

SESSION II

Paper (a)

A REVIEW OF LOGGING ACCIDENT STATISTICS IN NEW ZEALAND

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BACKGROUND

Historically, statistics on logging accidents in New Zealand have not been clearly defined or well documented. This was highlighted in 1980 when LIRA was called upon to provide consultants with specific information on felling and delimiting accidents (Ref.1). Since then, the Logging Industry Accident Reporting Scheme has been established to help research into accident prevention. After a 15 month pilot trial in the Bay of Plenty region, the scheme was extended to cover the whole of New Zealand in 1983.

Input into the reporting scheme is reliant on two types of forms :

- (i) The Monthly Summary forms which are designed to collect information from companies who already have good internal accident reporting, and
- (ii) The Individual Accident Report forms (Appendix 1) intended for contractors or independent crews not covered by comprehensive accident reporting systems.

The key to the success of the Individual Accident Report forms has been in maintaining simplicity with the filling out procedure, and the fact that accident victims are not identified in the reportage.

To date, the response from loggers has been encouraging with most of the serious lost time injuries being reported through the scheme. Unfortunately, the minor and near-miss incidents, which are really just as important, have not received the same attention. Understandably perhaps when you consider that participation in the scheme is entirely voluntary.

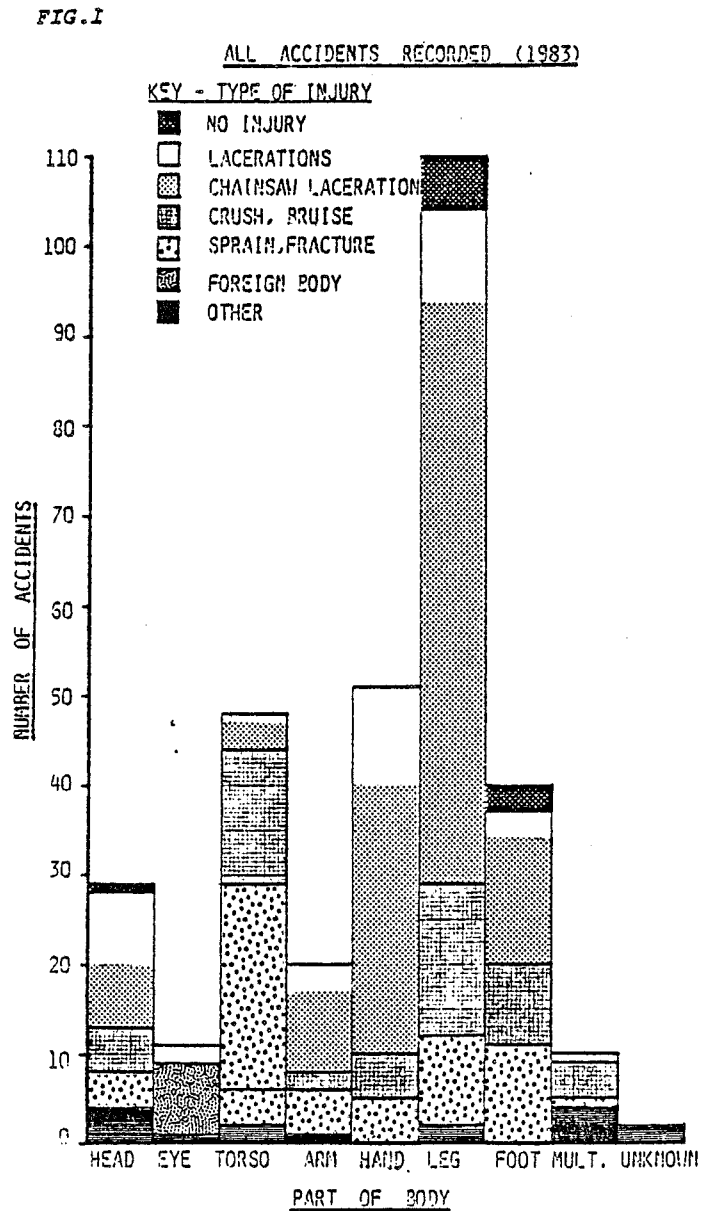
It is intended in this paper to briefly review the statistics for the past year, and to introduce a few thoughts on improving the usefulness of the information received in the future.

