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WSH INSIGHTS

Working Safely with Machines: Strengthening Lockout Tagout Practices

In 2024 and 2025, there were two fatalities and 142 major injuries[1] involving the use of machines.

Previous editions of WSH Insights have addressed various aspects of machine safety:

- Operating Machines Safely
- Safer Machines with Presence Detectors

Another concern is the need for workers to interface with machines, such as during inspection, cleaning, repair and maintenance. While these activities are critical for ensuring operational productivity and equipment reliability, they may expose workers to hazards such as unexpected machine start-up or the sudden release of stored energy.

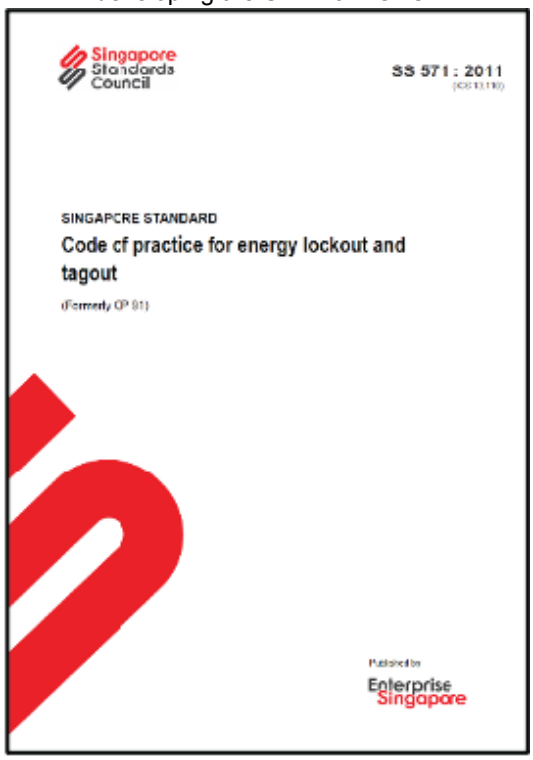
The energy lockout and tagout (LOTO) procedure ensures all hazardous energy sources (whether electrical, mechanical, pneumatic or hydraulic) are securely isolated or disconnected before work is carried out on a machine. This prevents the machine from being activated or energised during the work activity, thereby protecting workers from injury.

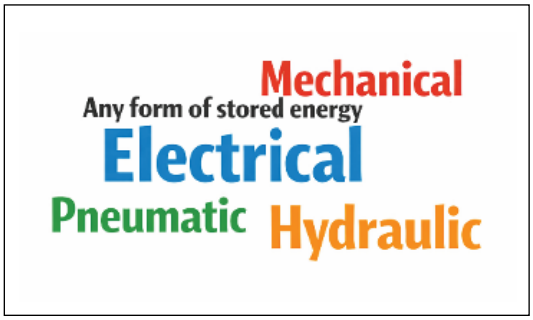
In the coming months, the Ministry of Manpower will be conducting inspections focusing on machine safety across the manufacturing, construction and marine sectors.

The following are good workplace safety and health (WSH) practices adopted by companies to ensure safe machine inspection, cleaning, repair and maintenance through proper LOTO implementation. The WSH Council urges companies to review their current practices and strengthen their LOTO management system to prevent machinery-related injuries.

[1] Source: WSH National Statistics Report 2025

LOTO Implementation

Develop safe work procedures (SWP) for energy isolation and LOTO. Train all workers carrying out machine inspection, cleaning, repair or maintenance on the LOTO procedure.	SS 571 may be used as a reference for developing the SWP for LOTO. 
Notify affected workers of impending machine shutdown and/or LOTO status.	Warning signs installed to alert workers of machine shutdown.

	Briefing workers on the process line shutdown.
Provide locks, hasps and tags to facilitate effective LOTO implementation.	Lockout station with a LOTO logbook to monitor usage.
Identify all hazardous energy sources and their respective energy isolating device (e.g. on/off switch).	Common types of hazardous energy sources. 

Isolate/lockout each energy isolating device.	Locking out an electrical switch control panel. Locking out the on/off switch of a machine. Locking out a valve/process line. Applying locks to isolating devices ensure the energy source cannot be accidentally restored while the work is in progress.

Apply tags to inform workers that the machine has been locked out. The tag should indicate: • Name/department of the person applying the lock • Expected date of completion • Reason for the lockout (e.g. machine maintenance)	Tags alert workers to the machine's LOTO status and indicate that it must not be operated under any circumstances.
Verify the lockout before starting work.	Verify that the machine in the "OFF" state and test to ensure it cannot be switched on while the lock in place.

Use a group lock box or hasp to facilitate multi-lockout when several workers are working on the same machine at the same time.	A hasp that allows multiple locks to be applied simultaneously to secure a single energy source. Example of a group lock box.

Use an electrical plug lockout when the machine is powered by a cord-and-plug connection.

The plug lockout box is useful when:

- The plug is not under the worker's exclusive control;
- The plug is accessible to other workers in the work area;
- The machine is located in a shared or public area; and
- There is a risk of the plug being reconnected into a power source.

An electrical plug lockout box that prevents the machine's power plug from being inserted back into a power outlet.

For more information:

WSH Legislation

WSH Act 2006
WSH (Risk Management) Regulations
WSH (General Provisions) Regulations

Singapore Standard
SS 571: 2011 Code of Practice for Energy Lockout and Tagout

Ministry of Manpower
WSH National Statistics Report 2025
Inspection Programme for Safe Machines
Enhanced Safety Measures for Higher-Risk Machineries and Combustible Dust

Workplace Safety and Health Council
WSH Guidelines on Safe Use of Machinery
Technical Advisory for Safe Use of Power Presses and Press Brakes

WSH Insights on Operating Machines Safely
WSH Insights on Safer Machines with Presence Detectors
Enhanced Safety Measures for Higher-Risk Machinery

6 Basic WSH Rules for Working with Machines
6 Basic WSH Rules for Woodworking
6 Basic WSH Rules for Food Manufacturing
6 Basic WSH Rules for Safe Machine Startup
Activity Based Checklist on Working Safely with Machines

Library of Photos on Machinery Safety

Animation: Lock Out and Tag Out Before Repair and Maintenance
Animation: Keep Hands Away from Moving Machine Parts
Poster: Know the Energy Sources of the Equipment or Machinery
Video: Take Time to Take Care (Machine Safety)
Video: Maintenance of Machine Safety Guard
Video: Use of Lockout Devices and Safety Block
Video: Shoelaces

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Events on Workplace Safety and Health

WSHCOUNCIL
Tripartite Alliance for Workplace Safety and Health

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