1. Purpose
To establish uniform procedures to protect workers from the hazards associated with the release of energy and the inadvertent activation of equipment that has the potential for causing severe injuries, including electrocution, burns, chemical exposures, cuts, bruises, crushing, amputation or death.

2. Scope
All situations that may expose a worker to the hazards associated with unexpected energization, start up or release of stored energy of equipment at the University.

3. Application
Lockout/tagout procedures shall be implemented when:
- Performing maintenance or repair work on the equipment where unexpected start-up or release of stored energy (electric, mechanical, thermal, potential, steam, pneumatic, hydraulic, chemical) could cause injury. Refer to Appendix 2 – Forms and Sources of Hazardous Energy.
- Removing a guard or other safety device from equipment, or placing your body where it could be caught or trapped by moving machinery during normal equipment operation.

4. References:
- University of Guelph Safety Policy 851.06.01 – Lockout/Tagout Programs for Equipment, Machinery and Pressure Systems.

5. Definitions:
Equipment: For the purpose of this document the term "equipment" includes any equipment, machinery or its related systems.

Supervisor: For the purpose of this document the term “supervisor” refers to a person who has control over a workplace or authority over a worker.

Authorized Person: A person who is qualified because of knowledge, training and experience and has been assigned to perform work under hazardous energy control measures.

Primary Authorized Person: When more than one Authorized Person works on a lockout one worker shall be designated as the Primary Authorized Person. Typically, this is a person from the work group for which the lockout has been initiated.

Lockout Procedure: A card or sheet indicating the procedure to be followed to lock out a type or specific piece of equipment. The procedure shall be attached to the machine or equipment being locked out until the work is complete and the lock(s) and lockout device(s) have been removed.

Lockout Diagram: A diagram that helps an authorized person locate pumps, motors, tanks, valves, etc., within more complex equipment systems which must be closed, opened, locked, blocked or blanked.
Guard: A physical barrier that prevents access to areas of the equipment or process where a hazard exists.

Hazardous Energy: Any electrical, mechanical, hydraulic, pneumatic, chemical, nuclear, thermal, gravity or other energy that could cause injury to staff.

Personal Lock: A worker’s personal lock protects only worker and only he or she has the key to his/her lock. In a single lockout, a personal lock and a lockout tag completed by the Authorized Person are used directly on the equipment with the appropriate lockout device. In a multiple tag lockout, every Authorized Persons performing work on the locked out equipment shall place his/her personal lock on the energy isolating device.

Personal Lock Specifications:
- Made by a reputable manufacturer;
- Standardized in size and appearance;
- Bears the name of the owner;
- Durable and able to withstand the environments to which they are exposed;
- Cannot be forcibly removed without bolt cutters; and
- Only used for lockout/tagout.

Department Locks: Used for lockouts involving multiple pieces of equipment or to replace a worker’s lock when they must leave the work site for an extended period of time. Department locks shall not be used to lock out equipment that is being pulled out of service for a lengthy period of time or permanently. This equipment shall be disconnected and tagged out of service. Records of equipment that has been pulled out of service shall be kept by the appropriate department.

Department Lock Specifications:
- Made by a reputable manufacturer;
- Standardized in size and appearance;
- Bears the name of the department;
- Durable and able to withstand the environments to which they are exposed;
- Cannot be forcibly removed without bolt cutters; and
- Only used for lockout/tagout.

Multi-Lock Hasp (Group Lockout Hasp): Multi-lock hasps allow multiple personal locks to be used when isolating energy source(s). The multi-lock hasp is placed through an energy isolating device or on a lockbox. This ensures each worker's safety as the energy cannot be restored until the work is finished and all personal locks have been removed from the multi-lock hasp.

Lockout: The placement of a lock on an energy isolating device in accordance with an established procedure, indicating that the energy isolating device shall not be operated until removal of the lock/tag in accordance with an established procedure.

Lockout Tag: A prominent warning tag which is securely fastened to an energy isolating device by an Authorized Person or Primary Authorized Person to indicate that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.
Lockout Tag Specifications:
- The tag and tie shall be made of durable non-conducting material. Tags shall be standardized in at least colour, shape and size. Refer to Appendix 1.
- A tag installed at the energy lockout site shall bear the following:
  - The words “Danger Do Not Operate” warning against hazardous conditions if the machine or equipment is energized; The name of the Authorized Person and the department performing the lockout/tagout;
  - The time and date the tag is attached; and
  - The reason for the lockout.

