Applicable OSHA Standards: 29 CFR 1910.147

1. Purpose & Scope

1.1. This policy and program for Cleveland Integrity Services Inc. covers the servicing and maintenance of pipelines and pipeline components, machines, powered tools and equipment used in the workplace where the unexpected energizing or release of product, start up of the machines, equipment or system, or release of stored energy, could cause injury to employees. This policy establishes minimum performance requirements for the control of such hazardous energy.

1.2. This policy and program apply to the control of energy during installation, servicing, repair and/or maintenance operations. Normal production operations are not covered by this policy.

1.3. Servicing and/or maintenance which takes place during normal production operations is covered by this standard only if:

1.3.1. An employee is required to remove or bypass a guard or other safety device; or

1.3.2. An employee is required to place any part of his or her body into an area on a machine or piece of equipment where work is actually performed upon the material being processed (point of operation) or where an associated danger zone exists during a machine operating cycle.

1.4. Minor tool changes and adjustments, and other minor servicing activities, which take place during normal production operations, are not covered by this standard if they are routine, repetitive, and integral to the use of the equipment for production, provided that the work is performed using alternative measures which provide effective protection.

1.5. This policy and program does not apply to work on cord and plug connected electric equipment for which exposure to the hazards of unexpected energizing or start up of the equipment is controlled by the unplugging of the equipment from the energy source and by the plug being under the exclusive control of the employee performing the servicing or maintenance.

1.6. This policy and program does not apply to hot tap operations involving transmission and distribution systems for substances such as gas, steam, water or petroleum products when they are performed on pressurized pipelines, provided that the employer demonstrates that:

1.6.1. Continuity of service is essential;

1.6.2. Shutdown of the system is impractical; and

1.6.3. Documented safe work procedures are followed, and special equipment is used which will provide proven effective protection for employees.

1.7. Under this policy and program, the company shall establish and utilize procedures for affixing appropriate lockout devices or tagout devices to energy isolating devices, and to otherwise disable machines or equipment to prevent unexpected energization, start up or release of stored energy in order to prevent injury to employees.

1.8. When other operations and specific safe work procedures require the use of lockout or tagout, they shall be used and supplemented by the procedural and training requirements of this policy and the procedures set forth herein.

1.9. Written company Lockout and Tagout (LOTO) Procedures shall be referenced when following machine-specific, circuit specific and system-specific methods for isolating and controlling hazardous energy.

2. Definitions

2.1. *Affected employee.* An employee whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.

2.2. *Authorized employee.* A person who locks out or tags out machines or equipment in order to perform servicing or maintenance on that machine or equipment. An affected employee becomes an authorized employee when that employee's duties include performing servicing or maintenance covered under this program. Company requirements for an authorized employee include training in the company's system and specific procedures for performing and removing a lockout and tagout; participation in a group lockout and tagout; and additional training as may be required to be equivalent to the host employer's LOTO and work permit procedures (when applicable).

2.3. *Capable of being locked out.* An energy isolating device is capable of being locked out if it has a hasp or other means of attachment to which, or through which, a lock can be affixed, or it has a locking mechanism built into it. Other energy isolating devices are capable of being locked out, if lockout can be achieved without the need to dismantle, rebuild, or replace the energy isolating device or permanently alter its energy control capability.

2.4. *Energized.* Connected to an energy source or containing residual or stored energy.

2.5. *Energy isolating device.* A mechanical device that physically prevents the transmission or release of energy, including but not limited to the following:

2.5.1. A manually operated electrical circuit breaker; a disconnect switch;

2.5.2. A manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors, and, in addition, no pole can be operated independently;

2.5.3. A line valve;

2.5.4. A block;

2.5.5. And any similar device used to block or isolate energy. IMPORTANT NOTE: Push buttons, selector switches and other control circuit type devices are not energy isolating devices.

2.6. *Energy source.* Any source of electrical (direct or stored), mechanical, hydraulic, pneumatic, chemical, thermal, kinetic, springs or devices under tension, gravity or other energy.

