

A Case Study in Risk Management

Launceston, 24 Dec 2003: Threat to the Safety of Aircraft

It was a headline event – Christmas Eve travellers, scheduled commercial flight, new and controversial air safety rules, possible midair collision.

What happened? What was the background? What can we learn?

The Event

A Boeing 737-700 aircraft was making its landing approach to Launceston airport when an on-board electronic system alerted the crew to the presence of another aircraft. Some 15 seconds later the system advised the crew to immediately climb. This they did, passing an oncoming light aircraft within “about 200 feet vertically, ... and certainly less than one nautical mile horizontally”¹. Both aircraft were operating under the newly introduced National Airspace System (NAS).

The Australian Transport Safety Bureau’s (ATSB) Occurrence Report¹ into the matter observed:

“As no prescribed separation standards are applicable in these circumstances, there was no infringement of separation standards.”

“[Evidence indicates] that the aircraft came within such close proximity that a threat to the safety of the aircraft may have existed.”

“Occurrence has been classified as an airprox event, which is a type of serious incident.”

“... the pilots of the aircraft involved in this incident were operating in accordance with the rules and procedures for operation in Class E airspace associated with the National Airspace System phase 2b, implemented on 27 November 2003.”

The Findings

Separation standards were not infringed, pilots were operating according to the rules. An obvious conclusion would be to question – even abandon – the rules, something the media and parts of the industry were already clamouring for.

Political pressure eventually led to a pause in the airspace implementation. ATSB recommended that there be a “review of NAS procedures ... for operations in Class E airspace ... with a view to enhancing the situational awareness of pilots operating in that airspace”¹.

This was a critical decision for ATSB. It could easily have recommended that the NAS rules be made more prescriptive, or that they be abandoned in favour of the previous system that itself was more prescriptive.

Presumably ATSB was well aware of the pitfalls of continually modifying rules after each incident. No doubt it had read McInerney’s report² in relation to rail transport:

The current rules ... have been the result of incidents which have occurred, and every time an incident occurred somebody tacks on an extra bit, because it wasn’t quite covered by the previous rule and it gets more and more complicated.

Background

The National Airspace System was designed to bring Australia more into line with the International Civil Aviation Organisation's airspace classifications and to take advantage of modern technology such as onboard traffic alert and collision avoidance systems.

The system placed a greater emphasis on risk management. Amongst its principles³:

"Consideration of safety, risk, efficiency and cost effectiveness."

"Reliance on the professionalism of both air traffic controllers and pilots, with a key philosophy that pilots apply vigilance and airmanship when operating in Australian airspace in this architecture."

"Enhancement of situational awareness."

What Can Be Learned from This?

- The world is moving away from overly-prescriptive standards in favour of a risk-based approach. Why? – because standards and rules can never fully anticipate every situation that may unfold. In effect they become minimum standards.
- Standards and rules cannot be abandoned. Instead they must be augmented by a risk approach that includes a much higher degree of situational awareness so people can safely deal with issues as they unfold.
- Organisations can themselves – wittingly or unwittingly – create a prescriptive culture, where rules and standards are paramount but individual situational awareness is given less emphasis.
- Rules can actually induce risk. People may mistakenly believe "It must be safe because all the rules have been followed".
- It takes time to shift people's thinking away from total reliance on rules, to a mindset where rules and situational awareness are needed.

References:

1. ATSB Air Safety Occurrence Report 200305235, 24 Dec 03.
2. McInerney AJ: Special Commission of Inquiry into the Glenbrook Rail Accident – Final Report, 11 Apr 01.
3. Dept of Transport and Regional Services: Aviation Reform Group's Report, 14 Dec 01.

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