

# Understaffing Leads to Broken Window

## **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 46DO-HT11 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 product or organizations imply endorsement by the U. S. Government.

## **Lessons Learned**

**Volume 06 Issue 8**

**© 2006 The Labor Institute**

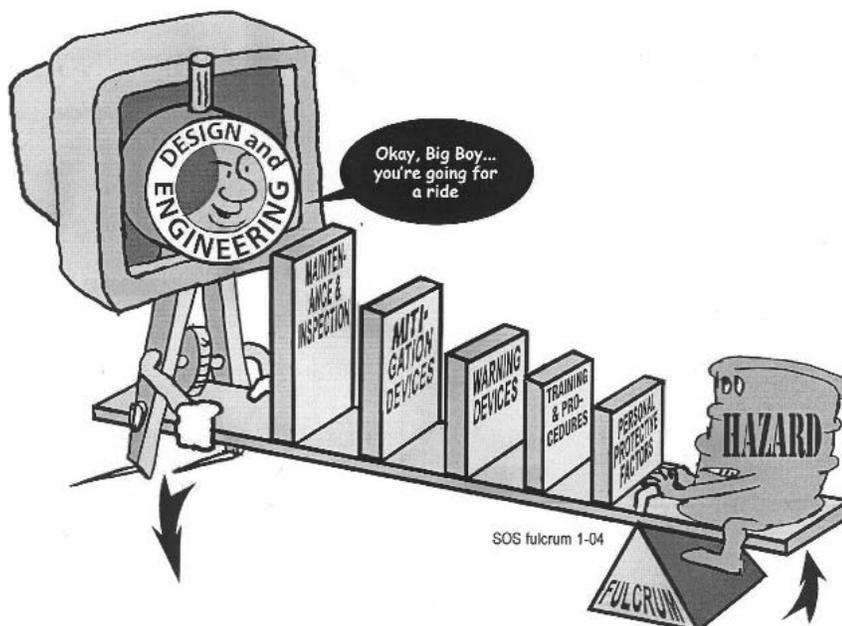
## Background Information

Before beginning this Lessons Learned, please review this and the next page which contain information that will introduce the concepts of 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.



Safety Systems	Design & Engineering	Maintenance & Inspection	Mitigation Devices	Warning Devices	Training & Procedures	Personal Protective Factors
Level of Prevention	Highest — the first 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 and Containment	Monitors	Operating Manuals and Procedures	Personal Decision Making and Actions <sub>HF</sub>
	Design and Engineering of Equipment, Processes and Software	Maintenance	Relief and Check Valves	Process Alarms	Process Safety Information	Personal Protective Equipment (PPE) and Devices <sub>HF</sub>
	Management of Change (MOC)	Quality Control	Shutdowns & 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		Emergency Notification Systems	Emergency Preparedness and Response	
	Work Environment <sub>HF</sub>				Training	
	<b>Organizational</b>				Information Resources	
	Staffing <sub>HF</sub>				Communications	
	Skills and Qualifications <sub>HF</sub>				Investigations and Lessons Learned	
	Management of Personnel Change (MOPC)					
Workload						
Work Organization and Scheduling						
Allocation of Resource						
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.



## Lessons Learned

**Title:** Understaffing Leads to Broken Window

**Identifier:** Volume 06 Issue 8

**Date Issued:** August 15, 2006

### Lessons Learned Statement

When a worker is expected to handle more work than is possible for one person, they usually make the effort because of pride in what they do and the importance they put on their job.

Applying *Systems of Safety* reveals the failures in *Staffing* as a subsystem of **Design and Engineering** and poor **Maintenance and Inspection** led to a serious incident and possible injury as a worker ran from one emergency job to another.

Proper *Staffing* is of vital importance in preventing incidents and injuries. When a sufficient number of trained workers are assigned to jobs and processes, stress and job pressure is reduced. This allows workers to be more efficient and to work in a safer manner.

**Maintenance and Inspection** can also play an important role, even in office and control room settings. Too often control rooms, halls and offices are not given as much consideration as equipment and plant processes.

