CAA INVESTIGATIONS *BUSTING THE MYTHS*

Contrary to some opinions, investigators do *not* monitor Flightradar24, searching for possible rule breaches. Here, *Vector* debunks this and other investigation fallacies.

Submitters to the CAA of aviation-related concerns (ARCs) will often use Flightradar24 to try to substantiate their claim that a particular aircraft was at a fixed height in a specific place at a certain time.

CAA Occurrence Investigator[1], Velma Scholz, says submitters of such reports are not necessarily experienced aviators and her team is careful in how they interpret such 'evidence'.

"FR24 can be a tool to corroborate the location of an aircraft at a certain time, but we don't use FR24 data as conclusive evidence that a breach did occur," she says.

"Firstly, and for various reasons, it might reflect incorrect information or contain errors. Submitters sometimes also trust calibrated altitude as the actual height, but this hasn't been corrected for pressure variations. Doing so can significantly change the height."

Velma says that if a report of a rule breach looks like it requires further investigation, an investigator will normally approach Airways for the data they hold.

As for those separate claims that the team monitors FR24, searching for aviation rules being broken, Velma says, "Even if we wanted to – which we don't – we have no time!"

ADS-B and investigations

There's also a myth that the uptake of ADS-B has increased the number of prosecutions for rule breaches.

"This is because ADS-B data provides a more accurate account of an aircraft's flight profile," Velma says. "If we find the ADS-B data does support the claim that a participant has breached safety standards – say, by low flying – then we discuss this with them. It's a safety risk, and it's obviously our responsibility to talk that through.

"But to say the uptake of ADS-B has led to more prosecutions is a total fiction.

"For instance, between 1 July 2019 and 30 June 2020, seven low flying events (LFEs) were prosecuted.

"In the July 2020 – June 2021 year, one was prosecuted (out of 10 referred for further investigation).

"In the July 2021 – June 2022 year, none was prosecuted (out of 17 referred for further investigation).

"This indicates the arrival of ADS-B has not significantly changed the way investigations are carried out, nor has it negatively affected the result of those investigations.

"What *has* happened, happily, is that ADS-B data is increasingly able to prove that an alleged breach of the rules has *not* occurred." »

1 There are three teams in the Investigation and Response Unit – the regulatory team who investigate alleged rule breaches that are more to the serious end of the spectrum. The safety team work to elicit lessons from accidents. The occurrences team review aviation-related concerns to determine whether claims of rule breaches are valid or not.

// Investigation and Response (Safety) Investigator Peter Stevenson-Wright, securing his gear after an accident site examination, and waiting for his turn to be evacuated from the mountain, near Makarora, in Otago.

Photo: CAA/Al Moselen.

Part 12 reporting

"Investigations are important because they contribute to identifying possible safety risks, unsafe practices, emerging issues, and trends," says the team leader for safety investigations, Dan Foley.

The safety team look for lessons in aviation accidents, and ask, "Why did this pilot do what they did? How much is the 'system' responsible for what happened?"

Dan says it's important for investigators to raise awareness and understanding in the aviation community of a safety-related issue.

"But to do this well, we depend on reporting by participants (Part 12, ARCs) as well as the public (ARCs).

"Part 12 reports can be made in confidence. If an in-confidence report is requested[2], we have to remove anything that could identify the submitter.

"We do get people reporting their own mistake but wanting to remain anonymous, and we honour that, because it's all about improving safety."

In collecting and using the information provided under Part 12, investigators have to follow really strict guidelines.

"The rules are clear," says Dan. "We're not allowed to use any information submitted under Part 12 to potentially prosecute that submitter. And we're not allowed to give that information to anyone else who may potentially prosecute that submitter[3].

"There are just three exceptions to this. The first exception is if the information shows the flying put someone else (like a passenger) or property, in unnecessary danger.

"So a pilot cannot do something that any reasonable person would consider hopelessly reckless, like drunk flying with a couple of passengers on board, then rush off to submit a Part 12 report, with the thought, 'I reported it under Part 12 so I won't be prosecuted'.

