

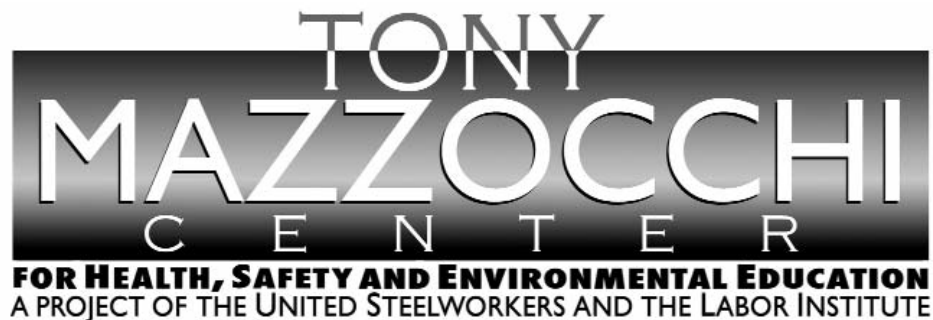


Injury While Working Alone to Remove Obsolete Equipment

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 08, Issue 62

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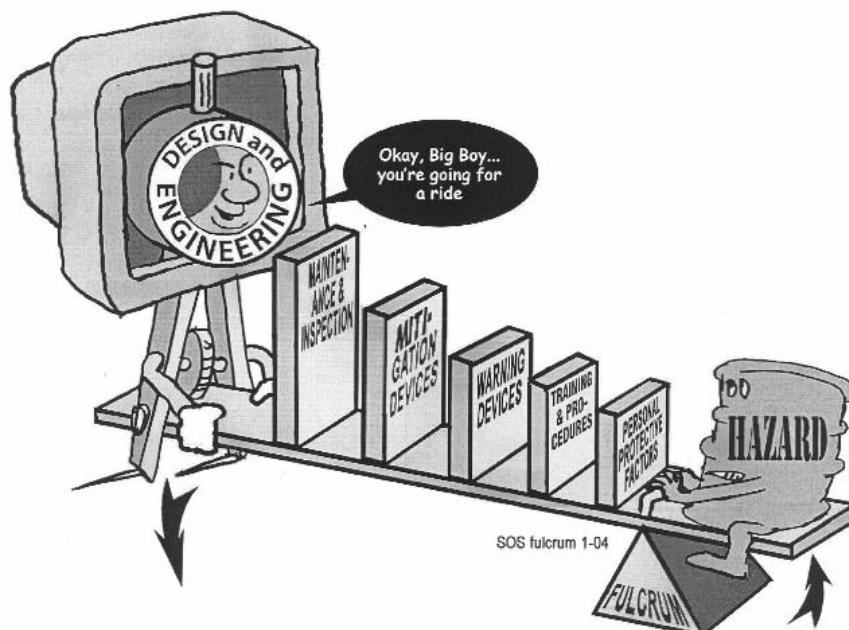
Background Information

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.



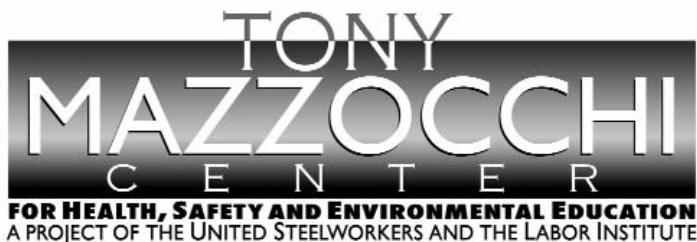
Major Safety System	Design & Engineering	Maintenance & Inspection	Mitigation Devices	Warning Devices	Training & Procedures	Personal Protective Factors
Level of Prevention	Highest—the first line of defense		Middle—the second line of defense			Lowest—the last line of defense
Effectiveness	Most Effective		←————→			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	Inspection and Testing	Enclosures, Barriers Dikes and Containment	Monitors	Operating Manuals and Procedures	Personal Decision-making and Actions HF
	Design and Engineering of Equipment, Processes and Software	Maintenance	Relief and Check Valves	Process Alarms	Process Safety Information	Personal Protective Equipment and Devices HF
	Management of Change (MOC)**	Quality Control	Shutdown and Isolation Devices	Facility Alarms	Process, Job and Other Types of Hazard Assessment and Analysis	Stop Work Authority
	Chemical Selection and Substitution	Turnarounds and Overhauls	Fire and Chemical Suppression Devices	Community Alarms	Permit Programs	
	Safe Siting	Mechanical Integrity	Machine Guarding	Emergency Notification Systems	Emergency Preparedness and Response Training	
	Work Environment HF				Refresher Training	
	Organizational (must address a root cause)				Information Resources	
	Staffing HF				Communications	
	Skills and Qualifications HF				Investigations and Lessons Learned	
	Management of Personnel Change (MOPC)				Maintenance Procedures	
	Work Organization and Scheduling HF				Pre-Startup Safety Review	
	Work Load					
	Allocation of Resources					
	Buddy System					
	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.

