## Operator responsibilities

A technical specialist with the CAA's Security Regulation Unit, Mark Stephen, says the responsibility for a senior person doing their job properly lies as much with their company, as it does with the individual.

"I don't believe you can have a robust management system without picking up that you have a senior person who's struggling," Mark says.

Mark interviews senior person candidates for regulated air cargo agents (RACAs). He says the organisation is also responsible for putting someone up as a senior person candidate who's experienced in their field and enthusiastic about how they can contribute to the organisation.

"Senior person responsibilities should not be looked on simply as a box tick for an organisation to stay certificated.

"For instance, a demonstrably good senior person in a RACA will give confidence to their company and the CAA, that the checks and balances necessary for a secure supply chain of cargo are in place.

"While RACA quality assurance is ultimately about the security, and therefore safety, of passengers who're sharing the aircraft with cargo, it's also about the reputation of the RACA through whose hands that cargo has passed.

"The value of an energetic and conscientious senior person is of huge benefit to the organisation. It can't be underestimated."

The Good Aviation Practice booklet, *How to be a safety manager,* says a senior person is entitled to feel supported by their chief executive – themselves the senior person ultimately accountable for all aspects of the operation.

"You also have to have the right resources – and enough of them – and the authority to make decisions about safety that will be taken on by staff. That's largely the CEO's responsibility," says the booklet.

"The CEO must show the rest of the staff that they are committed to what the [senior person] is doing. That's not just a matter of saying they're committed. The CEO must also provide the resources needed for the [senior person] to do their job properly, and model, by their actions, that they are participating, supporting, and engaged with the safety [and security] programme."

Comments or queries?
Email **adrian.duncan@caa.govt.nz**

# A BLACK BOX FOR GA

## EXPLAINING THE UNEXPLAINED

FENZ and DOC say aircraft carrying their personnel must now have a cockpit data recorder.

In the last decade there have been seven deaths in four fatal accidents of aircraft carrying out operations for Fire and Emergency New Zealand and the Department of Conservation.

Some of those who've died have been workmates and friends of Richard 'Mac' McNamara who leads the aviation team at Fire and Emergency New Zealand. For him, doing whatever he can to improve aviation safety is personal.

"Too many crashes around the world," he says, "have no confirmed cause, and that's no longer acceptable."

So Mac, and his opposite number at the Department of Conservation, Aviation Risk Advisor Jeremy Feasey, have spearheaded the 1st November 2021 mandate that all aircraft transporting their staff must be equipped with a cockpit video, audio and data recorder.

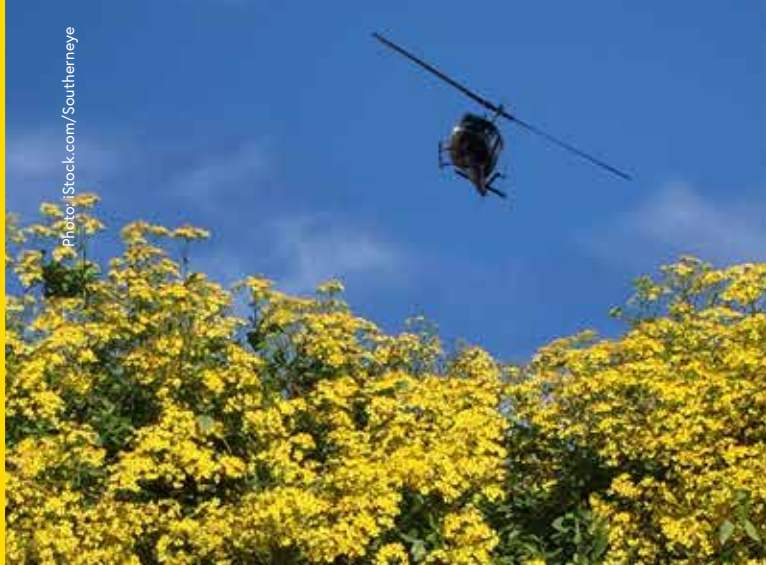


Photo: iStock.com/Southerneye

“There are operators and pilots who say a cockpit recorder won’t prevent an accident as it happens,” says Mac. “But what it will do is give us information that might prevent the next one.

“We do a disservice to anyone who dies in one of these accidents if we don’t learn from their tragedy, and pass that lesson on.”

There’s a gathering drive around the world to have cockpit recorders installed in small GA commercial aircraft, and when FENZ and DOC, who share the same operating standards, decided to update and tighten those, the November mandate regarding cockpit recorders was included.

“FENZ and DOC are pretty much in sync as to the benefits of cockpit recorders,” says Jeremy. “It’s not just finding out what went wrong in an accident, it has other great uses as well, such as using the data as the basis for a flight data monitoring programme that would feed back into pilot training.

