VCSU SAFE OPERATING PROCEDURES:
Lockout/Tag-out Guidelines

Certain employees will be required to work with power/energy/electricity. These employees need to be aware of the risks involved and know the proper procedures to de-energize these certain sources of power. This includes ensuring that when an employee is working on a machine, it is isolated from all hazardous energy and is locked out or tagged out before beginning their work.

There are many forms of energy which supervisors and employees should be familiar with in the work place. These include hydraulic, pneumatic, steam, gas, and stored energy in suspended weights, springs, air pressure, electrical, or others.

**Terminology**

- **Energy** can come from many sources but is only one of two types:
  - **Kinetic** - the force caused by the motion of an object. i.e. spinning wheel
  - **Potential** - the force stored in an object that isn’t moving. i.e. springs

- **Lockout** - the locking and tagging of equipment in such a way that it cannot be energized without the lock being removed.
  - Electrical lockout will mean physically disconnecting the conductors of a circuit from the “source” of electric current by pulling a disconnect switch and attaching a lock and/or tag.
  - Equipment powered by hydraulics, air, gas or steam will be physically locked and/or tagged in the following manner:
    - Close the supply valve, chain and lock.
    - Bleed the line(s) and leave the vent valves open. Stored energy (such as springs, elevated machine members, rotating flywheels) must be relieved, disconnected, or restrained by methods such as repositioning, blocking, grounding circuits, discharging capacitors, etc.

- **Tag-out Device** - tag to indicate that the energy isolation device and the equipment being controlled may not be operated until the tag-out device is removed. Tag-out devices and locks will be used together; locks will NOT be used without tags.
  - Tags are essentially warning devices affixed to energy isolating devices, and do not provide the physical restraint on those devices that is provided by a lock.
  - **Information required** on all tag-out devices:
    - Where used.
    - Tag Attached by (name and department)
    - c. Date and Time
    - d. Requesting person/department
    - e. Reason for tag

- **Individual Lock** - a lock and key issued to an employee for their own use and personal protection.
  - Standardized lockout/tag-out equipment will be used. They will be issued by the specific department.
  - Each maintenance and/or production employee, who, during the course of their work has a cause to lock out equipment, will be issued a lock by their supervisor.
  - The supervisor will control lock issuance, maintain records and assure each lock can be identified with the receiving employee.

**Procedures**

Lockout and tag-out procedures are mandatory for the following systems:

- Systems energized by electricity, hydraulics, air or steam.
- Combustible and/or explosive gas lines.
- When removing or bypassing a guard or the safety device.
- When you must place any part of your body where you can get caught by moving machinery.
- Cleaning or oiling machinery with moving parts or jammed mechanisms.
- The operation of a piece of equipment may cause damage to that equipment.
- When it is to prevent the unauthorized use of equipment.

**Lockout**
The authorized employee will know the type and magnitude of energy that the machine or equipment uses and will understand the hazards involved:

- Lockout and tag-out will be performed only by the authorized
- Notify all affected employees that a lockout or tag-out system is going to be utilized and the reason.
- Turn off the equipment by the normal stopping procedure, and disconnect all energy sources by pulling the plug, breaking the circuit, closing the valve, pulling the fuse or flipping the main switch.
- The lockout will be made at the energy source by the employee performing the job. Isolate the primary and secondary energy sources.
- Each person who works on a “Locked Out” piece of equipment will place his/her lock and tag on the equipment. No individual or department will work under another individual/department’s lock and tag.
- When there is doubt as to the location of the proper disconnect switch or valve to lock out, the Electrician/ Department Supervisor will be contacted to oversee the proper de-energizing of the system or equipment.
  - If it is not possible to “physically” lockout equipment due to age or design, one of the following will apply:
    - A security device will be attached to the system to lock it out.
    - The energy supply will be physically disconnected and danger tags placed in strategic locations to notify all people in the area that the equipment is being worked on.
    - An employee of the same department, who is properly instructed in lockout/tag-out safety, will ensure the equipment is not inadvertently energized.

**Tryout**
After locking out and tagging out the switch or switches, the individual or department performing the work will attempt to operate the equipment before beginning work on the equipment.

- The person trying the equipment will test it by pushing the start buttons or other controls to make certain the equipment will not run.
- Return the operating control(s) to “neutral” or “off” position after the test.
- The equipment is now locked out and tagged out.
- If the equipment **DOES** energize, push the stop button and contact your supervisor immediately for further instruction.

**Restoring Normal Operation - Removal of Locks/Tags**

- Prior to restoring normal operations, prepare and check the area around the machine or equipment to ensure that no one is exposed to hazards or injury.
- After all tools have been removed from the machine or equipment, guards reinstalled and employees notified, remove all lockout or tag-out devices.
- Each person will remove his/her own lock and tag. It will be a safety violation to remove another person’s lock and tag.
- Disengage the energy isolating devices to restore energy to the machine or equipment. 5. When an employee has left his/her lock and tag on for an unknown reason, and it has to be removed, the following will be applied:
  - If the employee is in the building, he/she will remove the lock and tab.
  - If the employee has left the building, every effort will be made to contact the employee for reasons of leaving the lock and tag in place.
  - If the employee cannot be located, their department supervisor, along with a member of the same department, must check out the equipment and make sure it is safe to remove the lock and tag.

**Contractors**
The contractor assigned to the project will follow the procedures outlined in the lockout and tag-out guidelines.

- The contractor will use the locks and tags specific to their company.
- The contractor will be responsible for removing their own locks and tags when the work is completed.

Training
Training will be provided for the purpose and function of the energy control guidelines.

- Appropriate employees will be provided training by their departmental supervisors in the safety procedures used for lockout/tag-out.
- Each new or transferred employee or those, whose work operations are or may be in the area, will be instructed in the purpose and use of the lockout/tag-out procedures.
- Retraining will be provided for all authorized and affected employees whenever there is a change in machines, equipment or processes that present a new hazard, or when there is a change in the energy control procedures.