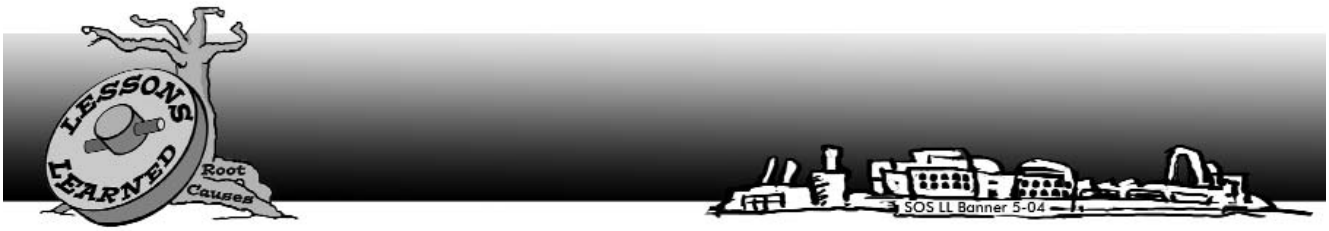

Bicycle Wreck Results in Injury

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.

TONY MAZZOCCHI CENTER
FOR HEALTH, SAFETY AND ENVIRONMENTAL EDUCATION
A PROJECT OF THE UNITED STEELWORKERS AND THE LABOR INSTITUTE

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Lessons Learned

Volume 07, Issue 47

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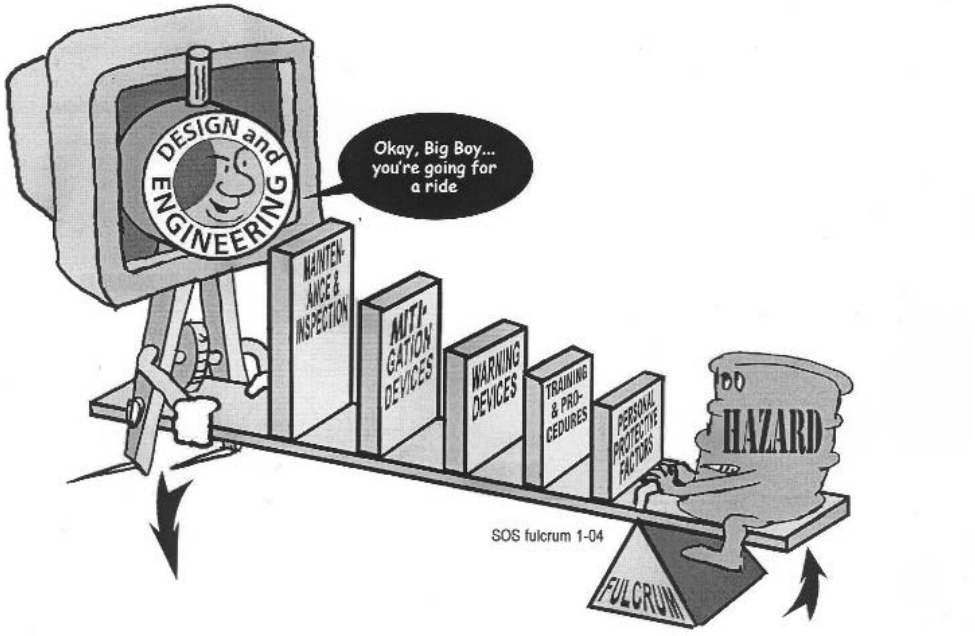
Background Information

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** Design and Engineering of Equipment, Processes and Software Management of Change (MOC)** Chemical Selection and Substitution Safe Siting Work Environment HF **Organizational *(must address a root cause)*** Staffing HF Skills and Qualifications HF Management of Personnel Change (MOPC) Work Organization and Scheduling HF Work Load Allocation of Resources Buddy System Codes, Standards, and Policies**	Inspection and Testing Maintenance Quality Control Turnarounds and Overhauls Mechanical Integrity	Enclosures, Barriers Dikes and Containment Relief and Check Valves Shutdown and Isolation Devices Fire and Chemical Suppression Devices Machine Guarding	Monitors Process Alarms Facility Alarms Community Alarms Emergency Notification Systems	Operating Manuals and Procedures Process Safety Information Process, Job and Other Types of Hazard Assessment and Analysis Permit Programs Emergency Preparedness and Response Training Refresher Training Information Resources Communications Investigations and Lessons Learned Maintenance Procedures Pre-Startup Safety Review	Personal Decision-making and Actions HF Personal Protective Equipment and Devices HF Stop Work Authority

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 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 subsystems relate to systems other than Design and Engineering, they should be considered as part of those other system, not Design and Engineering.

Revised October 2006

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Title: Bicycle Wreck Results in Injury

Identifier: Volume 07, Issue 47

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Lessons Learned Statement:

When we think of vehicle maintenance at our workplaces, usually it is trucks, forklifts and tractor trailers that come to mind. In reality, we have many modes of transportation that need as much attention as our truck fleets and industrial vehicles. Whether it is a golf cart, bicycle or scooter, we need to have the same **Maintenance and Inspection** standards as the vehicles we use on public highways.

In this incident, there could have been serious, even life threatening, injuries. The lack of **Maintenance and Inspection** on bicycles used at this plant caused a wreck that caused some minor, but very painful, injuries. But it could have been disastrous if there had been any motor vehicles using the same road at the time of the accident.

The lack of set standards or **Training and Procedures** on bicycle use also contributed to the problem. It may sound silly; after all, who doesn't know how to ride a bike? But it's not silly at all. Using bicycles in industrial settings is very different than a pleasant bicycle ride through the park. There is the constant movement of vehicles of every type and size coming in and out of the plant site. Riders need to be alert, aware and remain seated in order to control the bicycle when the unexpected happens.