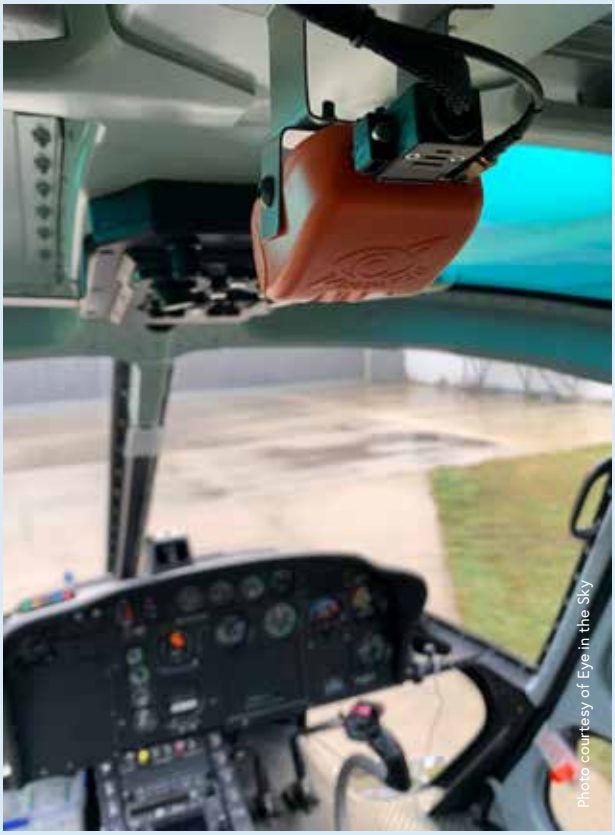
“When used as part of an operator’s safety management system, there’s the potential to see areas to improve and put in place preventative measures, before an incident or accident triggers a retrospective fix.”

The improved standard became operational on 1st November 2021 and the first communication regarding that was about two years ago.

“But if there’s a reason why an operator has not been able to meet the November deadline,” Jeremy says, “we’d consider a case-by-case extension on specific aircraft having data recorder installation dates post-November.

“But they’ll need an acceptable plan with reasonable timelines for that installation.

“In the meantime, we’ll obviously be making use of aircraft that are already equipped.”




// FENZ and DOC will now only use aircraft equipped with cockpit recorders, to transport their staff.

The agencies’ decision about mandating cockpit recorders was made after researching where helicopter associations and industries had gone on the issue in the United States, Canada and Australia.

“We’re not alone in wanting these devices,” says Mac. “They’re in the oil and gas, forestry and powerlines industries. And we’re the ones paying the bills so we get to have the say on specifications.”

The agencies are so keen on the devices they’ve told industry that operators can adjust the hourly rate they charge, to cover the purchase and installation costs of the kit.

**// It’s not just finding out what went wrong in an accident, it has other great uses as well, such as using the data as the basis for a flight data monitoring programme that would feed back into pilot training. //**

## Improving the bottom line, improving practice

A BK-117 coming into Queenstown with nine passengers on board suddenly had a 30-degree uncommanded yaw to the right.

The PIC carried out the promulgated procedure and turned off the yaw SAS (stability augmentation system). The plan, on initially consulting with the engineers, was to send the yaw SAS to Auckland for investigation and repair. The estimate for how long this would take was up to six weeks.

But video footage from the machine's cockpit recorder was despatched to the maintainer, who identified that the artificial horizon – which drives the yaw SAS – on the co-pilot's side had toppled. The artificial horizon was replaced. The aircraft was flying later that day.

Joe Dewar, who's the manager of CAA's intelligence team, thinks the videos will be of great benefit to operating practice.

"We have quarterly industry association meetings to discuss safety cases, incident reports and trends. Operators who attend them, and recipients of the subsequent sector updates, ask for more visual information about occurrences and accidents, particularly pictures.

"And I say, 'Well, I'll try, but we often don't receive much in the way of photographic evidence about what happened'.

"But just wait until we've got folks ready to submit de-identified clips and videos – I think our operators will really appreciate what this can do to improve the quality of the information they need." »

## SAFETY OUT OF TRAGEDY

In February 2015 near Queenstown, 18-year-old student pilot James Patterson Gardner was killed in the mid-air breakup of a Robinson 44.

While the coroner's findings have yet to be released, TAIC's report said the breakup happened when "...one of the main rotor blades struck the cabin..." (known as mast bumping).

But the commission went on to say, "...the true causes of mast bumping and in-flight break-ups are often not able to be determined...".

It recommended the promotion of "the need for cockpit video recorders..." or a similar form of data capture. (TAIC AO-2015-002)

James' mother, Louisa Patterson, found the lack of clarity around James' death "unacceptable in today's world".

"There were many questions, and no answers – aircraft should not inexplicably break up in flight."

So she set out to develop a New Zealand-designed and -made cockpit video recorder that would provide data about what was happening in the lead-up to a helicopter or light aircraft accident.

The result of that is the cockpit recorder system, 'Eye in the Sky'.

Proceeds from sales go to a foundation established in James' honour to support young adults who show exceptional skills in aviation, opening doors that will develop their careers and further the cause of aviation safety.

Louisa says cockpit recorders have many benefits, other than their primary purpose.

