

Standard Operating Procedure (SOP)

Safety Lockout/Tagout (LOTO) Procedures

This SOP details **Safety lockout/tagout (LOTO) procedures** to ensure the proper shutdown and isolation of machinery and equipment during maintenance or repair. It covers the identification of energy sources, application of lockout and tagout devices, verification of energy isolation, safe removal of lockout/tagout devices, and communication protocols to prevent accidental startup and protect personnel from hazardous energy releases.

1. Purpose

To establish safe practices for locking out and tagging out energy sources in order to protect personnel from hazardous energy during maintenance or servicing tasks.

2. Scope

This SOP applies to all personnel involved in maintenance, repair, or servicing of electrically, mechanically, hydraulically, or pneumatically powered equipment.

3. Definitions

- **Lockout:** The placement of a lockout device on an energy-isolating device, ensuring the equipment cannot be operated until removal.
- **Tagout:** The placement of a tagout device to indicate the equipment may not be operated until the tag is removed.
- **Authorized Employee:** Person(s) who physically lock or tag out equipment to perform servicing or maintenance.
- **Affected Employee:** Person(s) who operate or work near equipment being serviced.

4. Responsibilities

- **Authorized Employees:** Execute LOTO procedures and verify energy isolation.
- **Affected Employees:** Comply with LOTO notifications and avoid tampering with LOTO devices.
- **Supervisors:** Ensure adherence to LOTO procedures and proper training of personnel.

5. Procedure

1. **Preparation**
 - Identify all energy sources (electrical, mechanical, hydraulic, pneumatic, chemical, etc.).
 - Notify affected employees of impending shutdown, isolation, and reasons for LOTO.
2. **Shutdown**
 - Shut down the equipment following manufacturer or company procedures.
3. **Isolation**
 - Isolate all energy sources using appropriate energy-isolating devices (circuit breakers, valves, etc.).
4. **Lockout/Tagout Application**
 - Authorized employees apply individually assigned lockout and tagout devices to each energy-isolating device.
 - Ensure tags clearly state employee name, department, and date.
5. **Energy Isolation Verification**
 - Attempt to start or operate equipment to verify that energy has been isolated and dissipated.
 - Use appropriate instruments to test for presence of energy (e.g., voltage tester).
6. **Maintenance/Service**
 - Conduct maintenance or servicing tasks.
7. **Lockout/Tagout Removal**
 - Ensure all tools have been removed and equipment is reassembled.
 - Ensure employees are safely positioned.
 - Authorized employee removes lockout/tagout devices.
 - Notify affected employees of removal and readiness for equipment restart.
8. **Startup**
 - Restore energy sources and verify equipment is operating normally.

6. Communication Protocols

- Notify all affected personnel prior to applying or removing lockout/tagout devices.
- Maintain clear, documented records of each lockout/tagout performed.
- Report any deviations or incidents immediately to supervisors.

7. Training

- All authorized and affected employees must receive initial and periodic LOTO training.
- Retraining provided when equipment, procedures, or job assignments change.

8. Documentation

- Record each LOTO procedure using LOTO logs, including date, time, equipment, and employee names.
- Maintain records for regulatory and audit purposes.

9. References

- OSHA Standard 29 CFR 1910.147 (The Control of Hazardous Energy - Lockout/Tagout)
- Manufacturer's equipment manuals
- Company-specific safety policies and procedures