

Kentucky Fatality Assessment and Control Evaluation Project

**Public Health
KY FACE # 02KY074
October 22, 2002**

TO: Patricia Williams, PI, Health Policy Specialist, Kentucky Department for Public Health

FROM: Medearis Robertson, KY FACE Field Evaluator

SUBJECT: Asphalt Compactor Operator Dies When Machine Slides and Falls 17 Feet

Summary

A 32-year-old woman (the decedent) was killed when the asphalt compactor she was operating slid over an embankment and dropped 17 feet to a roadway below. At the time she was pressing an asphalt joint joining a roadway and a shoulder/emergency lane. She was two miles behind the asphalt truck and 1000 feet in front of a flat bed truck. The location of the incident had been identified as a possible hazardous location and her supervisors had instructed her to use extra caution in that area. The decedent was trained and had several years of experience operating an asphalt compactor. To prevent a similar occurrence, FACE evaluators recommend:

- Employees should always use safety equipment provided (such as seatbelts).
- A hazard assessment to identify potential hazards of the job site should be conducted before new work or continued work is performed. Spotters and/or cones should be used to remind operators of dangerous areas.
- When employees are off from work for an extended period of time, they should be retrained before being exposed to hazardous jobs.

Background

On August 12, 2002, the Kentucky FACE program was notified through an article in the local newspaper that on August 9, 2002, a 32-year-old female had been killed while operating an asphalt compactor. That same day, the FACE evaluator contacted the local coroner's office, the state police and the sheriff's department. An evaluation of the incident was conducted on August 13 and 14. The state trooper and sheriff department officer who responded to the incident, the company safety director, an employee who witnessed the incident, and an accident reconstructionist were interviewed. Photographs were taken of the scene and the compactor. The deputy coroner was interviewed by phone and a copy of the coroner's report was requested.

The company the decedent worked for employed 450 employees. It was a family owned road construction business who performs all aspects of highway construction work including making asphalt, spreading and compacting asphalt, and installing guardrails. The company employed a full-time safety director. Safety toolbox meetings were held each Monday. A reminder of the safety message is printed on paycheck stubs that are distributed each Friday.

Investigation

The decedent had been employed by the company for three years. She was initially trained to be a flagger and then three months later she was trained to operate an asphalt compactor. Prior to her employment with the company, she had taken classes through a federal in-state training program related to the highway construction industry. At the time of the incident, the company was operating two 12-hour shifts (7 to 7); her hours were 7:00 AM - 7:00 PM. The decedent had returned to work two days prior to the incident, having been laid off in December, 2001, then on medical leave until her return to work on August 7, 2002. During this time, she furthered her job training and had taken another construction class through the same program as before.

There were 25 - 30 employees on this particular job performing various other duties. The decedent was to pinch the joint between the parkway asphalt and the new asphalt being laid for the shoulder/emergency lane. The parkway runs East and West. She was operating an Ingersoll-Rand Vibratory Asphalt Compactor DD-110HF 2001 model that had been used a total of 80 hours. It was equipped with Rollover Protective Structure/Falling Object Protective Structure (ROPS/FOPS) and a seatbelt.

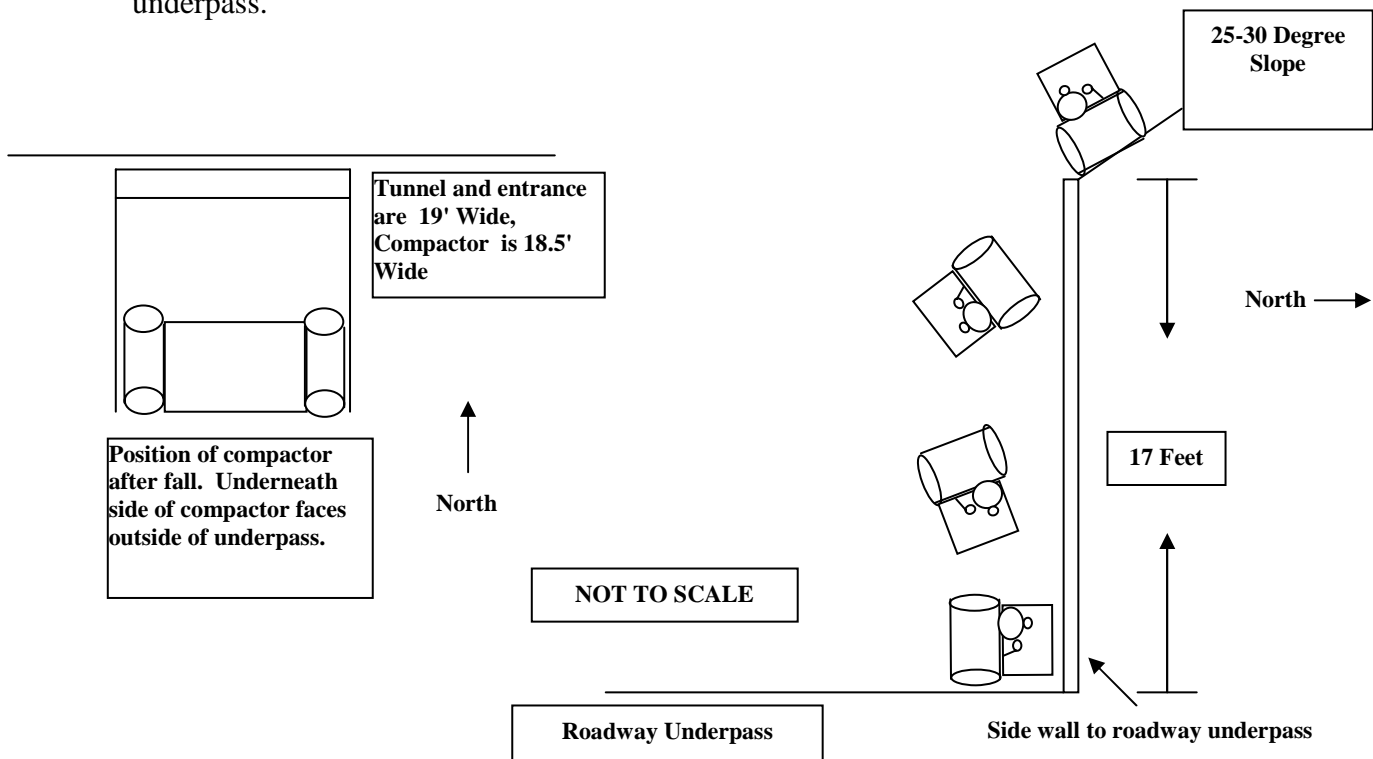
One area of concern that day was where a roadway (runs north and south) passes under the parkway. Both the superintendent and the foreman of the job had warned her about the danger of this particular area. She was instructed to keep the majority of the machine toward the parkway (north) side of the pinch line. This would keep the weight of the machine away from the ditch. She also had been told to stay two miles behind the paver to allow time for the asphalt to set-up and become firmer before it was compacted. Except for another employee 1000 feet behind her, she was by herself on that section of parkway.