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Lessons Learned Statement:

Anytime obsolete or unused equipment needs to be removed, the planning is just as important as when adding new equipment. All aspects of the job need to be reviewed and all hazards associated with the removal need to be identified and corrected.

When one worker is assigned to do a job as involved as cutting up overhead platforms and walkways, rigging and lifting said platforms with a crane and removing the pieces, there is an unacceptable risk for injury. **The Design and Engineering System of Safety** addresses these issues in the *Organizational Section* under the *Buddy System, Resource Allocation* and *Work Organization*. The **Design System** also addresses managing changes in the workplace. Managing change includes what to do with old equipment when new machinery is brought in.

When new equipment is brought into a plant, engineers, upper management, maintenance supervisors and many more should be there to plan and configure the installation. But, what is often ignored is the problem of removing old equipment after the installation of the new. After the initial startup of new equipment and after all the hand shakes and back slapping are done, the managers walk away and the worker is left to deal with the aftermath. The old equipment is an afterthought and the removal of it becomes more difficult and dangerous for the worker.

Discussion:

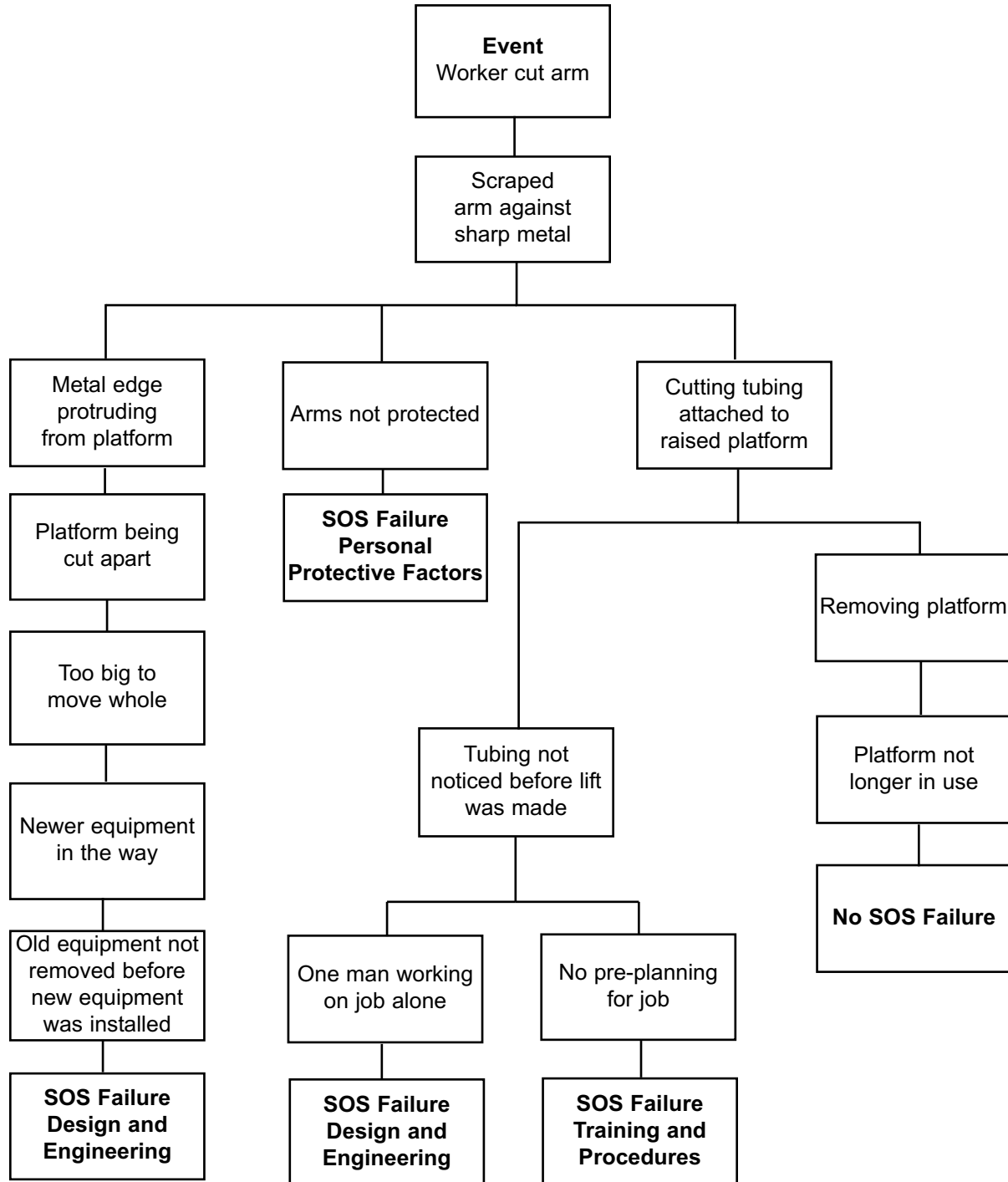
A worker was assigned to remove some obsolete equipment from the wet end area of a paper machine. He had to cut up a walkway platform he was removing due to space constraints and obstructions from other nearby equipment.

