

<b>GENERAL LOTO CHECKLIST</b>	
This checklist addresses all potential types of energy sources in a generic manner, and is intended to help you evaluate and develop an energy control procedures (ECP) <b>when one does not already exist</b> . If you are unsure of the hazard, or uncomfortable determining how to control the energy source(s), talk with your supervisor or contact EHSS for assistance. DOCUMENT THE STEPS THAT YOU HAVE TAKEN ON THE BLANK ECP FORM.	
	<input checked="" type="checkbox"/>
Manufacturer/Model of Equipment or System:	<input type="checkbox"/>
The general procedures for the various types of energy sources are as follows:	
If available, review the manufacturers literature and/or wiring and mechanical schematics to assure that all energy sources have been identified, otherwise, inspect the equipment/machine to identify all energy sources. During this inspection do NOT perform work near exposed energized circuits unless you are a person qualified to work on electrical systems, and do NOT put any part of your body in any area where moving parts may cause injury. If you are unsure of the hazard, STOP WORK and contact your supervisor or EHSS for guidance.	<input type="checkbox"/>
<b>ELECTRICAL CONTROLS</b>	
Isolate the machine or piece of equipment by using an electrical plug lock or by locking and tagging the disconnect switches. A special adaptor may be needed to LO/TO circuit breakers. On the ECP form, document where the LOTO are applied.	<input type="checkbox"/>
Bleed any stored electrical energy to a "zero energy state". If this type of hazard is present, document on the ECP form.	<input type="checkbox"/>
Ensure that all power sources are LOTO by using a tester to check that all circuits are de-energized. Employees that must work on or near exposed energized parts or de-energized electrical parts that have not been LO/TO must <b>also</b> be qualified workers as required by <i>Virginia Tech's Electrical Safety Program</i> .	<input type="checkbox"/>
<b>PNEUMATIC CONTROL</b>	
Release the pressure to reach a "zero energy state".	<input type="checkbox"/>
On the ECP form, document where the LOTO are applied. LOTO the energy source(s).	<input type="checkbox"/>
<b>HYDRAULIC CONTROL</b>	
Release the pressure to reach a "zero energy state".	<input type="checkbox"/>
On the ECP form, document where the LOTO are applied. LOTO the energy source(s).	<input type="checkbox"/>
<b>FLUIDS AND GASES</b>	
Evaluate all hoses and valves connecting to the system or equipment. Determine what type of fluid or gas may be present and, if necessary, obtain and review the Material Safety Data Sheet (MSDS) for the material. Take precautions as needed to protect you from exposure to any hazardous material that may be contained in the system. Contact EHSS as needed for guidance.	<input type="checkbox"/>
Close all valves on supply lines, and as necessary, bleed or drain the contents. Contact EHSS as needed for guidance on proper disposal of the material.	<input type="checkbox"/>
If working on a pressurized system where valve leaks may re-pressurize the line, insert a blank or blind in the line.	<input type="checkbox"/>
Use lockout valves, chains, and locks and tags at the isolating source. On the ECP form, document where the LOTO are applied, and document all related hazards.	<input type="checkbox"/>
<b>MECHANICAL CONTROL</b>	
Release or block all stored mechanical energy. Be cautious of springs, tension, elevated mechanical arms or platforms that could lower, and other sources of energy that are not always obvious. If needed, restrain the system by inserting blocks.	<input type="checkbox"/>
On the ECP form, document where the LOTO are applied. LOTO the energy source(s)	<input type="checkbox"/>
Recheck all areas for potential sources of energy.	<input type="checkbox"/>

<b>GENERAL LOTO PROCEDURES</b>	
Review the energy control (ECP) procedure with your supervisor if the procedure, the system, or the equipment is new or unfamiliar.	<input type="checkbox"/>
Review the type and magnitude of the energy and the required controls.	<input type="checkbox"/>
Inform all affected employees, and all other employees working in or entering the work area, that LOTO is to be performed. Instruct these employees that they must not attempt to start equipment that has been locked/tagged out, and that locks/tags must not be bypassed or removed.	<input type="checkbox"/>
Shutdown the equipment/process/system by following the ECP.	<input type="checkbox"/>
Locate the necessary energy isolating device(s) for the equipment/process/system and operate them to isolate them from the energy sources. Affix LOTO devices.	<input type="checkbox"/>
Relieve all stored or residual energy and take appropriate measures to ensure the energy will not re-accumulate. Affix lockout/tagout devices as necessary.	<input type="checkbox"/>
Verify that all sources of energy have been isolated and stored energy relieved after ensuring that employees are not exposed and before beginning work. Activate equipment or system controls to ensure that the equipment or system will not operate, and then deactivate the controls.	<input type="checkbox"/>
Perform the servicing or maintenance.	<input type="checkbox"/>
Replace all guards and safety devices. Remove all tools and equipment from the work site. Assure that all personnel are clear of the equipment.	<input type="checkbox"/>
Notify all affected personnel that the system will be reactivated.	<input type="checkbox"/>
Lockout/tagout devices are removed by the authorized employee(s) who installed the devices.	<input type="checkbox"/>
<b>LOCKOUT/TAGOUT DEVICE REMOVAL BY SUPERVISOR</b>	
<p>If it becomes necessary to remove a LOTO of an employee who is unavailable on site, the removal of this device must be done using the following procedure.</p> <ul style="list-style-type: none"> <li>• The supervisor must ensure that the employee who applied the lock or tag is <u>not</u> available at the workplace; and</li> <li>• The supervisor must make all reasonable efforts to contact the authorized employee to inform him or her that his/her lockout and/or tagout device has been removed; and,</li> <li>• The supervisor <u>ensures</u> that the employee is made aware that his or her lock or tag was removed <u>before</u> he or she resumes work at that worksite.</li> </ul>	
<b>GROUP LOCKOUT/TAGOUT</b>	
When a lockout/tagout job involves numerous lockout/tagout devices and many employees, the group lockout/tagout procedure included in this program should be used.	
<b>CONTRACTORS</b>	
All contractors must comply with <i>OSHA Safety Requirements</i>	