

Equipment Lockout

Policy Statement

No university employee or contractor shall undertake any work on equipment unless the equipment is fully secured against accidental start up, movement or release of electrical, mechanical, hydraulic, pneumatic, chemical, or thermal energy.

Dalhousie University has adopted this policy to prevent accidents which might otherwise occur during servicing, repair, or maintenance of equipment. Equipment which is electrically energized or which contains stored electrical or mechanical energy, heat, pressure, or chemicals can release this energy and cause serious injury. To prevent the accidental release of this energy, the policy requires that all staff, faculty, students, and contractors bring all such equipment to a "zero energy" state before beginning to service or repair the equipment. In this zero energy state, there is no residual energy that can be released to cause an accident.

The policy does not apply to tasks such as circuit testing which require the equipment to be energized. The policy also does not apply to routine visual inspections during which it is unlikely that a person or the person's clothing will become entangled in the equipment.

Because they work on more complex equipment, some of which can be started from remote locations, the University's trade employees and contractors are further required to physically lock the equipment control to ensure that, once brought to the "zero energy" state, the equipment cannot inadvertently be re-energized.

Procedures

Prior to beginning work on any piece of equipment that could start-up, move, or release stored energy, all University employees and contractors will de-energize the equipment.

Trades staff and contractors will then lock-out any valve, switch, breaker, or other control which supplies energy to the equipment. When the equipment can be restarted from a remote location, trades staff and contractors will contact the Thermal plant (or Dispatch if the Thermal plant cannot be reached) to report the shutdown. All trades staff and contractors will then attach a dated and signed tag that indicates the reason for the lockout. A computer shut down alone does not constitute an appropriate isolation procedure.

Before carrying out any further work on the equipment, the trades staff member or contractor will appropriately test the equipment to ensure that it is in fact de-energized.

Each University trades staff member who routinely is required to lock out controls, shall be issued personal locks and keys which shall only be used for isolating equipment while that staff member services the particular piece of equipment.

When more than one trades person works on a piece of equipment, each will apply his or her lock to the appropriate control.

A lock will only be removed by the person who installed it. The lock will be removed only, when the person who installed it is satisfied that it is safe to do so. The person removing the last lock will only do so when he or she is satisfied that it is safe to re-start the equipment.

No-one, other than the person who installed it, shall remove a lock-out lock. In exceptional cases, the Supervisor responsible for the work may remove a lock after being satisfied that it is safe to start the equipment. The supervisor will immediately report such action to the Manager of Engineering Services.

Before beginning work on equipment that is controlled by the computer system operated from the Central Services Building, the person shall contact the Thermal Plant operator and request that the equipment be shut down. The person shall then isolate the equipment and lock out the control.

The Manager of Engineering Services shall ensure that contractors' equipment isolation procedures adequately protect Dalhousie and contractors' employees.

Exceptions

Shutting off the electrical power to some University operations causes serious disruptions of normal activities. When a fully qualified electrician believes that de-energizing a 110 volt system would be unreasonably disruptive and that the work can safely be carried out on the "live" system, work may proceed on the energized system following the appropriate precautions. Work on other energized systems will only be undertaken on the instruction of the supervisor. In each case and as directed by the supervisor, appropriate procedures will be followed and required protective equipment will be used to minimize the risk that may be associated with work on energized systems.

Formal lock-out of de-energized equipment is not required when the employee or contractor is at all times able to personally supervise the control to ensure that the equipment is not inadvertently energized. In the course of such work, an employee or contractor might leave the work area and thus be unable to personally supervise the control. In such cases, the contractor or trade employee shall take whatever steps are necessary (perhaps including locking out the control) to make the worksite safe.

The policy makes provision for working on live systems under some circumstances. However, trades people and contractors are encouraged to formally lock out and tag controls wherever practical, even in situations where the policy does not require lock out.

Responsibility

The Manager of Engineering Services through Supervisors in Physical Plant and Planning. Chairs of Departments through their Safety Officers or faculty, staff and workshop supervisors.

Failure to follow this policy can endanger people. Because of the possibility of injury, failure to appropriately isolate equipment, failure to properly lock and tag controls, or inappropriate removal of locks or tags will result in disciplinary action.