2.7. *Hot tap.* A procedure used in the repair, maintenance and services activities which involves welding on a piece of equipment (pipelines, vessels or tanks) under pressure, in order to install connections or appurtenances. Hot tapping is commonly used to replace or add sections of pipeline without the interruption of service for air, gas, water, steam, and petrochemical distribution systems.

2.8. *Lockout.* The placement of a lockout device on an energy isolating device, in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

2.9. *Lockout device.* A device that utilizes a positive means such as a lock, either key or combination type, to hold an energy isolating device in the safe position and prevent the energizing of a machine or equipment. Included are blank flanges and bolted slip blinds.

2.10. *Normal production operations.* The utilization of a machine or equipment to perform its intended production function.

2.11. *Servicing and/or maintenance.* Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining and/or servicing machines or equipment. These activities include lubrication, cleaning or unjamming of machines or equipment and making adjustments or tool changes, where the employee may be exposed to the unexpected energizing or startup of the equipment or release of hazardous energy.

2.12. *Setting up.* Any work performed to prepare a machine or equipment to perform its normal production operation.

2.13. *Tagout.* The placement of a tagout device on an energy isolating device, in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

2.14. *Tagout device.* A prominent warning device, such as a tag and a means of attachment, which can be securely fastened to an energy isolating device in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

3. Energy Control Program

3.1. The energy control program established here consists of energy control procedures, employee training and periodic inspections to ensure that before any employee performs any servicing or maintenance on a machine or equipment where the unexpected energizing, startup or release of stored energy could occur and cause injury, the machine or equipment shall be isolated from the energy source and rendered inoperative.

4. Lockout/tagout

4.1. Lockout and tagout shall only be performed by authorized persons as defined in this policy and program. Persons who are exposed to accidents and injury in their work by the accidental energizing of the machine, circuit or system on which they are working shall be trained and authorized to perform lockout and tagout. This includes supervisors, welders and each individual who is exposed to the hazard.

4.2. Affected employees shall be notified by the company on-site or department supervisor or authorized employee of the application and removal of lockout devices or tagout devices. Notification shall be given before the controls are applied, and after they are removed from the machine or equipment.

4.3. If an energy isolating device is not capable of being locked out, the employee authorized to perform lockout and tagout shall utilize a tagout system, but only with specific permission of the on-site supervisor and the company Safety Coordinator. In all other circumstances lockout and tagout shall be utilized to control and isolate hazardous energy sources.

4.4. Whenever replacement or major repair, renovation or modification of a machine or equipment is performed, and whenever new machines or equipment are installed, company management shall confirm that energy isolating devices for such machines or equipment are designed to accept a lockout device.

4.5. Special permissions and full employee protection required for “tagout only”.

4.6. Specific permissions of the on-site supervisor and the company Safety Representative are required when a lock cannot be placed and “tagout only” is considered. When such permissions have been obtained and a tagout device is used on an energy isolating device that is capable of being locked out, the tagout device shall be attached at the same location that the lockout device would have been attached. The standard that shall be met in all authorized “tagout only”

situations is that the company shall demonstrate that the tagout program alone will provide a level of safety equivalent to that obtained by using a lockout program.

4.7. In demonstrating that a level of safety is achieved in the tagout program which is equivalent to the level of safety obtained by using a lockout program, the safety standard that shall be met is full compliance with all tagout-related provisions together with such additional elements as are necessary to provide the equivalent safety available from the use of a lockout device. Additional means to be considered as part of the demonstration of full employee protection shall include the implementation of additional safety measures such as:

4.7.1. The removal of an isolating circuit element;

4.7.2. Blocking of a controlling switch;

4.7.3. Opening of an extra disconnecting device; or

4.7.4. The removal of a valve handle to reduce the likelihood of inadvertent energizing.

5. Energy control procedure

5.1. Procedures shall be developed, documented and utilized for the control of potentially hazardous energy when employees are engaged in the activities covered by this policy and program based on job-specific and site-specific work situations.

