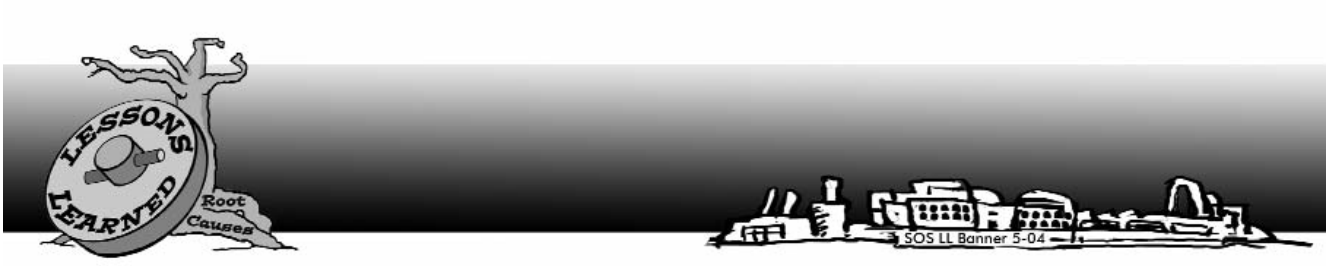

Paper Roll Falls from Roll-out Rails

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.

TONY MAZZOCCHI CENTER
FOR HEALTH, SAFETY AND ENVIRONMENTAL EDUCATION
A PROJECT OF THE UNITED STEELWORKERS AND THE LABOR INSTITUTE

