



Nip Point Severs Worker's Finger

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.



This material was produced by the Labor Institute and the United Steelworkers International Union under grant number SH-17045-08-60-F-42 Susan Harwood Training Grant Program, for the Occupational Safety and Health Administration, U.S. Department of Labor. It does not necessarily reflect the views or policies of the U.S. Department of Labor, nor does mention of trade names, commercial products or organizations imply endorsement by the U. S. Government.

Lessons Learned

Volume 09, Issue 19

© 2009 The Labor Institute

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.

Revised October 2006



Title: Nip Point Severs Worker's Finger

Identifier: Volume 09, Issue 19

Date Issued: August 30, 2009

Lessons Learned Statement:

Workers have a natural instinct to “get the job done.” But even if the job will only take a few minutes, it isn’t worth risking your safety and health for those few minutes. Properly maintained equipment is a good example of the **Maintenance and Inspection System of Safety**. The use of a “handy grabber” around machinery will help ensure workers’ safety and should be kept in repair.

Moving machine parts have the potential to cause severe workplace injuries, such as crushed fingers or hands and amputations. Safeguards are essential for protecting workers from these preventable injuries. Any machine part, function or process that may cause injury must be safeguarded. With the use of **Mitigation Devices**, the hazards can be controlled and incidents like this can be avoided.

Discussion:

Workers on the No. 5 paper machine were attempting to thread the sheet after a sheet break. As the sheet is threaded through the paper machine, it is common that loose paper gets caught and builds up around the ropes and pulleys. The loose paper has to be removed or it could potentially cause a sheet break and/or equipment damage.

There are no guards protecting the nip points around the ropes and pulleys. After the sheet was threaded, a worker began cleaning out the rope-run and pulleys (Fig. 7-3 and 7-5) by using an air hose to clear away the loose paper. There was one piece of paper that would not come free and was "floating" on the rope (Fig. 7-1), so the worker attempted to remove the piece of paper by using a "handy grabber" (Fig. 7-4).

The worker noticed that the "handy grabber" was broken. There were no other "handy grabbers" in the immediate area, so the worker attempted to remove the piece of paper by reaching in with his left hand. As the worker took hold of the piece of paper, his index finger was caught in the nip point (Fig. 7-2). The tip of his finger was immediately severed. The worker instinctively pulled his hand out. The worker was sent to the hospital. The severed piece of finger could not be found.



Fig. 7-1. Pulley where paper was stuck on rope.



Fig. 7-2. Nip point.

