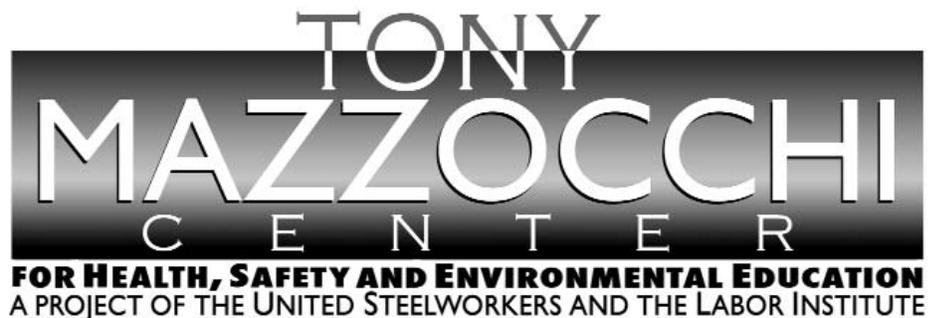


Blower Causes Eye Injury

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 06 Issue 5

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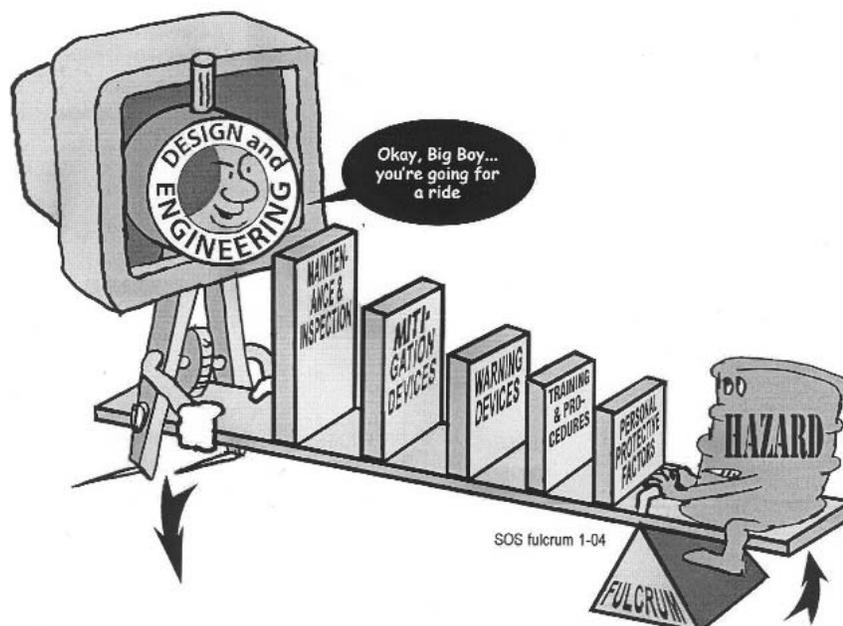
Background Information

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.

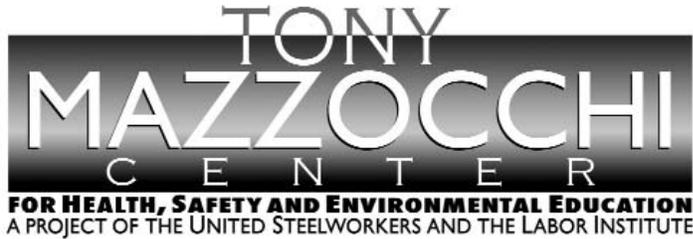


Safety Systems	Design & Engineering	Maintenance & Inspection	Mitigation Devices	Warning Devices	Training & Procedures	Personal Protective Factors
Level of Prevention	Highest — the first line of defense					Lowest — the last line of defense
Effectiveness	Most Effective					Least Effective
Goal	To eliminate hazards	To further minimize and control hazards				To protect when higher level systems fail.
Examples of Safety Sub-Systems*	Technical	Inspection and Testing	Enclosures, Barriers 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 (PPE) and Devices _{HF}
	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 _{HF}				Training	
	Organizational				Information Resources	
	Staffing _{HF}				Communications	
	Skills and Qualifications _{HF}				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: Blower Causes Eye Injury

Identifier: Volume 06 Issue 5

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Lessons Learned Statement

In this particular Lesson Learned you will be able to see how using a Systems of Safety approach to an incident investigation can prevent glass from being blown into the eyes of an employee who is doing a routine job of taking glass strands and placing them into a blower that creates so much turbulence that the glass becomes airborne outside the enclosed blower housing.