Energy Isolating Device: A mechanical device that physically prevents the transmission or release of energy.

Examples of Energy Isolating Devices include, but are not limited to, the following:
- A manually operated electrical circuit breaker;
- A disconnect switch;
- A manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors and, in addition, no pole can be operated independently;
- A slide gate;
- A slip blind;
- A line valve;
- A block; or
- Any similar device used to block or isolate energy.

Lockout Device: A mechanical means of locking, using a lock individually keyed, that secures an energy isolating device in a position that prevents the energization of a machine, equipment, or process.

Examples of Lockout Devices:
- Multi-lock hasps for multiple users.
- Valve lockout devices.
- Light switch lockout devices.
- Circuit breaker lockout devices.
- Fuse lockouts, plug lockouts.
- Wall switch lockouts.
- Chains, cables, covers for valves.

6. Responsibilities

Supervisor:
- Provide an appropriate lockout procedure, and a diagram if necessary.
- Communicate the appropriate information concerning the equipment to be locked out to the Authorized Person(s);
- Ensure the Authorized Person(s) know the lockout/tagout procedure;
- Ensure the procedure is applied and reviewed periodically and revised when required;
- Ensure that Authorized Person(s) have the appropriate training to carry out their duties
• Ensure the appropriate training will be given whenever there is a change in job assignment, a change in equipment or process that presents a new hazard;

• Ensure the equipment can be locked out, and if lockout prohibits task completion other control methods are developed; and

• Ensure the lockout material, equipment and designated personal protective equipment and clothing is available for their staff at all times.

**Workers (Authorized Persons including contractors performing work):**

• Determine the components to be locked out and obtain the lockout procedures, and the lockout diagram (when required) in cooperation with other departments concerned;

• Ensure work can be carried out safely i.e., ensure the lockout is completed before work begins;

• Ensure that the procedure, lockout diagram (when required), and completed lockout tag are attached to the equipment prior to the lockout being performed;

• Refer to the lockout diagram (when required), lockout procedure and lockout tag and ensure they understand all information prior to applying their personal lock(s) and performing work on the equipment;

• Are responsible for the keys to their personal lock at all times; and

• Ensure their own safety at all times and wear the appropriate personal protective equipment and clothing designated for the work task they are performing.

• Remove their personal lock when their work is completed. If the work is not completed by the end of the shift, he or she consults with their supervisor or designate to determine if their lock will remain on the locked out site until the next shift or if the lock should be removed and replaced by a department lock or other personal lock.

7. **Lockout/Tagout General Procedure**

7.1. **Identification of Hazardous Energy:**

7.1.1. Notify affected employees and departments regarding the need to lockout equipment before it is locked out and provide the reason for the lockout.

7.1.2. Identify all sources of energy, the hazards of that energy, and how the energy can be controlled. Refer to Appendix 2 – Forms and Sources of Hazardous Energy and Appendix 3 – Hazardous Energy Source Evaluation.

7.1.3. Identify all valves, switches, controls and power sources that are involved with isolating the system.

7.2. **Equipment Shutdown and Isolation:**

All arrangements for shutdowns must be made in direct consultation with Physical Resources managerial staff, and with the appropriate safety and security staff when necessary to ensure required support is available.
7.2.1. Shut down the equipment by normal stopping procedures.

7.2.2. Disconnect and isolate the equipment from all sources of energy (including secondary supplies). Where blank off and/or cap off is required for steam, water, compressed air, glycol systems etc., refer to specific procedure. As an example, where blanking is not practicable, a hazard analysis shall be performed between the appropriate supervisor and their staff. Refer to Appendix 4 – Lockout or Other Hazardous Energy Control Methods Decision Matrix.

7.3. Control of Stored Energy:
7.3.1. Bleed off residual pressure in steam, compressed air, hydraulic or other systems checking that moving parts have stopped.