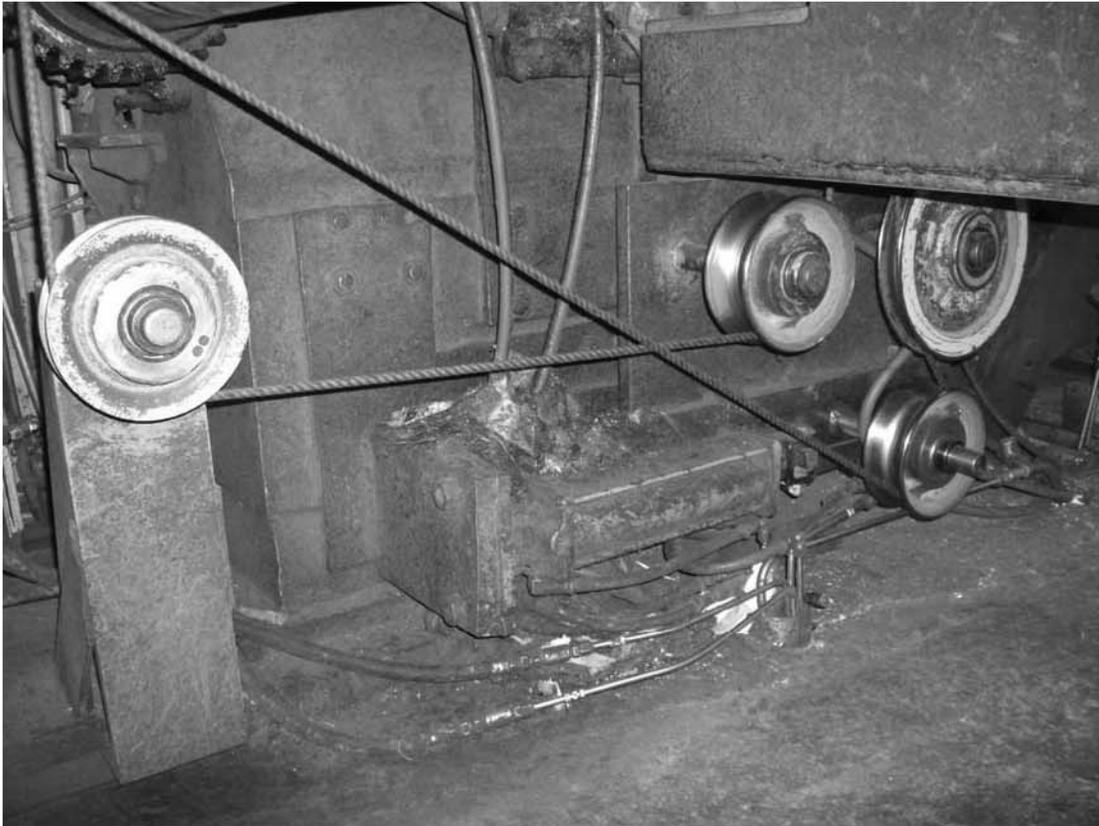


Fig. 7-3. Rope run at reel on No. 5 paper machine

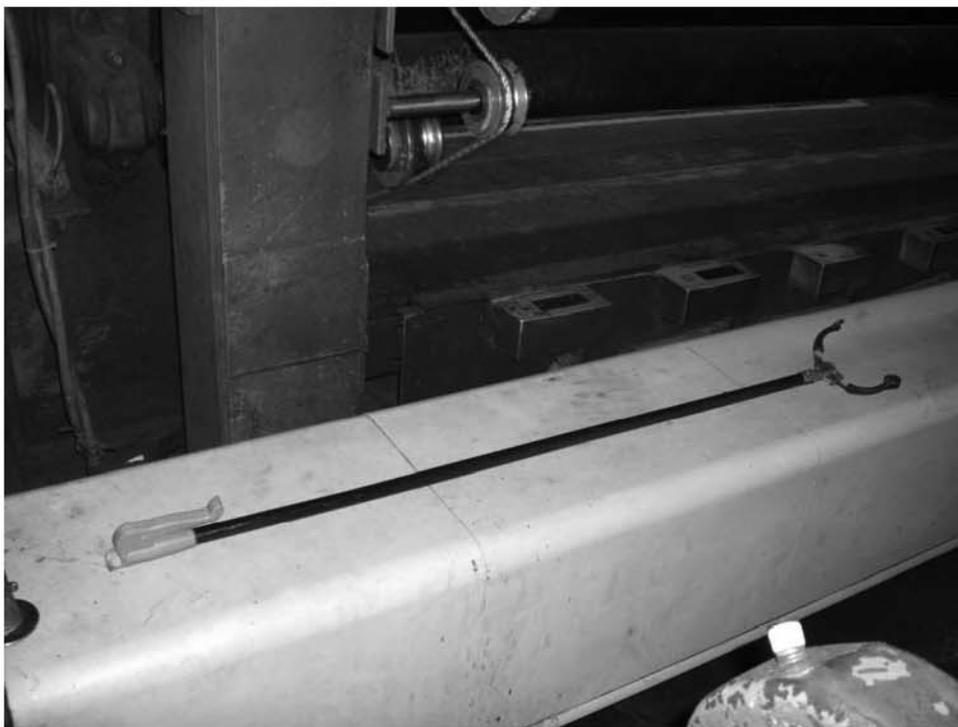


Fig. 7-4. "Handy grabber".