Although they are in use every day, many sites don't do any preventive **Maintenance and Inspection** on bicycles. It doesn't take that much time to oil a bike chain and inspect the condition of the tires. All bolts, nuts and screws need to be inspected and tightened up accordingly. A few minutes of attention can save a life. It might be yours.

Discussion:

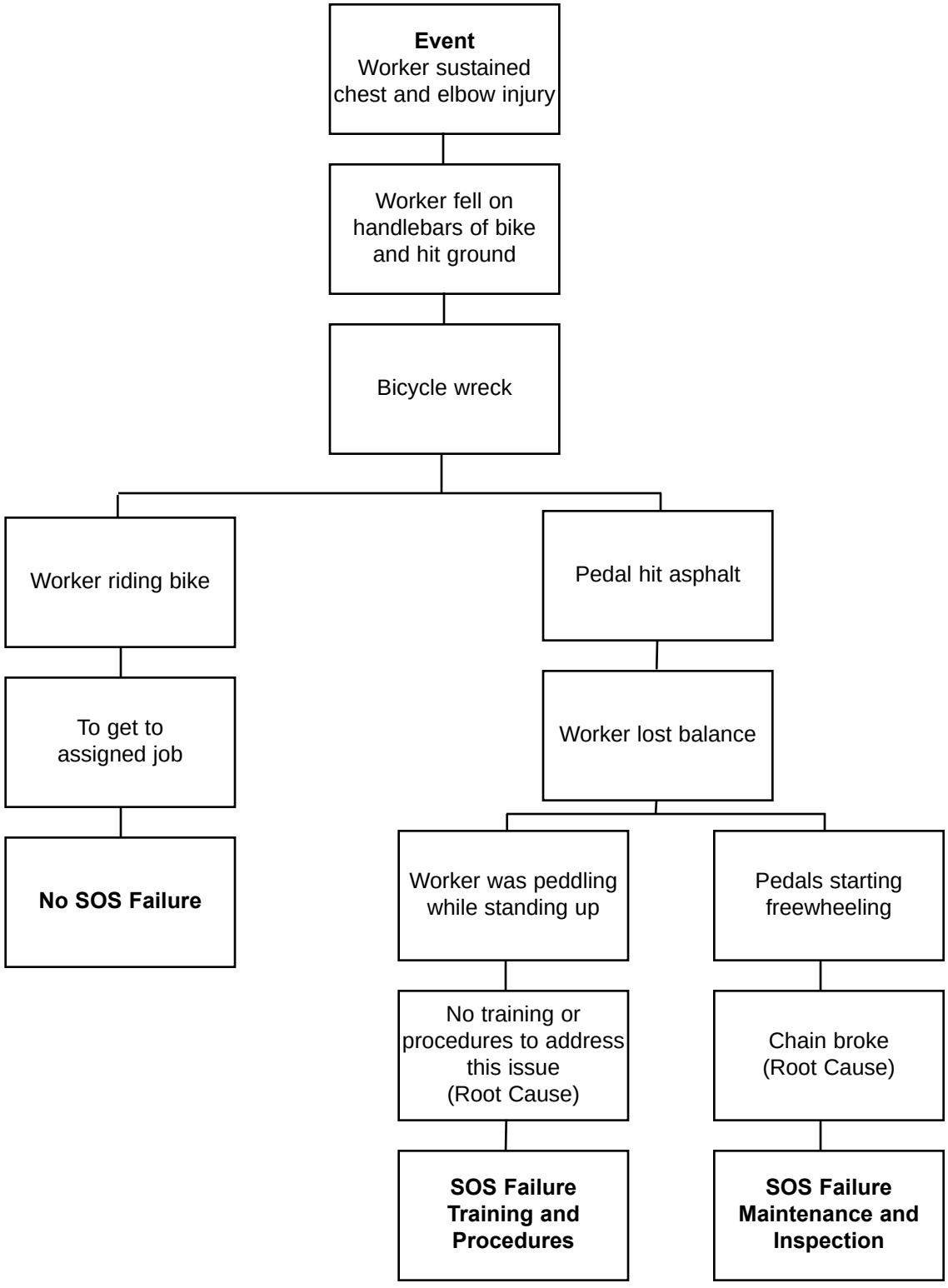
When a worker was assigned another job on the other side of his very large plant site, he felt fortunate that there was a bicycle available to him so he could get there quickly.

When the worker rode the bike onto the asphalt road, he saw his pathway was clear. He decided to kick it up a notch and stood up to pedal harder.

Suddenly the chain broke and the pedals started freewheeling. The worker lost his balance and the bike started to tip. One of the pedals hit the ground and the worker fell forward onto the handle bars and then hit the ground, bruising his chest and skinning his elbow. Although the injuries were not life threatening, they were very painful.

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. Immediately inspect all bicycles on site; repair or replace as needed.
2. Create a checklist for visual inspection and require anyone riding a bike to perform the inspection before using bikes.
3. Determine a frequency for preventive maintenance on bicycles and stick to that schedule.
4. Require all bikes to have an inspection sticker telling the date of the last time preventive maintenance was preformed.
5. Require safety training for bicycle users, including the rule to remain seated while riding.

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: Bicycle Wreck Results in 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

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.

Sign-in Sheet

TONY MAZZOCCHI CENTER
FOR HEALTH, SAFETY AND ENVIRONMENTAL EDUCATION
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Name of Class_____ Date of Class_____

Instructors: _____

Please Check One* H	M	Print Name	Signature

***H = Hourly Worker**
M = Management or Salaried Worker