Stop. Make a Change.

Toolbox Talk & Conversation Starter: Stored Energy

Objective

The purpose of today's discussion is to ensure everyone understands the risks associated with stored energy and how it can cause serious injuries if not properly understood, controlled or safety procedures are not followed.

Key Message

By understanding stored energy and following proper safety procedures, workers can significantly reduce the risk of serious injuries or fatalities in the workplace.

What is Stored Energy?

Stored energy, also called potential energy or residual energy, is energy that exists in a system but is not currently being used. It can be mechanical, gravitational, hydraulic, pneumatic, or electrical. Examples include:

- Mechanical: Springs, flywheels or tensioned cables
- Gravitational: Elevated objects like pallets, heavy equipment or bulk materials
- Hydraulic / Pneumatic: Pressurised fluids or gases on hoses and cylinders
- Electrical: Capacitors or energised circuits that retail charge

Hazards of Stored Energy

Uncontrolled release of stored energy can result in:

- Crushing or striking injuries from moving machinery or falling objects
- Cuts, amputations or eye injuries from snapping cables or hoses
- Electrical shocks or burns from residual electrical energy
- Unexpected movement of equipment due to high centre of activity or tensioned components

Real-life incidents highlight the dangers: A worker received crush injuries to their head and neck while they were carrying out maintenance work, when the hoist he was working on started up unexpectedly. The power supply to the hoist had not been isolated before work started. This was because workers had not been given adequate training or instruction on safe isolation procedures. It was also found that isolation by the interlocked gates could be bypassed. HSE.gov.uk

Safety Measures

To prevent injuries, follow these key practices:

1. Identify and Assess Hazards: Survey the work area for potential stored energy sources before starting any task
2. Dissipate Energy: Release or block stored energy safely, such as lowering elevated loads or discharging capacitors
3. Use proper PPE: Gloves, eye protection, and other equipment appropriate to the task and energy type.

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4. Awareness and observation: Be alert to potential energy hazards, including elastic energy in ropes or cables, and maintain safe hand placement

5. Test Equipment: Ensure machinery is de-energised and safe before beginning work

Conversation Starters

- **Can you identify stored energy hazards in your work area?**
- **Are all energy sources properly locked out before maintenance?**
- **Are you using the correct PPE for the task?**
- **How would you respond if stored energy unexpectedly released?**

Key Message

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