5.2. The company need not document the required procedure for a particular machine or equipment, when all of the following elements exist:

5.2.1. The machine or equipment has no potential for stored or residual energy or re-accumulation of stored energy after shut down which could endanger employees;

5.2.2. The machine or equipment has a single energy source which can be readily identified and isolated;

5.2.3. The isolation and locking out of that energy source will completely de-energize and deactivate the machine or equipment;

5.2.4. The machine or equipment is isolated from that energy source and locked out during servicing or maintenance;

5.2.5. A single lockout device will achieve a locked-out condition;

5.2.6. The lockout device is under the exclusive control of the authorized employee performing the servicing or maintenance;

5.2.7. The servicing or maintenance does not create hazards for other employees; and

5.2.8. In utilizing this exception, the company has had no accidents involving the unexpected activation or re-energizing of the machine or equipment during servicing or maintenance.

5.3. The machine-specific or system-specific procedures shall clearly and specifically outline the scope, purpose, authorization, rules, and techniques to be utilized for the control of hazardous energy, and the means to enforce compliance including, but not limited to, the following:

5.3.1. A specific statement of the intended use of the procedure;

5.3.2. Specific procedural steps for shutting down, isolating, blocking and securing machines or equipment to control hazardous energy;

5.3.3. Specific procedural steps for the placement, removal and transfer of lockout devices or tagout devices and the responsibility for them; and

5.3.4. Specific requirements for testing a machine or equipment to determine and verify the effectiveness of lockout devices, tagout devices, and other energy control measures.

6. Protective materials and hardware

6.1. Locks, tags, chains, wedges, key blocks, adapter pins, self-locking fasteners, or other hardware shall be provided by the company for isolating, securing or blocking of machines or equipment from energy sources.

6.2. Lockout devices and tagout devices shall be singularly identified; shall be the only devices(s) used for controlling energy; shall not be used for other purposes; and shall meet the following requirements:

6.2.1. Durability

6.2.1.1. Lockout and tagout devices shall be capable of withstanding the environment to which they are exposed for the maximum period of time that exposure is expected.

6.2.1.2. Tagout devices shall be constructed and printed so that exposure to weather conditions or wet and damp locations will not cause the tag to deteriorate or the message on the tag to become illegible.

6.2.1.3. Tags shall not deteriorate when used in corrosive environments such as areas where acid and alkali chemicals are handled and stored.

6.2.2. Standardized devices

6.2.2.1. Lockout and tagout devices shall be standardized within the facility or workplace in at least one of the following criteria: Color; shape; or size; and additionally, in the case of tagout devices, print and format shall be standardized.

6.2.3. Substantial design and construction

6.2.3.1. Lockout devices shall be substantial enough to prevent removal without the use of excessive force or unusual techniques, such as with the use of bolt cutters or other metal cutting tools.

6.2.3.2. Tagout devices, including their means of attachment, shall be substantial enough to prevent inadvertent or accidental removal. Tagout device attachment means shall be of a non-reusable type, attachable by hand, self-locking, and non-releasable with a minimum unlocking strength of no less than 50 pounds and having the general design and basic characteristics of being at least equivalent to a 1-piece, all environment-tolerant nylon cable tie.

6.2.4. Identifiable

6.2.4.1. Lockout devices and tagout devices shall indicate the identity of the employee applying the device(s).

6.2.4.2. Tagout devices shall warn against hazardous conditions if the machine or equipment is energized and shall include a legend such as the following: Do Not Start. Do Not Open. Do Not Close. Do Not Energize. Do Not Operate.

7. Periodic inspection

7.1. The Safety Representative shall conduct a periodic inspection of the energy control procedure at least annually to ensure that the procedure and OSHA requirements are being followed.

7.2. The periodic inspection shall be performed by an authorized employee other than the ones(s) utilizing the energy control procedure being inspected.

7.3. The periodic inspection shall be conducted to correct any deviations or inadequacies identified.

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

7.5. Where tagout is used for energy control, the periodic inspection shall include a review, between the inspector and each authorized and affected employee, of that employee's responsibilities under the energy control procedure being inspected, and the elements set forth in paragraph (c)(7)(ii) of this section.

