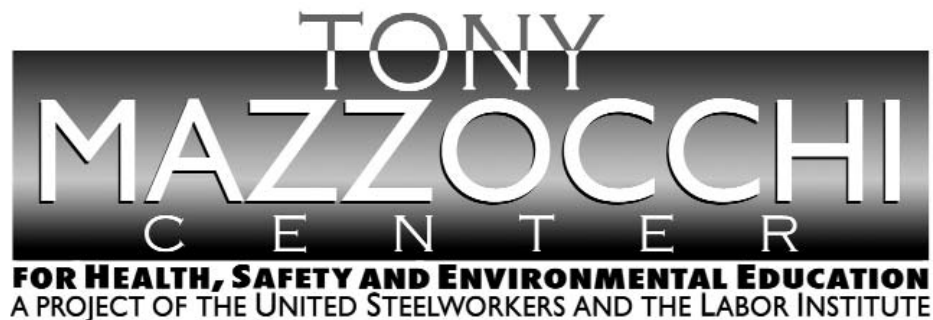


Malfunctioning Lift Control Eventually Causes Near-Miss

Purpose

To share “lessons learned” gained from incident investigations through a small group discussion method format.

To understand “lessons learned” through a Systems of Safety viewpoint.



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Lessons Learned

Volume 06, Issue 1

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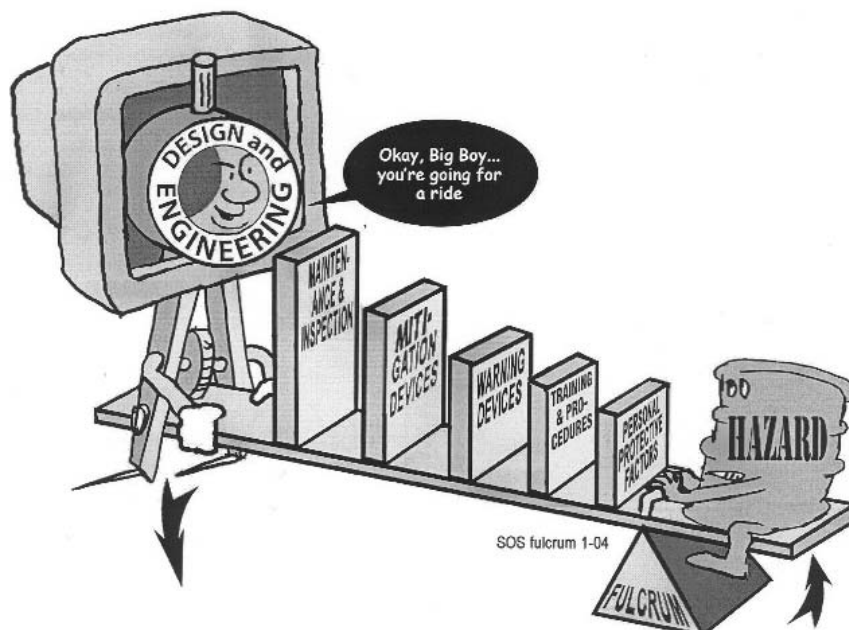
Background Information

Before beginning this Lessons Learned, please review this and the next page which contain information that will introduce the concepts of Lessons Learned and Systems of Safety.

Creating a safe and healthy workplace requires a never ending search for hazards that sometimes are not obvious to us. These hazards exist in every workplace and can be found by using various methods. Lessons Learned are just as the name suggests: learning from incidents to prevent the same or similar incidents from happening again.

Systems Are Not Created Equal: Not equal in protection and not equal in prevention.

Using our Systems Focus to uncover system flaws or root causes is only one part of controlling hazards. We also need to look at the systems involved to decide on the best way to deal with the problem. The most effective way to control a hazard is close to its source. The least effective is usually at the level of the person being exposed. The system of safety in which the flaw is identified is not necessarily the system in which you would attempt to correct the flaw.