7.3.2. Close valve(s)

7.3.3. Discharge electrical capacitors.

7.3.4. Secure or block components that may move.

7.3.5. Open the automatic and/or depressurization valve, if any, to check whether the line is depressurized. The regular operator may be required to assist.

7.3.6. Before performing work, check that the pipe, pipeline or the piece of equipment is empty and clean.

7.4. Lockout Device/Tag Application:
7.4.1. Lockout devices shall be affixed to each energy isolating device by an Authorized Person.

7.4.2. Lockout devices, where used, shall be affixed in a manner that will ensure that energy isolating device(s) remain in a “safe” or “off” position.

7.5. Performance of Work and De-energization Verification:
7.5.1. Verify that equipment has been de-energized; check for other sources of energy. If working on electrical equipment, a qualified person shall test the equipment with a volt meter to verify de-energization.

7.5.2. Remove guards or covers as necessary.

7.5.3. Perform work.

7.5.4. Verify isolation periodically until maintenance, service and repairs are completed.

8. Specific Lockout/Tagout Procedures
In addition to general lockout/tagout procedures, under certain circumstances specific lockout/tagout procedures may be required. Refer to Appendix 5.

9. Types of Lockouts:

9.1. Individual Lockouts
9.1.1. The supervisor or designate provides the required lockout procedures and/or lockout diagram (if required) for the equipment. Refer to Appendix 5 – Hazardous Energy Control Procedures for Specific Equipment.
9.1.2. The Authorized Person must be familiar with and satisfied with the lockout procedure and diagram before performing work. If not the supervisor or designate shall immediately address the issue(s).

9.1.3. The Authorized Person(s) acquire lockout/tagout tags and perform the required lockout as per the appropriate lockout procedures.

9.1.4. At the completion of work, the personal lock shall be removed as per the lock removal procedure.

9.2. **Group Lockouts**

9.2.1. Each supervisor or designate involved provides the required lockout procedures, and a lockout diagram (if required) for their staff for each piece of equipment. Refer to Appendix 5 – Hazardous Energy Control Procedures for Specific Equipment.

9.2.2. Each Authorized Person directly involved reads the lockout instructions and, if he or she judges the instructions to be satisfactory for his/her own safety, attaches his/her personal lock to the multi-lock hasp. In case of a reasonable doubt, any worker shall personally check the locked out (sealed) articles, before placing their lock on the multi-lock hasp.

9.2.3. If the lockout instructions must be changed before the work is carried out, the supervisor or designate makes the necessary changes, signs and dates the instructions.

9.2.4. The Primary Authorized Person acquires the lockout/tagout tags and devices and oversees the lockout as per section 7.

9.2.5. Before work on equipment begins, a walk through and visual inspection shall be performed with the Primary Authorized Person to verify equipment has been locked out. All Authorized Persons who perform work on a locked out piece of equipment shall also personally verify the equipment is completely and safely locked out before they place their personal lock on the multi-lock hasp securing the primary energy isolation device.

9.2.6. Each Authorized Person working on the same equipment will not be protected unless they attach their own personal lock to the multi-lock hasp which locks out either the energy source device or the lock box in which the key to energy source device(s) is stored. Locks shall not be shared.

9.2.7. Complete work on the equipment then see section 8. Lock Removal.

10. **Lock Removal**

10.1. **Lock Removal (at completion of work):**

10.1.1. The lockout devices cannot be removed or the energy-isolating device turned on until the Authorized Person, or in the case of a group lockout the Primary Authorized Person ensures all temporary de-energization measures/devices have been removed, that the equipment is operationally intact, that all necessary guards have been re-installed and that all tools used during the work activities have been removed.

10.1.2. When the work has been performed, the Authorized Person(s) or Primary Authorized Person must then check to ensure that departmental staff are clear of the equipment involved and informed that energy to the equipment will be restored.
10.1.3. Locks and tags may then be removed by Authorized Persons and the energy restored.

10.1.4. Restore power and run the equipment. If appropriate, ask the regular equipment operator to perform the start up.

10.1.5. When all the locks have been removed, the lockout instructions are returned to the supervisor or designate indicating that the work is completed.