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Lessons Learned

Volume 08, Issue 57

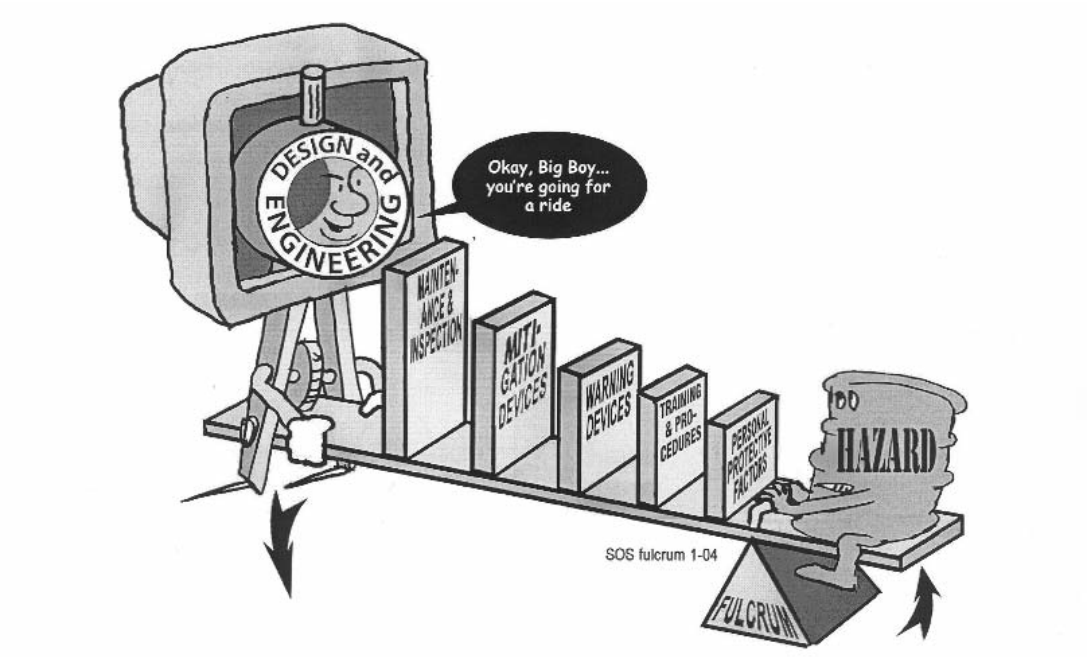
Background Information

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** Design and Engineering of Equipment, Processes and Software Management of Change (MOC)** Chemical Selection and Substitution Safe Siting Work Environment HF **Organizational *(must address a root cause)*** Staffing HF Skills and Qualifications HF Management of Personnel Change (MOPC) Work Organization and Scheduling HF Work Load Allocation of Resources Buddy System Codes, Standards, and Policies**	Inspection and Testing Maintenance Quality Control Turnarounds and Overhauls Mechanical Integrity	Enclosures, Barriers Dikes and Containment Relief and Check Valves Shutdown and Isolation Devices Fire and Chemical Suppression Devices Machine Guarding	Monitors Process Alarms Facility Alarms Community Alarms Emergency Notification Systems	Operating Manuals and Procedures Process Safety Information Process, Job and Other Types of Hazard Assessment and Analysis Permit Programs Emergency Preparedness and Response Training Refresher Training Information Resources Communications Investigations and Lessons Learned Maintenance Procedures Pre-Startup Safety Review	Personal Decision-making and Actions HF Personal Protective Equipment and Devices HF Stop Work Authority

