

SOP: Safety Checks and Lockout/Tagout Implementation

This SOP details the procedures for **safety checks and lockout/tagout implementation**, including the identification of hazardous energy sources, steps for effective lockout/tagout application, verification of energy isolation, and procedures for safe equipment startup. The objective is to prevent accidental machine energization during maintenance or repair, ensuring the safety of all personnel involved in operations and maintenance activities.

1. Scope

This SOP applies to all personnel involved in servicing, maintenance, or repair activities where the unexpected release of hazardous energy could occur. It covers all electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy sources.

2. Responsibilities

- **Supervisors:** Ensure all employees are trained in LOTO procedures and enforce compliance.
- **Authorized Employees:** Implement LOTO procedures during servicing or maintenance.
- **Affected Employees:** Understand the importance of LOTO and respect tags and locks.

3. Definitions

Term	Definition
LOTO	Lockout/Tagout; procedures to disable machinery/equipment during maintenance to prevent energy release.
Authorized Employee	Person who locks out or tags out machines for service or maintenance.
Affected Employee	Person who operates or uses the equipment being serviced under LOTO procedure.
Hazardous Energy	Any source of electrical, mechanical, pneumatic, hydraulic, chemical, thermal, or other energy that can cause injury.

4. Procedure

1. **Preparation**
 - Notify affected employees of the shutdown.
 - Review equipment diagrams and identify all hazardous energy sources.
 - Gather required LOTO devices and PPE.
2. **Equipment Shutdown**
 - Shutdown the equipment using normal operating controls.
 - Inform all personnel of the machine shutdown.
3. **Isolation of Hazardous Energy**
 - Physically isolate all energy sources (e.g., disconnect power, close valves).
4. **Lockout/Tagout Application**
 - Apply lockout and tagout devices to each energy-isolating device.
 - Ensure only authorized personnel can remove locks or tags.
5. **Energy Isolation Verification**
 - Test operating controls to verify the equipment cannot be started.

- Check stored energy (e.g., bleed hydraulic/pneumatic lines, discharge capacitors).

6. Maintenance/Service

- Proceed with maintenance or repair tasks once proper energy control is confirmed.

7. Removal of Lockout/Tagout

- Ensure all tools and personnel are clear from equipment.
- Remove lockout/tagout devices in accordance with established procedures.
- Notify affected employees of imminent startup.

8. Equipment Startup

- Restart equipment as per manufacturer and site procedures.
- Monitor initial operation to confirm safety.

5. Emergency Deviation

In case of emergencies that require deviation from standard LOTO procedures, only trained personnel may execute alternative actions, which must be documented and reviewed post-incident.

6. Training

All authorized and affected employees must receive initial and refresher training on LOTO procedures and demonstrate understanding and competence before performing tasks requiring LOTO.

7. Documentation & Records

- Record LOTO application and removal in maintenance logs.
- Maintain training and audit records for all involved personnel.

8. References

- OSHA 29 CFR 1910.147 – The Control of Hazardous Energy (Lockout/Tagout)
- Company Health & Safety Procedures Manual