10.1.6. Records of equipment to be rendered out of service shall be kept by the appropriate department.

10.2. Removing an Authorized Person’s personal lock from a lockout device when he/she is unexpectedly absent from the workplace: The conditions and procedure by which a supervisor may permit removal of an Authorized Person’s lock when he/she is unexpectedly absent from the workplace are as follows:

Step 1. The appropriate supervisor shall ensure:
   i. The Authorized Person has left the workplace;
   ii. Every reasonable attempt has been made to contact the Authorized Person directly (eg. telephone, email etc.); and if the Authorized Person is contacted he/she obtains an update on the status of the work and if practical or necessary requests that he/she return to the workplace to remove his/her personal lock and tag.

Step 2. If the Authorized Person assigned the lock and tag cannot be contacted or is not reasonably available to return to the workplace, the appropriate supervisory staff may authorize the removal of the lock and tags.

Step 3. If a supervisor-authorized removal is undertaken, the following steps shall be performed:
   i. The status and condition of the equipment is assessed and verified to be in a state that will allow for the safe removal of the lockout device;
   ii. Provisions are made to ensure that the Authorized Person will be notified that his/her lock or tag has been removed before resuming work at the workplace;
   iii. The appropriate supervisor completes a Physical Resources Lockout Device and Information Tag Removal Report (refer to Appendix 6) after it has been determined that it is safe to remove the lock and tag. Within 24 hours, the appropriate supervisor shall submit the Report to the Director, Maintenance and Energy Services;
   iv. The lockout device(s) and information tag(s) are removed by the appropriate supervisory staff with a witness present, and secured until the Authorized Person’s return;
   v. A Physical Resources Lockout/Tagout Removal Warning Notice (refer to Appendix 7) shall be posted at the energy isolating device location which was equipped with the absent Authorized Person’s lockout device and information tag.

11. Other Energy Control Methods

11.1. Special Method for Freeze Plug Applications Freeze plug or stop technology, used successfully for many years in the industry, provides a non-intrusive method for the isolation of piping systems.
Line freezing requires no permanent modification or welding on the piping system. It can be used as a secondary isolation seal for additional protection. Piping systems containing water, hydrocarbons and any chemical with a suitable freeze point and no flow can be isolated with freeze plug methods.

Pipe freezing applications make possible the replacement, repair or addition of valves; isolation of work zones; avoidance of drain downs; and maintaining the integrity of critical systems and system operating pressures.

In addition to developing procedures the user shall ensure that staff involved in applying the freeze plug and those potentially exposed performing the servicing or maintenance comply with the following:

11.1.1. An attendant will remain at the freeze point(s) at all times while Authorized Persons are exposed to possible contact with any liquids contained in the piping system.

11.1.2. Cryogenic supply systems shall be equipped with low level warning alarms. An adequate cryogenic supply shall be on hand which is sufficient for the duration of the work.

11.1.3. Staff applying the freeze shall immediately communicate to the exposed Authorized Persons any change of conditions that might place them at risk.

11.1.4. If the Authorized Persons performing the maintenance work are out of sight of the staff responsible for the application and continuity of the freeze, a means of effective communication (handsets or radios) shall be established.

11.1.5. If the area of the freeze application is an enclosed or confined space which precludes reasonable air changes or is substantially obstructed, continuous oxygen monitoring shall be conducted and adequate ventilation or supplemental oxygen provided.

11.1.6. Protective practices shall be utilized to safeguard staff during a planned release or unplanned ejection of the plug.

11.2. Other Energy Control Methods Supervisors shall ensure procedures are developed and their staff are trained on alternative hazardous energy control methods if it is determined that lockout/tagout methods are not required to perform maintenance or repairs on equipment. Refer to Appendix 4 – Lockout or Other Hazardous Energy Control Methods Decision Matrix.

12. Provisions for Energy Control Interruption (Troubleshooting, testing, repositioning of equipment or components)

12.1. Sequence of Actions
In situations in which lockout devices must be temporarily removed from the energy isolating device(s) and the equipment either fully or partially energized to test, troubleshoot or re-position the equipment or a component thereof, the sequence of actions detailed in section 8. “Lock Removal” shall be followed.

12.2. Notification of Staff
All Authorized Persons associated with the lockout of the equipment shall be notified of the intent to fully or partially re-energize the equipment.
12.3. Assessment of Equipment
When equipment is to be re-energized the state of the maintenance work must be assessed to ensure that the equipment is in a safe ready state to be re-energized.

