Stored energy must be removed once the equipment is isolated. De-energization is performed by disconnecting the equipment from its energy source and bleeding any residual energy remaining in the machine.

1.4.11 If there is a possibility of re-accumulation of stored energy, verification of isolation will be continued until the lockout device is removed.

1.5 DISABLING EQUIPMENT/MACHINERY PROCEDURE

1.5.1 This section contains the minimal acceptable procedure for disabling machinery or equipment. The standard does allow for some exceptions to the rule, but most involve the use of *plug connected* equipment. Employees are encouraged to abide by those lockout/tagout provisions of the customer in all areas of employee safety where it exceeds TERRY R PITT CONSTRUCTION's policy.

1.5.2 Employees should follow this sequence as a general guidance for implementing the lockout procedure.

1.5.2.1 Prepare for shutdown. Notify all affected personnel that the lockout will take effect. The area immediately affected by the procedure should be isolated from all non-involved personnel. Before an authorized or affected employee turns off a machine or equipment, the authorized employee will have knowledge of the type and magnitude of the energy, hazards of the energy to be controlled, and the methods or means to control the energy. Ensure that the customer's site supervisor or HSE representative receives notification to alert his own personnel (when offshore), should they become affected by the lockout procedure.

1.5.2.2 Shut down machinery or equipment. Ensure that all power sources have been isolated and secured from accidental start-up. The equipment will be turned off/shutdown using the procedures established for the machine or equipment. An orderly shutdown must be utilized to avoid any additional or increased hazard(s) to employees as a result of the equipment stoppage.

1.5.2.3 Isolation: All energy isolating devices that are needed to control the energy to the machine or equipment will be physically located and operated in such a manner as to isolate the machine or equipment from the energy source.

1.5.2.4 Application: Apply a lock, issued by the company, and a tag. The tag should include the employee's name and the date the tag was placed.

1.5.3 Lockout or tagout devices will be affixed to each energy-isolating device by an authorized employee.

1.5.4 Lockout devices used will be affixed in a manner that will hold energy-isolating devices in a safe or off position.

1.5.5 Tagout devices, where used, will be affixed in such a manner as will clearly indicate that the operation or movement of energy-isolating devices from the safe or off position.

1.5.6 Where tagout devices are used with energy-isolating devices designed with the capability of being locked, tag attachment will be fastened at the same point at which the lock would be attached.

1.5.7 Where a tag cannot be affixed directly to the energy-isolating device, the tag will be located as close and as safely as possible to the device in a position that will be immediately obvious to anyone attempting to operate the device.

1.5.8 Stored Energy

1.5.8.1 Render safe, all stored or *residual* energy. Test the control button.

1.5.8.2 Follow the application of lockout or tagout devices to energy-isolating devices. All potentially hazardous, stored, or residual energy will be relieved, disconnected, restrained, and otherwise rendered safely.

1.5.9 If there is a possibility of re-accumulation of stored energy level, verification of isolation will be continued until the servicing or maintenance is completed, or until the possibility of such accumulation no longer exists.

1.5.9.1 Verification of Isolation: Verify the isolation and de-energize machinery or equipment. Prior to starting work on machines or equipment that have been locked or tagged out, the authorized employee will verify that isolation and de-energization of the machine or equipment have been accomplished. Ensure all buttons are in the off position and any applicable lines have been disconnected or blocked.

1.5.10 When canceling the lockout procedure, follow these steps:

1.5.10.1 Inspect the work area to ensure that non-essential items have been removed and that machine or equipment components are intact and capable of operating properly.

1.5.10.2 Check the area around the machine or equipment to ensure that all employees have been safely positioned or removed from harm's way.

1.5.10.3 Make sure locks/tags are not removed without authorization and removed only by those employees who attached them. Supervisory personnel may make other arrangements due to the absence of the employee who attached the device as long as those arrangements are in accordance with this policy and 29 CFR 1910.147 and applicable standards within 29 CFR 1926 when they apply to the work being performed.

1.5.10.4 The device may be removed under the direction of TERRY R PITT CONSTRUCTION, provided that specific procedures and training for such removal have been developed, documented, and incorporated into the company energy control program. TERRY R PITT CONSTRUCTION should verify the authorized employee is not at the facility, make reasonable efforts to make contact to inform them of removal, and ensure that they have this knowledge before they resume work at the facility.

1.5.11 Affected employees will be notified by the authorized employee of the application and removal of lockout devices or tagout devices. Notification will be given before the controls are applied and after they are removed from the machine or equipment.

1.5.12 The following provisions will be followed for safety testing machines when the LOTO devices must be temporarily removed. This procedure will be documented and verified by the authorized employee who performs the removal:

1.5.12.1 Clear away tools

1.5.12.2 Remove employees

1.5.12.3 Remove the LOTO device

1.5.12.4 Energize and proceed with testing

1.5.12.5 De-energize and reapply control measures

1.5.13 Types of equipment which might require locking and/or tagging, as it relates to TERRY R PITT CONSTRUCTION work activities, include:

1.5.13.1 Drill presses and forging machines

1.5.13.2 Table saws and lathes

1.5.13.3 Circuit breakers and control boxes

1.5.13.4 Non-plug connected electrical equipment

1.5.13.5 Shearing/cutting machines

1.5.13.6 Pneumatic power systems, to include releasing pressurized air

1.5.14 During temporary jobsite activities the onsite supervisor will monitor and control the use of lockout/tagout devices.

