

# A field guide to fatigue risk management

In the August issue of *New Zealand Trucking* Dr Kathryn de Luc reviewed the impact of fatigue on fuel usage. In this issue Fiona Johnston takes a closer look at the causes and consequences of fatigue and introduces a way to manage it.

**Fiona Johnston** is a director of Shiftwork Services, a consultancy and training organisation specialising in providing fatigue, risk management, rostering solutions and wellness programmes for the 24/7 workplace. Visit [www.shiftwork.co.nz](http://www.shiftwork.co.nz) or email [Fiona@shiftwork.co.nz](mailto:Fiona@shiftwork.co.nz) to assess your company's fatigue risk management system.

Fatigue and sleepiness are often considered to be the same but for the purposes of this article, we will use fatigue as an umbrella description of tiredness due to prolonged work and/or insufficient sleep. It's easy to underestimate the effect of fatigue because it is difficult to measure, and shiftworkers are often reluctant to admit that they are tired or have fallen asleep at work.

The symptoms of fatigue are similar to the effects of drinking alcohol and include:

- Slowed reactions
- Reduced concentration
- Increased risk taking
- Increased mistakes

## What are the causes of fatigue?

Fatigue is largely related to the hours a driver works and the opportunities he or she has to sleep in non-work periods. Many drivers manage on only a few hours' sleep at a time but by the end of the week this amounts to a considerable sleep debt which cannot be recovered.

The actual workload is another factor; there are also individual factors such as length of commute between work and home and the quality of sleep available, for example, if a person is trying to sleep in a noisy household.

## What are the consequences of fatigue?

As with other types of impairment such as alcohol intoxication, there is a fairly predict-

able decline in a person's performance. As they become more deprived of sleep, they suffer a reduced mood and poorer communication. Then, their general performance slows; they become less accurate in their thinking and finally show physical symptoms such as micro sleeps, head nodding and even dozing off.

Their mental focus narrows to primary tasks only, and they struggle to integrate complex information, even if it's something they deal with on a routine basis. They are unable to assess their ability and, if driving, may suffer serious consequences if they fall asleep unintentionally.

## Who is responsible for the management of fatigue?

Fatigue is the result of work and non-work related activities, so the employer and employee are both responsible for managing fatigue. The company is responsible for providing a safe work place; this includes managing how many hours an individual works, training in fatigue management and detecting fatigue-related impairment in employees.

The employer's responsibilities are listed on the Department of Labour web site [www.osh.dol.govt.nz/order/catalogue/shiftwork-fatigue2007.shtml](http://www.osh.dol.govt.nz/order/catalogue/shiftwork-fatigue2007.shtml).

The employee is responsible for turning up fit for work. That means not only being free of alcohol and drugs but also being rested and ready for work.

## How is fatigue measured?

Unlike alcohol impairment, where an easy test like a breathalyser or blood test gives a clear result, it is difficult to detect and measure fatigue. Some companies ignore it or rely on the individual to report if they are fatigued but such reports are unreliable. This is because people tend not to notice small changes in alertness levels and may be unaware of the extent of his or her fatigue and associated impairment.

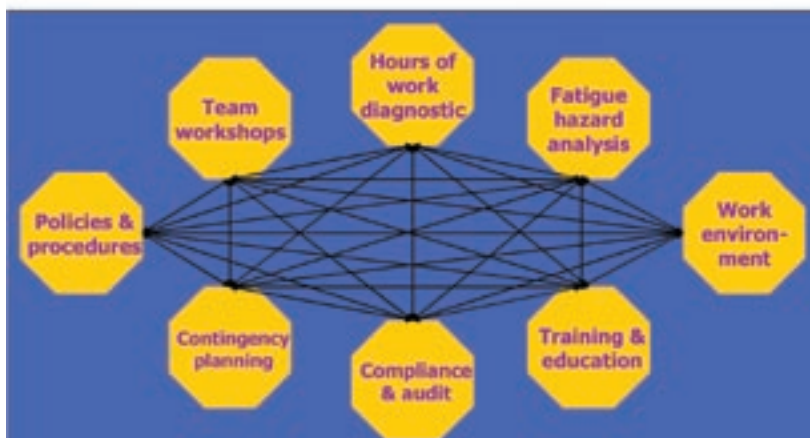
So there needs to be an objective method of measuring fatigue. Software is available to predict the fatiguing effects of hours of work and rosters.

Recently Fontera reviewed the hours worked by some of its tanker drivers using the FAID® software program, developed by the Centre for Sleep Research, University of South Australia.

The software provides a business with indicative fatigue scores for each driver based on the

## Risk-based integrated FRMS

- Each element informs / adds to others



Mood ↓ Communication ↓ Response speed ↓ Accuracy ↓



Fully alert

Asleep

individual's hours of work. Further questions can assess an individual's ability to cope with working shifts or extended hours.

### What can be done?

In managing fatigue in a company, it is important to assess the hazards and commit to reducing them over time. This forms the basis of a Fatigue Risk Management System (FRMS).

It is unlikely that fatigue will ever be eliminated in the trucking industry but its consequences can certainly be minimised with careful management of work hours, staff training and management of common sleeping disorders.

An example of excessive driving hours was reported in the New Zealand Herald on Wednesday 23 July 2008. A truck driver working two jobs, driving 45-tonne trucks continuously for up to 25 hours was caught by the Police Commercial Vehicle Investigation

Unit (CVIU), prosecuted and convicted. When passing sentence on the 36 logbook charges in Nelson District Court, Judge Tony Zohrab said McRae's offending was "as bad as it gets", adding it would have taken just a moment's inattention at the wheel of a fully laden, four-axle truck-and-trailer unit for him to have "wiped out" a member of the public.

"Fatigue is well documented as a significant contributing factor in a lot of crashes," said senior constable Scott Johnston of the Motueka CVIU. "Fatigue on this scale is highly dangerous, and a split second loss of concentration could have disastrous results."

The judge agreed, ordering McRae to pay more than \$15,000 in fines and court costs, and disqualifying him from driving heavy and passenger vehicles for 15 months. □

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