Safety Systems	Design & Engineering	Maintenance & Inspection	Mitigation Devices	Warning Devices	Training & Procedures	Personal Protective Factors
Level of Prevention	Highest — the first line of defense					Lowest — the last line of defense
Effectiveness	Most Effective					Least Effective
Goal	To eliminate hazards	To further minimize and control hazards				To protect when higher level systems fail.
Examples of Safety Sub-Systems*	Technical Design and Engineering of Equipment, Processes and Software	Inspection and Testing	Enclosures, Barriers and Containment	Monitors	Operating Manuals and Procedures	Personal Decision Making and Actions _{HF}
	Management of Change (MOC)	Maintenance	Relief and Check Valves	Process Alarms	Process Safety Information	Personal Protective Equipment (PPE) and Devices _{HF}
	Chemical Selection and Substitution	Quality Control	Shutdowns & Isolation Devices	Facility Alarms	Process, Job and Other Types of Hazard Assessment and Analysis	Stop Work Authority
	Safe Siting	Turnarounds and Overhauls	Fire and Chemical Suppression Devices	Community Alarms	Permit Programs	
	Work Environment _{HF}	Mechanical Integrity		Emergency Notification Systems	Emergency Preparedness and Response	
	Organizational Staffing _{HF}				Training	
	Skills and Qualifications _{HF}				Information Resources	
	Management of Personnel Change (MOPC)				Communications	
	Workload				Investigations and Lessons Learned	
	Work Organization and Scheduling					
Allocation of Resource						
Codes, Standards and Policies**						

HF - Indicates that this subsystem is often included in a category called **Human Factors**.
 * There may be additional subsystems that are not included in this chart. Also, in the workplace many subsystems are interrelated. It may not always be clear that an issue belongs to one subsystem rather than another.
 ** The Codes, Standards and Policies and Management of Change subsystems listed here are related to Design and Engineering. These subsystems may also be relevant to other systems, for example, Mitigation Devices. When these subsystems relate to systems other than Design and Engineering they should be considered as part of those other systems, not Design and Engineering.



Lessons Learned

Title: Malfunctioning Lift Control Eventually Causes Near-Miss

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Lessons Learned Statement

Electronic remote controls of lifting fixtures are prone to wiring defects and shorts; therefore, the limit switches that are designed to control the travel of the unit should be set to anticipate failures and the resulting hazards to property and personnel. Utilizing the highest level of *Systems of Safety, Design and Engineering*, is our first line of defense. Evaluating and designing the equipment and its operation by considering normal and even out-of-normal situations is the best way to prevent unwanted incidents.

Routine periodic inspections of equipment by skilled personnel are imperative to operations utilizing electrical and mechanical systems. The *Maintenance and Inspection System of Safety* can provide a second line of defense as a middle level system that will greatly reduce the chance of failures that pose a hazard.

Workers being trained to spot “out-of-normal” operation of equipment and formally reporting it for immediate correction is an important part of the *Training and Procedures* of the workplace *Systems of Safety*. If these procedures allow the workers to “tag-out” the equipment until corrections are accomplished, the highest level of prevention is reached by utilizing the *Design and Engineering System of Safety* through the utilization of the sub-system of *Organizational Policies* to further control hazards in the workplace.

