

# An update by CASA on NTS Rule Implementation in Australia



Australian Government  
Civil Aviation Safety Authority

[www.casa.gov.au](http://www.casa.gov.au)



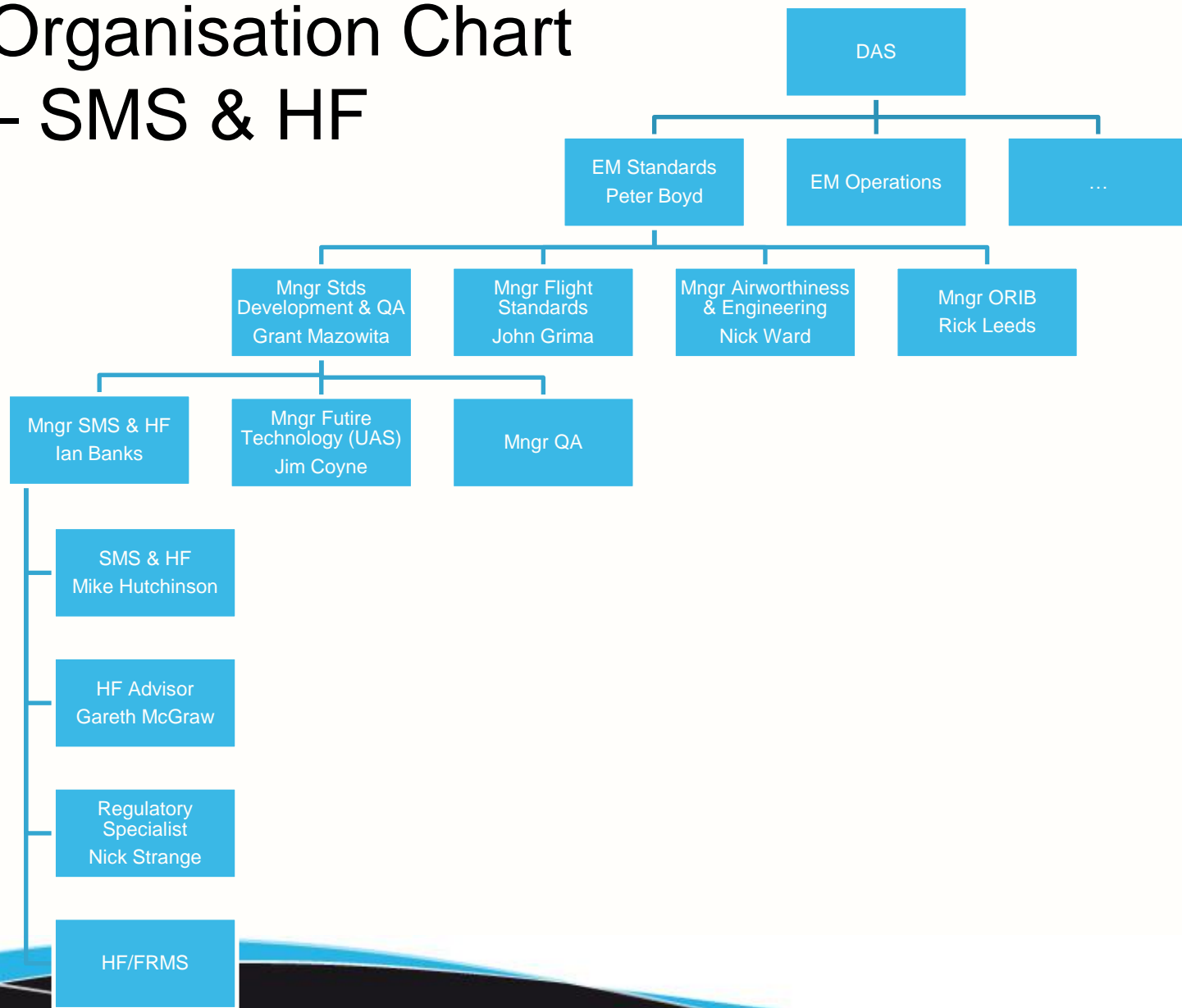
**CASA**

*Ian Banks*

*Manager SMS and HF*

*safe skies for all*

# CASA Organisation Chart – SMS & HF



# Background

## ICAO – SARPs - wef 1<sup>st</sup> Jan 2009

- Requirement for SMS (Annex 19 wef 14 Nov 13); and
- Requirement for Human Factors training and assessment.
  - ‘knowledge and skills related to human performance’ relevant to duties.
- Annex 6, Part 1
  - Para 8.7.6.4 (maintenance personnel) – covered in CASA Part 145
  - Para 9.3.1 (flight crew),
  - Para 10.3 (flight operations officer/flight dispatcher), and
  - Para 12.4 (cabin crew)
- Guidance provided in the ICAO Human Factors Training Manual (Doc. 9683).

