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LOGGING INJURIES ON MECHANIZED OPERATIONS IN THE SOUTH

Studies/Surveys: safety *October 2003*

INTRODUCTION: Using proprietary, "blended" data supplied by four cooperating Workers' Compensation Insurance (WCI) providers, Virginia Tech researchers conducted a comprehensive analysis of 315 randomly-selected logging accidents and injuries occurring on feller-buncher / grapple skidder operations in the South (TX to VA) in 2001. The study was a follow-up to a similar VT logging injury analysis completed five years earlier (see FRA TR 99-R-2).

FINDINGS:

- 44% of all the injuries occurred to workers with *less than one year with their current employer*, while workers with five or more years on the job incurred only 24% of the sample injuries.
- 43% of the injuries occurred in the woods; 38% on the log deck; 12% on the highway; and 3% in the shop.
- For all workers, the most frequent task being performed when an injury occurred was *operating a chain saw* (30%); performing equipment maintenance or repair (18%); driving a truck (12%); operating a skidder, feller-buncher, or loader (11%); mounting or dismounting (8%); and walking (5%).
- The most frequently injured worker was an equipment operator (38% of all injuries); followed by deckhand (27%); truck driver (22%); and supervisor (8%).
- Equipment operators were injured while *performing maintenance or repair* (31%); operating their machine (27%); operating a chain saw (14%); or mounting/dismounting their machine (13%).
- Deckhands were injured while *delimbing* (58%); felling (25%); lifting something (4%); or walking around the landing (2%).
- Truck drivers were injured while *driving* a log truck (48%); binding the load (12%); dismounting the truck (10%); performing maintenance (7%).
- For all workers, 46% of the injuries involved being "struck by" or "struck against" something (usually a tree, limb or log, occasionally a machine); 20% were falls; 10% were motor vehicle accidents; 8% were from overexertion; and 3% involved a body part being "caught in" machinery.
- Injuries were about evenly divided between strains/sprains (21%); contusions (20%); fractures (20%); lacerations (17%); and "other" (22%) injuries including burns, foreign object in eye, repetitive motion, amputation, heart attack, etc.
- The Table below provides a comparison of *the task being performed when an injury occurred* for operations exclusively using *mechanical* delimbing devices (i.e. pull-through or stroke delimbers) versus those employing *manual* chainsaw delimbing/topping.

	Using a chain saw	Performing maintenance	Driving a truck	Operating a machine	Mounting/ dismounting	Walking
Mechanical	21%	20%	14%	13%	10%	6%
Manual	42%	11%	10%	8%	7%	5%

- The Table below provides a comparison of the *task being performed when an injury occurred* for operations located in the Southeast region (VA, NC, SC, GA, FL) *versus* operations located in the Southcentral region (AL, MS, TN, LA, AR, TX).

	Using a chain saw	Performing maintenance	Driving a truck	Operating a machine	Mounting/ dismounting	Walking
Southeast	30%	21%	9%	7%	9%	5%
Southcentral	30%	15%	14%	14%	7%	5%

- Truck drivers who were injured in a motor vehicle accident were more often driving a loaded log truck (79%) than an unloaded one (21%).
- The single most common accident incurred by equipment operators was to suffer a sprain/strain as a result of being struck by a machine or part while performing maintenance or repair.
- The single most common accident incurred by deckhands was to suffer a contusion or laceration as a result of being struck by a log or limb while delimbing/topping trees at the landing.
- 60% of all the sample injuries occurred during the 6-month spring/summer period between March and August.
- 50% of the sample injuries resulted in one or more days of "lost time."

Some interesting comparisons with the 1996 study results can be noted:

- An equipment operator was the most frequently injured worker in 2001 – in 1996 it was a deckhand. This may be because deckhands comprised a smaller percentage of the mechanized logging workforce in 2001 than they did in 1996.
- Equipment operators in 2001 were less frequently injured while mounting or dismounting their machine than they were in 1996 (13% versus 23%). Perhaps logging equipment manufacturers have improved safe access to their machines.
- The percentage of chain saw-related injuries has not changed from 1996 (30%) to 2001 (30%)—even on operations with mechanized delimbing, 21% of the accidents still involve the use of a chain saw. As in 1996, this likely relates to the continuing necessity to manually fell and/or delimb the occasional oversize or difficult-to-access tree that cannot be routinely processed by a machine.
- In 2001, a log truck driver's cause of injury was more frequently due to a motor vehicle accident (48%) then in 1996 (35%). More traffic on the highways?

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