

PROTECTIVE EQUIPMENT

INTRODUCTION

Safety is a major concern in the forest industry. Several types of safety equipment have been introduced to try and reduce accident rates. Initially this equipment was aimed at reducing the severity of the injury, such as chainsaw chaps, safety helmets and earmuffs. Recently, however, the emphasis has been widened to include high visibility clothing, in order to further reduce the incidence of accidents.

While being a relatively new concept, high visibility clothing has faced some serious setbacks in the form of product design and impracticality for the New Zealand's production forest environment. Several overseas garments based on the high visibility vest or shirt concept have proven unsuitable for New Zealand logging operations. The reasons being that the garments tend to be too hot, restrictive and/or impractical in design for the New Zealand situation.

CURRENT RESEARCH

LIRO is currently researching alternative New Zealand designed and manufactured high visibility garments in conjunction with the University of Waikato, Spacetime Industries Limited and logging crews in the Bay of Plenty.

The University testing consists of scientifically measuring which colour is the most highly visible under New Zealand forest conditions. This will be measured with the aid of an "eye tracker" device. This device can record how quickly a person's eye notices certain colours and/or shapes in different work environments.

Prototype high visibility garments are being field evaluated for comfort, practicality, durability and cost. The feedback from the

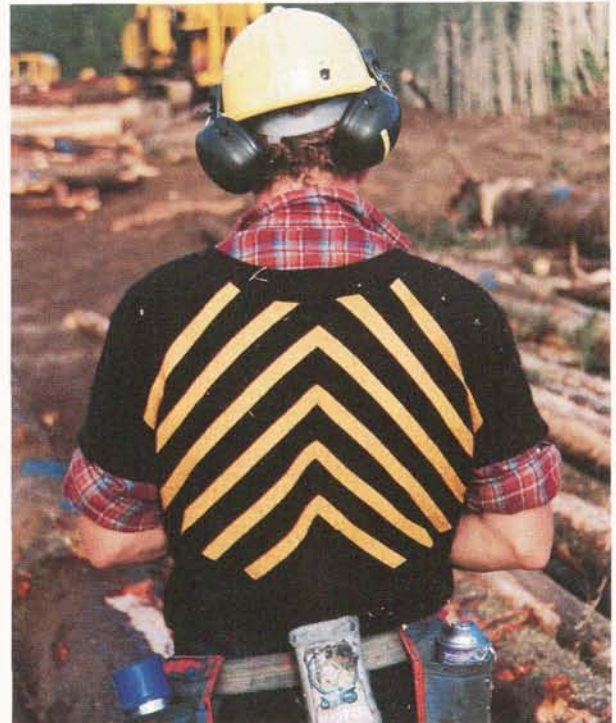


Figure 1 - Field Testing the prototype high visibility bush shirt

HIGH VISIBILITY HELMET



Figure 2 - The high visibility helmet being worn by faller, Merv. Peck

logging crews currently testing garments for LIRO has been very useful and informative.

A recent break-through in high visibility technology, was the manufacture by New Zealand Safety Limited of the high visibility safety helmet. This helmet is based on New Zealand Safety's standard helmet except that the plastic compound incorporates a light sensitive pigment which makes the helmet fluorescent, especially in low light situations.

The helmets are available in two colours, lime green and orange. The lime green helmet is proving more popular, as heat sensitivity problems with the orange pigment has lead to wide colour variations.

INDUSTRY IMPACT

These helmets have had a major impact on forest companies and contractors. The best example of this can be seen with Tasman Forestry Limited (TFL) Nelson district. After trialling the helmets in May, 1991 TFL Nelson safety committee, consisting of logging contractors, trucking contractors, TFL Nelson staff, OSH Safety Inspectors and Nelson Hospital staff, found the helmets to be an excellent high visibility product.

At the request of the committee, TFL Nelson purchased 100 helmets. This provided a ready source of the helmets for local contractors. These were offered to contractors at the TFL, Nelson at a purchase price of \$15.00 + GST. The result was a rapid acceptance of the helmets by the Nelson district logging crews. This voluntary acceptance of the helmets was largely due to the ease with which existing helmets can be changed. Contractors were very supportive of the small cost needed to gain a high degree of visibility.

As a result of this acceptance, and at the request of the TFL, Nelson safety committee, TFL's "Safety and Policy Manual" will be amended to make the wearing of high visibility helmets compulsory as from the 1 January, 1992 in all harvesting and transport operations.

CONCLUSIONS

Contractors are aware of the substantial safety benefits associated with high visibility garments.

High visibility products must be effective, practical, and cost effective if they are to be fully accepted by forest companies and contractors.

Substitution of existing equipment currently in use could prove more beneficial than making contractors incorporate additional high visibility equipment.

As the Nelson district loggers have shown, the easy transformation from standard helmets to high visibility helmets combined with the relatively low unit cost, increased the helmet's appeal.

User resistance observed with previous high visibility garments has not surfaced with the high visibility helmets.

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