

Lack of Design, Maintenance and Focus Contribute to Vehicle Accident

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 3

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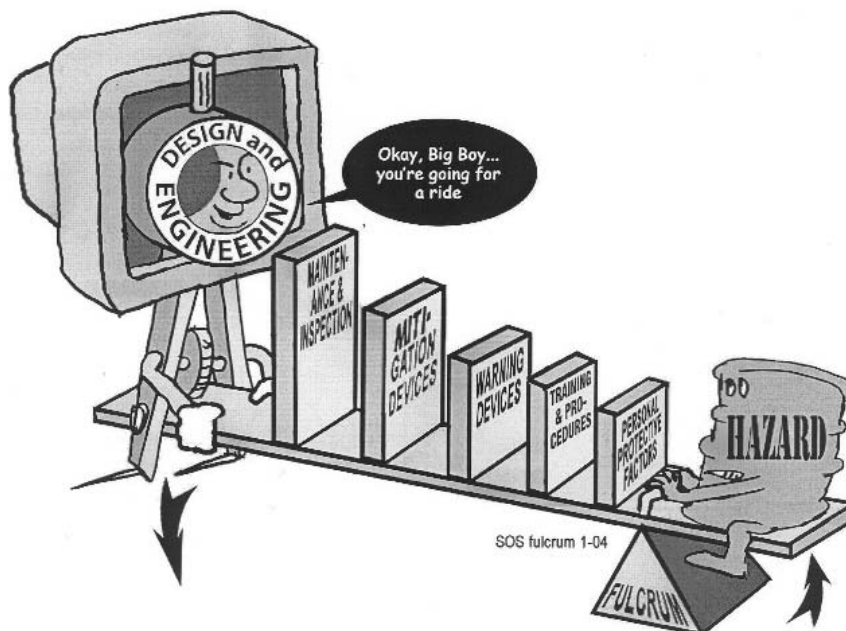
Background Information

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: Lack of Design, Maintenance and Focus Contribute to Vehicle Accident

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Lessons Learned Statement

When focus is diverted away from the operation of a vehicle, the design and maintenance of the vehicle can either assist the driver or contribute toward the greater possibility of an accident. All efforts of the driver must be made to focus on the safe operation of a vehicle; but power steering and a non-slip rubber pad on the brake pedal may well have prevented a truck from crashing into the side of a building.

When *Systems of Safety* are applied to fixing problems, the workplace, including vehicles, becomes safer for all. Applying **Design and Engineering** to the process of selecting equipment and vehicles can eliminate some hazards by including such things as power steering, power brakes and anti-lock brakes. Vehicles must then have scheduled **Maintenance and Inspection** to make sure parts are repaired and replaced as needed. This, of course, would include replacing slick and worn brake pedal pads with non-slip pads. Full attention must be given when operating equipment and vehicles. Procedures should be adopted to address the use of cell phones while operating vehicles (**Training and Procedures**).

