7.3 Lockout and Tag Out Procedures

1. Purpose

The procedure establishes the minimum requirements for the lockout of energy isolating devices whenever maintenance or servicing is done on machines or equipment. It shall be used to ensure that the machine or equipment is stopped, isolated from all potentially hazardous energy sources and locked out before employees perform any servicing or maintenance, where the unexpected energization or start-up of the machine or equipment or release of stored energy could cause injury.

2. Types of Equipment

- Any electrical equipment that where an unexpected start up could occur.
- Hydraulic equipment where unexpected movement could occur.
- Wires / ropes / cables under tension where unexpected movement could occur.
- Machinery that could have an unexpected movement.
- Any piece of machinery or item that could have an unexpected gravity fall.
- Valves and piping where an unexpected release of product or steam could occur.

3. Definitions

The following are definitions of words and phrases used in the following procedure:

- **Affected Employee** – An employee whose jobs requires them to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tag out or whose job requires them to work in an area where such servicing or maintenance is being performed.
- **Authorized Employee** – A person (lead technician) who locks or implements a lockout system procedure on machine or equipment to perform the service on that machine or equipment. An authorized employee and an affected employee may be the same person when the affected employee's duties also include performing maintenance or service on a machine or equipment that must be locked or tagged out. The authorized person manages a series of numbers for reference and control.
- **Capable of Being Locked Out** – An energy-isolating device is considered capable of being locked out if it is designed with a hasp or other attachment that a lock can be fastened on or through, or if the device has a locking mechanism built into it. Other energy isolating devices are considered capable of being locked out if lockout can be achieved without need to dismantle, rebuild, or replace the energy-isolating device or permanently alter its energy control capability.
- **Energized** – Connected to an energy source or containing residual or stored energy.

- **Energy Isolating Device** – A mechanical device that physically prevents the transmission or release of energy. Examples include a manually operated electrical circuit breaker, a disconnect switch, a manually operated switch by which the conductors of a circuit can be disconnected from all underground supply connectors and no pole can be operated independently, a slide gate, a slip blind, a line valve, a block, and any similar device used to block or isolate energy. The term does not include push button, selector switch, and other control circuit type devices.
- **Energy Source** – Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.
- **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.
- **Lockout Device** – A device which utilizes a positive means, such as a lock (key and combination type), to hold an energy isolating device in the safe position and prevent the energizing of a machine or equipment.
- **Normal Production Operations** – The utilization of a machine or equipment to perform its intended production function.
- **Service and/or Maintenance** – Workplace activities such as construction, installing, setting up, adjusting, inspecting, modifying, and maintaining or servicing machines or equipment. These activities include lubrication, cleaning, or unjamming of machines or equipment and making adjustments where the employee may be exposed to the unexpected energization or start-up of the equipment or release of hazardous energy.
- **Setting Up** – Any work performed to prepare a machine or equipment to perform its normal production operation.
- **Tagout** – The placement of a tagout device on an isolating device, in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not operate until the tagout device is removed.

4. Compliance with the Program

All employees are required to comply with the restrictions and limitations imposed upon them during the use of a lockout. Only authorized employees are required to perform the lockout in accordance with this procedure. All employees, upon observing a machine or piece of equipment that is locked out to perform servicing or maintenance, shall not attempt to start, energize or use that machine or equipment. To ensure compliance with this procedure, violating employees will be dealt with under our employee disciplinary action policy.

5. Acceptable Lockout/Tag Out Devices

- Locks.
- Wedges.

- Key blocks.
- Tags.
- Adapter pins.
- Hardware for securing or blocking of equipment from movement or energy sources.
- Lockout devices and tag out devices must be singularly identified and shall be used.
- Lockout and tag out devices shall indicate the identity of the employee applying the device.
- Tag out devices with an attached means that shall be non reusable, self locking, and shall not be released without with less than 50 pounds of pull.
- Tag out devices shall have the identity of the employee applying the device, the date, and the circumstances for the lockout/tag out.
- Tag out devices shall not deteriorate when exposed to the environment.
- Tag out devices shall be standard in color, size, print, and format.

6. Responsible Persons

- The Safety Director is responsible for the lockout/tag out program.
- The site superintendent is responsible for insuring all personnel adhere to the lockout/tag out procedures.
- Lead technicians are the authorized employee.
- The lead technicians shall control procedures as they relate to the work being performed.
- The lead technician's authority is enforced by inspection prior to entry or exposure to a potential hazard.
- Lead technicians are responsible coordinating the crafts, and departments, and the use of their respective lockout/tag out devices.
- The lead technician shall verify that each craft or department attaches their respective lockout/tag out devices.
- Lead technicians are responsible for the final inspection before turning the equipment over to the users.
- In the case of multiple employees using a piece of equipment, the lead technician must verify that each employee has his/her tag on the equipment.

7. Sequence of Lockout

7.1 Before shutdown

All affected employees will be notified that servicing or maintenance is required on a machine or equipment and that the machine or equipment must be shut down and locked out to perform the servicing or maintenance.

