



INVESTIGATING ACCIDENT THEMES

An innovative tool is helping CAA's safety investigators tackle complex issues using a system approach.

Normally, CAA's safety investigators investigate specific events or occurrences, such as accidents, incidents, and defects, but they're also working proactively to solve wider system issues.

Most problems and possibilities for safety improvement belong to the system, rather than to isolated individuals, events, or outcomes. In a system, everything is connected to something: nothing is completely independent. People interact with each other, with types of equipment, with information, and with procedures.

This is where Themes and Systems Safety Investigation (TSSI) comes in. It takes a system-wide view to solve possible safety risks across the aviation system to prevent incidents.

There are two components:

- Theme investigations identify patterns or similarities in the precursors, or factors, observed in occurrences or safety data.
- System investigations examine the socio-technical systems in operation (interaction between people and technology) to determine the factors creating the problem.

When leading a TSSI, CAA's safety investigators will engage closely with experts and interested parties from across industry and within CAA to understand how the system is operating.

The purpose of the TSSI is to:

- precisely define what the problem is and why it exists
- facilitate systems thinking
- provide the right information to the right people
- enable them to do the right things to solve the issue.

The value of identifying precursors

The traditional role of safety investigation has been to analyse accidents and serious incidents to determine the causal factors, and prevent reoccurrence. It's still important to do this, and in an incident you will still be required to complete a report.

This is a reactive approach however. It doesn't always take into account relatively minor events that may not have had an obvious effect on that particular outcome. In a TSSI, we want to understand the full picture of the situation at the time of the event. It's also essential to consider and include any precursors in the report.

Having an awareness and understanding of the precursors means we can define and implement strategies to address the risk factors, limiting serious outcomes, and improve the safety of the aviation system.

Changes to the CA005

The way in which safety investigations are reported to the CAA (currently using the CA005 form) is being reviewed.

The proposed changes will help you, as the reporter and initial investigator, to provide our safety investigators and analysts with as much information as possible about the contributing factors and precursors.

More information

To read more about TSSI, visit www.caa.govt.nz/accidents-and-incidents.

To report occurrences online, visit www.caa.govt.nz/report. ➔