HEALTH AND SAFETY ISSUES IN WOOD DRYING OPERATIONS

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Abstract

The British Columbia saw mill and dry kiln industry injury rate has over the last six years been slowly increasing. Long term disability claim cost is, however, increasing dramatically from approximately 7 million dollars per year in 1986 to 27 million dollars in 1993. Reasons for these trends are examined.

Almost half of the claims in this industry are the result of:

1. Overexertion from handling wood items
2. Being struck by wood items
3. Reaching, bending and repetitive motion
4. Slips and falls on the same level

Strategies to deal with increasing compensation costs must include control of the above injury sources and consider providing equivalent alternate employment to workers with potential long term disability claims.

Introduction

We are discussing Health and Safety Issues today because firstly, we don't want to see our fellow workers hurt, and secondly, it is becoming prohibitively expensive not to.

Safety improvements demand a review of legislated requirements and accident trends. Problem areas should be identified solutions implemented and improvements monitored.

Cost of Injuries

In 1993, $90 million was paid out for workers' compensation in the wood processing industry.. This increased to $117 million in 1994.

Compensation cost for employers in kiln drying operations and saw mills have increased from a low of $2.00 per $100 payroll in 1990 to $6.48 in 1996.

This is an increase of approximately 20% per year. In spite of this, the industry is not fully funded.

Accident statistics show injury rates declined steeply from 1980 to 1987. The injury rate has been increasing continually ever since. Why? Recessions are generally linked to a reduction in accidents while increasing production often leads to increasing accident costs. What is the cause of these accidents and rising costs?

Regulations

Perhaps even the minimum safety requirements set out by regulatory bodies are not always followed. The following is a paraphrased review of the Occupational Safety and Health Administration regulations specific to Dry Kilns and Facilities.

- Passage ways required in kilns
- Escape panel or special exit door openable from inside and in or by the main loading doors
- 18" or more between cars and walls of kilns
- Means to hold kiln door open
- Means to prevent main doors from toppling
- Guard door counter weights, machine belts, pulleys and rotating equipment
- Solid foundations for straight tracks
- Cars and tracks to be in good repair
- Track grade no steeper than 1 1/4% and have stops at ends
- Block wheels of loaded cars on inclined tracks
- Brakes on gravity traveled cars
- Track grade in kiln can be more than 1 1/4% with a snubbing line
- Car to have easy transfer cable attachment
- Adequate chocks for cars
- One car at a time to unstacker
- Workers not in bight of transfer cables or cars
- Stickers not to protrude hazardously (2" max)
- Pickup and unloading areas to have stops and well marked areas for spotters.

Some jurisdictions have additional requirements such as:

- ventilated, drained and lighted pits
- insulated steam lines where exposed to contact by workers
- heated room for kiln employees
- gratings over kiln floors
- inspection of boilders, valves and piping

Other areas that must be addressed include:

- asbestos in kiln operations - must have a strategy to address this hazard
- Radio Frequency or Microwave Drying, leakage, lock out

Failure to comply with these requirements leads to accidents and fines.

Accident Trends

A review of over 6,000 short term claims from 1990 to 1994 in the wood processing industry shows four types of accidents account for about half of all claims. The distribution is shown in Figure 1.

Approximately half of the short term disability claims are the result of:

1.	Overexertion from handling wood items	23%
2.	Being struck by wood items	14%
3.	Reaching, bending and repetitive motion	8%
4.	Slips and falls on the same level	6%