7.2 Before shutdown

The authorized employee(s) must know the type and magnitude of the energy that the machine(s) or equipment utilizes, shall understand the hazards of the energy to be controlled, and shall know the methods or means to control that energy.

7.3 During shutdown

The authorized employees(s) will shut down the machine(s) or equipment by the normal stopping procedure (depress stop button, open switches, close valve, etc.).

7.4 Isolation

In accordance with applicable legislation, the main power switches, circuits, or other sources of energy will be moved to the "off" position, etc. The energy isolating device(s) will be deactivated so that the machine or equipment is isolated from the energy sources(s). Piping containing harmful substances under pressure will be blinded, or a double block and bleed isolation system providing 2 blocking seals with an operable bleed-off between the two seals. The responsible employee will verify the equipment is isolated.

Group Isolation – In accordance with applicable legislation where a large number of workers is working on machinery, equipment or powered mobile equipment, or a number of energy - isolating devices must be secured, the company will implement a group procedure.

A competent and qualified company designate will ensure:

- isolation devices are secured,
- isolation devices keys are secured,
- completed, signed and posted checklist of the machinery or equipment covered by the procedure,
- another competent and qualified designate confirms all energy sources are effectively isolated.

7.5 Lockout

In accordance with applicable legislation, locks will be placed on switches or other energy sources in the "safety" "off" position. Warning tags will be placed with each lock. All lockout and tag out devices must indicate the identity of the employee applying the device. All tag out devices must warn against hazardous conditions if the machine or equipment is energized. All lockout and tag out devices must contain the following warning, **"DO NOT START, DO NOT OPEN, DO NOT CLOSE, DO NOT ENERGIZE, DO NOT OPERATE".**

7.6 Energy Release

All potentially hazardous stored or residual energy (such as springs, elevated parts, rotating flywheels, hydraulic systems, electrical systems, and air, gas, steam, or water pressure, etc.) is

relieved, disconnected, or otherwise made safe by repositioning, blocking, bleeding down, etc. (If there is a possibility of reaccumulation of stored energy to a hazardous level, verification of isolations must be continued until the servicing or maintenance is completed, or until the possibility of such accumulation no longer exists.) Stored or residual energy (such as capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, etc.) must be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down, etc.

7.7 Testing

After ensuring that no personnel are exposed, and as a check on disconnection of the energy sources, the authorized employee will operate the push button or normal operating controls to make certain the equipment will no longer operate. **CAUTION:** Return operating control(s) to neutral or "off" position after verifying the isolation of the equipment.

The machine or equipment is now locked out. The individual must put his name on the locked out equipment's tag.

8. Restoring Equipment to Service

When the servicing or maintenance is completed and the machine or equipment is ready to return to normal operating condition, and the following steps will be taken:

- Check the machine or equipment and the immediate area around the machine or equipment to ensure that non-essential items have been removed and that the machine or equipment components are operationally intact.
- Check the work area to ensure that all employees have been safely positioned and removed from the area.
- Verify that the controls are in neutral.
- Remove the lockout device and reenergize the machine or equipment.
- Notify affected employees that the servicing or maintenance is completed and the machine or equipment is ready to use.
- The lead technician shall ensure that all lockout/tag out devices are removed and the equipment is ready for use.
- When equipment is tested prior to restoration of service the, the lead technician will use a check off list to:
  - Remove the Lock Out Tag Out devices;
  - Clear away tools;
  - Remove employees from the area;
  - Energize the equipment
  - Conduct pre-service testing;

- After pre-service testing, the equipment will be de-energized, and Lock Out Tag Out devices applied until the equipment is ready for service.
- In an emergency or if the worker who installed a lock is not available, a competent company designate may remove the lock only after verifying that no worker will be in danger due to the removal.

9. Training

Training must be provided to ensure that employees understand the lockout/tag out procedures. The training must include the following:

- Recognition of applicable hazardous energy sources, the type and magnitude of energy sources in the workplace, and the methods and means necessary for energy isolation and control.
- The purpose and use of energy control procedures.
- The lockout/tag out procedures and the prohibition of restarting or reenergizing machines that are locked out or tagged out.
- Lead technicians shall receive additional training as it relates to their responsibilities.

When tag out systems are used, employees must be made aware of the following:

- Tags are warning devices fastened to energy isolating devices and do not provide the physical restraint that is provided by a lock.
- When a tag is attached, it is not to be removed, bypassed, or ignored, except by authorized employees.
- Tags must be legible and understandable by all affected employees.
- Tags and their means of attachment must be made of material that will withstand environmental conditions encountered in the workplace.
- Tags may evoke a false sense of security; so all employees as it applies to the overall energy control program must understand their meaning.
- Tags must be securely attached to energy isolating devices so they cannot be inadvertently or accidentally detached.

10. Annual Compliance

To insure compliance with Provincial OH&S the lockout/tag out program is reviewed annually. Employees are requested to make suggestions on compliance, the tags themselves, procedures, and any missed tag out operation.

The Safety Director shall:

- Audit the program annually.

- Investigate any non-compliance with the procedures.
- Seek input from the lead technicians.
- Continually seek methods and procedures that will enhance the program.
- Have periodic inspections to ensure compliance.