7.6. The company shall certify in writing that the periodic inspections have been performed. The certification shall 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.

8. **Training and communication**

8.1. The company shall provide training to ensure that the purpose and function of the energy control program are understood by employees and that the knowledge and skills required for the safe application, usage, and removal of the energy controls are acquired by employees. The training shall include the following:

8.1.1. Each authorized employee shall receive training in the recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means necessary for energy isolation and control.

8.1.2. Each affected employee shall be instructed in the purpose and use of the energy control procedure.

8.1.3. All other employees whose work operations are or may be in an area where energy control procedures may be utilized, shall be instructed about the procedure, and about the prohibition relating to attempts to restart or re-energize machines or equipment which are locked out or tagged out.

8.2. When tagout systems are used, employees shall also be trained in the following limitations of tags:

8.2.1. Tags are essentially warning devices affixed to energy isolating devices, and do not provide the physical restraint on those devices that is provided by a lock.

8.2.2. When a tag is attached to an energy isolating means, it is not to be removed without authorization of the authorized person responsible for it, and it is never to be bypassed, ignored, or otherwise defeated.

8.2.3. Tags must be legible and understandable by all authorized employees, affected employees, and all other employees whose work operations are or may be in the area, in order to be effective.

8.2.4. Tags and their means of attachment must be made of materials which will withstand the environmental conditions encountered in the workplace.

8.2.5. Tags may evoke a false sense of security, and their meaning needs to be understood as part of the overall energy control program.

8.2.6. Tags must be securely attached to energy isolating devices so that they cannot be inadvertently or accidentally detached during use.

8.3. Employee retraining

8.3.1. Retraining shall 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.

8.3.2. Additional retraining shall also be conducted whenever a periodic inspection reveals, or whenever the company has reason to believe that there are deviations from or inadequacies in the employee's knowledge or use of the energy control procedures.

8.3.3. The retraining shall re-establish employee proficiency and introduce new or revised control methods and procedures, as necessary.

8.4. The company shall certify that employee training has been accomplished and is being kept up to date. The certification shall contain each employee's name and dates of training.

9. **Application of Control**

9.1. The established procedures for the application of energy control (the lockout or tagout procedures) shall cover the following elements and actions and shall be done in the following sequence:

9.1.1. Preparation for shutdown. Before an authorized or affected employee turns off a machine or equipment, the authorized employee shall have knowledge of the type and magnitude of the energy, the hazards of the energy to be controlled, and the method or means to control the energy.

9.1.2. Machine or equipment shutdown. The machine or equipment shall be turned off or shut down 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.

9.1.3. Machine or equipment isolation. All energy isolating devices that are needed to control the energy to the machine or equipment shall be physically located and operated in such a manner as to isolate the machine or equipment from the energy source(s).

9.1.4. Lockout or tagout device application.

9.1.4.1. Lockout or tagout devices shall be affixed on each energy isolating device by authorized employees.

9.1.4.2. Lockout devices, where used, shall be affixed in a manner to that will hold the energy isolating devices in a "safe" or "off" position.

9.1.4.3. Tagout devices, where used, shall 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 is prohibited.

9.1.4.4. Where tagout devices are used with energy isolating devices designed with the capability of being locked, the tag attachment shall be fastened at the same point at which the lock would have been attached.

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

9.1.5. Stored energy

9.1.5.1. Following the application of lockout or tagout devices to energy isolating devices, all potentially hazardous stored or residual energy shall be relieved, disconnected, restrained, and otherwise rendered safe.

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

9.1.6. Verification of isolation. Prior to starting work on machines or equipment that have been locked out or tagged out, the authorized employee shall verify that isolation and de-energizing of the machine or equipment have been accomplished.