REVIEW OF 1983 STATISTICS

Because 1983 was the first year that accident statistics specific to the logging industry were collected on a national basis, there is no information available from previous years to compare them with. Compound this with the knowledge that there is no measure of the number of accidents that are not reported, and the foundation of these statistics become questionable. However, given all these

constraints they are still the best source of information we have.

According to estimates, approximately 2,950 people were employed in logging in the 1983 calendar year. Over the same period the Accident Reporting Scheme recorded 310 injury causing accidents which gives a frequency rating of 10.5% if the figures are accurate. On a wider scale, Fig.1 shows the type of injury sustained to the various parts of the body.



Obviously, the areas of immediate concern are the excessive number of leg injuries occurring, particularly the lacerations. A closer analysis shows that nearly 87% of these lacerations were directly related to the chainsaw. In fact, the saw accounted for a staggering 40% of all injuries in 1983.

THERE IS NO NEED FOR THIS FIGURE TO BE SO HIGH !!

A positive approach to the use of one item of protective equipment could have reduced this figure to 19%. - The item? PROPER PROTECTIVE LEGWEAR.

companies manufacturing protective equipment, by trainers organising training priorities, by safety officers promoting accident prevention programmes, and above all, by researches looking for avenues to cut down on the number of accidents occurring. IT IS ESSENTIAL THAT THESE STATISTICS ARE AS ACCURATE AS POSSIBLE.

THE PLIGHT OF THE NEAR-MISS

As most of you know, provision has been made in the scheme for reportage of near-miss accidents but the response has been poor. Perhaps the first question that needs to be asked is "What is a 'near-miss'?" A near-miss is a situation or set of circumstances where an incident has occurred that could have caused injury but some restraining device, shield or pad, or some event out of the ordinary, has prevented it. Examples of a near-miss would be the screen on a hauler stopping a log from entering the operators compartment or a "sailor" falling down alongside a chainsaw operator.

Near-misses are often the result of luck, luck that the worker or workers avoided contact with the injury causing agent. For 310 instances last year, however, that luck ran out. Improved reportage of near-misses will undoubtedly provide the information necessary to instigate preventative measures. We all know that prevention is better than cure.

Intensive studies in Canada (Ref.3) by the Forest Products Accident Prevention Association have revealed that :

- For every one serious injury accident,
- There are ten accidents resulting in minor injuries,
- 30 instances of property damage,
- and 600 near misses.

600 near misses! Skogsarbeten in Sweden put the figure even higher, at 700 near misses. If we apply the Canadian formula to our N.Z. statistics it means that there were 186,000 near misses in logging during 1983, an average of one near-miss per worker, every 3.73 days. The Accident Reporting Scheme recorded 11 in total.

Another important aspect of collecting figures on near-misses is that it shows where protective equipment or devices have worked in preventing injury. Positive reinforcement such as this will encourage more interest and better liaison with the companies manufacturing the protective equipment and provide management with sufficient justification to invest in the right protective gear.

PROPOSED IMPROVEMENTS

Recent exposure of the reporting procedures in other countries has brought about some ideas for improving the quality of the N.Z. Logging Industry Statistics (Refs. 4, 5). An industry meeting has discussed these suggestions and is considering the following additions :

- (i) The approximate time the accident occurred.
- (ii) An indication of the years of experience a victim has had

in the particular job he or she was doing at that time.

(iii) An estimation of the lost time resulting from the accident.

A draft of the revised Individual Accident Report Form is shown in Appendix II. The inclusion of time and day will help to identify any specific period when accidents are more likely to occur. Indicating the years of experience will be of interest to trainers and safety officers who are looking for evidence to support increased efforts in some areas of training. Researchers and managers will benefit from the indication of lost time resulting from accidents because they will be able to use this information to estimate the costs of various types of accidents.

Subject to these proposals being accepted by industry, a new program will be written for the computer to accommodate the changes, and they should be introduced in 1985.

