

**Two Semis Collide - Fire Ensues;
Both Drivers Perish
Incident Number: 11KY031**



Photograph of semi struck by another semi. Property of KY FACE.

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Kentucky Fatality Assessment and Control Evaluation (FACE) Program

Incident Number: 11KY031

Release Date: January 31, 2013

Subject: Two Semis Collide - Fire Ensues; Both Drivers Perish

Summary

One summer's night, A 49 year-old semi-truck driver (D1), pulling a flatbed loaded with salvage cars for recycling traveled north on a three-lane state highway. D1 topped a hill, drove through a right curve when the unit rolled onto the driver's side, slide across the center line and entered a straight stretch approximately half way to the bottom of a hill. As D1's unit was sliding down the hill in the south bound lanes, a 52 year-old semi-truck driver (D2) hauling bottled beverages was traveling south in the straight stretch up the hill. As D1 slide down the hill, D2 tried to avoid being struck head-on and struck the guardrail. D2 was struck by D1; both vehicles caught fire and both drivers died at the scene.

To prevent future occurrences of similar incidents, the following recommendations have been made:

Recommendation No. 1: Transportation companies should educate commercial drivers on proper load securement.

Recommendation No. 2: Transportation companies should require drivers to utilize restraints while operating commercial vehicles.

Recommendation No. 3: Electronic stability systems should be mandatory equipment on all commercial vehicles.

Recommendation No. 4: Companies should provide new and refresher commercial driver safety training for company drivers addressing driver distraction and including defensive driving techniques.

Background

A 49 year old semi-truck driver was employed by an intrastate commercial carrier that had two power units and one driver. Cargo transported by the company included machinery, large objects and crashed vehicles. He was an experienced commercial driver with more than 20 years of driving experience. His route began at midnight and drove the same route every day.

A 52 year-old driver was employed by an interstate commercial carrier that had 108 power units and 199 drivers. The company transported general freight, fresh produce, meat, and refrigerated

foods. The company had a safety program for its drivers and other employees. He also had years of commercial driving experience. His driving routine is unknown.

On the day this incident occurred, the temperature ranged from 65 degrees Fahrenheit to 85 degrees Fahrenheit. There was zero precipitation.

Investigation

The Kentucky Fatality Assessment and Control Evaluation Program was notified of an occupational fatality involving two semis and fire. Interviewed for this report were two towing companies, the local coroner, and Kentucky Department of Transportation employees. A site visit was made, and photographs were taken.

At approximately midnight during an early summer night, a 49 year old semi-truck driver (D1) entered the semi he drove five nights a week and began his route. He was driving a 2005 semi day cab. Soon after beginning his route, D1 stopped for fuel. He was hauling three stacks of five salvage cars secured with chains on a flatbed trailer. The route, round trip, was approximately 420 miles and would take the driver approximately 8 ½ hours to complete. It would also take him out-of-state.

While D1 was en-route to his destination, another commercial driver, 52 year-old (D2) was making deliveries of carbonated beverages to stores. It was approximately 12:45 AM and both drivers were on the same stretch of a three-lane state highway paved with asphalt. The roadway was straight, unlit, the pavement dry, and the weather was clear.

D2 had turned from a US highway onto a three-lane state highway and was driving south, ascending a hill. He was operating a 2012 semi with a day cab and he was utilizing the restraint system. After driving approximately one mile, he in the right-hand travel lane; a shoulder and guardrail were to his right.

D1 was not utilizing the semi's restraint system and was traveling north on the same state highway. He topped a hill, entered and exited a right-hand curve, applied the brakes, the semi and flatbed rolled onto the driver's side, crossed the center line and proceeded to slide down the hill in the south bound lanes, and the flatbed trailer rotated to the left. D2 drove toward the guardrail trying to avoid D1, sideswiping the guardrail. The back rear of D1's flatbed then struck the guardrail. D2's unit was struck by D1's unit at its fifth-wheel connection. Upon impact, both semis caught fire and D1's semi detached from the flat bed, rolled up-right onto all four tires then traveled back across the northbound lanes into the ditch along the northbound side of the highway. D1 was ejected from the semi across the northbound lanes.

As the units collided, eight of the salvage cars came loose. Six slid between the guardrail and the trailer hauling beverages, and two of the cars struck D2's cab head-on. Bottles of beverages went forward into D2's cab.

A witness to the incident called emergency services. Fire trucks, ambulances, and police arrived at the scene. The local coroner was contacted and declared both drivers dead at the scene.

Cause of Death

D1 cause of death was due to blunt crush injury of head and torso.

D2 cause of death was due to multiple blunt force injuries.

Recommendations and Discussions

Recommendation No. 1: Transportation companies should educate commercial drivers on proper load securement.