9.1.7. Preparing for release from lockout or tagout. Before lockout or tagout devices are removed and energy is restored to the machine or equipment, procedures shall be followed and actions taken by the authorized employee(s) to ensure the following:

9.1.7.1. The machine or equipment. The work area shall be inspected to ensure that nonessential items have been removed and to ensure that machine or equipment components are operationally intact.

9.1.7.2. The work area shall be checked to ensure that all employees have been safely positioned or removed.

9.1.7.3. After lockout or tagout devices have been removed and before a machine or equipment is started, affected employees shall be notified that the lockout or tagout device(s) have been removed.

9.1.8. Lockout or tagout devices removal.

9.1.8.1. Each lockout or tagout device shall be removed from the energy isolating device by the employee who applied the device.

9.1.8.2. When the authorized employee who applied the lockout or tagout device is not available to remove it, that device may be removed under the direction of the On-site Supervisor or Department Supervisor in accordance with the company's specific written procedures, and when the supervisor has been trained for such removal in accordance with the company's written lockout and tagout procedures. The safety standard to be met is that the specific procedure provides equivalent safety to the removal of the device by the authorized employee who applied it. The specific procedure shall include at least the following elements:

9.1.8.2.1. Verification by the company that the authorized employee who applied the device is not at the facility;

9.1.8.2.2. Making all reasonable efforts to contact the authorized employee to inform him/her that his/her lockout or tagout device has been removed; and

9.1.8.2.3. Ensuring that the authorized employee has this knowledge before he/she resumes work at that facility.

9.2. Additional requirements.

9.2.1. Testing or positioning of machines, equipment or components thereof. In situations in which lockout or tagout devices must be temporarily removed from the energy isolating device and the machine or equipment energized to test or position the machine, equipment or component thereof, the following sequence of actions shall be followed:

9.2.1.1. Clear the machine or equipment of tools and materials in accordance with procedures specified in this policy and program;

9.2.1.2. Remove employees from the machine or equipment area in accordance with procedures specified in this policy and program;

9.2.1.3. Remove the lockout or tagout devices in accordance with procedures specified in this policy and program;

9.2.1.4. Energize and proceed with testing or positioning;

9.2.1.5. De-energize all systems and reapply energy control measures in accordance with procedures specified in this policy and program to continue the servicing and/or maintenance.

9.3. Outside personnel (contractors, etc.)

9.3.1. Whenever outside servicing personnel are to be engaged in activities covered by the scope and application of this standard, the company and the outside contractor shall inform each other of their respective lockout or tagout procedures.

9.3.2. The company on-site supervisor shall ensure that his/her employees understand and comply with the restrictions and prohibitions of the outside contractor's energy control program.

9.4. Group lockout or tagout

9.4.1. When servicing and/or maintenance is performed by a crew, craft, department or other group, they shall utilize a procedure which affords the employees a level of protection equivalent to that provided by the implementation of a personal lockout or tagout device.

9.4.2. Group lockout or tagout devices shall be used in accordance with the procedures required by machine, circuit or system specific lockout and tagout procedures, but not necessarily limited to, the following specific requirements:

9.4.2.1. Primary responsibility is vested in an authorized employee for a set number of employees working under the protection of a group lockout or tagout device (such as an operations lock);

9.4.2.2. Provision for the authorized employee to ascertain the exposure status of individual group members with regard to the lockout or tagout of the machine or equipment and

9.4.2.3. When more than 1 crew, craft, department, etc. is involved, assignment of overall job-associated lockout or tagout control responsibility to an authorized employee designated to coordinate affected work forces and ensure continuity of protection; and

9.4.2.4. Each authorized employee shall affix a personal lockout or tagout device to the group lockout device, group lockbox, or comparable mechanism when he or she begins work, and shall remove those devices when he or she stops working on the machine or equipment being serviced or maintained.

9.5. Shift or personnel changes. Specific procedures shall be utilized during shift or personnel changes to ensure the continuity of lockout or tagout protection, including provision for the orderly transfer of lockout or tagout device protection between off-going and oncoming employees, to minimize exposure to hazards from the unexpected energizing or start-up of the machine or equipment, or the release of stored energy.