**Discussion**

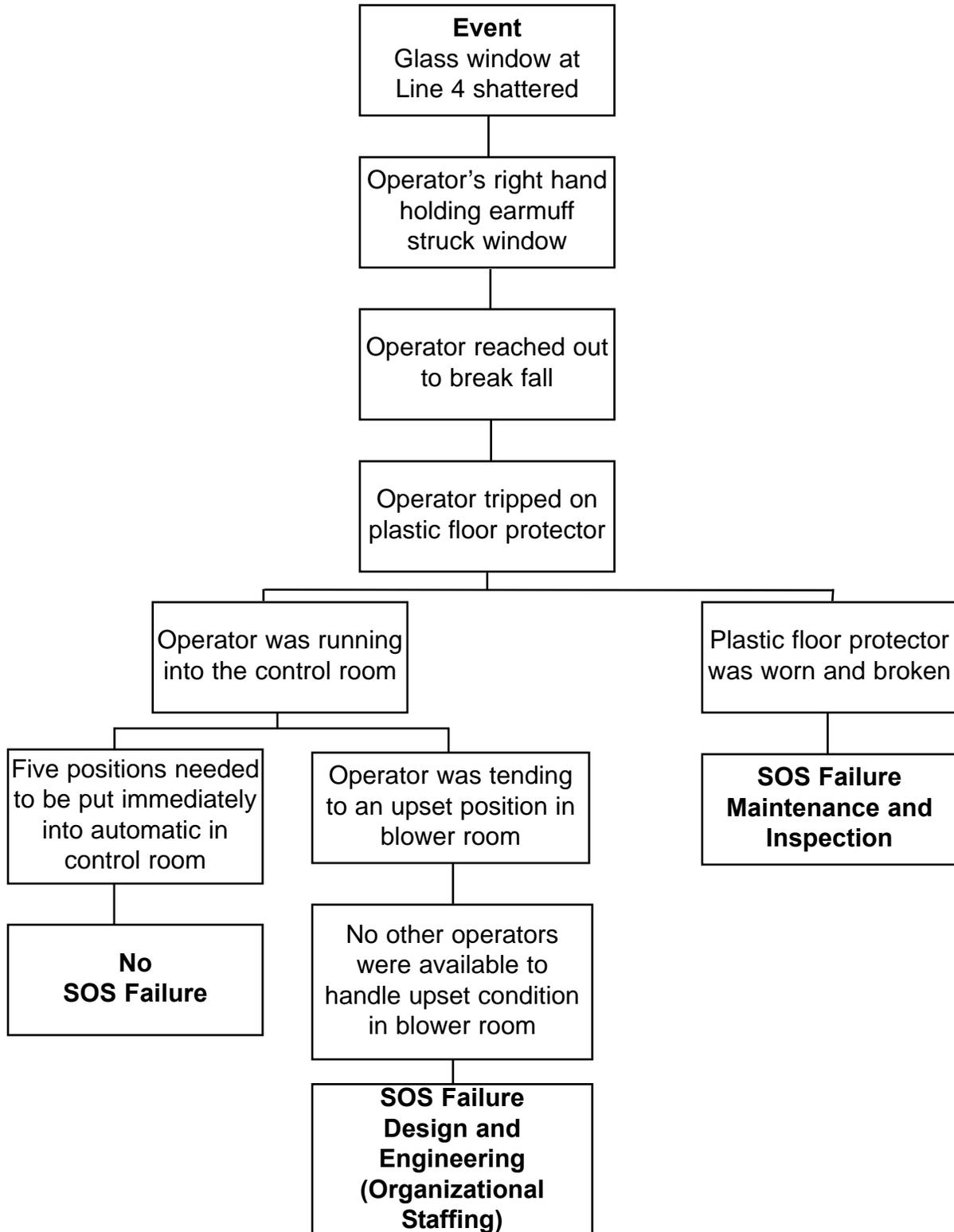
An operator was having an especially busy night. Five operating processes had to be monitored, paperwork was still incomplete and there was work to do in the blower room.

An unexpected upset condition caused the operator to have to go to the blower room. As the operator was doing work in the blower room, conditions of the processes indicated that it was necessary to put them into automatic as soon as possible. The operator ran from the blower room into the control room with his earmuffs still in his right hand. As the operator neared the desk, he tripped and fell. He put out his right hand, still holding the earmuffs, to break his fall. His right hand and earmuffs struck and shattered the glass window at Line 4.

An investigation of the area identified the worn and broken floor protector under the chair as the cause of the operator tripping. There was no other operator available to handle the work in the blower room.

## 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. Have two operators for the jobs one operator was attempting to do.
2. Replace plastic floor protector with one designed to prevent tripping.

### **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. Complete the chart below by:

- Putting an “X” beside the recommended actions you think your employer would implement at your workplace.
- Putting an “X” beside the recommended actions you think should be implemented at your workplace.
- Prepare to share with the group the reasons for your answers.

Employer	Recommended Actions	You
	1. Have two operators for the jobs one operator was attempting to do.	
	2. Replace plastic floor protector with one designed to prevent tripping.	

# EVALUATION

## Lessons Learned: Understaffing Leads to Broken Window

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 this page **plus the Education Exercise and Evaluation for each participant** 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.