

Lockout & Tagout Policy & Process



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Scope:

This policy is intended all workers that will require eliminating potential energy sources. This includes, but is not limited to mechanics, electricians, plumbers, and all trades that require a zero energy state to conduct work safely.

The Law:

OH&SA RRO 1990, Section 25 (2)(h) (notes that employer must take every reasonable precaution for the protection of a worker, 26(1)(k) (notes that an employer must provide a worker with written instructions for the protection of the worker), 27(2)(b), notes that a supervisor will provide a worker with written instructions on measures and procedures for his protection), 27(2)(c) (notes that a supervisor must take every reasonable precaution for the protection of a worker), 28(2)(b) (notes that no worker shall use any equipment, machine, device or thing in a manner that may endanger himself, herself or any other worker), 28(1)(c) (notes a worker must report to his/her supervisor any defect or absence of in ant equipment or protective device of which the worker is aware that can injure himself, herself or another worker and Section93(2)(c) of the Construction Regulations that notes (no vehicle, machine or tool shall be used while it is being repaired or serviced, unless the repair or servicing requires that it be operated.)

Section 42(1) of the industrial regulations states that the power supply to electrical installations, equipment or conductors shall be disconnected, locked out of service and tagged before any work is done, and while it is being done, on or near live exposed parts of the installations, equipment or conductors, and section 42(2) states that before beginning the work, each worker shall determine if the requirements of subsection (1) have been complied with. Section 75(b) of the Industrial regulations states that any part that has been stopped and that may subsequently move and endanger a worker has been blocked to prevent its movement. Section 76(a)(b) states that where the starting of a machine, transmission machinery, device or thing may endanger the safety of a worker, control switches or other control mechanisms shall be locked out; and other effective precautions necessary to prevent any starting shall be taken.

Definitions:

- Lockout** “Lockout” means to physically neutralize or disable energies in a piece of equipment before beginning any maintenance or repair work. This generally involves stopping all energy flows, locking switches and valves, securing the machine, device or power line in a de-energized state.
- Tagout** To place a tag at the area of ignition or entry (or other) that indicates that that piece of equipment, device, etc... is defective and not to operate until repaired.

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Policy:

Bernard Rochefort Ltd.'s Occupational Health and Safety Policy outline the company's responsibility to do everything reasonable to provide a healthy and safe workplace environment and to reduce unsafe acts and conditions. To meet that commitment, Bernard Rochefort Ltd. has developed this lock out policy to express the company's position that no worker is to perform any installation or repair work on any energized piece of equipment without ensuring that the equipment is locked out. The company is responsible for ensuring that an effective lockout/tagout program is in place and that workers have the training to recognize sources of potential energy. The employer is also responsible for ensuring that assessments of all machines, devices or processes that require a lockout are identified.

NOTE: ALL NEW EQUIPMENT (PURCHASED SINCE 2004) HAS ELECTRIC OVER HYDRAULIC POWER SOURCES – WHEN MACHINE IS SHUT DOWN ALL POWER CEASES AS ELECTRIC OVERRIDES HYDRAULIC – ENSURING THAT NOTHING REMAINS MOVING OR OPERATIONAL.

TYPES OF ENERGY FORMS AND SOURCES	
Electricity	Power transmission lines, machine power cords, solenoids, capacitors (stored)
Pneumatic potential energy	Pneumatic systems (ie cylinders, presses) is the energy stored within pressurized air.
Kinetic Energy	Energy of a moving object or of materials moving object may be powered or coasting – For example, blades or flywheels
Potential Energy	Stored energy that an object has the potential to release due to its position. For example – springs in air brake cylinders or counter weights
Fluid Pressure	Hydraulic systems
Pressurized Liquids and Gases	Supply lines, storage tanks and vessels
Chemical Energy	is the energy released when a substance undergoes a chemical reaction.
Thermal Energy	is energy from an explosion, flame, objects with high or low temperatures or radiation from heat sources.
Radiation Energy	is energy related to ionizing, low-frequency electromagnetic, optical, or radio-frequency electromagnetic radiation.
Mechanical Energy	is the energy contained in an item under tension.
Gravitational potential Energy	is the energy related to the mass of an object and its distance from the earth (or ground). The heavier an object is, and the further it is from the ground, the greater its gravitational potential energy. For example, a 1 kilogram (kg) weight held 2 metres above the ground will have greater gravitational potential energy than a 1 kg held 1 metre above the ground.

Locks: Two lock system

Key - operated padlocks are to be used by the mechanic who services the equipment and by the equipment operators who drive/operate the equipment. 1 lock 1 tag per person.

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Tags will also be used to indicate the work being done or the repair required. Only when the work is completed can the locks be removed. If more than one person is locked out on machinery or equipment, the last lock to be removed shall be the mechanics lock as this is the person supervising the lockout in this case.