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.

Revised October 2006

Title: Paper Roll Falls from Roll-out Rails

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Lessons Learned Statement:
Improper design of roll-out rails, including the lack of mechanical brakes, has the potential to injure people and damage equipment. By utilizing ***Systems of Safety,*** this near-miss incident could have been avoided.

By using the **Design and Engineering** ***System of Safety***, the addition of mechanical brakes that allow workers to prevent paper rolls from moving would have provided prevention for this near-miss incident. Because of the improper equipment design, the practice of using make-shift equipment (not as it was designed) had become normal practice to enable workers to get the work done.

Through the **Training and Procedures** ***System of Safety,*** training on the safe operating of overhead cranes and the hazards of using them improperly would also have helped to prevent this near-miss incident.

Discussion:

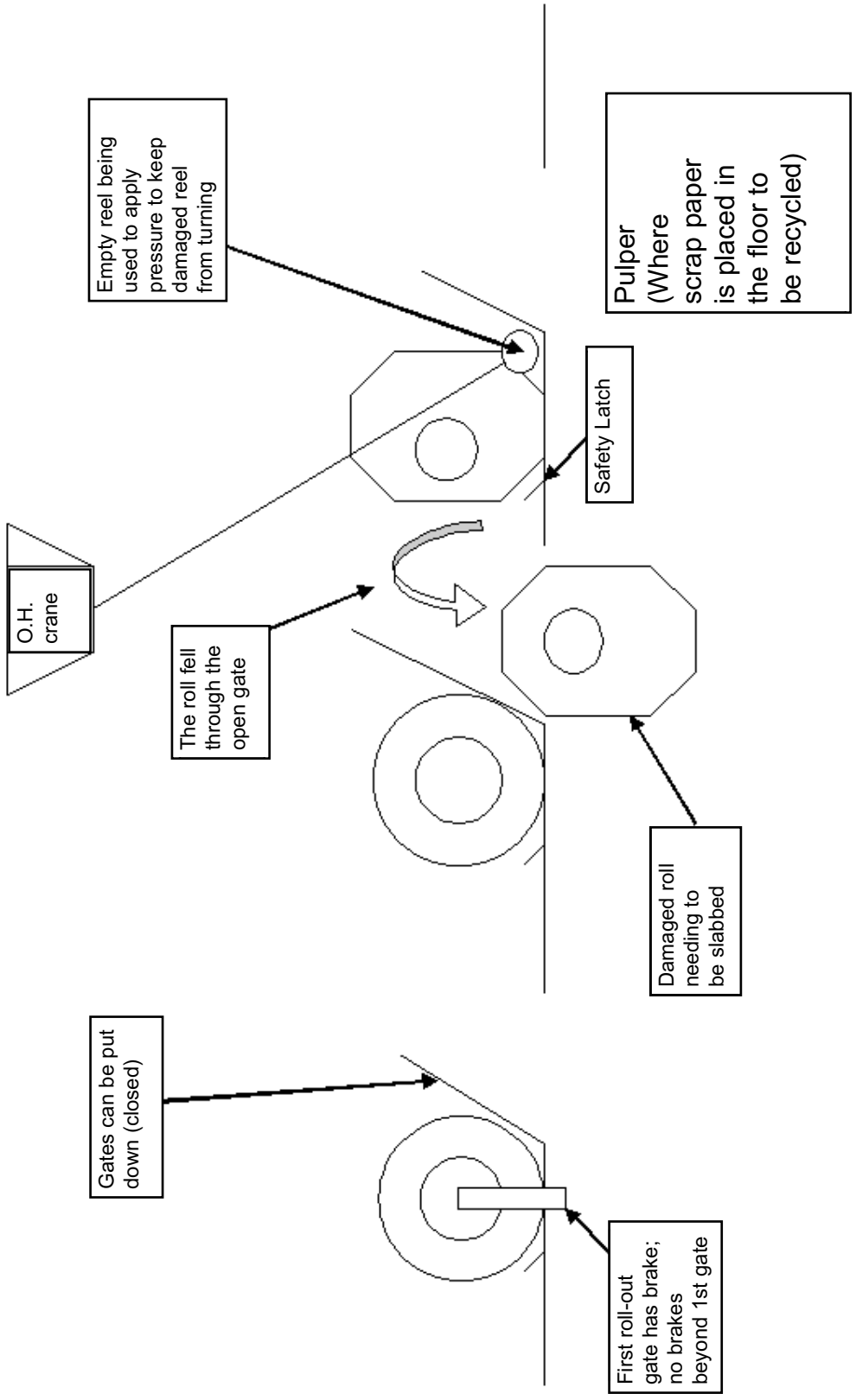
A reel of paper fell off of the roll-out rails at a paper mill and one end of the spool fell to the floor. The reel was positioned on the roll-out rails so that workers would be able to slab the paper (cut off remaining paper) to free up the spool for use on another job.

