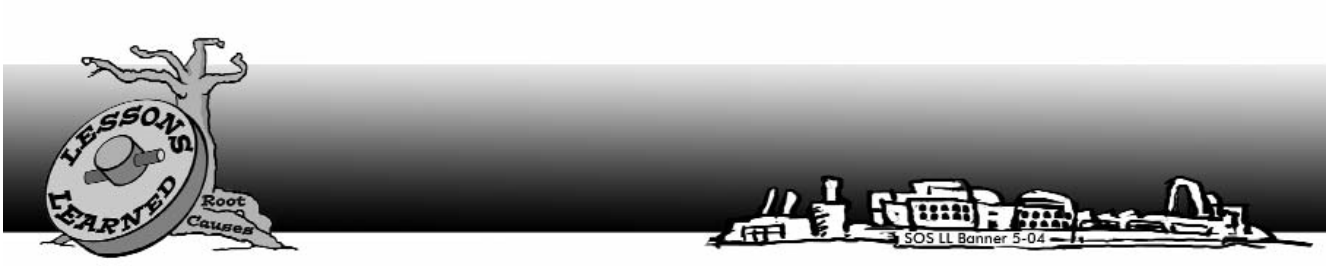

Dump Truck Contacts Overhead Power Lines

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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A PROJECT OF THE UNITED STEELWORKERS AND THE LABOR INSTITUTE

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 products or organizations imply endorsement by the U.S. Government.

Lessons Learned

Volume 08, Issue 5

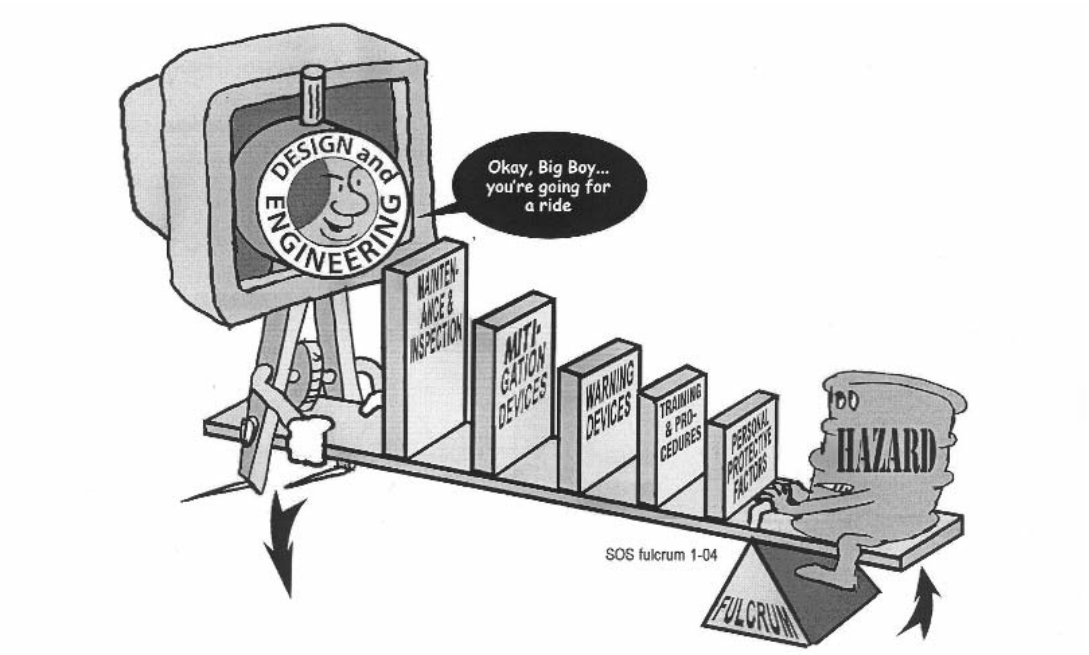
Background Information

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 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.

Revised October 2006

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Title: Dump Truck Contacts Overhead Power Lines

Identifier: Volume 08, Issue 5

Date Issued: April 15, 2008

Lessons Learned Statement:

Taking a power line out of service is a true use of the **Design and Engineering** ***System of Safety***. When this is not done or not possible, secondary systems must come into play to protect workers. A lack of communication between personnel on a worksite and their contractors/vendors about safety information can put workers at risk.

Training a Person in Charge on their responsibilities in monitoring the safety of suppliers, vendors and contractors helps provide for a safer work environment. The **Training and Procedures** ***Systems of Safety*** approach can help workers better understand their responsibilities. Training site workers and outside workers on the proper procedures to follow when a vehicle comes into contact with a power line will minimize the possibility of an electrocution.

Reviewing weaknesses in how a worksite processes information and implements job responsibilities falls under the ***Systems of Safety*** **Design and Engineering** approach. A work request document for hiring contract work that contains the hazards of the job and requires the contractors to contact an assigned person on the worksite before they can perform this work would assure that safety information about the job is communicated to all workers. Evaluating work areas for the display of appropriate check-in information can ensure that needed safety processes are followed.

