



## Congested Walkway Causes Worker Injury

### 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 09, Issue 26**

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## Background Information

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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
<b>EXAMPLES OF SAFETY SUB-SYSTEMS**</b>	<b>Technical</b>	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	
	<b>Organizational (must address a root cause)</b>				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:**

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When we say something is temporary, are we saying it because it is true, or are we saying it just to appease those who question our temporary solutions to problems? We all know that some structural issues in our workplaces can't wait for a permanent solution before we act. But a temporary fix needs to be just that — temporary. We also have to use *Systems of Safety* thinking to assure that the solution does not create more hazards.

In the situation in this Lessons Learned activity, some temporary support columns needed to be installed in the basement of a manufacturing facility. No one doubts the need for support in this situation. *Systems of Safety* are utilized to provide a well-thought-out plan for temporary or permanent repairs.

The columns were placed in the walkways and at the base of a staircase workers had to use to safely navigate the basement area. The **Design and Engineering System of Safety** includes *Safe Siting* of equipment, both temporary and permanent.

A temporary repair is not what we mean when we speak of the **Maintenance and Inspection System of Safety**. Although some immediate measures are often needed to keep a facility's buildings safe, it is all too common for temporary fixes to become permanent.

**Discussion:**

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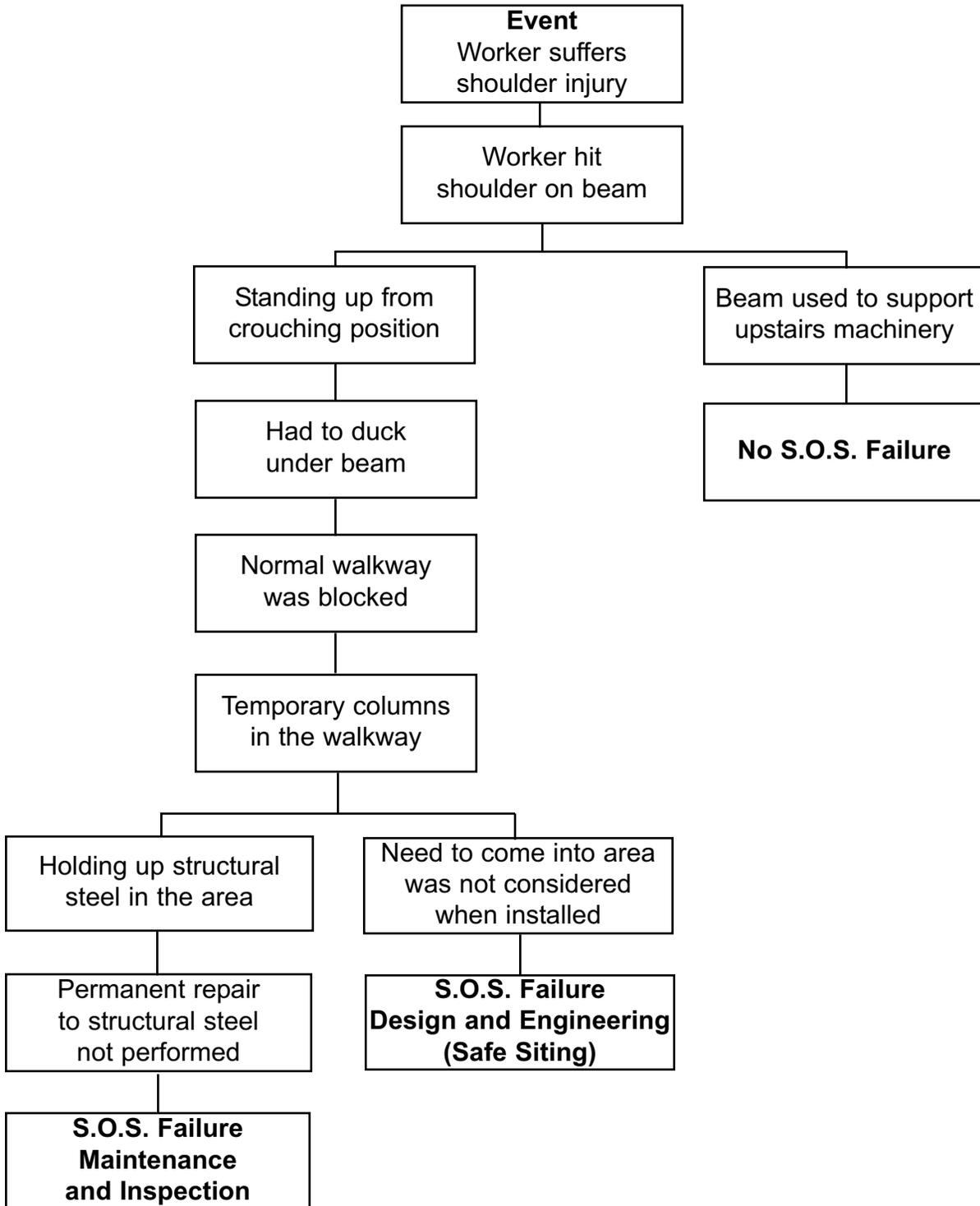
A maintenance worker was helping to pull some electrical cables through the floor into the basement of a manufacturing facility. The worker was going down to the basement to help pull the cables through from the floor above.

At the bottom of the stairs, in the walkway, is a temporary support column that is holding up some structural steel. This column severely limited the walkway area.

The worker had to duck down under a huge beam that supports some of the equipment upstairs in order to avoid the temporary column that blocked his pathway. When he stood upright again, he hit his left shoulder on the beam. Although the injury was minor, he suffered a great deal of pain and was limited in motion for quite some time.

## 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**

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1. Immediately modify temporary columns to clear walkways.
2. Repair the structural steel problems and eliminate the temporary steel posts.
3. Install a permanent barrier to block access to the area of the steel beam that supports the machinery upstairs.

## Education Exercise

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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.

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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).

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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: Congested Walkway Causes Worker Injury

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?

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

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:**

		<b>Hourly</b>	<b>Management</b>
1			
2			
3			
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