10. **Specific Procedures**

10.1. Individual LOTO. Compare company LOTO procedures with host employer LOTO procedures in place or being utilized at the job site. Proper LOTO procedures require the following steps:

10.1.1. Complete the company's or host employer's work permit or Job Safety Analysis (JSA), as applicable to the work and situation and in accordance with company procedures.

10.1.2. Notify all affected personnel and host employer personnel in the immediate or affected area that LOTO will be utilized and why.

10.1.3. Identify all energy sources and isolation devices.

10.1.4. As allowed and authorized by the host employer, shut down the equipment by following normal shutdown procedures in accordance with host employer requirements. The host employer may require shutdown by host employer personnel only.

10.1.5. Isolate the equipment from all potential energy sources.

10.1.6. Lockout and tagout energy isolation devices in accordance with company safety procedures, or confirm any such LOTO by host employer personnel. Complete the required LOTO information on the work permit form or JSA in accordance with form completion procedures.

10.1.7. Stored energy (such as that in springs, elevated machine members, rotating flywheels, hydraulic systems, air, gas, capacitors, steam, or water pressure) must be dissipated or restrained by appropriate methods (such as repositioning, blocking, bleeding down).

10.1.8. Visually inspect equipment isolation and de-energizing by attempting to start or otherwise operate the device. This is done to ensure that the LOTO was effective.

10.1.9. Perform the repair or maintenance.

10.1.10. Inspect the area around the machines or equipment to ensure that no one is exposed; then remove any tools or rags, and replace any guards or covers.

10.1.11. Notify all affected personnel in the area that energy will be restored.

10.1.12. Remove all LOTO devices.

10.1.13. Operate the energy-isolating devices to restore energy to the machine or equipment.

10.1.14. Return the equipment to normal service.

10.1.15. Advise all affected personnel that operations are back to normal.

10.1.16. Complete and terminate the work permit or JSA form.

10.2. Extended-Time Energy Isolation Work. When equipment or machines have been locked out for longer that 24 hours, the individual performing the work shall confirm the following:

10.2.1. Appropriate locks and tags remain in place

10.2.2. The tag is still serviceable, effective in its communication, and appropriate to the situation

10.3. Shift Changes and Call-Out Situations.

10.3.1. During changes of shifts and when there is a call-out, any LOTO in place must carry over and be maintained as effective protection. The procedures explained below shall be followed regarding shift changes and call-outs:

10.3.1.1. Employees coming to work on a shift or called out to a work assignment shall identify any equipment, machines or systems pertinent to the work that is locked out.

10.3.1.2. Employees shall inspect and become thoroughly familiar with the LOTO procedures in place and how they are protecting personnel at the time of the shift change or call-out.

10.3.1.3. When the authorized person who installed the LOTO will not be the same person who completes and removes the LOTO, the personnel coming onto the shift or responding to the call-out shall place their own lock(s) and tag(s) either before or during the process of removal of the lock(s) and tag(s) of the authorized person being relieved.

10.4. Procedure Involving More Than One Person

10.4.1. When more than one person is performing work on equipment, machines or systems that require LOTO, each individual performing this work must

place his or her own lock(s) or tag(s) in a manner that effectively isolates energy sources.

10.4.2. If an energy-isolating device accepts only a single lock or tag, a LOTO hasp device that accepts multiple locks and tags shall be used to secure the single-lock energy isolating device.

10.4.3. If locked box or locked cabinet procedures is chosen for performing LOTO, confirm that a single lock is placed on the energy-isolating device and the key to that single lock is secured in the locked box or locked cabinet. In turn, the locked box or cabinet is then secured by a lock placed by each employee performing the work. In this way each member of the group is protected by his or her own lock and key because it secures the key to the lock on the energy-isolating device.

10.4.4. As each member of the group completes his or her work and no longer need LOTO protection, that individual shall remove his or her lock from the box or cabinet containing the key to the lock on the energy-isolating device.

