Fatality Assessment and Control Evaluation Project

Public Health

KY FACE #96KY07701

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From: ***Ellyn Moon-Hampton, MA, Field Investigator, KY FACE Project***

Subject: ***Mill Owner dies in Tractor Rollover***

SUMMARY

A 51-year-old mill owner (the victim) was killed while pulling a 16-foot log from the woods. He had reached the top of a 10-12-degree slope, turned slightly to the left and stopped, when the tractor he was driving turned over. It landed on the victim and then rolled again. The victim's partner, who was with him, ran to a nearby house where he had seen two men working outdoors earlier. He asked them to call 911 and then returned with a backhoe with which to lift the tractor. While he was doing this, emergency medical services (EMS) personnel arrived. The victim was being transported by helicopter to a trauma center when he died. The FACE investigator concluded that, to prevent similar incidents, the following precautions should be taken:

- ***Tractors should be retrofitted with rollover protective structures (ROPS) and seatbelts.***
- ***Machinery should be kept in good and appropriate working condition.***

INTRODUCTION

On July 28, 1996, FACE investigators received notification of the July 26 death of a 51-year-old

mill owner. An investigation was initiated, and a site visit was made on August 30. Since the victim in this case died on the way to the hospital, the county coroner had not become involved. The sheriff had investigated the case, but had not made a written report. Although an appointment had been made, on the day of the site visit the sheriff was involved with a motor vehicle crash and was unable to accompany the FACE investigator to the scene. A deputy sheriff who had not been at the scene showed the investigator where the incident occurred, and accompanied her to interview the partner of the victim, who had witnessed the rollover. Photographs and measurements were made of the scene, but the equipment involved had been sold the day following the incident and was unavailable.

The victim was a retired army officer. He and the witness were partners in a new millworks business which already had a reputation for turning out high-quality wood trim reproductions. Neither of them had past experience in any type of logging operations. The victim had been in good health prior to this incident and was on no medications.

The tractor involved in this incident was a Deutz, approximately 50 horsepower. It was equipped with a winch, a rope, a power take-off (PTO), and a grader blade approximately three feet wide. The tractor was not equipped with a rollover protective structure (ROPS) or a seatbelt. The witness did not know the model number or the year the tractor was manufactured. On the day prior to this incident, the victim had modified the tractor so that he could turn on the PTO by pulling on the rope, without the necessity of dismounting. He had also adjusted the clutch so that it was, in the witness's opinion, too tight.

INVESTIGATION

On the day of the incident, the partners were working together, pulling logs up the hill from the woods. The slope was not very steep (10-12 degrees), but it was necessary to turn slightly to the left at the top, in order to gain access to the logging road which led out to the public road. Just at the point of access to the logging road there was a small stump, which may have played a part in tipping the tractor over when it turned to the left. After the slight left turn, the victim stopped the tractor to turn on the PTO with the rope. As soon as he did this, the tractor flipped over a full turn and then another half turn. The witness had seen two men earlier, working in the yard of a house about 75 yards away. He ran there and called out for them to call 911. Then he ran back to the scene, getting a backhoe on the way in order to try and lift the tractor. He was in the process of lifting it when EMS personnel arrived. The victim's legs were caught in the tractor but he had no visible injuries. Blood from his ear indicated internal injuries, and it was later revealed that his back was crushed. EMS personnel inserted a breathing tube and removed the victim from the scene. Later, enroute to a trauma center by helicopter, he died.

CAUSE OF DEATH

Cause of death was multiple traumatic injuries due to tractor rollover.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: To provide protection for operators, tractors should be retrofitted with Rollover Protective Structures (ROPS) and seatbelts. Tractor owners should contact their county extension agent, equipment dealer or equipment manufacturer to see if retrofit rollover protection and operator restraint systems are available for their equipment. Such systems should be installed by the manufacturer or an authorized dealer.

Discussion: The tractor involved in this incident was not equipped with ROPS or a seatbelt, which protect the operator in the event of a rollover, and in this case might have prevented the operator being crushed by the tractor. ROPS first became available as optional equipment on farm tractors in 1971; tractors manufactured before 1971 generally were not designed to accommodate the addition of ROPS. In 1976, the Occupational Safety and Health Administration (OSHA) required employers to provide ROPS and seatbelts for all employee-operated tractors manufactured after October 25, 1976. Since 1985, as a result of voluntary agreements by tractor manufacturers, virtually all new tractors sold in the United States have been equipped with ROPS and seatbelts.

Recommendation #2: Machinery should be kept in good and appropriate working condition.

Discussion: In this case, modifications had been made to the tractor which, in the opinion of the witness, made it unsafe. The clutch had been adjusted too tight, and the PTO had been modified so that it could be turned on from the tractor seat.

References:

Standard Number 1928.51, Subpart C, US Department of Labor, Occupational Safety and Health Administration, OSHA CD-ROM (OSHA A94-2), February 1994.