Normally, paper is wound off of the spools by a winder or manually slabbed with a utility knife at the machine reel. The normal area for slabbing the reel is close to the pulper (an area in the floor where the scrap paper is recycled).

Due to the condition of the paper, it could not be run on the winder. The reel on the machine was too big to be able to slab the paper into position, so the reel was moved past the first roll-out gate where it was going to be slabbed manually.

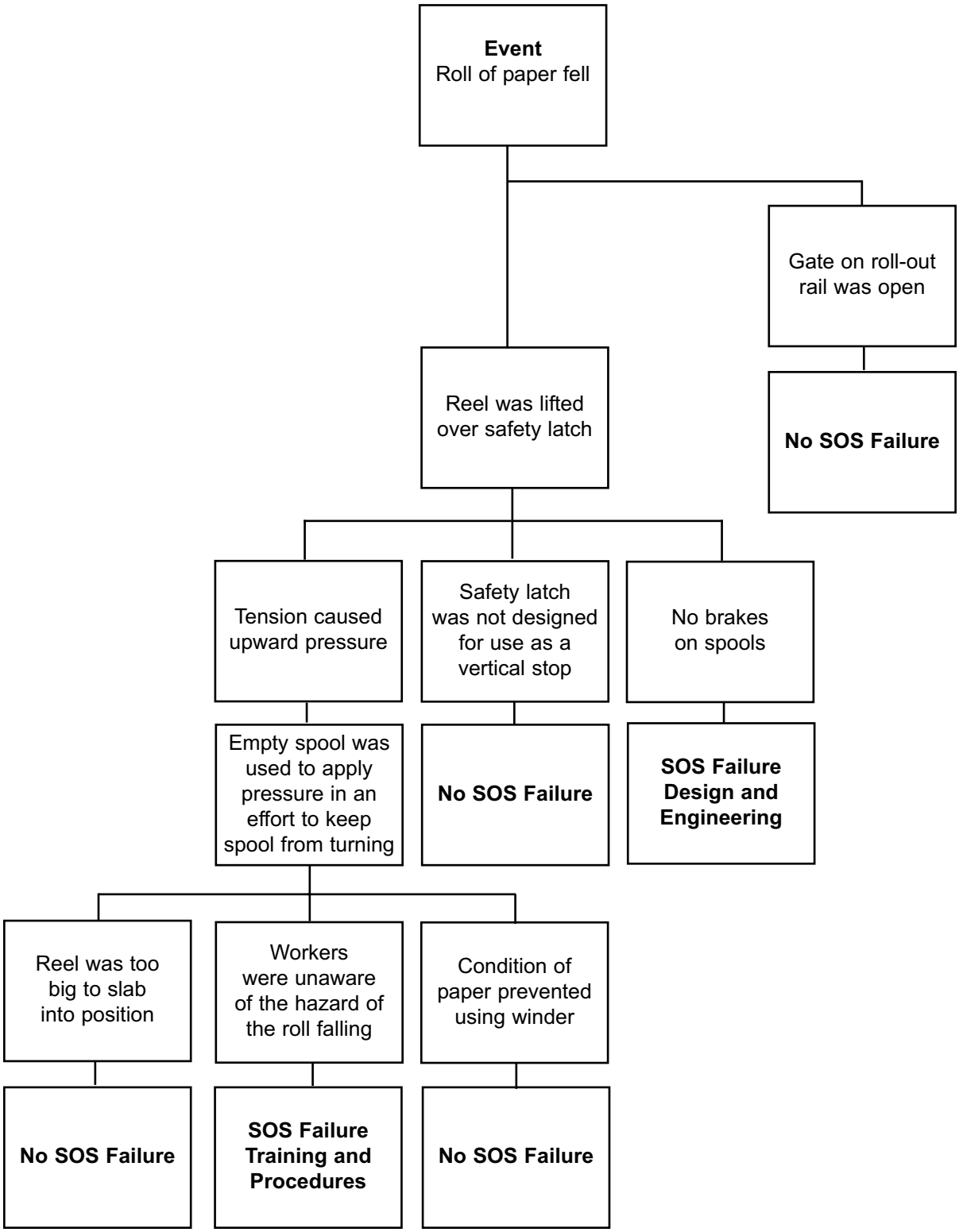
There was a problem trying to keep the reel of paper from turning while a worker was slabbing the paper in this location. Because of this, the workers hooked up an empty spool in the overhead crane and used it to apply tension to the reel to keep it from turning. The safety latch (a small piece of metal designed to keep the reel from rolling down the line) was the only mechanical device holding the reel in place. The safety latch was approximately four to six inches tall. The tension the overhead crane was putting on the reel caused an upward pressure which lifted the reel of paper up and over the safety latch.

The gate on the roll-out rail was open and one end of the spool fell to the floor. The gate is normally in the open position to prevent the next reel from rolling forward when the reels are not moving down the line. See the diagram on the next page.


Empty reel being used to apply pressure to keep damaged reel from turning
Pulper (Where scrap paper is placed in the floor to be recycled)
Safety Latch
O.H. crane
The roll fell through the open gate
Damaged roll needing to be slabbed
Gates can be put down (closed)
First roll-out gate has brake; no brakes beyond 1st gate

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. Design a brake system for spools being slabbed beyond the first roll-out gate. Refer to design located at catalog shipping pulper. Install brakes throughout roll-out rails as needed.

2. Communicate to crews that safety latches are not designed to be used as a spool stopper. Train workers on the hazards of not using the correct equipment for jobs.

3. Develop procedures and train workers on the proper use of overhead cranes, their purpose to lift loads vertically and the hazards of side-loading cranes.

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.

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: Paper Roll Falls from Roll-out Rails

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

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 9);
3. The Trainer's LL Success Inventory form (pages 10 and 11);
4. The evaluation for each participant (page 12); and
5. The Sign-in sheet (page 14) to:

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

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

Sign-in Sheet

TONY MAZZOCCHI CENTER
FOR HEALTH, SAFETY AND ENVIRONMENTAL EDUCATION
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Name of Class_____ Date of Class_____

Instructors: _____

Please Check One* H	M	Print Name	Signature

***H = Hourly Worker**
M = Management or Salaried Worker