"For instance, we've found it can shorten an occurrence investigation," she says. "We had a helicopter take off from our hangar recently and it blew over some hazard cones near the BP installation, where they were extending the fuel tank area.

"An occurrence report was submitted to the airport company and the pilot concerned also submitted video footage. The video clearly showed a large fuel tanker taking up room on the access way, and the pilot had, in fact, taken off through the safest place available.

"The occurrence investigation closed within the hour."

Louisa says the video information can also provide pilot training opportunities.

"On a rainy day, an operator might brief pilots on a particular issue and say, 'Let's look at this footage – see what we did here, see how the aircraft performed here'.

"Or they might debrief a pilot involved in an occurrence – 'Can you see it may have better if you had....?' "

Speaking directly to her fellow operators, Louisa says, "If you use cockpit video footage in a proactive and no-blame way, you'll find it a valuable tool for meeting your SMS requirements as well as raising the safety bar at your operation.

"A picture may be worth a thousand words," she says, "but a video is priceless."

## Privacy worries

It would be fair to say not everyone in commercial GA is taking the FENZ and DOC cockpit recorder mandate in their stride.

Some pilots, worried about a lack of cockpit privacy, question how much management will be keeping a Big Brother eye on them.

Louisa Patterson, prime mover behind the Eye in the Sky technology (see sidebar on page 11), says a dose of reality is warranted.

"If you have five aircraft flying five hours a day, it's humanly impossible to go through all the collected data every day, trying to catch someone out somewhere for something they may have said.

"With operators being as busy as they are, who could be bothered?"

CAA flight ops inspector Pete Gordon flew helicopters in Papua New Guinea in the oil and gas, and mining, industries.

"When the companies started putting in cockpit recorders, many of the pilots kicked up, worried it would invade their privacy.

"But interestingly, after the recorders went in, the fuss died right down.

"Then the pilots began to realise the recorders actually gathered really valuable information that would support their decision-making if there was a question over that.

"Then in 2014, there was an accident that killed both pilots and two passengers near Port Moresby. It would never have had the cause identified without the use of a cockpit recorder.

"So that was the end of the commotion about cockpit recorders."

Some operators have expressed disquiet over the use the CAA and other agencies might make of the recordings.

Director of Civil Aviation Keith Manch has told Louisa Patterson that the data captured by the device is "owned solely by the owner of the aircraft and the device". Sharing that data with the CAA, in most instances, would be voluntary and at the discretion of that owner.

Only where there's a legal basis under section 24 of the Civil Aviation Act 1990, Keith said, could the CAA compel a participant to share such information – for example, if investigating a serious incident or an accident.

The data could also be requested by the Transport Accident Investigation Commission if it's investigating an occurrence. However, the TAIC Act 1990 prevents

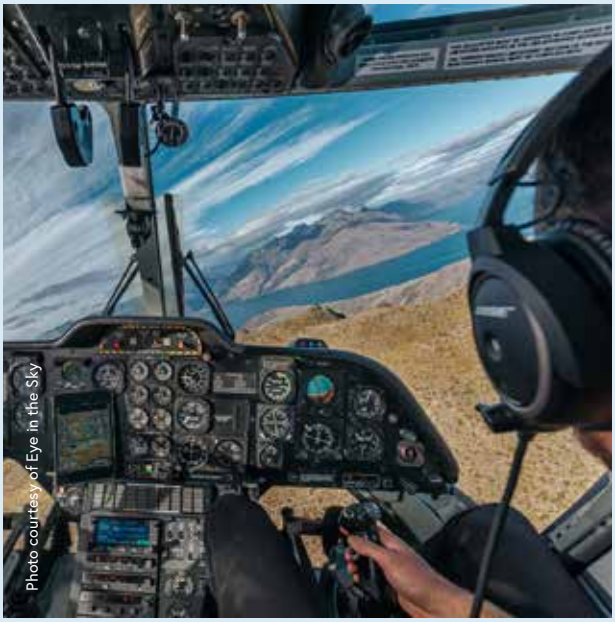


Photo courtesy of Eye in the Sky

the commission from releasing the transcript of the cockpit recording. The cockpit recording can also never be used in criminal proceedings against flight crew and only in very limited circumstances can it be used in civil proceedings.

Keith pointed out that anyone worried about such information being used by the CAA to take enforcement action should be aware that of the approximate 9,000 occurrences reported to the CAA each year, "enforcement action occurs in less than one percent."

The way the Authority asks for, uses, stores, and disposes of information from the civil aviation sector, Keith told Louisa, has to comply with statutory requirements.

Like every other organisation and individual in New Zealand, "The CAA has to comply with the requirements of the Privacy Act 2020", he said.

## // MORE INFORMATION

The following websites are for readers' further information only. In no way does *Vector* recommend any particular product.

**eyeinthesky.co.nz**

**appareo.com**

**flightcell.com/smarthub**

**ruggedvid.com**

Comments or queries? Email **certification@caa.govt.nz**