12.4. Approval to Re-energize
Once the approval of all Authorized Persons associated with the lockout has been obtained with a clear understanding that they are to stand clear of the equipment and all personal locks are removed from the devices identified, the equipment can be fully or partially re-energized.

12.5. Re-establishment of Energy Control
When the energy is no longer needed, reapply lockout as per section 7.0.

13. Shift or Staffing Changes
Specific procedures shall be utilized during shift or staff changes to ensure the continuity of lockout or protection, including a provision for the orderly transfer of lockout or device protection between off-going and oncoming authorized individuals, to minimize exposure to hazards from the unexpected energization or start-up of the equipment or the release of stored energy.

14. Contractors Performing Lockout/Tagouts
Lockout/tagouts performed by contractors on Campus shall be consistent with Physical Resources’ Lockout/Tagout Program. If a Physical Resources employee is required to assist with work which has been assigned to a contractor he/she shall install their personal lock(s) prior to performing work and shall not remove their lock(s) until their work assignment has been completed.

Hazard Assessment
The appropriate Physical Resources manager/coordinator or designate shall inform the Contractor of any known special or unique hazards related to equipment on Campus to which the contractor could be exposed to prior to lockout/tagout installation, during the course of work and upon lockout/tagout removal.

Both the appropriate Physical Resources manager/coordinator or designate and the Contractor shall keep each other informed of any activity or conditions that may adversely affect the application of hazardous energy control or impact the normal operation of equipment.

Protection for all individuals who could be exposed to hazardous energy within the building/facility/area affected shall be mutually understood, communicated and agreed upon between all parties.

15. Contractors Performing Lockout/Tagouts in Conjunction with Utility Shutdowns
The following are examples of utility shutdowns requiring communication and coordination between the appropriate Physical Resources manager/coordinator or designate and the Contractor prior to lockout/tagout installation and removal:
- utility supplies which may disable fire protection systems (e.g. sprinklers);
- security and emergency alarm systems;
- hazardous or essential area ventilation systems (e.g. fume hoods, animal holding areas); and
- steam.

Communication shall also take place between the appropriate Physical Resources manager/coordinator or designate and the Contractor when special equipment is required for energy isolation (e.g. generators).
Determining Responsibilities and Obligations, and Communication
Both the appropriate Physical Resources manager/coordinator or designate and the Contractor shall be responsible (according to the nature of the shutdown i.e. electrical, mechanical etc.) for determining each other’s responsibilities and obligations regarding the hazardous energy control required prior to Physical Resources performing a shutdown. Communication and notification to all affected individuals and departments shall be as per the following Physical Resources policy and procedures:

1.2.13 – Facility Service Disruption Notification Policy
1.2.14 – Service Disruption Notification Process
4.1.1 – After Hours Call-ins for Emergency Repairs and Shutdowns
Appendix 1

