



# McMaster University

## Standard Operating Procedure: Lock-Out/Tag-out (Group)

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This procedure is to be used when any mechanical or electrical system is to be locked out and multiple lockout points are required.

The purpose of this procedure is to prevent the accidental starts of electrical and mechanical equipment and uncontrolled movement of equipment and flows of steam, water, compressed air, gas, oil, etc.

Lockout/Tagout (LOTO) (control of hazardous energy) program applies to the servicing and maintenance of machines and equipment in which the unexpected re-energized or start-up of the machine, or the release of the stored energy could cause serious injury or even death. This procedure applies to all forms of energy including electrical, steam, pneumatic, hydraulic, thermal, chemical, pressurized liquids and gases, mechanical, gravity loads, etc.

### 1. Personal Locks.

- All Maintenance Services employees that are involved in the lock out and tag out of equipment will be provided with a set of padlocks that are keyed for each individual employee.
- Must be a unique lock-no other key will fit in it.

### 2. Worker Responsibility

- Before any work is to be done on any machine all workers shall install a personal lock on the control switch, valve or device that LOTOs the machine and in the case of a group lockout the worker is responsible to put their lock on the lock box. The worker is also responsible to ensure that the machine has been completely LOTOed before putting their lock on the machine and commencing work.

### 3. Lock Box

- A Lock Box will be supplied with a group set of locks with a common key. Each Lock box will be assigned an identifier and the box and keys will be labeled with that identifier i.e. Lock Box A
- The lock box will be assigned to a Shop/Lab for access by Shop/Lab personnel who will be locking out a system where a large number of locks are required. When the system has been locked out and tagged out then the key for the locks will be placed inside the lock box and locked using a personal lock by the worker. The procedure followed will be placed inside a clear envelope and locked to the handle of the lock box.

- Anyone working on the system shall place their lock complete with a tag on the lock box before commencing any work.
- The lock box will then be locked and placed in the Lock out Tag out cupboard in the Shop/Lab and the lock out tag out cupboard will then itself be locked.

#### 4. Lock Out / Tag Out Cupboard

- The Lock Out / Tag Out Cupboard will be controlled by the Staff /Lab Services.
- Common Lock will be used to lock the cupboard
- Lock Out Boxes in use will be kept in the lock out / tag out cupboard
- Lock out / tag out supplies will be kept in the cupboard

#### 5. The following procedures detail the basic requirements necessary for the provision of positive protection for multi-crews and individual workers while performing work on machines, or chemical processing equipment.

- The Staff are personally responsible for initially stopping or shutting down the machine in the normal manner, e.g., by pushing – the stop button, shutting off valves, opening bleed valves, blanking lines, etc. as necessary.
- After the machine has stopped and, where applicable, loads on electrical lines are shut off, the main disconnect switch shall be opened and locked in the open (OFF) position by the person in charge or other qualified person under his direction.
- After the disconnect switch has been locked out, workers shall keep clear of moving machinery until the start button or switch has been pushed to check that the correct master switch has been disconnected.
- A warning sign or tag should be added to the padlock by the person in charge indicating the nature of work, location if other than the immediate area, date, workers or departments responsible for the work, etc.
- The presence of the lock belonging to the person in charge is evidence that the machine is properly and completely shut down and in a safe condition for work to commence. Except as required and directed by the person in charge for purposes of interim testing, etc. the lock shall only be removed after all work has been completed and equipment is safe and ready to operate.
- The lock shall only be removed by the person in charge and this responsibility shall not be delegated.
- If a machine is to be taken out of service, it shall be shut down and locked out by the Staff/Lab Personnel and remain locked out during the entire period that it is out of service.

#### 6. Definitions

- **Control Switch** as it applies to electrical controls shall be understood to mean the main power source or disconnect switch.
- Electrical **“disconnect switch”** means a pull type switch or circuit breaker which physically opens to disconnect the circuit.
- **“Starting”** or **“Stopping”** switch means a toggle or push button switch usually mounted near the machine being started or stopped.
- The word **“machine”** shall be understood to include “transmission machinery, device or thing” as stated in Regulation 76/05. Training Requirements for Certain Skill Sets and Trades.

- **“Work”** shall mean other than the normal operation of the machine, the inspection, repair, adjustment, cleaning, maintenance, etc., for which the machine must, stopped.
- **“Person in charge”** means a qualified person appointed by the employer to have authority over one or more employees doing work on a machine.
- **“Qualified person”** means a person designated by the employer as qualified because of knowledge, training and experience to safely perform an assigned task.
- **“Worker”** is the employee or tradesman doing the work on a machine.
- **“LOTO”** Lockout/Tagout .

### **Legal Disclaimer**

The Standard Operating Procedures on this website are provided for the use of the McMaster University employee and/or student community. The procedures outlined in the above referenced document are intended to reflect best practices in this field; as such they are provided to the community for guidance and/or direction. However, these recommendations should not be construed as legal advice.