



A New Approach to Fatigue

Better scientific knowledge and operational experience has led to a re-think, globally, about managing fatigue in aviation. The question now is, do the current rules and regulations in New Zealand still work or do they need updating to reflect that shift?

Fatigue can be a contributing factor to accidents because it affects people's ability to do their job safely.

It's not just a pilot issue – it affects air traffic controllers, maintenance staff, and cabin crew.

Professor Philippa Gander is a world leader in the physiology behind fatigue-related impairment.

She's Director of the Sleep/Wake Research Centre at Massey University and is on the CAA's Fatigue Risk Management Panel (FRMP).

The traditional, and sole, approach to managing fatigue through limiting duty hours and minimum rest periods is not consistent with what is now understood scientifically, she says.

"The rules might require that you fly no more than, say, eight hours, but that doesn't deal with the actual causes of fatigue.

You could be alert after 10 hours of duty if you had recently slept well. On the other hand you might fly only six hours and be absolutely exhausted because it's the middle of the night and you've flown several demanding duty days in a row."

Prescriptive limits, internationally recognised as a valid means of managing fatigue, need to be complemented by an organisation's risk management processes. Just because a duty is legal doesn't mean it's safe, says Mark Hughes, CAA's General Manager Air Transport and Airworthiness.

The CAA is reviewing current fatigue-related regulations and guidance material to ensure they're fit for purpose and are consistent with recognised good practice.

The rules haven't essentially changed since they first came out in the mid 1990s, says the project's lead advisor, Xavier Ruch.

"We've completed a policy analysis, and a discussion document will be put out to the public in the next few weeks for feedback. It outlines what we believe are the best ways to make improvements."

It's a complex issue that will require a combination of interventions to achieve the best safety outcomes for different aviation sectors.

"They can also be proactive and assess their systems and start making improvements in internal reporting and training. Managing fatigue is a shared responsibility – we all have a role in this."

One Size Doesn't Fit All

"Larger airlines tend to have systems and dedicated resources to manage fatigue. They can gather a lot of data. Smaller operators can't quite do the same thing. We need to be mindful of what it means for small operators to effectively manage fatigue risk," says Xavier.

John Sinclair, Executive Officer of the Helicopter Association and the Agricultural Aviation Association, says it's a balancing act between setting rules with prescriptive limits while still recognising operational circumstances.

Mark Funnell, the Operations Manager for Skydive Taupo and sister companies, says the current system works quite well for them because the guidelines are fairly broad.

"You can think a bit more laterally about how you want to manage your fatigue and it gives you more options to adjust it for your organisation."

John Sinclair is also on the CAA's Fatigue Risk Management Panel and says it's easier for companies with scheduled services to fit into the current prescriptive limits.

"What works for one might not work for another. Typically a lot of GA operators can be on call at any time. You take a helicopter operator, it's the nature of their work, it's unpredictable."

Operators need to identify how the nature of their activities can potentially affect crew fatigue, says Xavier. The CAA's fatigue project, with industry input, aims at providing guidance that will help.

Knowledge and Competence

John says the sector has recently developed a simple fatigue management guide, which shows members how to assess themselves.

He says building sector awareness is a good start and admits it's an area that can be improved.

"We all need to upskill because fatigue hasn't been investigated as a root cause of incidents and accidents to the extent that it should have."

A good understanding of the causes and consequences of fatigue, and mitigation strategies, are an essential part of reducing the risks it poses.

A Culture of Reporting

The culture of an organisation plays a big part in managing fatigue, says Tim Rayward, Operations Manager Air Safaris, in the Mackenzie Country. "If people feel tired they should be in a position where they can say that, because everybody's fatigue levels are different."

"It's quite hard to put a square box around fatigue because we're all different. That's why it's important to look at your operation, what you're doing, and getting a good culture around fatigue." That approach will help identify the hazards and allow an organisation to manage the associated risks and run an effective fatigue scheme.

Being more proactive and systematic in the way we manage fatigue is aligned with the CAA's whole approach to aviation safety, says Mark Hughes.

He says while the bigger operators have more resources, smaller operators can tailor their systems to the size and the complexity of their operation.

"Fatigue management systems need to be effective in practice, and a good company safety and reporting culture will help to identify where changes are needed."

A Systems Approach

In 2011 there were big changes in the International Civil Aviation Organization's (ICAO) standards for international operators.¹

"That's sort of the watershed where fatigue management approaches were firmly anchored on scientific principles, knowledge and operational experience," says Xavier Ruch.

The changes also made it explicit that companies would need to use their Safety Management System (SMS) to manage fatigue-related risks and think about how fatigue can affect their safety performance.

Philippa Gander says it's no longer sufficient to simply adopt the limits when operating under prescriptive rules.

"You still have to manage fatigue as a hazard in your SMS."

She says that approach is consistent with the new Health and Safety at Work Act 2015.

"It's the same process – identifying hazards and their associated risks, mitigation, and monitoring. That's what the Act requires and that's also now what ICAO is saying."

For more information on fatigue go to the CAA web site, www.caa.govt.nz, "Medical". ■

¹ ICAO's standards and guidance material on fatigue: <http://www.icao.int/safety/fatiguemanagement/Pages/default.aspx>