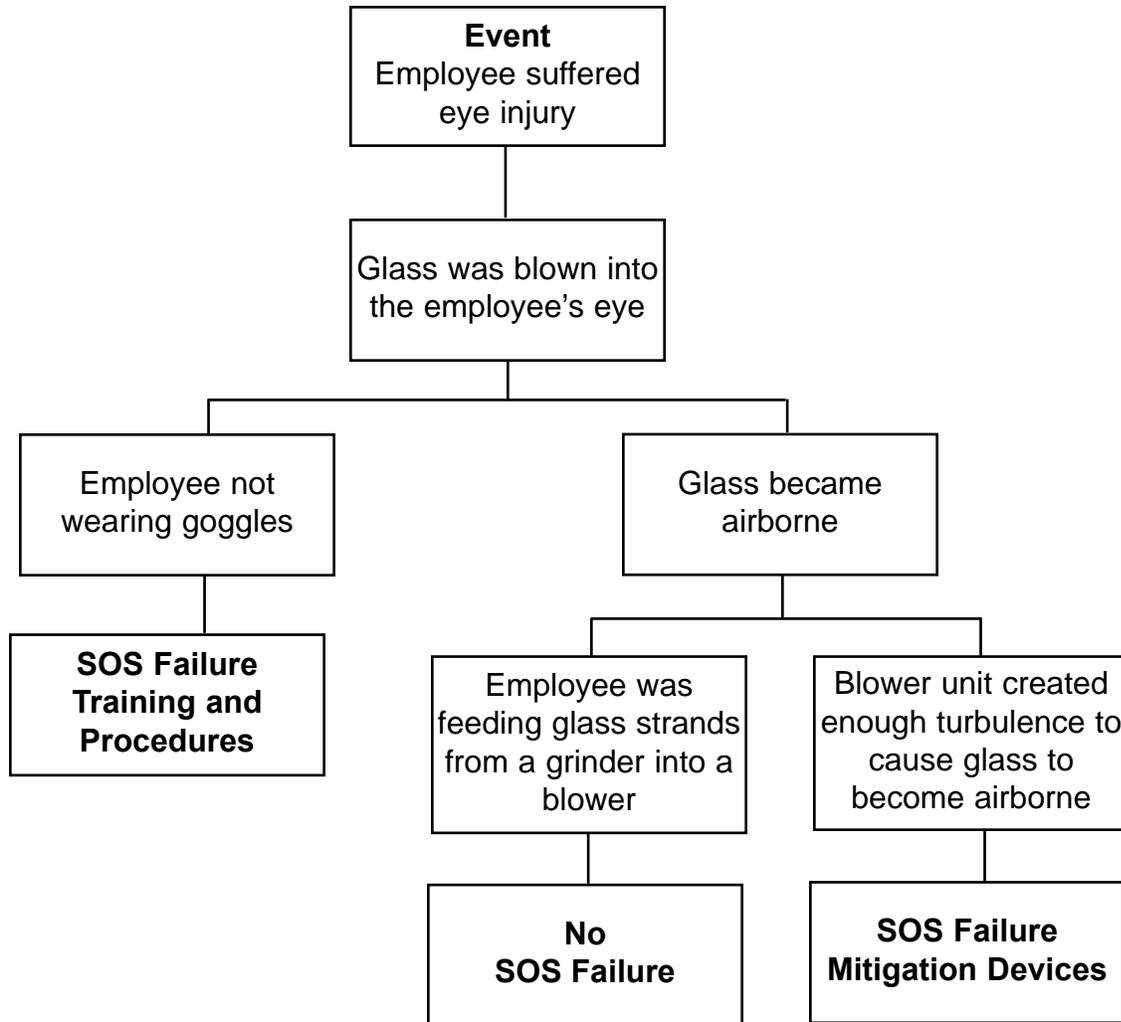
In this particular case the hazard of glass particles must be kept away from the worker. Applying the **Mitigation System of Safety** to keep the hazard inside the unit and away from the worker is the most effective. The use of as many *Systems of Safety* as possible, is always urged. Using goggles is the last line of defense as a means of protecting the worker but must be utilized along with keeping as much glass as possible in the unit. **Training and Procedures** must be in place to make sure goggles are available and utilized.

Discussion

At approximately 7:30 p.m., Mike, a production operator at a glass processing plant, received an injury to his right eye. Mike was removing glass strands from a regrind unit and feeding them into a blower when the glass blew into his eye from turbulence created by the blower. He was taken to the hospital where the glass was flushed from his eye. The incident resulted in an OSHA Recordable Injury.

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. Blower should be designed to create only negative pressure inside the unit to prevent positive pressure toward the workers.
2. Goggles should be provided and required to be worn during operation.

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. Blower should be designed to create only negative pressure inside the unit to prevent positive pressure toward the workers.	
	2. Goggles should be provided and required to be worn during operation..	

EVALUATION

Lessons Learned: Blower Causes Eye 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?

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.