

Foreign-born Semi Driver Dies After Driving Over Embankment

Incident Number: 09KY071



Photograph of the semi tractor-trailer involved in this incident. Photograph courtesy of local official.

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Kentucky Fatality Assessment and Control Evaluation (FACE) Program

Incident Number: 09KY071

Release Date: August 3, 2010

**Subject: Foreign-born Semi Driver Dies After
Driving Over Embankment**

Summary

One summer morning in 2009, at approximately 11:30 AM, a 41 year-old male, long-haul, semi tractor-trailer driver drove off an interstate highway, over a guardrail, and continued into a wooded ravine. His trailer was empty and he was travelling to pick up a load of retail goods. The trailer disengaged from the tractor, the fuel tanks ruptured, the tractor overturned and caught fire. As the tractor overturned, the driver was ejected. A passing motorist called emergency medical (EMS) services; EMS arrived and found the driver dead at the scene.

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

Recommendation No. 1: Commercial vehicle carriers should establish and implement an appropriate comprehensive safety and driver training program.

Recommendation No. 2: Commercial vehicle carriers should implement and enforce a workplace policy that requires drivers to wear seat belts while operating a commercial vehicle.

Recommendation No. 3: Semi tractor-trailer drivers should be trained to recognize signs of fatigue and when to seek appropriate rest areas.

Recommendation No. 4: Electronic stability systems should be mandatory equipment on all commercial vehicles.

Recommendation No. 5: A comprehensive motor vehicle safety assessment of Kentucky's interstate system needs to be performed in the area where the collision took place.

Background

The employer was an interstate carrier that hauled general freight, and had five power units and 5 drivers. According to a company representative, the company's safety program consisted of checking drivers' log books every quarter.

The driver was 41 years old, male, had been employed by the transportation company for approximately 18 months, and had resided in the United States since 2000 on a R1 visa. He spoke English, had a valid commercial driver's license, and was a long-haul driver who drove

the same semi, and hauled retail goods. His routes varied from the southern sea coast to the far midwest and north of Kentucky. Occasionally his routes would take him to the northeast or the western sea coast. Typically he would begin his route on Monday morning and arrive back home sometime Friday or on Saturday morning.

The average temperature on the day of the incident was 66 degrees Fahrenheit.

Investigation

The Kentucky Fatality Assessment and Control Evaluation program was notified via Vital Statistics of a motor vehicle crash involving a semi driver and fire. The local coroner was contacted and subsequently interviewed. Also interviewed for this report were a Kentucky state trooper, and a representative from the company which employed the driver. A site visit was made and photographs taken.

One summer morning during 2009, on a Monday, a 41 year-old long-haul truck driver began his route in a southern state pulling a trailer loaded with retail freight. His route would take him five days to complete and he was operating the 1999 conventional sleeper cab he was assigned. He drove to a coastal southeast state; dropped the load, then picked up a load and headed to a destination north of Kentucky. On Wednesday, at approximately 8:30 AM he made a delivery at a retail location just north of the Kentucky border. Between 9:30 AM and 10:00 AM, the driver contacted dispatch and informed the company that delivery was complete and he was enroute to pick-up his next load of retail goods.

At approximately 11:30 AM, the truck driver had been enroute for approximately 50 miles and was headed southwest on a rural, four-lane interstate. It was raining, the asphalt pavement was wet, and the speed limit was 70 miles per hour. The local terrain was hilly, and the tractor-trailer was headed downhill into a curve when the driver drove off the pavement on the right side over the emergency lane, over a guardrail, then traveled 185 feet through dense trees and into a ravine. With the fuel tanks damaged, the tractor overturned and the trailer disengaged from the fifth-wheel. A fire ensued; the tractor flipped over, ejecting the driver and the tractor came to rest on its top. The trailer settled in an upright position partially across the overturned tractor.

At 11:32 AM a passing motorist called emergency services. They arrived to find the tractor and trailer engulfed in flames. Emergency responders arrived at 11:45 AM and found the driver, burned, under the rear axles of the tractor. The coroner was contacted, and upon arrival declared the driver dead at the scene.

Toxicology results for drugs and alcohol on the driver were negative, as was the test for carbon monoxide. According to the autopsy report, the driver did not have any cardiovascular issues, nor was he diabetic. The collision report states the driver was not wearing the safety belt, and that no avoidance maneuvers were made by the driver to prevent the crash. There was no evidence of skid marks on the pavement, and according to a witness, the tractor-trailer was not speeding. It took eight hours to remove the remnants of the tractor-trailer and clean up the debris from the crash.

Cause of Death

The death certificate states the cause of death was caused by severe body burn due to a motor vehicle traffic accident.

Recommendations and Discussions

Recommendation No. 1: Commercial vehicle carriers should establish and implement an appropriate comprehensive safety and driver training program.

