The National Institute for Occupational Safety and Health (NIOSH)

Promoting productive workplaces through safety and health research

Tree Feller Crushed by Dislodged Tree–South Carolina

FACE 9301

SUMMARY

A 53-year-old male tree feller (the victim) was felling trees at a logging site in the rural part of the state when the incident occurred. The victim and another tree feller had been assigned to separate zones of a 20-acre tract of timber, to fell a variety of trees. The victim felled a yellow pine tree that became lodged against another yellow pine. The victim decided to clear the lodged tree by cutting and felling the supporting tree. There were no witnesses to the incident, but evidence suggests that when the victim undercut the supporting tree, the vibration caused the lodged tree to fall to the ground, striking the victim on the head and shoulder, fatally crushing him. NIOSH investigators concluded that, in order to prevent future similar occurrences, employers should:

- **ensure that tree fellers dislodge trees according to safe methods specified in 29 CFR 1910.266 for pulpwood logging**
- **develop, implement, and enforce a written safety program which includes worker training in recognizing and avoiding hazards such as lodged trees**
- **designate a competent person to conduct regular safety inspections.**

INTRODUCTION

On October 10, 1992, a 53-year-old male tree feller (the victim) was fatally crushed by a falling tree which dislodged when the victim cut into the tree which had been supporting it. On October 21, 1992, officials of the South Carolina Occupational Safety and Health Administration (SCOSHA) notified the Division of Safety Research (DSR) of this fatality, and requested tech- nical assistance. On October 29, 1992, a safety specialist from DSR conducted an investigation of this incident. The investi- gator reviewed the incident with one of the company's owners and the SCOSHA compliance officer assigned to the case. Photographs of the incident site and the medical examiner's report were obtained during the investigation.

The employer in this incident was a small logging company that had been in operation for 20 years. The employer had five employees, including three fellers and two machine operators. The company operated mainly on a contract basis, felling trees for larger logging companies. The employer did not have a safe- ty policy, safety program, or basic safe work procedures at the time of the incident. There was no full-time safety manager; however, one of the two company owners was responsible for conducting informal and sporadic safety talks. Although the victim had only been employed by the company for 6 days before the incident, he had approximately 20 years of logging experi- ence (of which most was working as a feller). This was the first fatality the company had experienced.

INVESTIGATION

The company had been subcontracted by a larger logging company to clearcut a 20-acre tract of mixed timber (pine, maple, oak, etc.,) for pulpwood and sawtimber. Two fellers (including the victim) and two machine operators had been working at the logging site for 6 days when the incident occurred. The victim and other tree feller had been assigned to fell trees in sepa- rate zones (a wooded area allotted to a feller), each with a slope of less than 5 percent. Although there were no eyewit- nesses to the incident, evidence suggests the following sequence of events.

The victim began cutting and felling trees at about 8 a.m. on the day of the incident. He was cutting trees (mostly yellow pine) with a 4-horsepower, 20-inch-bar chain saw. The yellow pine he had just felled was 70 feet tall and 16 inches in dia- meter at the base. When the tree fell, it lodged against another similarly sized yellow pine (the support tree), about 15 feet away. The felled tree came to rest at about an 80-degree angle with the ground (as noted by tree-to-tree impact marks).

The victim presumably decided to clear the lodged tree by cutting and felling the support tree. At about 9:30 a.m., the victim made an undercut in the support tree. The vibration of the chain saw cutting into the support tree apparently jarred the lodged tree loose allowing it to fall to the ground. The victim may have assumed that the lodged tree would remain en- tangled with the support tree as it fell; however, it fell alongside the standing support tree, striking the victim. Ac- cording to the medical examiner's report, the crushing injury to his head and shoulder caused instantaneous death.

The other feller, who was felling trees about 100 yards away from the victim, ran out of gasoline for his chain saw at about 9:45 a.m. Enroute to the work truck to obtain more gasoline, the co-worker discovered the victim lying on the ground, about 4 to 5 feet away from the support tree.

The co-worker ran to inform one of the company owners, who was working about 200 yards away, and they returned to find the victim unresponsive, and without a pulse. The owner and co-worker transported the victim to a hospital about 20 miles from the worksite, where the victim was pronounced dead on arrival.

CAUSE OF DEATH

The medical examiner listed the cause of death as blunt force trauma to the head.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Employers should ensure that tree fellers dislodge trees according to safe methods specified in 29 CFR 1910.266 for pulpwood logging.

Discussion: The victim had apparently attempted to clear the lodged tree by cutting and felling the support tree. The vibra- tion of his chain saw apparently jarred the lodged tree loose, causing it to fall. According to 29 CFR 1910.266(e)(1)(iv), "Lodged trees shall be pulled to the ground at first opportunity with mechanical equipment or animal." Also, 29 CFR 1910.266 (e)(1)(v) states that "Workers shall be instructed not to work under a lodged tree."

Recommendation #2: Employers should develop, implement, and enforce a written safety program which includes worker training in recognizing and avoiding hazards such as lodged trees.

Discussion: In this incident, the victim felled a tree which had become lodged in an adjacent tree. Upon trying to fell the tree supporting the lodged tree, the lodged tree jarred loose, fell toward the ground, and struck and fatally injured the victim. Employers should evaluate tasks performed by workers, identify all potential hazards, and then develop, implement, and enforce a written safety program addressing these issues as required by OSHA Standard 29 CFR 1926.21(b)(2). The safety program should include, but not be limited to, recognizing, avoiding, and abating hazards (e.g., lodged trees).

Recommendation #3: Employers should designate a competent per- son to conduct regular safety inspections.

Discussion: Conducting regular safety inspections of all logging-related tasks (among other safety responsibilities) by qualified individuals will help ensure that established company safety procedures are being followed. Additionally, scheduled and unscheduled safety inspections of tree feller worksites will clearly demonstrate that the employer is committed to the safety program and to the prevention of occupational injury.

REFERENCES

Office of the Federal Register: Code of Federal Regulations, Labor 29 Part 1910.266, p. 680 and 1926.21, p. 20. July 1, 1989.

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