1.6 INSPECTIONS

1.6.1 Periodically, onsite inspections will be performed by an onsite safety committee to certify the integrity of the program. The inspection will be documented to include the date, equipment, employees, and the inspector. Inspections will be discussed with the safety committee.

1.6.2 Site and facility supervisory personnel will check the integrity of all energy isolating devices placed on containment vessels that TERRY R PITT CONSTRUCTION employees will enter.

1.6.3 Employees should use the attached inspection log when performing inspections of equipment to determine lockout/tagout applicability.

1.6.4 Inspections will be completed at least annually.

1.6.5 TERRY R PITT CONSTRUCTION will maintain records of periodic inspections carried out in accordance with this policy.

1.6.6 When inspections are concluded, the employee performing the inspection must submit a written certification confirming that the applicable components of the plan have been adhered to. Such certification will include the following information, at a minimum:

1.6.6.1 Name of the inspector

1.6.6.2 Date the inspection was performed

1.6.6.3 The department or location affected by the inspection

1.6.6.4 Name or other description of the equipment/machinery being locked and/or tagged out

1.6.6.5 Reason that the lockout/tagout was affected

1.6.6.6 Date and time of anticipated removal

1.6.6.7 Location of each lockout or tagout device in use

1.6.6.8 Name of the individual who approved the procedure

1.6.6.9 Signature certifying accurate information contained in the inspection report

1.6.7 The periodic inspections will be conducted to correct any deviations or inadequacies identified.

1.6.8 Where lockout is used for energy control, the periodic inspection will include a review, between the inspector and each authorized employee, of that employee's responsibilities under the energy control procedure being inspected.

1.6.9 TERRY R PITT CONSTRUCTION will certify that the periodic inspections have been performed.

1.6.10 The certification must identify the machine or equipment on which the energy control procedure was being utilized, the date of the inspection, the employees included in the inspection, and the person performing the inspection.

1.7 GROUP LOCKOUT/TAGOUT

1.7.1 A principal authorized employee, normally a supervisor, will coordinate the lockout/tagout procedure for all group lockouts/tagouts so as to minimize communication errors that could result in accidents.

1.7.2 The authorized employee has primary responsibility for a set number of employees working under the protection of a group lockout or tagout device.

1.7.3 Each additional authorized employee (regardless of craft or department) will obtain a lock and tag from the board and place it on the lockout device.

1.7.4 Each additional authorized employee is responsible for removal of lock when finished.

1.7.5 The lockout procedure will remain in effect until all locks have been removed. The supervisor responsible for the group lockout/tagout is forbidden to remove the group lockout/tagout device until each authorized employee in the group has removed his or her personal device.

1.8 SHIFT OR PERSONNEL CHANGES

1.8.1 If the group lockout/tagout is being used and another shift or different personnel are to continue work, the following procedure will be used:

1.8.1.1 The principal authorized employee will coordinate with the oncoming principal authorized employee as to the status of the job, verify all isolation device locations, and remove his lockout/tagout device.

1.8.1.2 The oncoming principal authorized employee will place his lockout/tagout device.

1.8.1.3 All oncoming authorized employees place personal lockout/tagout devices.

1.9 VERIFYING LOCKOUT/TAGOUT

1.9.1 As an added measure of safety, all lockouts/tagouts are to be verified as follows:

1.9.1.1 After ensuring that no personnel are exposed, operate the push button or other normal operating controls to make certain the equipment will not operate. This is done to confirm that all energy sources have been disconnected or isolated.

1.9.1.2 Always return operating controls to *neutral* or *off* position after test.

1.9.1.3 The equipment is now locked out and/or tagged out.

1.9.1.4 Do not attempt to operate any switch, valve, or energy-isolating device when it is locked or tagged out.

1.10 TRAINING

1.10.1 TERRY R PITT CONSTRUCTION will provide initial training to authorized and affected employees charged with the responsibility of implementing the energy control procedures and perform servicing and/or maintenance on machinery or equipment in the following:

1.10.1.1 Review requirements of OSHA 1910.147 - Control of Hazardous Energy

1.10.1.2 Methods of communicating machine hazards

1.10.1.3 Limitations of tagout (warning devices, do not provide physical restraint)

1.10.1.4 Location and use of lockout devices

1.10.1.5 Lockout and/or tagout procedures for the isolation of energy sources

1.10.1.6 Procedures for removing locks and/or tags (authorization requirements)

1.10.1.7 Procedures for restoring energy

1.10.1.8 Recognizing when the energy control procedure is being implemented

1.10.1.9 Understanding the purpose of the procedure and the importance of not attempting to startup or use equipment or machinery when locks or tags are displayed

1.10.1.10 Recognizing hazardous energy sources and emergency power disconnects

1.10.2 Retraining will be required when there is a change in job assignments, in machines, a change in the energy control procedures, or a new hazard is introduced. All training and/or retraining must be documented, signed, and certified. Safety department will maintain all training records.

1.10.3 Refresher training will be required annually.

1.10.4 Retraining will be provided for all authorized and affected employees whenever there is a change in their job assignments, a change in machines, equipment, or processes that present a new hazard, or when there is a change in the energy control procedures. Additional retraining will be conducted whenever a periodic inspection reveals, or whenever the employer has reason to believe, that there are deviations from or inadequacies in the employee's knowledge or use of the energy control procedures.