10.5. Testing or Positioning.

10.5.1. A supervisor in charge of work must authorize any removal of a LOTO device prior to any testing or positioning of machines, equipment or components, this must be approved by supervision.

10.5.2. The authorized person who placed the LOTO must clear the machine or equipment and make sure that potentially exposed personnel are at a safe location before any LOTO device is removed.

10.5.3. LOTO device(s) shall be removed only for the time necessary to conduct the test or positioning.

10.5.4. As soon as testing or positioning is completed, the equipment, machine or system shall be de-energized in accordance with LOTO procedures and LOTO shall be re-applied. At that point attempt shall be made to start the equipment, machine or system as a test to confirm that the replaced LOTO is effective.

10.6. When Work and Required LOTO Carry Over to Another Shift. Sometimes specific work or maintenance will carry over to the next shift. In this situation the locked box procedure for LOTO may be used to protect personnel. This procedure involves:

10.6.1. The authorized person(s) place one lock and tag on an energy isolation device. Note that more than one energy-isolating device may be involved.

10.6.2. All keys to locks placed on energy-isolating devices are then secured inside of a locked box.

10.6.3. The locked box is secured with a hasp that accepts multiple locks.

10.6.4. Once an authorized person involved in the work confirms that all potentially hazardous energy sources are effectively isolated, locked out and tagged out, the authorized person places his or her own lock and tag on the locked box. This is an acceptable alternative to having each authorized person place a lock and tag on each locked-out energy-isolating device.

10.7. Removal of Another Authorized Person's LOTO

10.7.1. In the event that an authorized person leaves the work location without removing a LOTO he or she has placed there, the company has established specific safety procedures that shall be followed prior to and when removing the lock or tag. Note that the host employer may have its own procedures regarding removal of another person's LOTO. These should be reviewed and coordinated with company procedures. Company procedures are explained below:

10.7.2. Make a determined effort to notify the authorized person who placed the LOTO so that they can return to the work location and personally remove the lock and tag.

10.7.3. In the event that the authorized person who placed the LOTO cannot be contacted or is not able to come to the work location, the company Site Supervisor or other authorized personnel shall confirm that it is safe to remove the lock and that the lock is removed, and all energy-isolating devices are returned to normal operating position.

10.7.4. The Site Supervisor shall notify the authorized person who initially placed the LOTO about the removal immediately upon that individual's returning to work.

10.8. Group LOTO -- Responsibilities and Requirements

10.8.1. The following safe work procedures for performing a Group Lockout and Tagout have been established by the company. These procedures shall be followed in coordination with group LOTO procedures of the host employer.

10.8.2. Procedures are designed to make sure all employees and personnel involved are identified, and that the level of LOTO protection provided to the group is equivalent to that provided by an individually placed LOTO.

10.8.3. When a LOTO involves more than one energy-isolating device, or when multiple personnel are involved, it may be appropriate to use separate group lockouts and tagouts.

10.8.4. For example, it may not be practical to require each authorized person to LOTO at multiple energy-isolating devices if not practical. At the same time, each employee shall comply with LOTO procedures and achieve effective protection from potentially hazardous energy sources.

10.8.5. The group LOTO procedure provides an option for compliance with safe work requirements while not requiring an authorized person to place more than a single LOTO.

10.8.6. The company's Site Supervisor and the host employer's field supervisor shall make the decision when to perform a group LOTO rather than LOTOs placed by individual authorized persons.

10.8.7. Group LOTO requires that a single authorized person be designated as the individual with overall and primary responsibility for coordinating the group LOTO. This designated authorized person shall be in charge of the LOTO and be responsible for ensuring that LOTO sequences are effectively completed. This includes performing the basic procedures and confirming that all procedures for group LOTO are followed.

10.8.8. Procedures for group LOTO are:

10.8.8.1. Complete the appropriate company and/or host employer work permit.

10.8.8.2. Designate the authorized person who will be in charge of and responsible for the group LOTO.

10.8.8.3. Complete a thorough assessment of the machines, equipment, systems and processes involved to determine all potential sources of hazardous energy. This includes identification and understanding all potential sources of residual or stored energy. This step may include discussions with other work groups, workers who have previously performed similar work, and host employer representatives who are familiar with this type of work operation and the effective control of hazardous energy.