Discussion

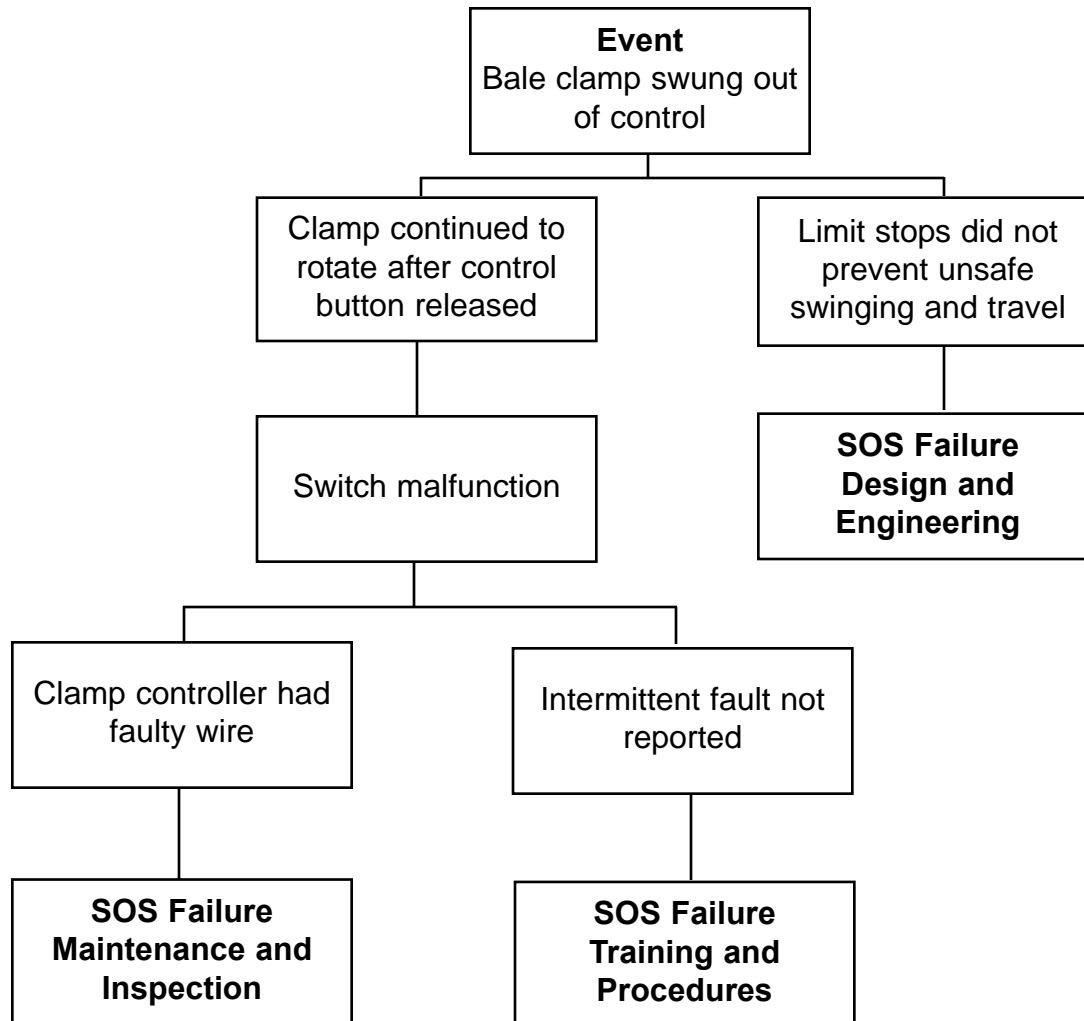
After sealing a 200 lb. bale at the 1-E baler, the employee pressed the control button to swing the bale clamp over to his right to deposit the bale on a pallet. When he released the button on the controller, the clamp did not stop but continued to swing until the stop button was depressed or the clamp reached its maximum travel. (Unsure which happened first.) An employee had been in position to have been struck just moments before.

When the electricians arrived and checked out the controller, they found a faulty wire in the controller and another connection that was ready to fail. On further investigation it was found that this controller had been acting up intermittently for a few days but no one had reported it.

It was also found that the clamp, when swung in the other direction, could make contact with the guard, possibly pinning someone.

Analysis

The Logic Tree is a pictorial representation of a logical process that maps an incident from its occurrence, “the event,” to facts of the incident and the incident’s root causes.



Recommended Actions

1. Adjust travel limits on all such equipment to prevent potential injuries.
2. Establish a tag-out reporting system for employees.
3. Implement a routine inspection for such equipment.

Education Exercise

Working in your groups and using the Lessons Learned Statement, Discussion, Analysis and Recommended Actions, answer the two questions below. Your facilitator will give each group an opportunity to share answers with the large group.

1. Give examples of ways to apply the Lessons Learned Statement at your workplace.

2. Complete the chart below by:

- Putting an “X” beside the recommended actions you think your employer would implement at your workplace.
- Putting an “X” beside the recommended actions you think should be implemented at your workplace.
- Prepare to share with the group the reasons for your answers.

Employer	Recommended Actions	You
	1. Adjust travel limits on all such equipment to prevent potential injuries.	
	2. Establish a tag-out reporting system for employees.	
	3. Implement a routine inspection for such equipment..	

EVALUATION

Lessons Learned: Malfunctioning Lift Control Eventually Causes a Near-Miss

Please answer the two questions below:

1. How important is this lessons learned to you and your workplace? (Circle one.) Rate on a scale of 1 to 5, with 5 being the most important.

1	2	3	4	5
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2. What suggestions would you make to improve this Lessons Learned?

End of Training Trainer's Instructions

Please complete the information below.

Trainer's Name _____
(Please Print)

Date of training: _____

No. of Participants: Total _____ Hourly _____ Management _____

Location of Training: _____

USW Local # _____

Send this page **plus the Education Exercise and Evaluation for each participant** to:

**Doug Stephens
United Steelworkers International Union
3340 Perimeter Hill Drive
Nashville TN 37211**

Thank you for facilitating the sharing of this
Lesson Learned with your coworkers.

