

Fatality Investigation Report

OR 2004-52-1

Logger killed by swinging tree in yarding operation

SUMMARY

On November 1, 2004, a 47-year-old logger, working as a [choker setter](#), was struck by a tree in a cable logging operation. The choker setter was working with a partner, setting [chokers](#) to a turn of logs under a high-lead cable system. The pair was working on opposite sides of the [skyline](#). Once the turn was set, the choker setter signaled the [yarder](#) engineer to activate the cable and move the logs up the hill. A small-diameter, tree-length log within the [turn](#) hung up on an adjacent stump, and swung out when it snapped free. The log hit the choker setter in the midsection. He was admitted to the hospital with broken ribs and serious internal injuries and died 7 days later.

CAUSE OF DEATH: Multiple blunt traumatic injuries

RECOMMENDATIONS

- **Always position yourself “in the clear,” either to the side or behind the moving turn.**
- **A responsible supervisor must plan operations in advance and effectively communicate with coworkers to assure the safety of the logging crew.**
- **Logging companies are required to implement an effective safety and health program.**



View of a yarder in transit to a new location at a logging site.

INTRODUCTION

On November 1, 2004, a 47-year-old logger, working as a choker setter, was killed when a tree-length log in a turn of logs swung up and struck him in the midsection. An Oregon OSHA investigator visited the site on the day of the incident and conducted an investigation. This report is based on information provided in the Oregon OSHA report.

The logging company had approximately 49 employees working on three logging sites. Seven employees were working onsite at the time of the incident.

According to the OR-OSHA investigation, the company's safety and health program was inadequate. Of immediate significance, no competent individual was designated at the logging site to ensure the safety and discipline of the crew. Communication and planning were informal. Only five documented safety meetings were conducted during the past year (OR-OSHA requires monthly safety meetings for each site, plus a pre-work safety meeting before the start of each logging unit). In addition, the company did not effectively evaluate employees on their previous instruction or training, and did not investigate 11 disabling claims that occurred in the company in the past year.

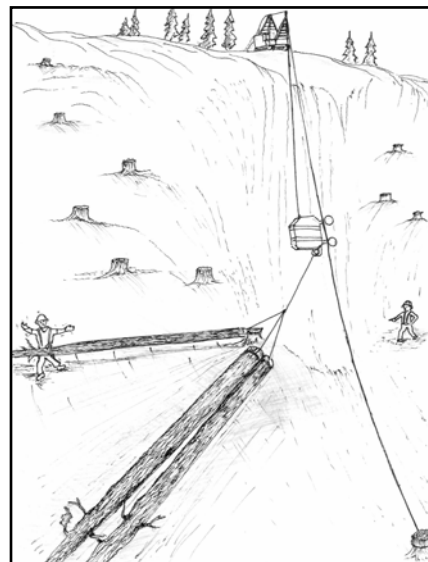
The victim was an experienced choker setter and had worked for the company before. At this logging site, the owner observed the choker setter at work for about one-half hour. After that, the owner visited the site only once, 1 week prior to the incident, and noticed the rigging crew crowding the [rigging](#). He yelled from the [landing](#) for the crew to back away from the turns. This observation of unsafe behavior, however, was not by report followed up.

INVESTIGATION

The logging area where this incident occurred was broken terrain, dotted with tall stumps. The timber was felled in tree lengths. An Edco yarder with a standing skyline and a motorized carriage was pulling turns of logs uphill to a landing site.

The skyline was out 1,600 ft, hanging across a small ridge that ran down the middle of the unit. The [tailhold](#) was low on the back end because of a lack of available good-sized stumps on higher ground to support the skyline. The skycar was barely off of the ground when this incident occurred. In a situation with minimal lift, the turn of logs is more likely to come into contact with stumps and other obstructions.

The two choker setters worked on opposite sides of the skyline, picking their own turns and setting their own chokers. They alternated sending in their turn, and would yell to the other man to make sure he was in the clear. When both men were in



the clear, the one sending the turn would signal the yarder engineer to go ahead and pull the turn to the landing. The majority of the logs being yarded were about 65 ft in length.

In this incident, once the turn was set, the choker setter moved back to what he considered to be a safe distance and signaled the yarder engineer to go ahead. As the turn moved, a single tree-length log in the turn hung up under another adjacent log and then violently swung free, reaching the position where the choker setter was standing and striking him in the midsection. He was admitted to the hospital with broken ribs and serious internal injuries, and died 7 days later.