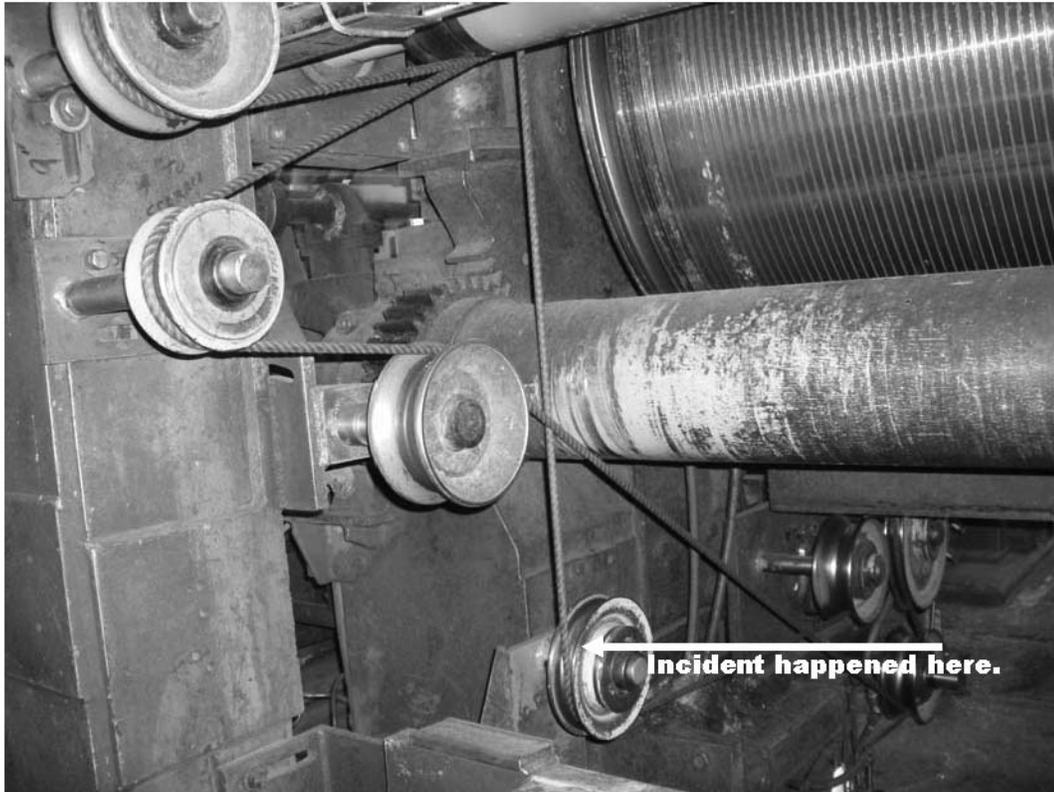
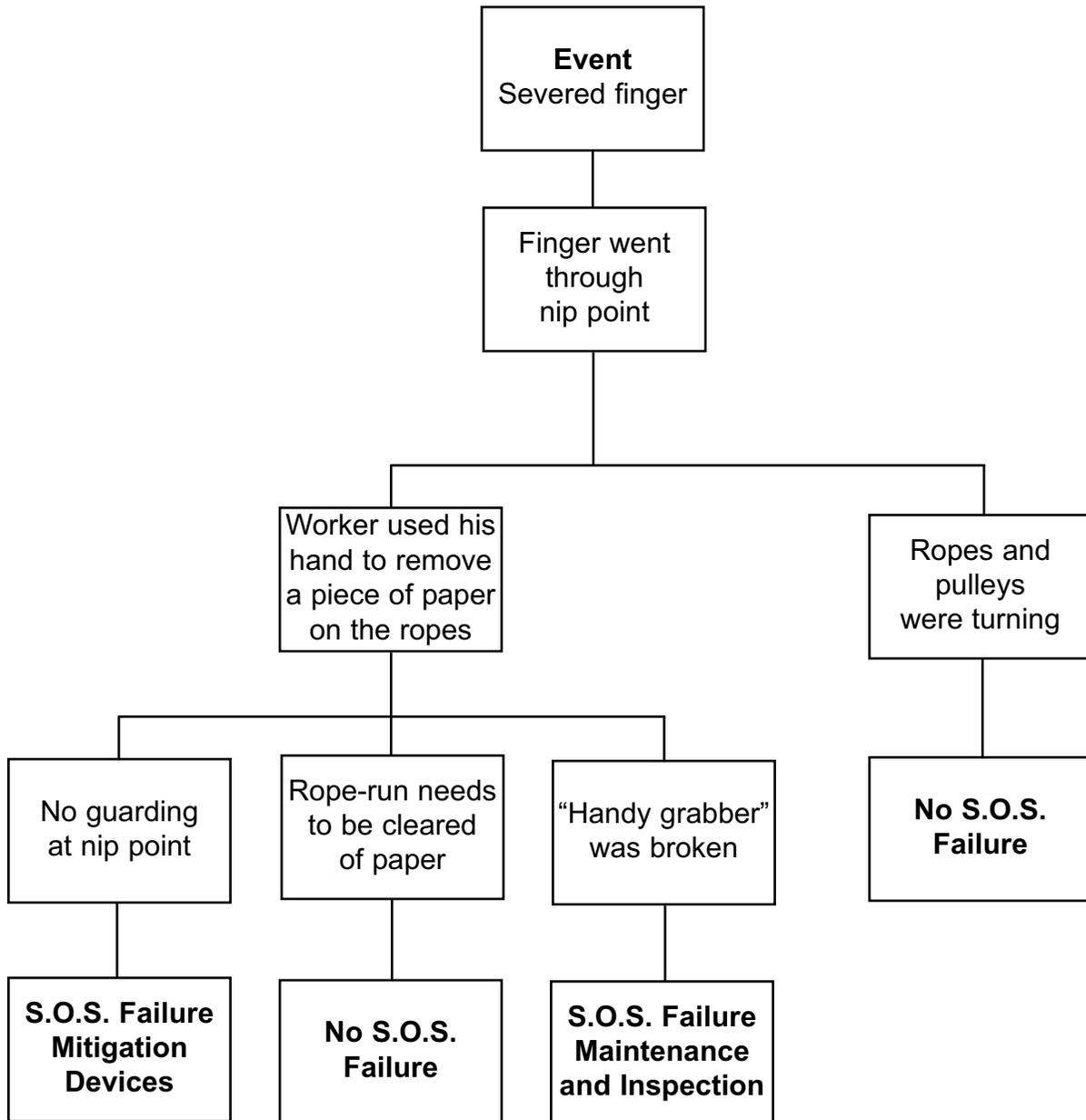


Fig. 7-5. Rope run at reel on No. 5 paper machine

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. Install guards at nip points.
2. Provide worker with "handy grabbers" for machine hands at all times.
3. Communicate the Lessons Learned from this incident and the hazards of nip points. Use as "safety topic of the day," "huddles" and/or safety meetings.
4. Designate areas around paper machine for handy grabbers where needed.
5. Add "handy grabbers" to equipment checklist so that machine hands will verify that "handy grabbers" are in their designated area and that they are functioning properly.

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: Nip Point Severs Worker's Finger

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 12);
3. The Trainer's LL Success Inventory form (pages 13 and 14);
4. The evaluation for each participant (page 15); and
5. The Sign-in sheet (page 17) to:

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



SIGN-IN SHEET *(Please print clearly.)*

Class Title: _____ **Class Completion Date:** _____

Location (City, State)/Facility: _____

Grant Program: _____ **Dist. & LU #:** _____

Instructors: 1) _____ **2)** _____

3) _____ **4)** _____ **5)** _____

Name (print first and last)

Check one:

		Hourly	Management
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			