Lockout Tag Sample

![Lockout Tag Sample](image-url)
## Appendix 2

### Forms and Sources of Hazardous Energy

<table>
<thead>
<tr>
<th>Energy Form</th>
<th>Source of Energy</th>
<th>General Lockout Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Electricity</strong></td>
<td>power transmission lines;</td>
<td>Turn off power at machine first (i.e., at point of operation switch), and then at the main disconnect switch for the machine; lock and tag main disconnect switch (or remove fuses from box, and then lock and tag box). Fully discharge all capacitative systems (e.g., cycle machine to drain power from capacitors) according to manufacturer’s instructions.</td>
</tr>
<tr>
<td></td>
<td>machine power cords; motors; solenoids; capacitors (stored electrical energy).</td>
<td></td>
</tr>
<tr>
<td><strong>Fluid Pressure</strong></td>
<td>hydraulic systems (e.g. hydraulic presses, rams, cylinders, hammers).</td>
<td>Shut off, lock (with chains, built-in lockout devices, or lockout attachments) and tag valves; bleed off and blank lines as necessary.</td>
</tr>
<tr>
<td><strong>Air Pressure</strong></td>
<td>pneumatic systems (e.g. lines, pressure reservoirs, accumulators, air surge tanks, rams, cylinders).</td>
<td>Shut off, lock (with chains, built-in lockout devices, or lockout attachments) and tag valves; bleed off excess air; if pressure cannot be relieved, block any possible movement of machinery.</td>
</tr>
<tr>
<td><strong>Kinetic Energy</strong></td>
<td>blades; flywheels; materials in supply lines of bins or silos.</td>
<td>Stop and block machine parts (e.g., stop flywheels and ensure that they do not recycle); review entire cycle of mechanical motion, ensure that all motions are stopped. Block material from moving into area of work; blank as required.</td>
</tr>
<tr>
<td><strong>Potential Energy</strong></td>
<td>springs (e.g., in air brake cylinders); actuators; counterweights; raised loads; top or movable part of a press or lifting device.</td>
<td>If possible, lower all suspended parts and loads to the lowest (rest) position, block parts that might be moved by gravity; release or block spring energy.</td>
</tr>
<tr>
<td><strong>Pressurized Liquids and Gases</strong></td>
<td>supply lines; storage tanks and vessels.</td>
<td>Shut off, lock (with chains, built-in lockout devices, or lockout attachments) and tag valves; bleed off excess liquids or gases; blank lines as necessary.</td>
</tr>
</tbody>
</table>
Appendix 3

Energy Source Evaluation

The purpose of this chart is to assist in the evaluation of energy sources for each piece of equipment involved with a lockout/tagout.

Date: _______________  Department/Personnel _________________________________________

Building/Location: __________________________________________________________________

Equipment: _______________________________________________________________________

Model: ___________________________________________________________________________

Serial Number: ____________________________________________________________________

<table>
<thead>
<tr>
<th>Energy Source and Magnitude</th>
<th>Location of Isolating Device</th>
<th>Means of Isolation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Counter Weight</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flywheel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydraulic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumatic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemical</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thermal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Energy Source and Magnitude e.g. Electrical: power feed, capacitor, batteries etc., Magnitude: 600V three phase; e.g. Pneumatic = 125 psi.
Appendix 4

Lockout or Other Hazardous Energy Control Methods Decision Matrix

1. Maintenance or repair requiring access to equipment.
2. Perform hazard energy analysis.
3. Exposure to hazardous energy?
   - Yes: Equipment guards removed or interlocks bypassed?
     - Yes: Lockout affects activities integral to operations or lockout prohibits completion of maintenance or repair?
       - Yes: Perform task specific risk assessment
       - No: Lockout affects activities integral to operations or lockout prohibits completion of maintenance or repair?
         - Yes: Perform task specific risk assessment
         - No: No
   - No: No
4. Perform maintenance or repair.
5. Other hazardous energy control methods possible?
   - Yes: Develop and train personnel on other hazardous energy control methods.
   - No: Implement other hazardous energy control methods.
6. Develop lockout procedures.
7. Modify equipment or modify method of performing maintenance or repair.
8. Implement other hazardous energy control methods.
Appendix 5

Hazardous Energy Control Procedures for Specific Equipment

Procedure Title: ____________________________________________________________________________________

Date: ___________________ Department/Staff ___________________________________________________________

Equipment Involved (Model and Serial Number):   ________________________________________________________
__________________________________________________________________________________________________

1. Ensure you are familiar with the sources of hazardous energy for the equipment involved.

<table>
<thead>
<tr>
<th>Hazardous Energy</th>
<th>Magnitude</th>
<th>Hazardous Energy</th>
<th>Magnitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical</td>
<td></td>
<td>Pneumatic</td>
<td></td>
</tr>
<tr>
<td>Counterweight</td>
<td></td>
<td>Chemical</td>
<td></td>
</tr>
<tr>
<td>Flywheel</td>
<td></td>
<td>Thermal</td>
<td></td>
</tr>
<tr>
<td>Hydraulic</td>
<td></td>
<td>Other:</td>
<td></td>
</tr>
</tbody>
</table>

2. Personal protective equipment and clothing required:
__________________________________________________________________________________________________
__________________________________________________________________________________________________

3. Notify affected personnel that the equipment is about to be shut down and locked out.
Specific instructions: specific personnel to be notified inside or outside your own department or Physical Resources.
__________________________________________________________________________________________________
__________________________________________________________________________________________________