SUMMARY

The Logging Industry Accident Reporting Scheme is now firmly established as a successful means of collecting statistics on logging accidents. It has gained the support of a large number of the loggers and most of the companies involved. LIRA's role in this exercise has been to promote the idea, collate the information and periodically feed it back to industry. It has relied heavily on the co-operation of the ACC, N.Z.F.P. and other companies involved in the pilot scheme. The success of the reporting technique has actually enticed some of these companies to adopt the same format in their own internal accident reporting systems.

Future prospects for the scheme look promising as more and more people recognise the value of good statistics. Continued support from all quarters is necessary to improve the reliability of the information acquired. Another promotion drive should be undertaken in the near future to encourage further support and distribute more forms.

Intensive surveys in Sweden (Ref.6) have shown that accident frequencies can be reduced by simply making workers more aware of the potential hazards that surround them. This awareness is obviously an essential catalyst for the right approach to receiving the correct training. GOOD ACCIDENT STATISTICS ARE THE BASE MATERIAL FOR THAT CATALYST.

REFERENCES

- Ref. 1 - LIRA, SWEDFOREST A.B. (1980) "Development of safe felling and delimiting techniques with chainsaws". - P.R. 14
- Ref. 2 - RING, L. (1984) "An introduction to ergonomics".
- Ref. 3 - CRAIG, E.M. (1983) "Latest experience and knowledge related to forest accidents and accident prevention". Forest Products Accident Prevention Association, Canada.
- Ref. 4 - STAUDT, F.J. ; Stadl, D.J.C. ; Hoftijzer, R. (1983) "Registration of chainsaw accidents in the Netherlands".
- Ref. 5 - PATOSAARI, P. (1983) "Forestry accidents and accident prevention in Finland".
- Ref. 6 - PETTERSSON, B. ; Aminoff, S. ; Gustafsson, L. ; Lindstrom, K.G. ; Sundstrom-Frisk, C. (1983) "Enhanced safety in forestry". Skogsarbeten bulletin no. 14.

N.Z. LOGGING INDUSTRY ACCIDENT REPORTING SCHEME
INDIVIDUAL ACCIDENT REPORT FORM

The information given on this form will only be used for accident prevention research. Accidents to be reported include logging of merchantable species up to and including truck loading and also land clearing operations where chainsaws are used.

SEND COMPLETED FORM TO : L.I.R.A., P.O. Box 147, ROTORUA

To complete: tick boxes and mark diagrams

Date of Accident

...../...../19..

Type of Operation

- Clearfall exotic
- Thin exotic
- Native
- Land Clearing

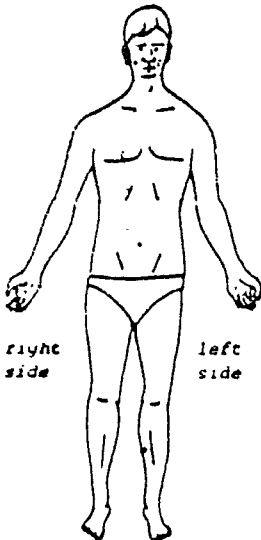
Extraction Method

- Hauler
- Track machine
- Wheel machine
- Other

Part of Operation where accident happened :

- | | |
|--|---|
| <input type="checkbox"/> 01 Felling Preparation | <input type="checkbox"/> 11 Skidwork |
| <input type="checkbox"/> 03 Felling | <input type="checkbox"/> 13 Loading Truck |
| <input type="checkbox"/> 05 Limbing, Trimming | <input type="checkbox"/> 15 Moving plant, rigging |
| <input type="checkbox"/> 07 Breakingout, hauling | <input type="checkbox"/> 17 Other |
| <input type="checkbox"/> 09 Crosscutting | <input type="checkbox"/> 19 Unknown |