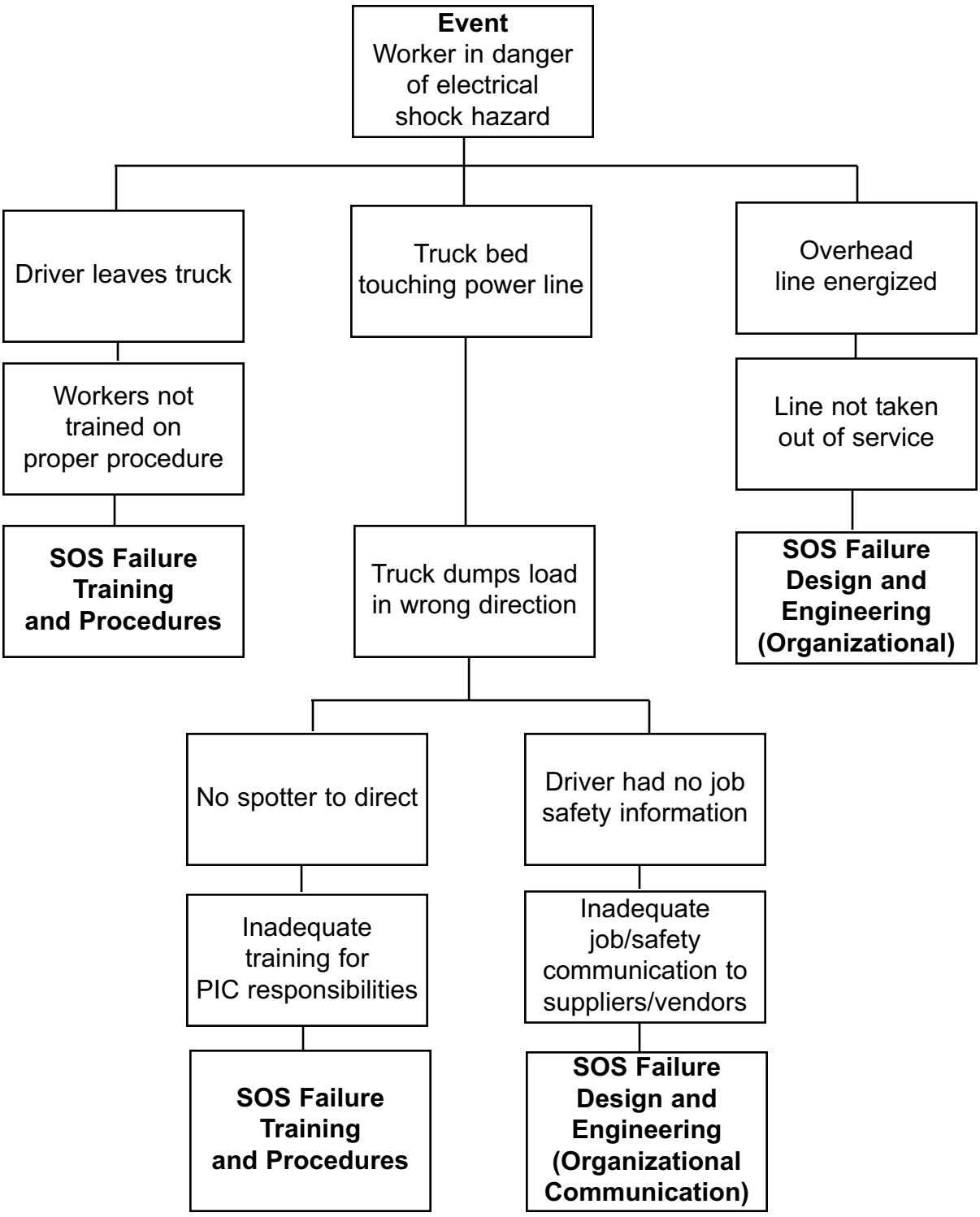
Discussion:

Three loads of gravel were to be delivered by an outside supplier to a worksite. The worksite had been reviewed for workplace hazards. An overhead power line was identified as a potential hazard. The person in charge (PIC) at the work site was to act as a spotter and was to instruct the drivers to stay away from the power line while dumping their load. The first truck dumped its load. At this time the PIC left the area to contact a Maintenance Leader.

Fifteen minutes later, a second truck arrived and the PIC had not returned to the dumping area. The driver had driven to the dump site without receiving any safety instructions from the facilities Person of Contact (POC). Suppliers were verbally informed that their drivers must contact the POC before performing work. The driver thought that the POC contact was just for receiving their security badge for entering the facility. The driver drove toward the power line, rather than away from it and proceeded to dump his load. At this time a site Operations Lead was driving by and noticed that the dump truck was about to hit the power line with the raised truck bed. He signaled for the driver to stop, but the raised bed contacted the overhead power line. The Operations lead didn't recognize the potential for an electrocution hazard. The driver, not recognizing the electrical hazard, got out of his truck without waiting for the power line to be de-energized. Fortunately, the driver was not injured.

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. Work request documentation and processing for subcontractor work that involves hazards must specify that personnel are required to contact an assigned POC/PIC for hazard information before work activities can be performed.

2. Facilities should evaluate work areas to determine if appropriate check-in information is prominently displayed.

3. The Point of Contact or Person in Charge must remain in a position to be contacted by subcontractors at all times, especially during scheduled deliveries involving heavy equipment.

4. Train Company, vendor and subcontractor personnel on the proper emergency actions required when a vehicle contacts an energized power line.

5. When possible, remove power from lines that may be contacted by moving equipment.

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 more 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 actions or recommendations participants discussed pursuing at their workplace(s).

Thank you for completing this form.

EVALUATION

Lessons Learned: Dump Truck Contacts Overhead Power Lines

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:

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

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

Sign-in Sheet

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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