4. Shut down the machine using normal stopping procedures.
Specific instructions:
__________________________________________________________________________________________________
__________________________________________________________________________________________________

5. Isolate all energy sources listed above.
Specific instructions:
__________________________________________________________________________________________________
__________________________________________________________________________________________________

6. Apply locks to all isolation devices in step 4.
Specific instructions:
__________________________________________________________________________________________________
__________________________________________________________________________________________________

7. Block or dissipate stored energy in rams, flywheels, springs, pneumatic or hydraulic systems, etc.
Specific Instructions:
__________________________________________________________________________________________________
__________________________________________________________________________________________________
8. Verify that the machine is locked out by testing the machine operating controls. Return all controls to the “Neutral” or “Off” position after testing.
Specific Instructions:

________________________________________________________________________________________________________________________________________________________

________________________________________________________________________________________________________________________________________________________

Procedures for Removing Locks/Tags

1. Check the machine to be sure it is operationally intact, tools have been removed, and guards have been replaced.
Specific Instructions:

________________________________________________________________________________________________________________________________________________________

________________________________________________________________________________________________________________________________________________________

2. Check to be sure all employees are safely positioned away from equipment.

________________________________________________________________________________________________________________________________________________________

________________________________________________________________________________________________________________________________________________________

3. Notify all affected personnel that locks and tags are going to be removed and the machine is ready for operation.
Specific Instructions:

________________________________________________________________________________________________________________________________________________________

________________________________________________________________________________________________________________________________________________________

4. Remove all locks, blocks, or other energy restraints.
Specific Instructions:

________________________________________________________________________________________________________________________________________________________

________________________________________________________________________________________________________________________________________________________

5. Restore all energy to the machine.
Specific Instructions:

________________________________________________________________________________________________________________________________________________________

________________________________________________________________________________________________________________________________________________________

6. Test the Machine.
Specific Instructions:

________________________________________________________________________________________________________________________________________________________

________________________________________________________________________________________________________________________________________________________

Other:

________________________________________________________________________________________________________________________________________________________

________________________________________________________________________________________________________________________________________________________
Appendix 6

Physical Resources Lockout Device and Information Tag Removal Report

Department/Maintenance or Construction Contractor: ____________________________________________________

Shift (Regular Hours or After Hours):__________________________________________________________________

Name of Authorized Person on Lockout Information Tag: _________________________________________________

Machine/Equipment/System ________________________________________________________________________

Date and Time Lockout Device(s) and Information Tag(s) Discovered Left On _________________________________

Reason for Removal of Lockout Device(s) and Information Tag(s) __________________________________________

_______________________________________________________________________________________________

Confirmed the Authorized Person has Left the Site and/or Facility?    Yes ____  No ____

Supervisor’s Signature _____________________________ Time and Date __________________________________

Authorized person has been contacted and is returning to the workplace to remove the lockout device(s) and information tag(s). Procedure ends, exit procedure and file for future reference.

Supervisor’s Signature _____________________________ Time and Date __________________________________

Authorized employee cannot be contacted or is unwilling to return to the site and/or facility to remove their lock(s) and/or information tag(s).

Supervisory personnel may authorize removal of the lock(s) and tag(s) once:

The status and condition of the machine, equipment or process is assessed and verified to be in a state that will allow for the safe removal of the lockout device.

Supervisor’s Signature _____________________________ Time and Date __________________________________

Provisions are in place to prevent the authorized person from resuming work at this site and/or facility without notification of the fact their lock or tag has been removed.

Supervisor’s Signature _____________________________ Time and Date __________________________________

The Supervisor can now remove the lockout device(s) and information tag(s).

Note: The following information shall be completed:

Supervisor’s Signature _____________________________ Time and Date __________________________________

Witness Signature      ______________________________
Physical Resources

Lockout/Tagout Removal

Warning Notice

Attention Lockout/Tagout Authorized Person: ______________________

Your lockout device and information tag has been removed from
the following equipment in the following building:

________________________________________________________

as per Physical Resources procedure 4.1.7 – Lockout/Tagout:
Control of Hazardous Energy Program.

Please report to your supervisor prior to
starting your work duties.

Supervisor: ______________________ Date: ___________________