

#### **Lockout Tagout (LOTO)**

RMI takes the control of hazardous energy very seriously – also known as Lockout Tagout (LOTO). LOTO is the process of ensuring and verifying that all equipment that can be energized is properly shut off and not able to start up again while maintenance is performed. Energized equipment can be electrical, hydraulic, pneumatic, thermal, gravity, etc. It is crucial to follow LOTO procedures when working on any device.

While municipalities are not regulated by OSHA, it is important to remember that OSHA provides lots of resources and information for safe LOTO. Specifically, 29 CFR 1910.147. Below is an excerpt from a fact street from OSHA:

"The control of hazardous energy is also addressed in a number of other OSHA standards, including Marine Terminals (1917 Subpart C), Safety and Health Regulations for Longshoring (1918 Subpart G), Safety and Health Regulations for Construction; Electrical (1926 Subpart K), Concrete and Masonry Construction (1926 Subpart Q), Electric Power Transmission and Distribution (1926 Subpart V), and General Industry; Electrical (1910 Subpart S), Special Industries (1910 Subpart R), and Electric Power Generation, Transmission and Distribution (1910.269)."

#### **Statistics**

Every year, the <u>top 5</u> most frequently violated standards according to OSHA, is the control of hazardous energy (LOTO). LOTO also saves an estimated 120 workplace fatalities and prevents roughly 50,000 injuries occurring each year.

Louisiana is one of the most dominant industrial workplace settings in the world. Being dominant in this area also calls for many serious injuries/fatalities every year. On June 10<sup>th</sup>, 2024, the Chemical Safety Board (CSB) launched an <u>investigation</u> at a chemical processing facility in Geismar, LA that injured a worker from being exposed to hydrofluoric acid (HF). This injury could have easily been prevented by simply controlling hazardous energy.

Below are simple LOTO procedures your municipality can reference for implementation purposes.

#### **Proper LOTO Procedures**





## 1. Notify Affected Employees

Before beginning, inform all workers who operate or work near the equipment. Clear communication prevents confusion and ensures everyone is aware of the lockout.

## 2. Identify All Energy Sources

Understand what powers the equipment:

- Electrical: Wires, circuits, batteries.
- Mechanical: Springs, gears, flywheels.
- Hydraulic/Pneumatic: Pressurized fluids or air.
- Thermal: Heat sources or steam.
- Chemical: Stored chemicals or reactions.
- Gravitational: Elevated parts that could fall.

Also identify stored energy—even after shutdown, some components may retain dangerous energy.

## 3. Shut Down Equipment

Use the standard procedure to stop the machine:

- Press stop buttons.
- · Turn off switches.
- Close valves.

Ensure the equipment is completely stopped before proceeding.

### 4. Isolate Energy Sources

Disconnect or block energy sources:



- Unplug electrical cords.
- Close and lock circuit breakers.
- Bleed off hydraulic pressure.
- Vent air or steam lines.
- Install blank flanges or block valves.

### 5. Apply Lockout Devices

Use a lock that only you can open:

- Padlocks, chains, hasps, valve covers.
- Devices must be durable, standardized, and clearly identifiable.

Each worker must apply their own lock—no shared locks.

## 6. Attach Tagout Devices

Place a warning tag on each lock:

- Include your name, date, and reason for lockout.
- Tags must be legible, durable, and standardized.
- Tags warn others not to energize the equipment.

### 7. Test for Zero Energy

Before starting work:

- Try to operate the machine using normal controls.
- Check gauges, meters, and indicators.
- Confirm there's no residual energy.
- Return controls to neutral or off after testing.





# Conclusion

LOTO injuries can be easily prevented through proper procedures. RMI offers a wide variety of training resources as it pertains to LOTO through Vector Training Solutions. RMI also can provide site specific LOTO evaluations – which includes a full program review, LOTO hazards, in depth training, and proper LOTO devices.