



Australian Government

Department of Defence

Defence Aviation Safety Authority

# Surfing the Future of Safety: Investigating Change for Better Outcomes



**ANZSASI Seminar 2025**

Group Captain David Smith

Director Defence Flight Safety Bureau



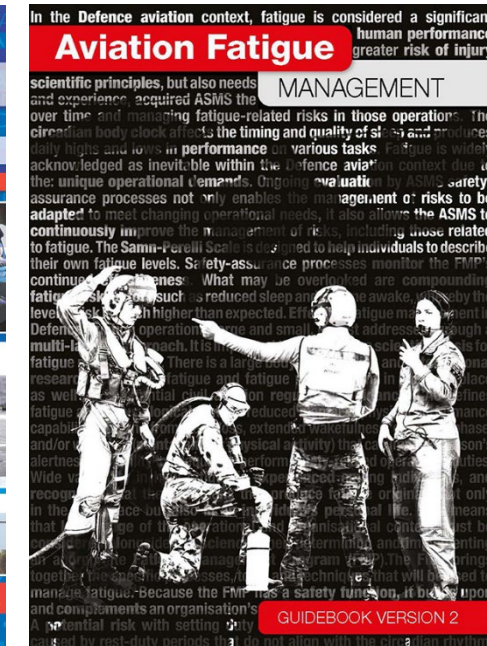
# Defence Flight Safety Bureau

To defend Australia and its national interests in order to  
advance Australia's security and prosperity  
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# Scope

- Dfsb's Role and Mandate
- Organisational Learning
- Hazard Identification and Analysis
- Aviation Risk Management
- Flying Supervision
- Flight Authorisation
- Human Factors
- Non-Technical Skills
- Safety Improvements





# DFSB Roles and Mandate

- Independent investigative capability aligned to ICAO standards and recommended practices
- Functionally independent of Defence aviation regulator
- Autonomous powers to investigate accidents and systemic issues
- Aviation safety reporting and safety data analysis frameworks and systems (SENTINEL and SALUS)
- Aviation Safety Officer training
- Safety promotion (*Spotlight* magazine)
- Close collaboration with the ATSB (Memorandum of Understanding).



# Organisational Learning

- **Air Force B707 Board of Inquiry (1991):**
  - *‘absence of effective mechanisms to prevent the erosion of operational knowledge at a time when large numbers of pilots were resigning from the Air Force’*
- **Army Blackhawk Board of Inquiry (1996):**
  - *‘a failure to recognise the complexity of the tasks they were required to undertake’*
- **Navy Sea King Board of Inquiry (2005):**
  - *‘senior commanders and managers did not fully understand their responsibilities for airworthiness’.*





# Hazard Identification and Analysis

- Increasing complexity and expansion of operational roles and operating environments
- Infra-red blooming hazards present new challenges
- **Navy MH-60R Seahawk Romeo CFIT – Philippine Sea 2021, HMAS *Brisbane*:**
  - *‘the accident was a result of many hazards and hidden risk-control failures in two separate systems that, when combined on that night, produced the outcome’.*



# Aviation Risk Management

- Experience, knowledge and background of Aviation Safety Officers
- Identification of Top Event (Trigger Event)
- Threats and causes of Top Event
- Preventative controls
- Recovery controls to prevent the consequence or minimise severity of outcome
- Traceability to Orders, Instructions and Publications
- Links to Aviation Safety Investigation Reports and recommendations.



# Flying Supervision

- Australia Day 2019 – C-130J Hercules flew significantly below authorised display height over Sydney Harbour
- Original tasking for a straight and level flypast
- Squadron planned operational handling display, despite high operational tempo and workload
- Weather deteriorated below minimum briefed and rehearsed
- Pressure on pilot to complete display led to the commencement of a descent below planned height
- Flight Authorising Officer not sufficiently experienced to approve mission.





# Flight Authorisation

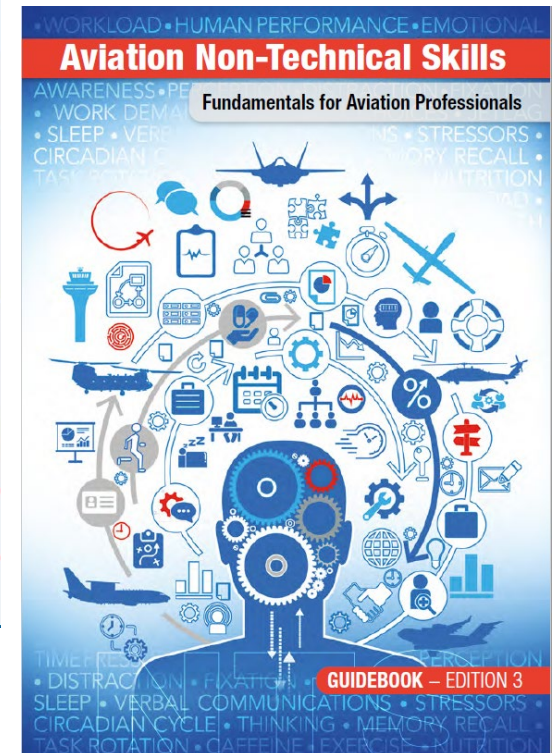
- Feb 2021 – main rotors of Army UH-60 Blackhawk struck mast of ship during operational training in Sydney Harbour
- Planned normal sequence of workup missions, assignment of crews and reconnaissance missions were disrupted
- Crews conducted mission planning and briefing without direct oversight of experienced Flight Authorisation officer
- Elements of the Risk Management Plan were missed and not discussed in detail with Flight Authorisation officer.





# Human Factors / Non-Technical Skills

- Dec 20 – crew of F/A-18F Super Hornet ejected after aircraft left runway during take-off roll
- Distractions prior to line-up caused by minor aircraft system degrades
- Time pressure to launch a multi-aircraft formation
- Small variations in crew habit patterns resulted from lack of standardisation in transition training
- Breakdown in crew coordination and NTS skills led to different mental models
- Integration of practical/skill-based NTS training.



# Defence Aviation Safety Improvements

- DFSB investigations and recommendations for safety improvement contribute to DASA's **Safety Intelligence System** and **regulatory reforms**
- **Defence Aviation Safety Regulations (DASR):**
  - Night Vision Illumination Systems
  - Aviation Fatigue Management
  - Safety Management Systems (Aviation Risk Management)
  - Flying Supervision and Flight Authorisation
  - Flypasts and Flying Displays
  - Non-Technical Skills
- **Education and training:**
  - Upskilling Senior ASOs in HF, NTS and Risk Management.







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