Improper load securement is an issue public roadways. Under the Federal Motor Carrier Safety Administration's (FMCSA) standards, commercial drivers are held legally responsible for load securement. Loads are secured by chains, straps or a combination of the two. The number and weight of chains used to secure a load depends upon the type and weight of the cargo being transported. To assist commercial drivers in learning load securement techniques, Kentucky should require load securement in the driver's training and include load securement on the commercial driver's licensing exam. Guidance for load securement of flattened or crushed vehicles may be found at FMCSA's website <http://www.fmcsa.dot.gov/rules-regulations/truck/vehicle/cs-policy.htm>, 393.132. Injuries caused by improperly secured loads not only cause monetary loss, but may cost human life, cause delays in delivery, loss of a fleet vehicle, and may cause insurance rates to increase.

Recommendation No. 2: Transportation companies should require drivers to utilize restraints while operating commercial vehicles.

Kentucky and Federal laws both require commercial drivers to wear seat belts when operating a commercial vehicle. Kentucky Revised Statute 189.125(6) requires drivers and all passengers to be restrained by properly adjusted and fastened seatbelts. 49 Code of Federal Regulations §392.16-Use of seat belts, states that a commercial vehicle is equipped with a seatbelt, and the driver must properly restrain himself/herself with the seatbelt. The semi in this case was manufactured in 2005 and was equipped with seat belts. Companies should utilize the Federal Motor Carrier Safety Administration's program, "Commercial Vehicle Safety Belt Program". A manual, "Increasing Safety Belt Use in Your Company" can help drivers understand the importance of wearing seatbelts. The manual can be found at:

<http://www.fmcsa.dot.gov/safety-security/safety-belt/increasing-safetybelt-usage-manual.htm>.

Recommendation No. 3: Electronic stability systems should be mandatory equipment on all commercial vehicles.

The Federal Motor Carrier Safety Administration's Code of Federal Regulations, 393.55 requires commercial vehicles manufactured after 1999 to be equipped with automatic braking systems

(ABS). The semi-tractor trailer involved in this incident was equipped with an ABS, but not a stabilizer system. When the ABS is applied by the driver prior to striking or making an avoidance maneuver, the ABS prevents the semi-tractor trailer from jackknifing. If the ABS is not activated quickly enough, the stabilizer system can sense incorrect vehicle movement. Independent of driver input or action, the stabilizer system will override the driver, deploy, and prevent the semi-tractor trailer from a jackknifing or rolling-over. Another system available for trucks is a sensory system which uses forward sensing radar to inform the driver that he/she is too close to the vehicle in front of them. Two indicators, a light on the dash board and an audio signal, will alert the driver of close proximity to the vehicle in front and will automatically slow the truck down thus expanding the driver's reaction time.

Recommendation No. 4: Companies should provide new and refresher commercial driver safety training for company drivers addressing driver distraction and including defensive driving techniques.

Company truck drivers should receive new and refresher commercial driver training semiannually. This training should include defensive driving techniques and highway incident management strategies. Training should also include education on the prevention of jackknife, roll-overs and the causes of such occurrences. According to two truck driver training schools, defensive driving techniques should include looking eight to ten seconds ahead of the truck and how to deal with obstacles in the roadway (05KY089). Training should also include aids to help drivers stay focused on driving and not become distracted. Companies should provide refresher training for all drivers to address driving habits including appropriate speed for driving conditions, wearing safety belts, space management, and how to avoid becoming distracted while driving and fatigued.

Keywords

Fire
Seatbelt

References

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3. <http://www.fmcsa.dot.gov/rules-regulations/truck/vehicle/cs-policy.htm>
4. Kentucky Revised Statute 189.125(6) – Seat belts
5. 49 Code of Federal Regulations §392.16-Use of seat belts

6. <http://www.fmcsa.dot.gov/safety-security/safety-belt/increasing-safetybelt-usagemanual.htm>

Acknowledgements

The KY FACE program would like to express its appreciation to the towing companies, the local coroner, the Kentucky State Police, and the KY Department for Transportation for their assistance with this report.

The Kentucky Fatality Assessment & Control Evaluation Program (FACE) is funded by grant 2U60OH008483-08 from the Centers for Disease Control and the National Institute of Safety and Health. The purpose of FACE is to aid in the research and prevention of occupational fatalities by evaluating events leading to, during, and after a work related fatality. Recommendations are made to help employers and employees to have a safer work environment. For more information about FACE and KIPRC, please visit our website at: www.kiprc.uky.edu



Photograph of semi which struck another semi. Property of KY FACE.



Photograph of state highway where incident occurred. Property of KY FACE.