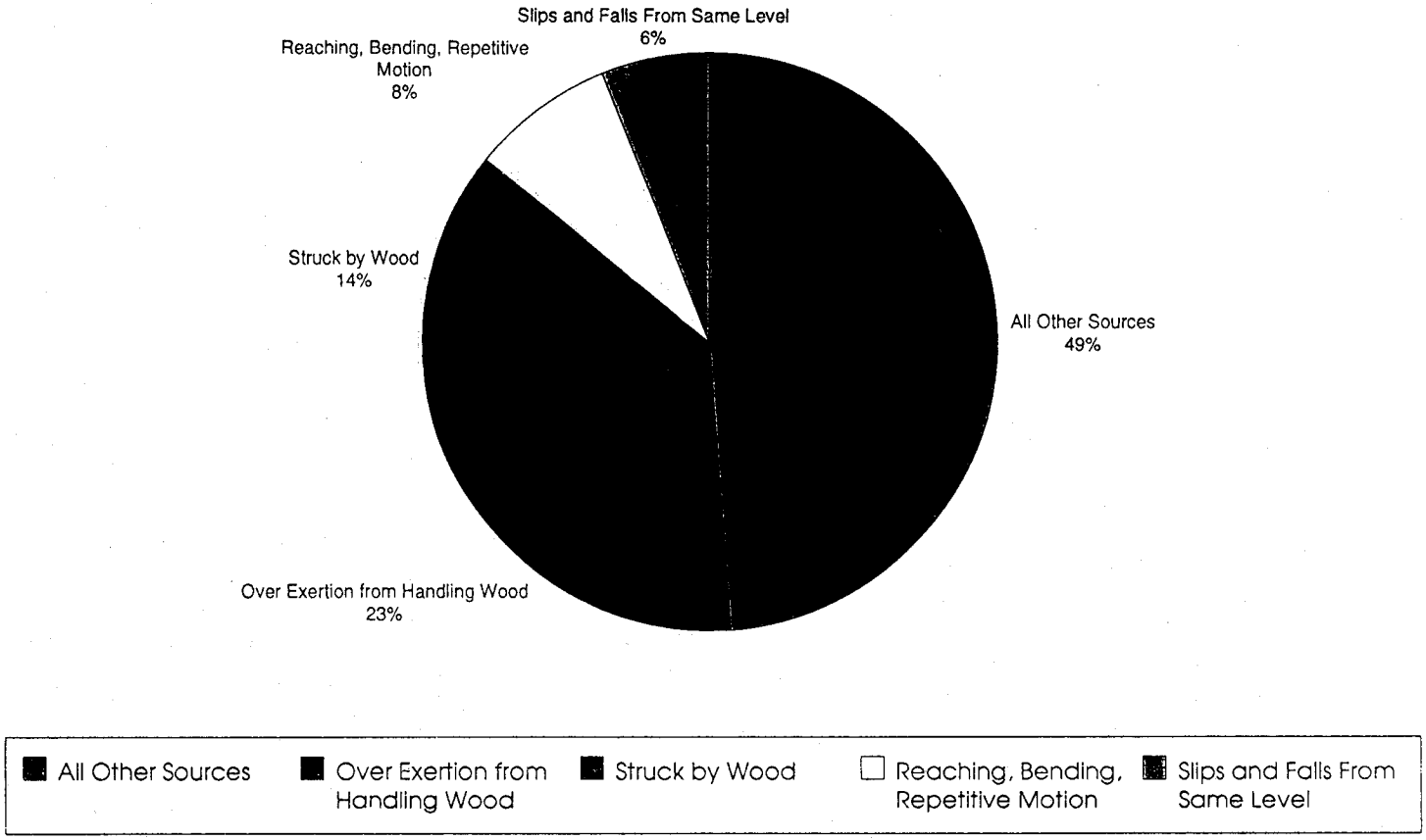

FIGURE 1. 1990-1994 short term claim distribution by major accident type. Note: Statistics and rates are those for industry in British Columbia.

Each of these causes if considered with a view of preventing injury should be addressed. For example:

Over exertion

Control

- train to lift safely (bend knees not back)
- use levers and power machinery
- get help

Struck by wood items

Control

- Proper piling. Short boards on top, short packages on top
- Band loads to reduce fall down
- Proper sticker placement
- Proper dunnage
- Placement of dunnage
- Yard maintained to ensure stable vertical stacking
- Workers keep a safe distance from equipment bringing or taking away loads
- Separate walkways from main traffic routes
- Use designated walkways
- Band loose material whenever possible

Repetitive Motion, Reaching, Bending

Control

- Bring work closer to worker
- Redesign work station using ergonomic principles
- Rotate workers to reduce exposure
- Use mobile equipment designed for the material to be handled and the process rather than the ground in the mill yard i.e., lift trucks versus modified front end loaders.

Slips and Falls From Same Level

Control

- Provide and maintain appropriate non-skid surfaces
- Design kilns so water drains away from walkways
- Design area to be clear of tripping hazards
- Keep workstations and walkways clear of debris (sawdust) and obstructions (housekeeping)
- Clean up around and maintain tracks
- Insist on appropriate and maintained foot wear
    - six inch laced up boot
    - sole composition provides inherent grip with surface underfoot
    - sufficient tread for grip
    - there should be a heel to help catch foot upon slipping

Common oversights that need to also be addressed include

- Fan decks on direct fired kilns. These are considered confined spaces. They need to be well ventilated before entry and kept open when working inside

- Radio Frequency generators and radio frequency kilns need to be checked for leakage. Full lock out procedures must be followed before entry into this type of kiln.

- Gaskets around kiln doors are often deteriorated allowing uncontrolled escape of gas. These same gaskets can become tripping hazards when not maintained.

Implementing control measures for these major sources of accidents should decrease the accident rate.

Cost

Compensation costs are determined by, for example, health care, fatal, short term and long term disability costs, or simply stated number and type of accidents. Health care and fatals are minor dollar costs. The major costs are due to short term and long term disability costs. Even with a constant accident frequency short and long term disability costs increase due to increasing wages and cost of living.

A plot of long term disability payments from 1980 to 1993 in Figure 2 shows a significant rise from 7 million dollars in 1986 to about 27 million dollars in 1993. This exceptional rise can be attributed to:

- an increasing accident rate
- increasing wages and cost of living
- a more generous payment philosophy
- injured workers not returning to work or returning to lower paying employment

The employer can make significant contributions to moderate the long term disability cost by for example:

- Exercising influence to ensure compensation is paid for bonefide work related injury
- ongoing management of accepted claims
- Integrating the injured worker back into the work force at a pay level equivalent to that received prior to the injury.

Reintegrating the worker is highly desirable. Reintegrating the injured with meaningful work restores the worker's pride and self esteem. The employer also benefits by achieving production for the dollar invested in compensation.

Conclusion

Health and Safety in the kiln drying industry can be improved by following and if possible exceeding government safety requirements.

Workers' Compensation costs can be reduced through the application of strategies designed to reduce at minimum the most frequent accidents.

Further savings are achievable by providing the injured the opportunity to return to productive employment.

FIGURE 2. Long term disability cost.