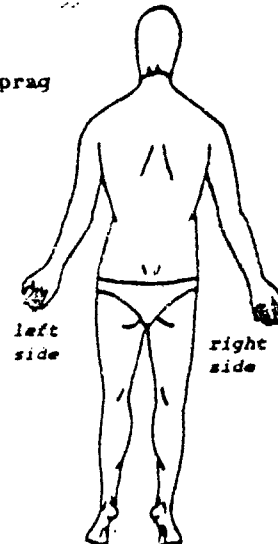
Mark body



Type of Injury : Tick ONE box

- 00 No Injury
- 02 Laceration, abrasion, puncture, sprag
- 04 Bruising
- 06 Crush
- 08 Burn, scald
- 12 Strain, sprain
- 14 Fracture, dislocation
- 16 Amputation
- 18 Infection
- 20 Foreign body (e.g. in eye)
- 24 Dermatitis, rash
- 26 Bite, sting
- 28 Multiple
- 30 Other
- 32 Unknown

Mark body



Accident Severity

- Fatal Lost time Minor Near miss

Worker Designation :

- | | |
|---|---|
| <input type="checkbox"/> 00 Not certificated or unknown | <input type="checkbox"/> 06 Logger I Certificated |
| <input type="checkbox"/> 02 Senior logger-certificated | <input type="checkbox"/> 08 Logger II Certificated |
| <input type="checkbox"/> 04 Machine operator-certificated | <input type="checkbox"/> 10 Logger III Certificated |

Described briefly what happened

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SEND COMPLETED FORM TO : L.I.R.A., P.O. Box 147, ROTORUA

To complete: tick boxes and mark diagrams

Date of Accident

...../...../19..

Approximate time

.....am/pm

Type of Operation

<input type="checkbox"/>	Clearfall exotic
<input type="checkbox"/>	Thin exotic
<input type="checkbox"/>	Native
<input type="checkbox"/>	Other - specify

Extraction Method

<input type="checkbox"/>	Hauler
<input type="checkbox"/>	Track machine
<input type="checkbox"/>	Wheel machine
<input type="checkbox"/>	Other - specify

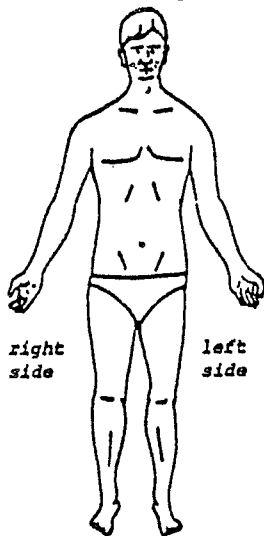
Part of Operation where accident happened :

<input type="checkbox"/>	01 Felling Preparation	<input type="checkbox"/>	11 Skidwork
<input type="checkbox"/>	03 Felling	<input type="checkbox"/>	13 Loading Truck
<input type="checkbox"/>	05 Limbing, Trimming	<input type="checkbox"/>	15 Moving plant, rigging
<input type="checkbox"/>	07 Breakingout, hauling	<input type="checkbox"/>	17 Other
<input type="checkbox"/>	09 Crosscutting	<input type="checkbox"/>	19 Unknown

Amount of experience in that particular job

.....monthsyears

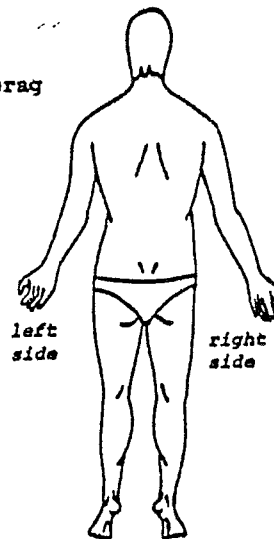
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Type of Injury : tick ONE box

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<input type="checkbox"/>	26 Bite, sting
<input type="checkbox"/>	28 Multiple
<input type="checkbox"/>	30 Other
<input type="checkbox"/>	32 Unknown

Mark body



Accident Severity :

Fatal Lost time * Minor Near miss * Estimation of lost timedaysweeks

Worker Designation :

<input type="checkbox"/>	00 Not certificated or unknown	<input type="checkbox"/>	06 Logger I Certificated
<input type="checkbox"/>	02 Senior logger-certificated	<input type="checkbox"/>	08 Logger II Certificated
<input type="checkbox"/>	04 Machine operator-certificated	<input type="checkbox"/>	10 Logger III Certificated

Described briefly what happened :
