



## Topic

Energy Control (LOTO, LOTOTO)

## Ref

HSMS TBT

## Audience

Site Operatives, Contractors

## Presenter

GHSEA, Production Managers & Deputies

## Subject

- **Why is control of energy necessary?**



**Prevents injury due to unexpected startup of equipment or released energy**

Maintenance/servicing and sometimes day to day operation of machinery often require employees to place part or all of his/her body into a machine's point of operation (*danger zone*) – this should only ever happen following isolation & lockout of all energy sources (sometimes called LOTO or LOTOTO)

Applies to both Electrical and Mechanical Energy Sources (often both)

**REMEMBER – A switch is NOT sufficient - Isolations MUST have a positive LOCK**

- **Types of Energy Source (not an exhaustive list)**

Electricity

Hydraulics

Pneumatics

Thermal (Hot/Cold)

Gravity

Springs

Steam

Magnetic

Radiation

- **What can go wrong?**

Potential exposure to moving parts and energy sources

**Sudden restart of machinery**

potential outcomes include...

- Electrocution
- Entanglement/trapping/crushing/Shearing etc.
- Burns from steam
- Compressed air injury
- Exposure to toxic/harmful chemicals
- Asphyxiation
- Fire risks



- **Key Principles**

**REMEMBER – A switch is NOT sufficient**

**Isolations MUST have a positive LOCK.**

**Persons working in the danger zone have control of the isolations by putting their Personal lock onto the lockbox.**





## Steps to Energy Control

1. **IDENTIFY** the types of energy sources, potential hazards and all control devices.



2. **NOTIFY** ALL affected persons



3. Test then **TURN OFF** all operating controls



4. **LOCATE** all energy sources & **ISOLATE** them



5. **LOCK OUT** - Apply a positive **LOCK** to all isolations



6. **TEST** (Try Out) all operating controls to ensure the isolations are working correctly (sometimes called "test for dead")



7. **PERFORM THE TASK** - **Affected Persons** carry out the task safely.  
Personal keys on the lockbox securing the isolations whilst in the danger zone



8. **REMOVE** - once the task is complete and ALL Affected Persons are clear of the danger zone (and removed personal locks), remove **LOCKS** and **ISOLATIONS**.

**IF IN ANY DOUBT ABOUT ENERGY CONTROL**

- **DO NOT PROCEED**
- **ASK!**

