Purpose
This Lock-out Procedure is to ensure that the control devices are locked in the inoperative position when machinery or equipment is shut down for maintenance or repairs. It is also required when the nature of the work may expose any worker to a potential hazard from inadvertent start-up.

Applicability
The requirements of this procedure apply to all personnel on campus (including Contractors) working on equipment where the unexpected energization, start-up or release of stored energy could result in injury. This energy could be in the form of electrical or mechanical power, pneumatic force or hydraulic pressure.

Responsibility
The responsibility to ensure that these procedures are followed is shared jointly by the University and its employees.

The University (manager or supervisor) shall ensure that all affected employees are instructed in the purpose, use and safety significance of tagging and locking-out and shall enforce compliance with these procedures.

The employee shall be responsible for understanding and complying with these procedures. If an individual is unsure about these procedures they shall seek assistance from their supervisor or the Environmental Health and Safety office.

Preparation for Lock-Out
Employees performing lock-out shall be certain as to which switch, valve or other energy isolating devices apply to the equipment being locked out. More than one energy source (electrical, mechanical, hydraulic or pneumatic) may be involved. Any questionable identification of sources shall be clarified by the employees with their supervisors.

Personal locks issued to a worker shall only be opened by a unique key, or by a master key held by the Foreman for emergency use only. Combination locks shall not be used.

Sequence of Lock-Out Procedure
1. Notify all affected personnel that a lock-out is required and the reason for locking out.
2. If the equipment is operating, shut it down by the normal stopping procedure (depress stop button, open toggle switch, etc.). Operate the switch, valve, or other energy isolating device so that the energy source(s) is disconnected or isolated from the equipment. **Power must be disconnected at the drive/motor**
3. Stored energy such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam or water pressure, etc., must also be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding, etc. Stop buttons on equipment are not acceptable isolating devices.
4. Lock-out the energy isolating device with the personal lock. More than one person may apply a personal lock using “scissors”.
5. Tag the lock identifying the date of application and the individual applying the lock.
6. After ensuring that no personnel are exposed, operate the push button or other normal operating controls to ensure that the equipment will not operate.
7. The equipment is now locked-out.

Procedures for Multi-day Lockout
If lock-out must continue beyond the end of the day, the personal lock(s) shall be removed and replaced with a departmental lock. Each individual applying a departmental lock shall enter their “name”, “date”, “location” and “equipment locked-out” in the Departmental Lock-Out log book by the end of the shift.

This lock can be installed by the same person or another person. It is designed to protect the equipment, not the individual. This lock shall remain on until a worker actively works on the equipment again. A worker cannot work on the equipment again until a personal lock has been applied. Prior to starting work again, de-energization and lock-out sequence should be verified.

Removal of Personal Locks
Personal locks shall only be removed by person(s) who installed them, or in an emergency, the foreman or his designate. They shall first make every effort to contact the individual who put the lock on, and ensure that the machinery or equipment can be operated safely.

Restoring Equipment to Service
When the job is complete and the equipment is ready for testing or normal service, check the area to ensure that the equipment can be safely operated and all personnel are clear of the area. Only then may the energy isolating devices be operated to restore energy to the equipment.
**Contractors**
A contractor undertaking work for SFU has the prime responsibility for ensuring that their workers are familiar with and comply with these Lock-out and Tagging Procedures (and with the WorkSafeBC Regulations).

Where the work of a Contractor and SFU personnel overlaps and lock-out is anticipated, a pre-job meeting must be held to discuss the specific responsibilities of both parties. Simon Fraser University personnel will be the first to install and the last to remove their personal locks. Accordingly the SFU representative who removes the lock last shall ensure that the equipment or machinery can be operated safely.

Where a contractor needs to lock out equipment independent of SFU staff, they shall abide at minimum by these procedures, and advise SFU foreman of the lock-out.

This Lock-out and Tagging Procedure is a minimum requirement and does not relieve the Contractor from complying with their corporate lock-out procedures where they exceed these standards.

**Lock-out Tags**
Below are examples of acceptable lock-out tags (Figure 1 and 2). Tags should highlight that the equipment is locked out, warn employees not to operate the equipment, and indicate the name of the person who applies a lock on the equipment and the date of lock-out. Any additional information related to the lock-out or equipment may be provided on the back of the tag.