**Control of Hazardous Energy Program/Facilities Management**

**Revised: 09-16-2003**

**Reference:  29 CFR 1910.147**
**Keller’s Official OSHA Safety Handbook**

**Purpose:** To establish procedures for ensuring safe work practices when servicing or maintaining equipment that possess, or has the potential of, hazardous energy.  Commonly referred to as Lockout/Tagout, this program has been expanded to include other energy sources.

**Definitions:**

1.   Energy Source:  All sources of actual or potential energy.  This may include electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other.

2.   Lockout:  Is the physical protection placed on equipment and/or systems to prevent the flow of energy from a power source to a piece of equipment and keep it from operating.  This can include a covering device to prevent movement of valves or electric control, but must include a locking mechanism that only one person has be ability to remove.

3.   Tagout:  Is the placement of numbered and tracked informational warning tags on lock out devices indicating why the device is locked out and who locked the equipment.

4.   OSHA:  Occupational Safety and Health Administration.

5.   MBLS:  Maine Bureau of Labor Standards.

6.   Authorized Employees: Individuals trained in lockout/tagout and other energy control procedures and are qualified or licensed to work on specific systems.

7.  Affected Employees: Individuals affected by equipment being locked out or energy controlled, they too must trained in the purpose of lockout/tagout and other energy control procedures.

**Discussion:**

1.   OSHA and MBLS require all energy sources that can be locked out or controlled during service, maintenance, or repair will be accomplished by the servicing technician.  **(Note: installed guards and/or internal devices are not considered legal substitutes for energy control procedures and do not comply as such.)**

2.   In conjunction with these procedures, training and random inspections apply.  Training will be conducted annually for those responsible to the program.  Should an employee observe an instance where service or maintenance work is being done and these procedures are not followed, they should immediately notify the Facilities Management Office.

3.   All maintenance personnel will be instructed and trained in the requirements of this program.  Only certain employees, with current training, are authorized to lockout/tagout or otherwise control energy to equipment.  This primarily involves the electricians, oil burner, HVAC, plumber, and mechanical trades personnel.  Others needing energy control assistance shall contact those authorized to exercise lockout/tagout control or their supervisor.

4.   Maintenance personnel are required to utilize the Control of Hazardous Energy Procedures when working on equipment that has uncontrolled energy potential.  The Assistant Director of Facilities Management is responsible for ensuring that control devices are available for each trained employee and are used during maintenance activities and other potentially hazardous activities.

5.   Appropriate surveillance of the work area conditions and degree of employee exposure shall be the responsibility of the Director of Facilities Management or his assigned representative.  Inspections of work sites where control devices are used shall be made to ensure compliance with this program.

6.   This program and these procedures will be reviewed annually against applicable federal and state guidelines for safety and revised as needed.

**Procedures:**

1. These procedures shall cover:

A. Notifications

B. Preparing for shutdown

C. Performing shutdown

D. Isolating equipment

E. Discharge of residual energy

F. Applying controlling devices

G. Power verification

H. Restoring power

I. Outside contractors

J. Personnel changes

K. Power sources that cannot be controlled

L. Equipment information through electronic reporting (MP2)

M. Records and record keeping

1.A.  **Notifications** shall be initiated early to ensure supervisors and affected personnel are aware of the energy source being locked out or controlled.  This notification should also include the anticipated duration of the shutdown.  Authorized personnel will also advise on any support equipment that may be impacted, additional safety precautions being taken, and the type of control device being used.

1.B.  **Preparations for the shutdown** shall begin after all notifications have been made.  Authorized personnel must be fully aware of the type and magnitude of the energy involved, associated hazards of the energy involved, and control methods of the energy involved.  Authorized personnel shall refer to owner/service manuals as needed to ensure they are fully aware of any and all potential hazards associated with the equipment they are working on.

1.C.  **Performing the shutdown**, authorized personnel shall first advise affected personnel that shutdown is taking place.  Locate the energy source **(Always look for hidden energy sources)**.  Some machines have more than one power source.  Follow the procedures established to shut down the equipment as prescribed in the appropriate service manual.  Section 1.L. of these procedures addresses where additional power sources may be located for the equipment being serviced.

1.D.  **Isolating equipment** is the next step in the process.  The machine(s) or equipment energy sources to be shut down out should already be capable of being controlled.  Initial isolation should begin by turning off the energy at the main power source.  This process should continue until all power sources have been turned off.  Section 1.L. of these procedures addresses additional energy source information from electronic reporting.

1.E.  **Discharge of residual energy** will be performed prior to applying any controlling devices.  The purpose is to release any residual hazardous energy (real or potential) before work commences that may pose a threat to technicians.

1.F.  **Applying controlling devices**, every power source capable of being locked out shall be identified and appropriately locked out.  Authorized personnel shall maintain a supply of lockout devices specific for their trade and area of expertise.  Additional devices can be obtained from the lockout/tagout center located at the facilities shop.  Locks, color code identified to individual technicians, will be kept at the facilities shop.  This will include key-sets and tagout information.  In the event that two or more trades are needed to work on the same equipment at the same time, each will affix a controlling device and lock to the energy control.  As each technician completes their portion the work, they will remove their lock only.

1.G.  **Power verification**, once satisfied that all sources are controlled, technicians should attempt to restart the device to guarantee that the power is shut off **(Remember to return the switch back to the off position.)**

1.H.  **Restoring power** should only occur after all work has been completed.  Ensure all tools are removed from the immediate work area and replace all machine guards that may have been removed for servicing.  Remove the control device and tag, reconnect energy sources, and ensure proper operation of the equipment and/or system.  ***The controlling device and tag shall be removed only by the technician who attached them.*** Only after this has been completed should notification be made the equipment/system is back in service.

1.I.  **Outside contractors** performing work at the university (requiring use of or around controlled energy equipment) will be fully informed of this process.  Where conflicts arise in exercising this policy, both Facilities Management and contractor supervisor will consult to resolve the issue.  Contractors may opt to use their own control devices, but will first notify facilities management of their use.  Using their own devices in no way voids their adherence to these established procedures.

1.J. **Personnel changes**, as in normal shift change, dictate the need to change locks on the device.  If the oncoming individual is not qualified/licensed in that specific trade, the equipment may remain locked out by the initial worker until the next working day.  Any equipment being locked out overnight shall be brought to the attention of the supervisor.

1.K. **Power sources that cannot be controlled** will be very rare.  Should a technician or contractor be confronted with a situation, Facilities Management will be notified.  It will be the supervisor’s decision if tagout alone will be a sufficient safety measure.

1.L.  **Equipment information through electronic reporting** will be used to the greatest extent possible.  Information contained will include: location of energy sources, location of secondary or hidden power sources, preferred control devices and locations, and any vital safety information.  UMF Facilities Management uses the MP2 system for electronic reporting and work processing.

1.M.  **Records and record keeping** shall be performed by facilities management personnel and kept on file at the Facilities Management Office.  Those employing lockout/tagout procedures shall fill out the log and denote the identification number of the tag on the log sheet.  In addition, the name of the facility, equipment and signature are required on the log sheet.  Log sheets shall be retained for a period of three years.