

February 27, 1995

Nebraska FACE Investigation 95NE009

SUBJECT:

Driver crushed between Semi Tractor and Trailer

SUMMARY:

A 35-year old male truck driver was fatally injured when he was crushed between his tractor and the trailer it was towing. While going up a slight incline the trailer became separated from the tractor. The driver got out of the tractor to assess the situation and positioned himself between the tractor and the front of the trailer. The tractor rolled backwards and crushed him between the back of the tractor and the front of the trailer causing fatal injuries.

The Nebraska Department of Labor investigator concluded that to prevent future similar occurrences, employers and employees should:

- * Always ensure trailer is properly engaged in fifth wheel mechanism on tractor.
- * Always set the air brakes when departing the cab for any reason.
- * Ensure individuals never position themselves between the tractor and the trailer, unless the trailer is properly engaged in the fifth wheel mechanism.
- * Publicize the incident to stress the importance of always following prescribed procedures.

PROGRAM OBJECTIVE:

The goal of the workplace investigation is to prevent work-related deaths or injuries in the future by a study of the working environment, the worker, the task the worker was performing, the tools

the worker was using, and the role of management in controlling how these factors interact.

This report is generated and distributed **solely** for the purpose of providing current, relevant education to the community on methods to prevent occupational fatalities and injuries.

INTRODUCTION:

On January 1, 1995, a 35-year old driver died as a result of being crushed between a semi-tractor and trailer. The Nebraska Department of Labor was notified by the company of the fatality on January 3, 1995 and the incident was also in the newspaper. The FACE investigator met with company personnel on January 20, 1995 to discuss the incident. There were no witnesses to the incident so all conclusions are based on physical evidence at the scene. The employer is a trucking company that has been in business for 39 years. The company employs 5,500 people. This was not the first fatality for the company. They have had occupational traffic fatalities in the past. A full-time safety director and staff is employed by the company and they have a written safety policy.

INVESTIGATION:

The victim had been on vacation since December 23rd. He left his home on December 31st, picked up a load and went to the company home office. Here, still on December 31st, he took the tractor and trailer through the "Safety Lane" to be checked. This is standard practice each time a truck leaves the yard. The trailer was "red tagged" for tires. He left the trailer at the yard for new tires and took the tractor home. He returned to the yard the morning of January 1, 1995, to pick up the trailer. The time he clocked in at the yard was 10:55 AM. At approximately noon the same day, another employee was driving through the yard and discovered the victim lying on the ground by the trailer. He immediately called 911 and the Sheriff, Emergency Rescue and LifeFlight responded. The safety director was also notified and arrived on the scene at approximately 12:15 PM. When the victim was lifeflighted from the scene, the safety director immediately began his investigation.

From the evidence available the following scenario was constructed. The victim entered the yard with his tractor at 10:55 AM on January 1, 1995. He then proceeded to hook up the trailer to the tractor. Most likely, the kingpin on the trailer was not properly engaged in the fifth wheel mechanism at the time. The fifth wheel mechanism is the device mounted on top of the rear

deck of the tractor to which the kingpin on the trailer is attached. The kingpin on the trailer is the pin under the front center of the trailer which slips into the fifth wheel mechanism on the tractor which then locks around the kingpin (figure 1). The weather at the time of the incident was 12 degrees F, with the wind chill at 1 degree F. The victim then drove the tractor and trailer in the yard. The trailer stayed attached to the tractor probably due to the weight of the trailer and gravity while it traveled on level ground. The victim then proceeded to drive the truck up an incline at which time the trailer separated from the tractor (figure 2). The air hose connecting them (approximately 30 feet long) had been stretched out. When the tractor and trailer separated, the victim left the tractor to assess the situation. He apparently did not set the air brakes when he exited the cab. Company safety policy requires setting the air brakes anytime a driver exits the tractor. He then got positioned between the tractor and trailer at which time the tractor, which was on an upward incline, began rolling backward. The tractor crushed the victim between the front of the trailer and the back of the tractor. The victim was discovered lying by the trailer at approximately noon and lifeflighted to a local hospital where he died in surgery at 2:12 PM.

The victim had been employed with this company for two years and had performed the tractor-trailer coupling operation hundreds of times. Proficiency in this operation is required to obtain the license he had and specific training was also provided by the company when this individual was hired. Company training also stressed the importance of setting the brakes when exiting the tractor as well as staying clear of the area between the tractor and trailer. A checkout of the kingpin on the trailer and the fifth wheel coupling mechanism on the tractor revealed no problem with equipment. Physical evidence also revealed the air brakes had not been set on the tractor.

In this particular incident the company had a comprehensive safety program. Proper procedures for the task being performed were in place.

CAUSE OF DEATH:

The cause of death, as stated on the death certificate, was massive blood loss due to laceration and fracture of the left pelvis.

RECOMMENDATIONS/DISCUSSION:

Recommendation #1: Always insure trailer is properly engaged in fifth wheel mechanism.

Discussion: Had the trailer been properly coupled to the tractor the situation that ultimately led to this fatality should never have occurred. The cold weather at the time of the incident (12

degrees F, wind chill 1 degree F) may have made the coupling operation more difficult due to the viscosity of the grease on the fifth wheel mechanism. Adverse weather conditions may have been a contributing factor.

Recommendation #2: Always set the airbrakes when departing the cab for any reason.

Discussion: Again, had the airbrakes been set, this should have prevented the tractor from rolling backward down the incline.

Recommendation #3: Ensure individuals never position themselves between the tractor and the trailer, unless the trailer is properly engaged in the fifth wheel mechanism.

Discussion: The ultimate factor that led to the fatality was the fact the victim put himself in a dangerous position. Situational awareness must always be maintained.

Recommendation #4: Publicize the incident to stress importance of always following prescribed procedures.

Discussion: Everyone else in the company should be made aware of the incident to prevent recurrence. This company has already begun publicizing it at safety meetings.

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