Lock Out Tag Out

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Locking Out

The purpose of the Locking Out policy is to protect and educate employees and contractors. It is essential that all Quick' N Quality workers read, understand, and comply with the following procedures for Locking Out.

If a lockout is not performed, uncontrolled energies could cause:

- Electrocution (contact with live circuits);
- Cuts, bruises, crushing, amputations, death, resulting from: entanglement with belts, chains, conveyors, rollers, shafts, impellers
- Entrapment by bulk materials from bins, silos or hoppers;
- Drowning in liquids in vats or tanks;
- Burns (contact with hot parts, materials, or equipment such as furnaces);
- Fires and explosions;
- Chemical exposures (gases or liquids released from pipelines).

If a power sources is inadvertently turned on, or valves opened mistakenly before the work is completed, the result could be serious injuries and fatalities. Therefore, it is important not only to ensure that all energies are properly locked out, but also that they remain locked out until the work is completed.

Training and Competency

All employees who may be required to work in or around any lockout procedure must take in-house training to become familiar with the Quick' N Quality Lockout policy. All Quick' N Quality workers must have the proper combination of experience, knowledge, and education to perform the work required.

All field and shop employees are required to participate in Locking Out Awareness training during orientation and as needed after that.

Workers must be competent when working around any equipment that must be locked out. A competent worker means adequately qualified, suitably trained and with sufficient experience to safely perform work without supervision or with only a minimal degree of supervision.

All training documents are kept on file and this is verified prior to each worker being sent to the field to complete a task that may involve using our lockout procedures.

Standards for Electrical Equipment

The design, construction, installation, operation, and maintenance of all electrical equipment must meet the standards set out in the Canadian Electrical Code, Part I.

All testing or work performed on electrical equipment must be performed by a qualified person or an employee under the direct supervision of a qualified person.

Standards for Locks and Tags

Quick' N Quality uses locks and tags that have unique marks or tags with the following information on it:

- The name of the worker (or an identifying picture) that has locked out the machinery, equipment, or powered mobile equipment. Note: that each individual will put their own individual tag onto the machinery, equipment, or powered mobile equipment.
- The date.
- Reason for locking out the equipment.

- Estimated time of completion.

All workers who have installed a lock or tag must be readily available during the time the equipment is locked out. Combination locks must not be used for lockout.

Designated Person

Each Lockout process will have a designated person assigned who coordinates and controls the ultimate safety of the process.

When locking equipment/machinery out the worker who is performing the work (original key) and a designated person (duplicate key) are the only people who have access to the keys. The Quick' N Quality designated person is the only person permitted to use a duplicate key; they must record the following in the logbook if the key is used:

- The use of the duplicate key;
- The reason for its use;
- The date of its use;
- Sign the logbook each time that the duplicate key is used.

The duplicate key is accessible only to the designated person and the log book is kept to record the use of the duplicate key and the reasons for that use. Log books will be reviewed by upper management periodically.

During a lockout process where there is no method to use a lock and key Quick' N Quality will designate a person to coordinate and control the lockout process. No person shall deactivate a lock-out process that does not use a lock and key except the designated person.

When lockout of energy isolating devices is required, the devices must be secured in the safe position using locks in accordance with procedures that are made available to all workers who are required to work on the machinery or equipment.

Written Lock Out Process

A Hazard Assessment and written lockout processes have been developed for each machine that is required to be locked out. Each worker who is required to work on locked out equipment will be issued a lock that is operable only by that worker's key and a duplicate key.

This lock out process is performed, documented, and taught prior to any new machine being brought into service.

A hazard assessment must be completed prior work starting that addresses all hazards and protects personnel directly related to the lockout procedure and those in the vicinity of the work. All site-specific procedures must be documented in writing.

The manufacturer's specifications will be reviewed, if practical, when developing and implementing procedures and controls for a work processes.

Before servicing, repairing, testing or adjusting of machinery, equipment, or powered mobile equipment the Quick' N Quality worker must ensure that the machinery, equipment, or powered mobile equipment has come to a complete stop and must follow this written lockout process, as well as any site specific process.

If machinery or equipment is shut down for maintenance, no work may be done until all parts and attachments have been secured against inadvertent movement.

If the work will expose workers to energy sources, the hazard must be effectively controlled and the energy isolating devices locked out. Turn off and/or disconnect energy control points, such as electrical plugs, switches, valves, and circuit breakers. Restrain or dissipate all stored energy. This includes, but is not limited to, the following:

- Compressed springs- block springs from releasing,
- Parts of a machine held up by hydraulic or pneumatic power- block to prevent parts from falling,
- Pressurized lines- bleed the pressure from the lines,

- Components that are hot - allow sufficient time for cooling before work begins,
- Capacitors that may store electrical energy- discharge the energy from the capacitor.

Electrical equipment that might be fed by more than one source should be tested with a voltage meter to verify the absence of electrical energy.

Notification of Isolation

The machinery, equipment, or powered mobile equipment must be locked or tagged to show that it is being worked on (see above for lock and tag standards).

Each worker who will be involved in the maintenance activity, must place his/her own lock on the energy control point. The key to the lock must be kept under the control of the owner of the lock at all times. Mobile equipment can be locked out by removing the key from the ignition and pocketing it, and detaching the negative battery cable. Each lock owner must write the particulars of the lockout on a tag and attach it to the energy control point(s).

Verification of Isolation

Before a Quick' N Quality worker undertakes the maintenance, repair, test or adjustment of a machine Quick' N Quality must ensure that the machine is locked out and remains locked out during that activity. Locking Out the machinery (or power tool) will ensure that the energy source has been isolated and any residual energy in the power tool has been dissipated and the energy source remains isolated during the activity.