Process:

1. Employees that work on machines, equipment or processes must perform the lockout themselves. Employees will never rely on someone else to lock something out.
2. Additionally consult the Safe Work Practices to ensure proper lockout.
3. Individual locks and tags are standard throughout Bernard Rochefort Ltd. Employees required to perform a lockout will have a tag that will include their name, department, phone numbers and applicable warning (ie: equipment locked out, do not operate)
4. All lock will possess only one key and will be numbered and no replacement key shall be made for any lock.
5. A separate tag will be issued when equipment cannot be locked out. These tags will include de details of the tag out and will not be reused.
6. Where equipment is lockable, a lock must be used. If it is not lockable, special procedures must be used to ensure the protection of an employee.
7. Energy isolating devices must be clearly labeled or identified to indicate their function (as written in the lockout procedure for the equipment).
8. The lockout of electrical energy sources must occur at the circuit disconnect switch. The use of electrical control circuitry to accomplish lockout is strictly prohibited.
9. Standard operating procedures must be completed for all machine, equipment and processes requiring lockout.

Identifying Lock out Situations:

Below is a brief list of all equipment that may require a lockout. All equipment, machinery, devices, etc... need to be locked out prior to any repair work

Equipment/ Process	Energy Form	Energy Source	Lockout Requirements	Lockout Guidelines
EQUIPMENT				

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SMALL EQUIPMENT				
Grinders	Electricity Kinetic energy	Power cords Blades, fly wheels	Repair work, adjusting speed of grinder	Disable power source – unplug
Hand Tools	Electric, Kinetic energy	Power cords Exposed moving parts	Repair work	Source – unplug
Electrical Panels	Electricity	Cords, circuits, capacitors	Repair work	De energize panel from source

Lockout Procedure for Equipment:

If a piece of heavy equipment has been found to be defective and unsafe and requires repairs, the Operator is to lock the equipment out by applying a personal lock of which only he and the mechanic has the key.

Steps:

1. Shut down the equipment.
2. Ensure all controls are in the off position.
3. Ensure wheels are chocked.
4. Apply the personal lock and tag the equipment indicating the nature of the problem.
5. Notify your supervisor of the lockout for this equipment.
6. Supervisor, President or Controller to sign work permit.
7. Contact supervisor to make arrangements for transportation of equipment.
8. Lockout to stay in place until arrival at garage.
9. If mechanic cannot perform work immediately he is to place his lock on equipment in addition to the operators lock.
10. Completed work to be reported to the person in charge of signing off the work permit.
11. Mechanic is responsible for all repairs or servicing on heavy equipment. If any work is delegated to apprentice it is to be inspected first by mechanic and mechanic is to oversee the process in all cases where a lock is in place.
12. Example of energy sources to be controlled must be noted as the following:

Equipment	Energy Sources to Be Controlled
Backhoe:	Hydraulics, cylinders, solenoids (hoses), tires, air lines, pressure cleaning systems tanks or links.
Excavator:	Power transmission and Hydraulics, cylinder, solenoids, hoses
Heavy Trucks:	Hydraulics, cylinders, solenoids (hoses) power transmission, tires, air lines, pressure cleaning systems, tanks or lines, not lowered gravity could cause object to fall, vehicle to roll, gases could ignite.

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Dozer:	Hydraulics, cylinders, solenoids (hoses), air lines, pressure cleaning systems, tanks or lines
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13. Examples of controls for each of these pieces of equipment are as follows: switches, interlocks, valves, blocking points, relief valves, and blanking/bleeding points. Review of schematics should be considered at this point.

Equipment	Controls
Backhoe	Bleeding – put key in on position without starting equipment. Equalize pressure by moving controls. Disconnect batteries if necessary.
Excavator	Bleeding – put key in on position without starting equipment. Equalize pressure by moving controls. Disconnect batteries if necessary.
Heavy Trucks	Turn Off Power (ignition). Disconnect batteries if necessary.
Compactor	Engage power shut off switch.
Dozer	Bleeding – put key in on position without starting equipment. Equalize pressure by moving controls. Disconnect batteries if necessary.

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14. Examples of Special Hazards for each should be noted (ie does a piece of equipment have a part that spins for a minute after the equipment is shut down?)

Equipment	Special hazards	PPE
Grinders	Wheel remains spinning after shut down for approximately 20 seconds.	Eye, hearing, foot and hand protection required
Hand Tools	Tools with Drills Bits or saw blades will continue to spin after shut down.	Eye, hearing, foot and had protection required.

15. PPE must be worn at all times including protective eye wear and insulated foot protection

16. Specify the testing procedure to ensure that all energy sources are controlled

Lock Out Procedure for Small Equipment:

Small tools, such as hand held power tools or equipment such as compactor, must follow the following procedures for locking out and tagging to identify the need for repairs:

1. Shut down the equipment.
2. Ensure all controls are in the off position.
3. Apply the personal lock and tag the equipment indicating the nature of the problem. If the equipment cannot be locked due to small size ensure it is clearly tagged indicating the nature of the defect.
4. Notify your supervisor of the lockout for this equipment.
5. Bring equipment to Mechanic or have Supervisor deliver to mechanic.
6. Not to be operated until Mechanic has signed off on tag indicated equipment is repaired.
7. Inspect equipment to ensure repair has been completed prior to use.
8. Owner/Operator to remove tag once repair has been completed.

Training: All employees will be trained on this process at time of orientation.

Approval & Acknowledgement:

Rhéaume Rochefort

Feb 1st, 2018

Date:

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