After making some cuts, he was attempting to lift the platform with the house crane. As he was lifting the platform, he noticed that there was some tubing still attached to the platform. As he was cutting the tubing with a saws-all, he scraped his left arm on some sharp, jagged metal that was protruding from the platform. He did not notice he was injured until he saw blood on his arm.

This worker was single-handedly responsible for cutting, rigging and operating the crane and removing this equipment. If he had assistance with this job, he would not have had to multi-task and the tubing may have been noticed before any cuts were made or the lift was attempted.

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. Jobs that involve multiple tasks require more than one worker. Any maintenance jobs that involve cutting, welding, crane work and equipment removal need to be, at the very least, a two-person job.
2. Have protective, cut-resistant sleeves readily available and communicate the availability of said sleeves to all employees.
3. Have planning meetings that include all of the workers who will be doing the job to assess any and all hazards before removing any obsolete or unused equipment.
4. When new equipment is brought in, remove old equipment before it gets blocked in by new items.

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. Of the examples you generated from Question 1, which will you pursue in your workplace? (**Note:** When we say something you may pursue, we mean a joint labor-management activity or a union activity rather than an activity carried out by you as an individual.)

Trainer’s Lessons Learned Success Inventory

Following a Lessons Learned (LL) session, **the trainer who led the LL** should complete this form. This information will: 1) Help you reflect on the successes and challenges of the session; 2) Help USW with new curriculum development; and 3) Help USW as a whole better understand how the LL Program is supporting their workers.

By reviewing LL from different sites or from other areas of their workplaces, workers are able to analyze the information and apply these lessons to their own workplaces in order to make their workplaces healthier and safer.

1. Site name (if there are participants from more than one site, please list all).

2. Date of LL training _____

3. LL number used in today’s Training _____

4. Your name _____

5. **Summary of Education Question 1:** Please summarize participants’ examples of ways to apply this LL Statement to their workplace.

Please continue on reverse side.

- 6. Summary of Education Question 2:** Please summarize actions or recommendations participants discussed pursuing at their workplace(s).

Thank you for completing this form.

EVALUATION	Lessons Learned: Injury While Working Alone to Remove Obsolete Equipment
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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:

1. This page;
2. The Education Exercise (page 8);
3. The Trainer’s LL Success Inventory form (pages 9 and 10);
4. The evaluation for each participant (page 11); and
5. The Sign-in sheet (page 13) to:

<p>If you are a TOP Site (excluding DOE TOP Sites)</p>	<p>Send to: Steve Cable 2915 Gradient Drive St. Louis, MO 63125</p>
<p>All other sites (including DOE TOP Sites)</p>	<p>Send to: Doug Stephens United Steelworkers 3340 Perimeter Hill Drive Nashville, TN 37211</p>

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

Sign-in Sheet



Name of Class _____ Date of Class _____

Instructors: _____

Please Check One*		Print Name	Signature
H	M		

*H = Hourly Worker
 M = Management or Salaried Worker