10.8.8.4. Confirm that the host employer has been notified in accordance with established procedures.

10.8.8.5. Shutdown, or confirm shutdown, of equipment, machines, systems or processes involved with the work assignment. This may involve having the host employer designate the

components involved are ready for servicing, repair or maintenance.

10.8.8.6. Safe-for-work designation by the host employer may involve cleaning, flushing or otherwise making sure that work assignment components are in fact safe and ready for work to begin. In situations when the host employer does not make this designation, host employer personnel should specify how the equipment, machine, system or process should be rendered safe.

10.8.8.7. The authorized person in charge of the group LOTO must identify, locate, and isolate all energy sources associated with the job. If needed, they must also identify, locate, and prepare relief devices for ensuring that residual or accumulated energy creates no employee hazard.

10.8.8.8. The authorized person in charge of the group LOTO places the appropriate LOTO devices and tags on energy-isolating devices and then tests the devices to confirm that energy has been effectively isolated and cannot re-accumulate, re-charge or build up pressure. In certain situations the host employer's personnel may also apply LOTO devices in addition to those places by the authorized person in charge.

10.8.8.9. The authorized person in charge of the group LOTO shall record LOTO information on the work permit in accordance with form procedures.

10.8.8.10. All keys to lockout devices must be placed in a group lockout box (or a similar securing device). This box then shall be locked by the authorized person in charge of the group LOTO. The group LOTO box shall be located in a secure place known to all authorized persons involved with the work.

10.8.8.11. Each authorized person and host employer personnel involved in the group LOTO shall place his or her individual locks and tags to the group LOTO box prior to beginning the work at hand.

10.8.9. Company employees involved in the group LOTO should:

10.8.9.1. Follow and respect the LOTO process.

10.8.9.2. Check and, as applicable, test specific LOTO device locations to confirm that proper and effective LOTO is in place.

10.8.9.3. The authorized person in charge of the group LOTO, or someone this person may designate, shall direct and

accompany the other authorized persons to the specific locations where energy isolation is in place.

10.8.9.4. During shift changes and the arrival of new crews, the group LOTO box shall remain locked until the authorized person in charge of the group LOTO determines that it is safe to remove the keys. This means that the lock placed by the authorized person in charge of the group LOTO usually stays on the group LOTO box until the job is completed. Other control procedures approved by the authorized person in charge of the group LOTO may be used as required as long as personnel are properly protected.

10.8.9.5. When work is finished, the authorized person in charge of the group LOTO and, if applicable, a host employer representative inspects and reviews the completed work to confirm that it is safe to remove LOTO devices. Special precautions shall be taken to ensure that all personnel are relocated away from danger if removal of a LOTO device might present a hazard.

10.8.9.6. The authorized person in charge of the group LOTO shall review all forms and permits filled out during the work to ensure that the assignment is properly and safely completed. When this is accomplished, the authorized person in charge of the group LOTO is ready to remove LOTO devices from the lockout box and all other energy isolation devices.

10.8.9.7. All applicable work permits and forms shall be completed, signed and submitted in accordance with company and host employer requirements.

10.8.10. Personnel and supervisors shall acknowledge that each group LOTO is different and requires individual site-specific consideration and special procedures / precautions as appropriate to situations at hand. This may include procedures and precautions that are not included in the procedures explained above. Consequently, the authorized person in charge of a group LOTO has the authority to do whatever is necessary to achieve safety for all company employees and personnel in the work area.

11. Periodic Assessment and Challenge of LOTO Procedures

11.1. The company shall inspect, evaluate and challenge LOTO procedures for energy control at least once each year.

11.2. This process is intended and shall be carried out to ensure that LOTO procedures are correct, effective and in accordance with OSHA standards and requirements.

Additionally, the process shall identify and address any inadequacies or needs for updating that may be discovered.