

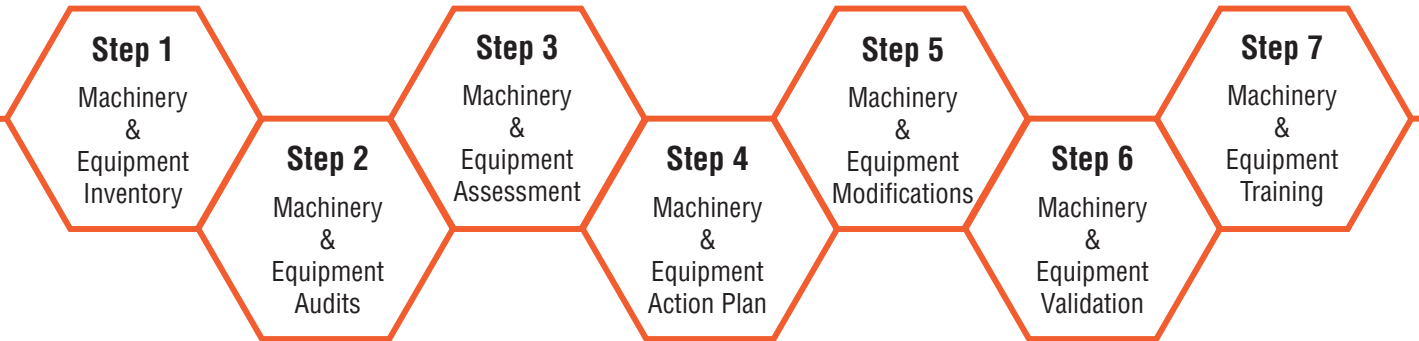
# Machine Safety Services and Lockout Solutions & Services

Solving Your Application Challenges



ROSS<sup>®</sup> provides safety solutions tailored to customer's specific needs.

# Machine Safety Services



**Machine Conformity Audit**  
 High level evaluation of lockout, guarding, and safety devices (input, logic, output). Provide a report on machine compliance or non-compliance and prioritization of machinery issues.

**Machine Lockout Audits**  
 Review machine lockout points for all energy sources. Review devices, labeling, and lockout methods for compliance.

**APM Audits**  
 Review of machine alternative means devices (safety input, logic, and output devices).

**Machine Risk Assessments**  
 Team based risk assessment as well as task/hazard pair risk analysis for all modes of machine operations. Deliverables include system performance determinations (PL/SIL), functional specification development, and mitigation recommendations.

**Safety Mitigation Plan Development**  
 Mitigation plan recommendations for guarding and safety system devices including input, logic, and output devices for a specific machine or family of machines.

**Validation of Safety Systems**  
 Testing of the safety system against the functional safety specifications developed and installed on the machine including the injection of faults to ensure the safety system functions as intended.

Machine Safety Conformity Audit Checklist									
Machine Name	Machine Severity	LOTO Devices	LOTO Products	LOTO Labeling	Machine Guarding	Safety Inputs	Safety Logic	Safety Outputs	Ranking
Palletizer 1	High	None	None	None	None/Missing	None	None	None	32 – P1
Palletizer 2	Medium	Wrong type	Needs improvement	Needs improvement	Damaged	Bypassed	Single channel	Single channel	19 P2
Palletizer 3	Low	Good	Needs improvement	Good	Good	Applied wrong	Single channel	Single channel	11 P3
Palletizer 4	Low	Good	Good	Good	Good	Good	Good	Good	2 – OK

Machine Safety Conformity Audit Checklist										
Machine Name	Machine ID#	Machine Severity	LOTO Devices	LOTO Procedures	LOTO Labeling	Machine Guarding	Safety Inputs	Safety Logic	Safety Outputs	Ranking
Rewinder (example)		High	Incomplete	None	None/Missing	Good	None	None	None	High Risk

# Lockout Solutions & Services

OSHA Standard 29 CFR 1910.147 Sub-part J for Lockout/Tagout lays out the essential performance requirements pertaining to hazardous energy control during the service and maintenance of the machinery with hazardous energy. Its purpose is to protect against the consequences of unexpected "energization" or start-up of mechanical systems, or the release of stored energy.



## L-O-X®

### Pneumatic Energy Isolation

Pneumatic energy isolation device used in blocking the energy supply and eliminating downstream energy for safe machine access.

## e L-O-X®

### Electrical Isolation Devices



Electrical isolation device especially useful in situations where the distance to the main electrical disconnect is excessive and causes extra downtime traveling back and forth between the main disconnect and the machine when performing Lockout/Tagout.

## ElectroGuard® Plus

### Energy Isolation System Electric, Pneumatic, Hydraulic

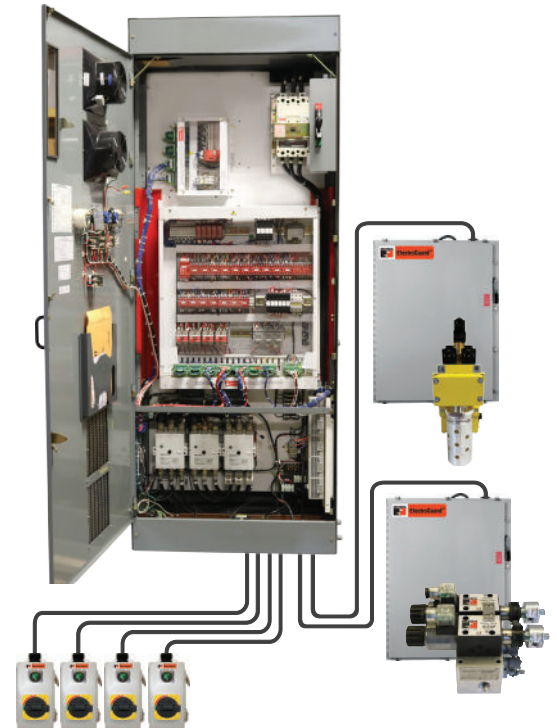
#### Single-zone ElectroGuard® Plus System Overview

Single-zone ElectroGuard® Plus systems can isolate up to six energy sources (any combination of electrical, pneumatic, & hydraulic), and can utilize as many as thirteen remote lockout stations (RLS).

#### Multi-Zone ElectroGuard® Plus System Overview

(8 Zones, 69 Remote Lockout Stations, and 32 Energy Sources)

The ElectroGuard® Plus main Control Panel can be extended to include an 8 port or 16 port Ethernet Switch to expand system capacity.



## US Employer Responsibilities for Lockout Tagout

Creating a program and establishing procedures that foster a safe working environment are the responsibilities of the employer, in the case of Lockout/Tagout compliance. Any program must include procedures for the attachment of a suitable Lockout or Tagout apparatus to energy-isolating devices. In addition, OSHA requires employee education to ensure that all affected worker are aware of energy control systems and procedures. The employer is also responsible for periodic inspection of program and procedures involving energy control.

## ROSS Lockout Services

### Machine Lockout Audits

Review machine lockout points for all energy sources. Review devices, labeling, and lockout methods for compliance.

### Lockout Procedure Evaluations

Evaluate isolation and re-energization procedures for compliance and ensure it matches machinery hardware, labeling, and locations of isolation devices. Assist in developing new compliant procedures.

### Lockout Procedure Development & Lockout Procedure Validation

### Lockout Training

Provide training on plant procedures, updates to procedures, and required annual employee lockout review.



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