CONSTRUCTION SAFETY ASSOCIATION OF MANITOBA

CONSTRUCTION SAFETY EDUCATION PROGRAM

#6

LOCKOUT

This education program provides a guideline for the implementation of a lockout procedure. It is intended to give contractors and workers practical information relating to safety lockout procedures.

This education program contains general information. For specific regulatory requirements, pleas consult the appropriate regulation adopted under the Workplace Safety and Health Act and the Canadian Safety Association Standards (CSA).

SAFETY PROGRAM

What is LOCKOUT?

Lockout is the physical use of a lock or locks to ensure that machinery, equipment, systems, or pipes etc, are inoperable. The purpose of using a lock is to ensure that an energy source is permanently isolated to prevent it being released – to make it impossible to start up again when being worked on.

In theory, it's simple. Isolate and neutralize all the energy sources. In practice, that's more than turning off all the electricity, pneumatics and hydraulics. You must also release all the stored energy - a block that keeps a machine part from falling, waiting for the temperature to go down, discharging a battery, releasing the tension in a spring.

The goal is to reach a state of ZERO ENERGY and maintain it. Zero-energy means there is no energy of any kind left in the machine, tool or line.

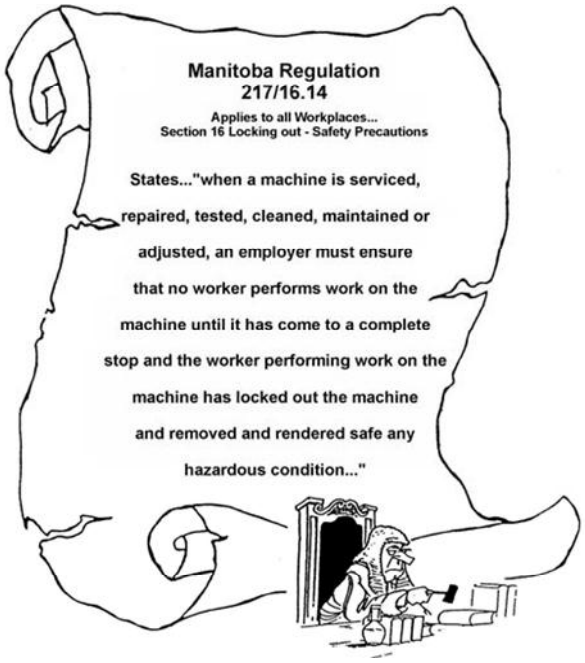
Why is LOCKOUT important?

Each year in construction several serious or fatal injuries occur as result of mistakenly assuming that machinery or equipment was safely off or de-energized before working on it.

It's also the **LAW**.

Manitoba WSH Act requires every employer to ensure the safety health and welfare of all its workers. This is further detailed in the WSH Regulation that requires an employer that:

- No work is performed unless the machine is inoperable
- Worker is assured it is inoperable
- Develop and implement safe work procedures



In order to prevent incidents and to comply with the WSH Regulation, it is absolutely essential for an employer to have an effective lockout procedure in place and to ensure it is diligently practiced without exception.

When is LOCKOUT required

If the release of energy has the potential to cause injury.

Note: Under special circumstances (ie: troubleshooting; testing etc) and under strict procedures only (that includes a standby worker trained in emergency response etc.), the Manitoba WSH Regulation – section 39.14 allows a qualified electrical worker to perform electrical work on energized electrical equipment. However, this is few and far between – almost every circumstance would require a proper LOCKOUT Procedure.

LOCKOUT Procedure

A "lockout procedure" is a written practice which, when followed, will allow workers to carry out their job functions without undue risk of injury. The procedure can be quite simple, yet precise, such as locking out a single piece of machinery, or complex, such as the locking out of an entire processing system. A lockout may be electrical or mechanical in nature.

It is VERY IMPORTANT to understand there are many different sources or types of energy in addition to electrical energy. For instance, there is stored energy in hydraulic and air powered systems and transfer vessels as well as spring (potential) energy and gravity systems.

The repair and adjustment safe work procedures for lockout must be developed and implemented specific to your company. Also very important is the considerations of special hazards to watch for that could include machinery which is fed electrical energy from more than one source; fans and other machinery which operates intermittently; machinery that starts and stops automatically or is controlled from elsewhere.

If servicing outside clients, ensure that you check with the safety rules and lockout procedure. Generally a quality lock-out procedure will include at minimum, requirement for the use of a keyed padlock or similar device utilized to physically and securely remove and isolate any power source from the equipment, preventing accidental reapplication while personnel may be in exposed circumstances, subject to possible injury or death.

Further, it is a very good idea to include the requirement of **tag-out** of the lockout device to notify all individuals working in the area, or anyone who could for whatever reason be in a position to possibly remove or otherwise defeat the purpose of the lockout device, as to its installation, why, and the individual responsible for its application.

LOCKOUT Procedure – General Steps

In general terms, a quality Lock-Out Procedure will include the following six basic steps:

1. **Identify** – the machinery, equipment, systems, pipes etc. that work will be performed.
2. **Shut off** – the equipment, system etc and ensure ALL moving parts come to a complete stop.
3. **Deactivate** – the main energy-isolating device for EACH source of energy.
4. **Lockout** – with a personal lock. Attach you personal lock to the energy-isolating device for each source of energy. ENSURE that all parts and attachment are impossible to be started or moved due to the release of energy.
5. **Tagout** – attach the tag to the energy isolating device to communicate the equipment status to others.
6. **Try** – before attempting to begin work on the equipment, ensure all others are clear of the area and 'try' the lockout to make certain that the energy source(s) have been effectively locked out.