Attempt to re-start the equipment to verify that the energy sources have been de-energized.

Turn on switches, open valves, push start buttons, etc. If an energy release occurs during this verification, work cannot proceed until this source is located, isolated, and verified as de-energized. Turn switches off and close valves once de-energized state is verified.

Work is not to be performed until the equipment is tested to ensure that it is inoperative and the worker is assured that it is inoperative and effectively isolated.

The job supervisor must determine, on the basis of visual observation, that every control device and every locking device necessary to establish and maintain the isolation of the equipment:

- is set in the safe position with the disconnecting contacts of control devices safely separated or, in the case of a draw-out type electrical switch gear,
- is withdrawn to its full extent from the contacts of the electrical switch gear,is locked out, and
- bears a distinctive tag or sign designed to notify persons that operation of the control device and movement of the locking device are prohibited during the performance of the work or live test.

Removing Lock or Tag and Returning Equipment to Service

A Quick' N Quality employee must not remove a lock from a locked out piece of equipment unless the person is the worker who installed it and the worker ensures that no workers will be in danger if it is removed (including guards replaced and tripping hazards removed). If the Quick' N Quality worker who installed a lock is not available a shift supervisor/designated person must remove the lock.

The designated person must make every reasonable effort to contact the worker who installed the lock to determine the reason that the workers key is not available and that it is safe to remove the lock and activate the machine. The worker must be notified at the start of his or her next shift if their personal lock(s) have been removed since the worker's previous shift. No person shall remove a lock-out device except the worker who installed the lock-out device or the designated person.

Securing devices must not be removed until each involved worker is accounted for, any personal locks placed by workers are removed, and procedures are implemented to verify that no worker is in danger before a worker removes the securing devices and the machinery, equipment, powered mobile equipment, piping, pipeline or process system is returned to operation.

Once maintenance activities are complete, a supervisor must ensure that personnel are out of harm's way, slip, trip, and fall hazards have been cleared from the area, and guards have been replaced. Each worker who

affixed a lock to an energy control point must remove his/her own lock(s). Equipment start-up may occur after all of the above are complete.

Shift/Personnel Change

If a lockout process will be carried over to the next shift or set of workers an orderly transfer of control of locked out energy isolating devices between outgoing and incoming workers must occur.

Running Equipment During Servicing

Some equipment must stay running to lubricate, adjust, repair, or clean; the procedure in the manufacturer's specifications must be adhered to. If there are no manufacturer's guidelines, a task specific procedure must be developed and implemented to ensure that the activity is safe. If it is not practicable to shut down machinery or equipment for maintenance, only the parts which are vital to the process may remain energized and the work must be performed by workers who are trained and qualified to do the work and have been authorized by Quick' N Quality to do the work.

Where electrical equipment is not live but is capable of becoming live, workers must ensure that procedures that are safe for work on live equipment are used or a safety ground is connected to the equipment prior to beginning work. These procedures must be easily accessible.

Group Procedure Lockout

If there is more than one worker working on the machinery, equipment or powered mobile equipment to be locked out, then the group lockout procedure must be followed. All employees (that are involved in the lockout) must put their individual lock or tag on the equipment. The machinery, equipment or powered mobile equipment must not be turned on until the last lock is removed from the machinery, equipment or powered mobile equipment. After a lock-out device has been installed or a lock-out process has been initiated, the worker who installed the first lock or initiated the process shall check the machine to ensure that the machine is inoperative.

Workers may lock out a secondary key securing system if 2 qualified workers lock out the primary key securing system and place their keys in the secondary system. On completion of his or her work, each worker must remove his or her personal lock from the key securing system.

The written group lockout procedure must be conspicuously posted at the place where the system is in use.

When Locks are NOT Required

The application of a lock is not required if the energy isolating device is under the exclusive and immediate control of the worker at all times while working on the machinery or equipment, or a tool, machine or piece of equipment which receives power through a readily disconnected supply, such as an electrical cord or quick release air or hydraulic line, is disconnected from its power supply and its connection point is kept under the immediate control of the worker at all times while work is being done.

Emergency Procedure

In an emergency or if the worker who installed the lock is not available, the shift supervisor/designated person may remove the lock only after verifying that no worker will be in danger due to the removal.

Isolating Pipes and Pipelines

When there are harmful substances under pressure in a piping system the two methods to isolate that system is by blanking or blinding, or a double block and bleed isolation system. An operable bleed-off between the two seals must also be utilized to release the build-up pressure and render the equipment safe.

Pigging

A general definition of pigging is the propulsion through a pipe of a mobile plug (pig) that can execute certain activities inside the pipe. Examples and reasons for pigging include: clean a pipe mechanically (pig with

brushes), to check a channel (pig with video camera), or to inspect the pipe and welds (pig with eddy current sensors or ultrasonic technology).

When performing pigging and testing:

- Only use properly designed pig senders, receivers and test heads.
- Position warning signs on each end of line to identify the “Critical” area.
- Check that adequate test heads are being used and properly installed.
- Fabricate and install test heads, temporary pig launchers and receivers, if required.
- Ensure that a proper pig is being used.
- Position air compressor.
- Ensure that the pig catcher on a pipeline is isolated from the pipeline and depressurized before the pig is removed.
- Ensure no workers are at the end of the pipe or in the immediate vicinity of the pig catcher if the pipe or pig catcher is under pressure during pigging and testing.
- Ensure only personnel involved with operations are on site.
- Adhere to P.P.E. Policy including Hearing Protection

When around pigging:

When workers are not directly concerned with the pigging and testing operation they must not be in the immediate area of exposed piping during the operation.

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