



Finger Amputated in Nip Point

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 07, Issue 32

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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 sub-system 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 sub-systems listed here are related to Design and Engineering. These subsystems may also be relevant to other systems; for example, Mitigation Devices. When these sub-systems relate to systems other than Design and Engineering, they should be considered as part of those other system, not Design and Engineering.

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Lessons Learned Statement:

A worker was attempting to control material that was being wound on a roller. The moving materials and rollers created a nip point which was unguarded. A total failure in the **Design and Engineering System of Safety** approach allowed this worker and others to continue daily to put themselves in harm's way. A guard must be designed to protect workers from this trap.

A special tool to make these adjustments should be designed and produced as a **System of Safety** approach using **Mitigation Devices** while effective guards are being designed.

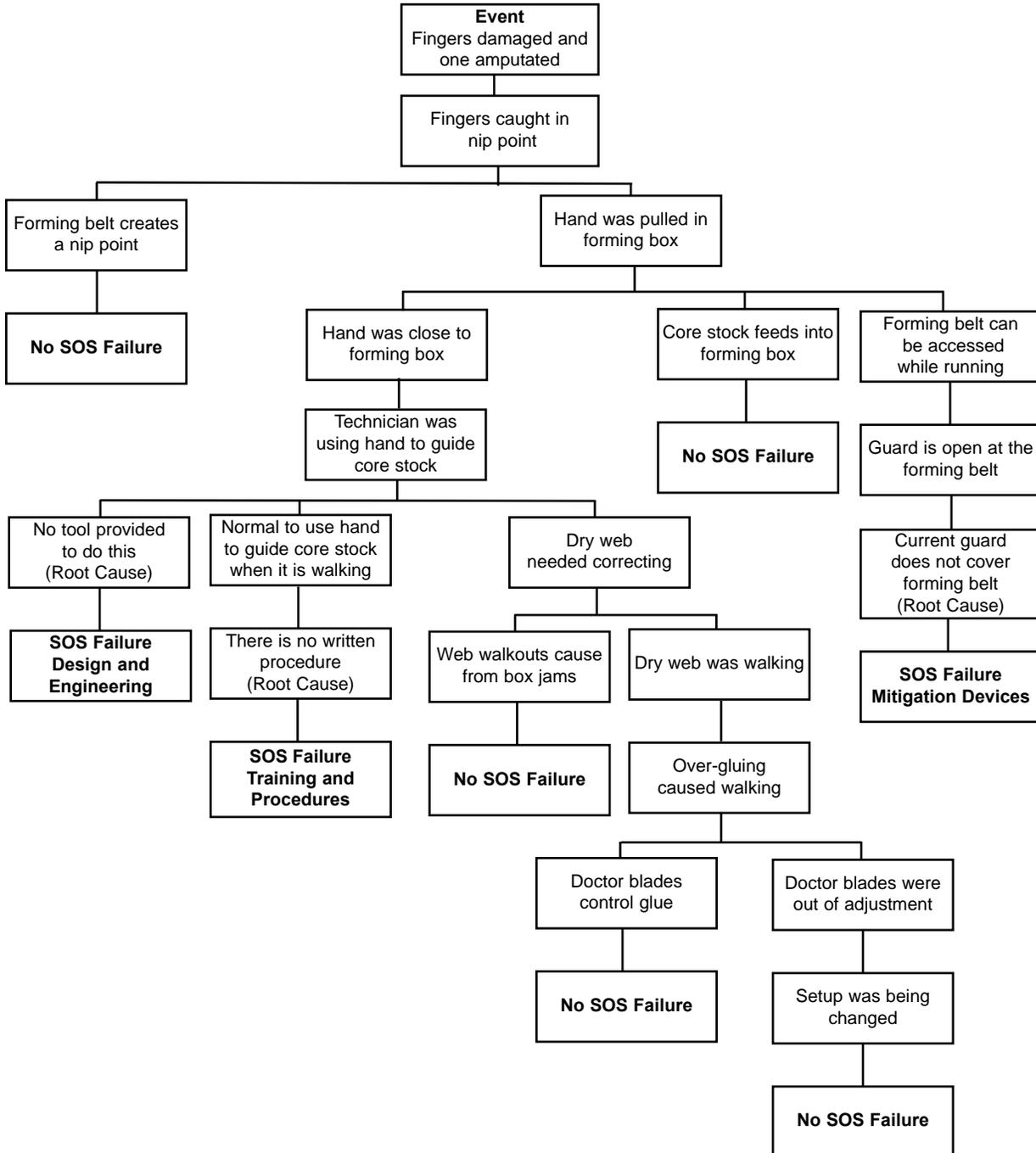
Until the recommendations above can be put into place, a written procedure must be established and training put into place to gain a reduced measure of safety by implementing the **Training and Procedures System of Safety**.

Discussion:

A technician was feeding core stock (material to make toilet tissue core) into the winding machine. The core stock material began to walk out (move out of desired alignment). The technician attempted to realign the core stock with his left hand. His hand was pulled into the nip point created by the forming belt and the metal rollers. Four of his fingers were damaged to some extent; one had to be amputated.

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 guard that will prevent hand and fingers from getting into the belt. Possibilities will include light curtain among others.
2. Increase the distance between the employee and mandrel.
3. New procedure to address using hands.

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 ore 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 which actions or recommendations participants discussed pursuing at their workplace(s).

Thank you for completing this form.

EVALUATION

Lessons Learned: Finger Amputated in Nip Point

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 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:

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.