"The second exception is if a pilot reports under Part 12, but the information they give is untrue.

"And the final exception is if a court orders us to release the information."

It's only in exceptionally rare circumstances that a Part 12 report is used in these ways, however.

"Obviously, we want people to report occurrences – because we need to identify where the risk is concentrated – so the way we collect and use that information has to be robust and fair, and it has to be seen as robust and fair.

"We help the participant to identify the root cause(s) of the occurrence. Often those causes are hidden – like a pilot who might have made a poor and risky decision, but the root cause is not the decision itself, or a disregard for the rules, it's fatigue, because they've been working seven days a week for the last month.

"We find most participants are happy to be part of the joint exploration of what went wrong, and to help discover the possibly hidden reason for it, like the unrecognised fatigue."

Investigations, prosecutions, and stats

Another fallacy is that there's a high rate of prosecutions resulting from reports to the CAA.

But the figures speak for themselves. Of the approximately 9000 occurrences reported to the CAA each year, prosecution occurs in less than one percent.

For instance, in the 1 July 2021 to 30 June 2022 year, there were no prosecutions. For anything, not just low-flying events.

Prosecution, contrary to some opinion, is not the CAA's go-to option.

It's used only when it's the most appropriate action to take to improve flying behaviour, and only after a thorough investigation, and according to a strict series of steps.

John Keogh, the team leader for regulatory investigations, says there were 17 LFEs referred to his team in 2021–2022.

"Two resulted in infringement fines, one pilot got a warning letter, and one was educated about what they should have done. There were no prosecutions."

"The majority of ARC investigations end in one of three findings," says Chris Gooch, the team leader for occurrence investigations.

"'No further action' means the investigation is not completed – for instance, if the submitter withdraws their concern and the investigator's initial assessment has identified a low risk to safety.

"'No offence disclosed or committed' means it was not possible to determine whether there had been a breach, or no breach had been made.

"Finally, an 'educational outcome' is guidance material or advice being given to the participant. Sometimes the CAA mediates between various parties – for instance, the ARC

2 CAR 12.61.
3 However, if there's a report submitted by an independent person about the same occurrence, the information from that independent person could potentially be used to prosecute someone.

submitter and the subject of their report – to increase their safety awareness. Or we make suggestions to avoid the issue from happening again," Chris says.

What investigators do most of the time

"We investigate quite a variety of matters," says John Keogh. "From unruly passengers to quite serious breaches of the Health and Safety at Work Act 2015.

"We gather all the available information possible, including any voluntary statements made by the participant and anyone else involved, to assess all the facts available to help determine if there's pilot/operator fault at play.

"After that, we take the most appropriate and proportionate response to the event.

"More often than not, when the participant contributes to an investigation – by, for instance, making a voluntary statement – the investigator can assess how much they accept they were at fault, and therefore the likelihood of them sticking to the rules in the future."

The newly revised Good Aviation Practice booklet, *How to report occurrences*, says, "There is a common misconception that reporting occurrences means you're more likely to be prosecuted. That is not true. While it may be a little uncomfortable telling the CAA what happened, or that you made a mistake, being honest and open with the CAA shows you are willing to learn from your mistake and demonstrates the very purpose of investigations – understanding why something went wrong to try and stop it happening again. Engagement like this supports the CAA in its role in considering the appropriate response to possible breaches of aviation – including alternatives to enforcement – and in choosing which best applies in the circumstances."

John Keogh says his team regularly get feedback from participants.

"They say they really felt listened to by the investigators. As a result, they were willing to accept their mistake and learn from it.

"It's a fact that the vast majority of our investigations end in educational outcomes like this, and that can only be good for everyone's safety."

Queries or comments?
Email **investigations@caa.govt.nz**

// ...to say the uptake of ADS-B has led to more prosecutions is a total fiction. //

Photo: CAA/Kevin Hawkins.