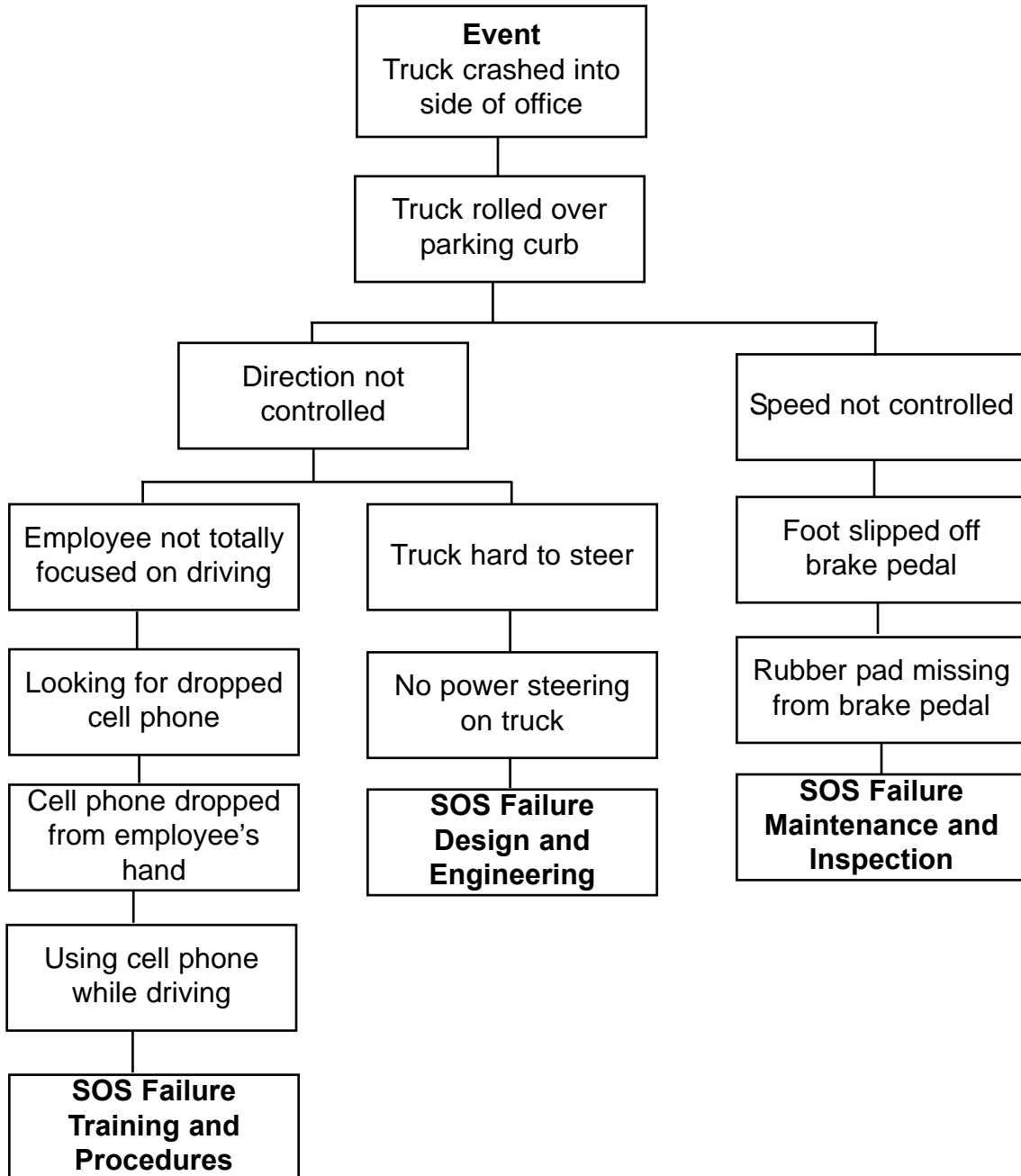
Discussion

Employee was driving a pickup truck while talking on a cell phone. The cell phone fell from employee's hand; the employee looked down and reached to pick up the cell phone. The body movement caused the employee's foot to slip off brake pedal. The truck did not respond quickly to efforts to turn the vehicle. The truck went across the concrete stop and crashed into the wall of the supervisor's office.

After the incident an inspection showed that the truck did not have power steering. The inspection also showed that the brake and clutch pedals were worn and slick.

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. Install power steering on vehicles.
2. Replace worn brake and clutch pads with anti-slip pads on all vehicles
3. Develop procedure prohibiting cell phone use in moving vehicles.

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. Install power steering on vehicles.	
	2. Replace worn brake and clutch pads with anti-slip pads on all vehicles.	
	3. Develop procedure prohibiting cell phone use in moving vehicles.	

EVALUATION

Lessons Learned: Malfunctioning Lift Control Eventually Causes a Near-Miss

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
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3340 Perimeter Hill Drive
Nashville TN 37211**

Thank you for facilitating the sharing of this
Lesson Learned with your coworkers.