At approximately 3:14 PM, emergency medical services received the call that an asphalt roller had flipped onto a road going underneath the parkway. There were two witnesses to the incident. One witness was an unidentified female motorist driving by as the incident occurred. The motorist drove to the nearest person (the driver of the asphalt layer truck) and told them she saw the asphalt compactor slide. They radioed the company office and informed them to call 911 emergency services. The other witness was a company employee (male) who was driving a flatbed truck approximately 1000 feet behind the compactor. He saw the compactor flip and immediately radioed the office for an ambulance to be sent to the site.

Emergency Management Services (EMS), a local hospital air-vac unit, fire department, State Police and local Sheriff Deputy's responded to the call. EMS used the Jaws of Life to remove the decedent from the cab of the compactor. The decedent was taken by ambulance to a local hospital and at 4:10 PM she was declared dead.

Except for the motorist driving by, no one was in the immediate vicinity when the incident occurred. There was some confusion as to whether the decedent was driving the compactor east or west when she began to slide. The company hired an accident reconstructionist to assess the scene of the incident. An accident reconstructionist, accompanied by the FACE evaluator and the company's Safety Director, went to the scene on Wednesday, August 14, 2002. It was determined by marks in the asphalt that the decedent was pinching the joint traveling east bound. The decedent was facing north with her back to the south. This allowed her to operate the asphalt compactor in an easterly or westerly direction. The track of the compactor in the asphalt immediately preceding the underpass showed the driver had kept more than half the width of the machine toward the parkway (north of the pinch line). At one point just before the underpass, it was evident by marks on the asphalt that more than half the machine had drifted toward the shoulder (south) side of the pinch line. At that point, the decedent put the machine back toward the parkway. She traveled approximately 50 feet when she again drifted more than half of the machine toward the ditch. At this point she was directly above the underpass and the slope of the ground where she slid was 25 to 30 degrees. With the weight of the compactor going downhill, and the slipperiness of the asphalt, the driver could not make the machine return to the parkway. The compactor with the driver slid to the top of the overpass then fell 17 feet to the roadway below.

According to the manufacturer, the ROPS/FOPS was designed to withstand a rollover, but not a fall of 17 feet. The decedent was not wearing the seatbelt provided with the machine. She was pinned in the chair by the steering column and the roof of the compactor. The clasp was deemed by the reconstructionist to be in proper working order after the incident. The roadway below was 19 feet wide and the compactor was 18.5 feet wide. It just fit in-between the walls of the underpass.



Cause of Death

The cause of death was listed as severe abdominal injuries.

Recommendations/Discussion

Recommendation No. 1: Employees should always use safety equipment provided (such as seatbelts).

Discussion No. 1: Employees should always be instructed to use safety equipment provided by the manufacturer and/or employer to aid them in performing their job duties in a safe manner. Seatbelts should always be worn when operating equipment provided with ROPS/FOPS.

Recommendation No. 2: A hazard assessment to identify potential hazards of the job site should be conducted by a competent person before new work or continued work is performed. Spotters and/or cones should be used to remind operators of dangerous areas.

Discussion No. 2: Potential hazards should be identified before work begins. These hazards and ways to avoid them should be relayed to employees at risk. In this incident, the nearest coworker was 1000 feet away. To remind the employee of a hazard, cones should be used to highlight dangerous zones. Spotters could also be used to alert equipment operators of hazardous areas.

Recommendation No. 3: When employees are off from work for an extended period of time, they should be retrained before being exposed to hazardous jobs.

Discussion No. 3: A refresher course for employees returning to hazardous job duties would renew awareness of the dangers associated with the job. Employees who have been off work for an extended period of time should be retrained on safety issues related to the job.

Keywords

Asphalt Compactor

Training

Rollover Protective Structure (ROPS)

Falling Object Protective Structure (FOPS)