It is unknown if the driver in this incident received safety training during his driving career. The company's safety program consisted of checking drivers' log books every quarter. Transportation companies should establish and implement a safety program that includes general safety training such as how to properly 1) enter and exit the cab, 2) work around the trailer; as well as: 3) defensive driving techniques and highway incident management strategies; 4) determining appropriate speeds for driving conditions including weather; 5) looking eight to ten seconds ahead of the truck and how to deal with obstacles in the roadway (05KY089); 6) education on the causes of jackknives, roll-overs and the prevention of such occurrences; 7) wearing safety belts; 8) space management; 9) how to avoid becoming distracted; and 10) recognizing fatigue while driving.

To assist commercial vehicle carriers in this endeavor, the Federal Motor Carrier Administration provides guidance on elements that should be included in a safety program for commercial drivers. Safety program guidance can be found on the FMCSA's website: <http://www.fmcsa.dot.gov/safety-security/eta/ETA%20Final%20508c.pdf>. Insurance companies can also provide assistance (often free of charge) with designing and implementing a safety program for their clients.

Recommendation No. 2: Commercial vehicle carriers should implement and enforce a workplace policy that requires drivers to wear seat belts while operating a commercial vehicle.

According to the police report, the driver involved in this incident was not wearing a seatbelt. 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. To help employers develop and institute a seatbelt training program, the Federal Motor Carrier Safety Administration developed the "Commercial Vehicle Safety Belt Program". A manual, "Increasing Safety Belt Use in Your Company" is available to help companies develop a seatbelt usage program and is available at <http://www.fmcsa.dot.gov/safety-security/safety-belt/increasing-safetybelt-usage-manual.htm>.

Recommendation No. 3: Semi tractor-trailer drivers should be trained to recognize signs of fatigue and when to seek appropriate rest areas.

Besides distraction, fatigue is one of the main difficulties drivers combat. Drivers should be educated to recognize when they are becoming fatigued while driving. According to an article, “Driver Fatigue: The Dangers of Driving Sleepy”, signs of driver fatigue include daydreaming, straying out of the lane, excessive yawning, feeling impatient and/or stiff, heavy eyes, and reacting slowly. Another article states that over-steering is also a sign of driver fatigue. The study “The development of a naturalistic data collection system to perform critical incident analysis: An investigation of safety and fatigue issues in long-haul trucking” states that most incidents involving fatigued drivers occur in the late afternoon and early evening hours with the highest rates occurring between 11:00 am to noon and 3:00 pm to 6:00 pm. Methods to avoid driver fatigue include being well rested, getting enough sleep, taking breaks every two hours where the driver may take a nap, eating a snack, avoiding consumption of alcohol, having a trip driving plan, and staying hydrated.

Every driver should have a route plan that incorporates appropriate rest areas to give the driver access to meals, a quiet safe place to nap, and be able to stretch. The plan should also provide information on roadside assistance if needed.

Recommendation No. 4: Electronic stability systems should be mandatory equipment on all commercial vehicles.

Manufacturers of semis are continually using advancing technology to assist drivers in operating tractor-trailers safely and efficiently. One such system is the automatic braking systems (ABS) required by the Federal Motor Carrier Safety Administration’s Code of Federal Regulations, 393.55 which require commercial vehicles manufactured after 1999 to be equipped with ABS. The semi-tractor trailer involved in this incident was equipped with an ABS, but not Electronic Stability Control (ESC) system. When the ABS brake is applied prior to making an avoidance maneuver, an ESC equipped system prevents the semi-tractor trailer from roll-over and jackknifing. The ABS and ESC equipped tractor operates full time and senses incorrect vehicle movement independent of driver input or action. When necessary, 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. 5: A comprehensive motor vehicle safety assessment of Kentucky’s interstate system needs to be performed in the area where the collision took place.

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institute a seatbelt training program, the Federal Motor Carrier Safety Administration developed the “Commercial Vehicle Safety Belt Program”. A manual, “[Increasing Safety Belt Use in Your Company](http://www.fmcsa.dot.gov/safety-security/safety-belt/increasing-safetybelt-usage-manual.htm)” is available to help companies develop a seatbelt usage program and is available at <http://www.fmcsa.dot.gov/safety-security/safety-belt/increasing-safetybelt-usage-manual.htm>. From January 1, 2009 through December 31, 2009 on the two- to three- mile stretch of interstate where the collision described in this report occurred, there were 17 collisions involving commercial vehicles and three fatalities resulted. This particular stretch of interstate is rural, hilly, curvy, and the speed limit is 70 miles per hour. The State of Kentucky should consider performing a comprehensive motor vehicle safety assessment of this stretch of highway including assessment of roadway curve design, roadway grade, signage including possible warning signage, median and roadside barriers, as well as other highway attributes.

Keywords

Automatic Braking System (ABS)
Electronic Stability Control (ESC)
Fire
Safety program

References

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- 7) <http://www.sleep-deprivation.com/articles/causes-of-sleep-deprivation/driver-fatigue.php>
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Acknowledgements

KY FACE would like to thank the following people for their assistance with this report:

The local coroner
The transportation company
The Kentucky State Police

The Kentucky Fatality Assessment & Control Evaluation Program (FACE) is funded by a grant 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



Location where semi tractor-trailer driver drove off of interstate into ravine. Photograph courtesy of local official.



Path of semi tractor-trailer from the interstate. Photograph courtesy of local official.