

LOCKOUT/TAGOUT (LOTO) SAFETY PROCEDURE

Standard Operating Procedure

Procedure ID:	SOP-SAFE-001
Effective Date:	January 1, 2026
Review Date:	December 31, 2026
Approved By:	Safety Director

1. Purpose

The purpose of this Lockout/Tagout (LOTO) procedure is to ensure that machines and equipment are properly shut down and isolated from all potentially hazardous energy sources, and that the equipment is locked and tagged to prevent accidental startup during maintenance, servicing, or repair activities.

2. Scope

This procedure applies to all employees who perform maintenance, repair, or servicing on any equipment where unexpected energization, startup, or release of stored energy could cause injury.

3. Energy Sources Requiring LOTO

- Electrical energy (motors, control circuits, capacitors)
- Hydraulic and pneumatic pressure
- Mechanical energy (springs, flywheels, rotating equipment)
- Thermal energy (hot surfaces, molten materials)
- Chemical energy (pressurized vessels, reactive materials)
- Gravitational energy (elevated masses, suspended loads)

4. LOTO Procedure Steps

Step 1: Preparation

- Identify all energy sources associated with the equipment
- Notify affected employees of the planned maintenance
- Gather necessary LOTO devices (locks, tags, blocking devices)

Step 2: Shutdown

- Shut down the equipment using normal operating controls
- Never force or bypass operating controls
- Ensure all movable parts have come to a complete stop

Step 3: Isolation

- Locate and operate all energy-isolating devices
- Electrical: Open disconnect switches, circuit breakers
- Mechanical: Close valves, remove drive belts
- Hydraulic/Pneumatic: Close valves, bleed pressure

Step 4: Lockout/Tagout Application

- Apply personal lockout device to each energy-isolating device
- Attach tag with: Name, Date, Reason for LOTO
- Each authorized employee applies their own lock
- Use group lockout box for multi-person jobs

Step 5: Stored Energy Release

- Dissipate or restrain stored energy:
 - Bleed hydraulic/pneumatic lines
 - Discharge capacitors
 - Allow hot equipment to cool

Step 6: Verification

- Attempt to restart equipment using normal controls (should not start)
- Test for presence of voltage using voltmeter
- Verify zero energy state before beginning work
- Return controls to "OFF" position after testing

Step 7: Work Completion & Restoration

- Ensure all tools and materials are removed
- Ensure all guards and safety devices are reinstalled
- Notify all affected employees
- Remove lockout/tagout devices in reverse order
- Restore energy and test equipment operation

5. Required PPE for LOTO Activities

Activity	Required PPE
All LOTO activities	Safety glasses, steel-toed boots
Electrical isolation	Arc-rated gloves (Class 00 minimum), face shield
Hydraulic system work	Face shield, chemical-resistant gloves
High-temperature equipment	Heat-resistant gloves, long sleeves
Confined space LOTO	Full-body harness, respirator (if required)