RECOMMENDATIONS/DISCUSSION

Recommendation #1. Always position yourself “in the clear,” either to the side or behind the moving turn.

Oregon OSHA rules require that before the go-ahead signal is given, all crew members must move to a spot that is “in the clear.” It is essential that a competent individual onsite make the determination of where “in the clear” is located in relation to a cable yarding operation.

In a skyline yarding operation, workers need to stand in the clear a sufficient distance to avoid the reach of the logs in the turn. Workers need to take into account the length of the longest log, and anticipate potential hang-ups that can cause a log (or the cable) to snap free with great force as in this incident. A safe position is usually behind rather than in front of the turn. Also, a position “in the clear” depends upon how fast the turn will be moved and the lift of the carriage. Once all factors are taken into consideration, workers need to move back to a place where the turn will not have the potential to reach them before giving the sign to activate the yarder.

Recommendation #2. A responsible supervisor must plan operations in advance and effectively communicate with coworkers to assure the safety of the logging crew.

In a yarding operation, one competent individual is responsible to supervise the safety of the logging crew and set standards for the work practices of others. All operations at a logging site must be planned in advance, and the supervisor must evaluate and correct potential hazards to minimize danger to workers. Too often, rigging crews are in a hurry to get moved in and rigged, and don’t allow adequate time for a thorough pre-work safety assessment and safety meeting. Communication involving the entire crew is an essential element in safety planning.

Recommendation #3. Logging companies are required to implement an effective safety and health program.

Every logging company in Oregon is required to follow the recently revised OR-OSHA Div. 7 safety code, which in part requires establishing and maintaining a safety and health program with the following main components.

- **Accident investigation.** Every fatal or recordable injury must be investigated, and measures must be identified to prevent their recurrence. All employees must be informed

of the investigation and prevention measures. Near misses must also be discussed with employees, along with prevention measures.

- **Employee involvement.** Require employees to report safety and health hazards to share with other employees and management at monthly safety meetings. Minutes and attendance records of safety meetings must be kept for 3 years and made available to all employees. Encourage employees to participate in the site-planning process and the pre-work safety meeting to discuss site conditions and known hazards.
- **Hazard identification and control.** Monthly safety inspections of all worksites, vehicles, machines, equipment, and work practices must be conducted in Oregon, and any hazardous conditions found must be reported and corrected.
- **Training.** The training component of a safety and health program has the greatest number of changes from the old code. Every logging employer should review this portion of the safety and health code to identify and incorporate the changes into their training requirements. Each employee must be adequately trained for the job or task assigned, including safe work performance, under the close supervision of a qualified person. Employee training needs to be documented, and the employee evaluated on the training received.
- **Annual program evaluation.** Every logging company must evaluate its safety and health program annually. The employer should ensure that all procedures and requirements of the safety and health program are being followed. Corrective measures need to be taken if any deficiencies are identified.

GLOSSARY

Choker: A length of wire rope with attachments for encircling the end of a log to be yarded.

Choker setter: Person in a logging operation who places the choker around the log to be hauled to the landing; one who attaches chokers to logs in the woods for the skidding unit; beginning job for novice loggers.

Landing: Flat ground where logs are yarded and loaded on transport; a collection point for logs.

Rigging: Cables, blocks, and other equipment used in yarding logs.

Skyline: Cableway suspended between two points on which a block or carriage travels.

Tailhold: In cable logging, the anchorage at the outer end of the skyline away from the landing.

Turn: Any log or group of logs attached by some means to power and moved from a point of rest to a landing.

Yarder: System of power-operated winches used to haul logs from a stump to a landing.

REFERENCES

Oregon OSHA. (2003). *Division 7 - Forest activities*. Available online: http://www.orosha.org/standards/div_7.html (April 20, 2006)

Oregon OSHA (2005). Forest Activities Safety and Health Management Pocket Reference Card <http://www.orosha.org/pdf/pubs/2967.pdf>

FOR MORE INFORMATION

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CROET at OHSU performs OR-FACE investigations through a cooperative agreement with the National Institute for Occupational Safety and Health (NIOSH), Division of Safety Research. The goal of these evaluations is to prevent fatal work injuries in the future by studying the work environment, the worker, the task, the tools, the fatal energy exchange, and the role of management in controlling how these factors interact.

Oregon FACE reports are for information, research, or occupational injury control only. Safety and health practices may have changed since the investigation was conducted and the report was completed. Persons needing regulatory compliance information should consult the appropriate regulatory agency.