# CASA HF & NTS Current Regulations

# CAO 82.3 & 82.5 - RPT Operators

- Jun 11 CASA Approval – Document level only
- Jun 12 Post Implementation Capability Assessment

## Occupations Covered

- Pilots
- Cabin Crew
- Flight Operation Officers/Dispatchers
  - ICAO – Licensed member/FAA
  - CASA - Not a specifically defined occupation
    - Safety sensitive members of operations
      - Flight planning, Load control, Crewing, Flight following, Maintenance watch etc.
    - Up to operator to define – SMS

# RPT AOC holders

RPT AOC holders require:

- A program, approved by CASA, to train and assess personnel in human factors and non-technical skills with the aim of minimising human error

*(CAO 82.3/5)*

# Part 145 – Maintenance Organisations

- AMO's maintaining A/C approved for RPT (CAR 206 (1)(c))
- Jun 13 CASA Approval – Exposition

## Occupations Covered

- Licenced engineers; and
- individuals involved in any maintenance, management or quality audit task (*Part 145 MOS, 145.A.30 (e) - Personnel requirements*)

# Part 145 MOS

## 145.A.30 Personnel requirements

### Employee qualifications

(e) An AMO must specify standards (including, but not limited to, qualifications and experience) in its exposition for the competence of individuals involved in any maintenance, management or quality audit task and must ensure these individuals meet the standards for a task that they are authorised to perform. **The AMO must also ensure these individuals have an understanding of the application of human factors and human performance issues appropriate to that individual's function in the AMO.**



# Part 145 MOS

## **145.A.35 Issuing certification authorisations**

(d) An AMO must ensure that each of its employees that performs maintenance services on behalf of the AMO has up-to-date knowledge of the following, relevant to the employee's duties:

1. technology relevant to the person's functions in the AMO;
2. the AMO's procedures;
3. **human factors principles.**

# Part 141 Flying Training Organisations

- 3<sup>rd</sup> Dec 13 - New Part 141 certificate applications
  - CASA Approved Exposition Required
- 3<sup>rd</sup> Dec 16 - Part 141 flying training schools existing on 3 Dec 2013
  - CASA Approved Exposition Required

## Occupations Covered

- Flying instructors

# Part 141 Operators

Exposition requires:

- A description of the operator's program for training and assessing personnel in non-technical skills and human factors principles.

*(CASR Part 141 Regulation 141.260 (1)(h))*

# Part 142 Operators

Exposition requires:

- A description of the operator's program for training and assessing personnel in non-technical skills and human factors principles.

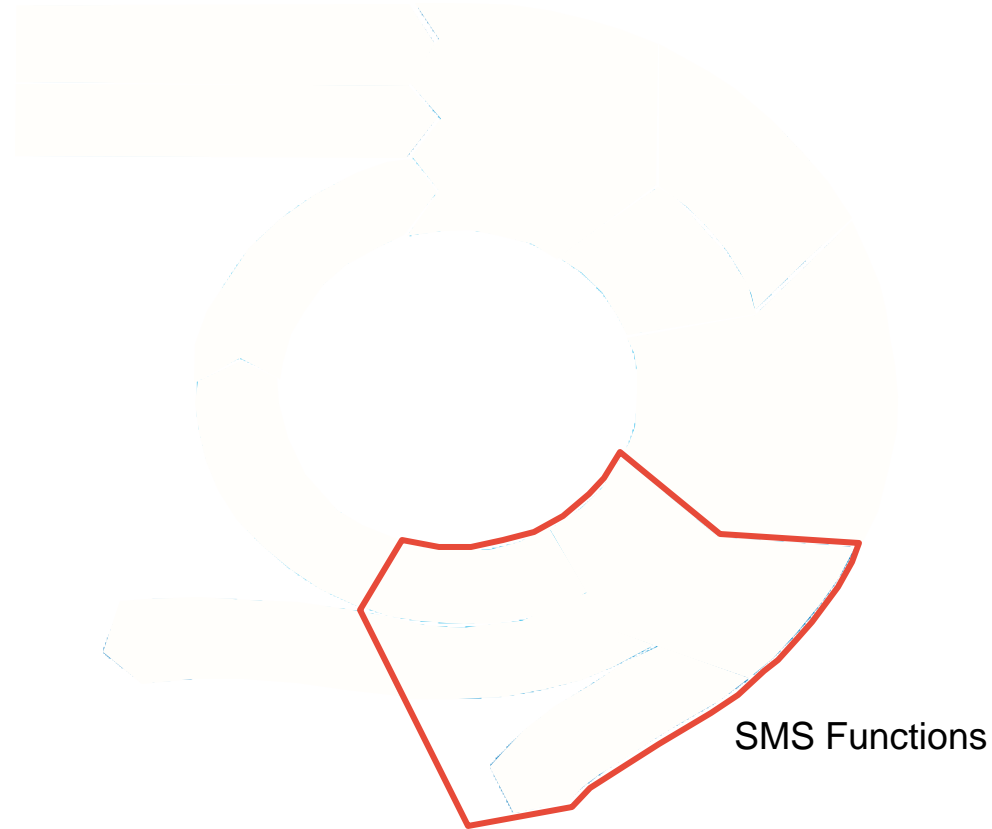
*(CASR Part 142 Regulation 142.340 (1)(h))*

# What is the Goal of HF Training?

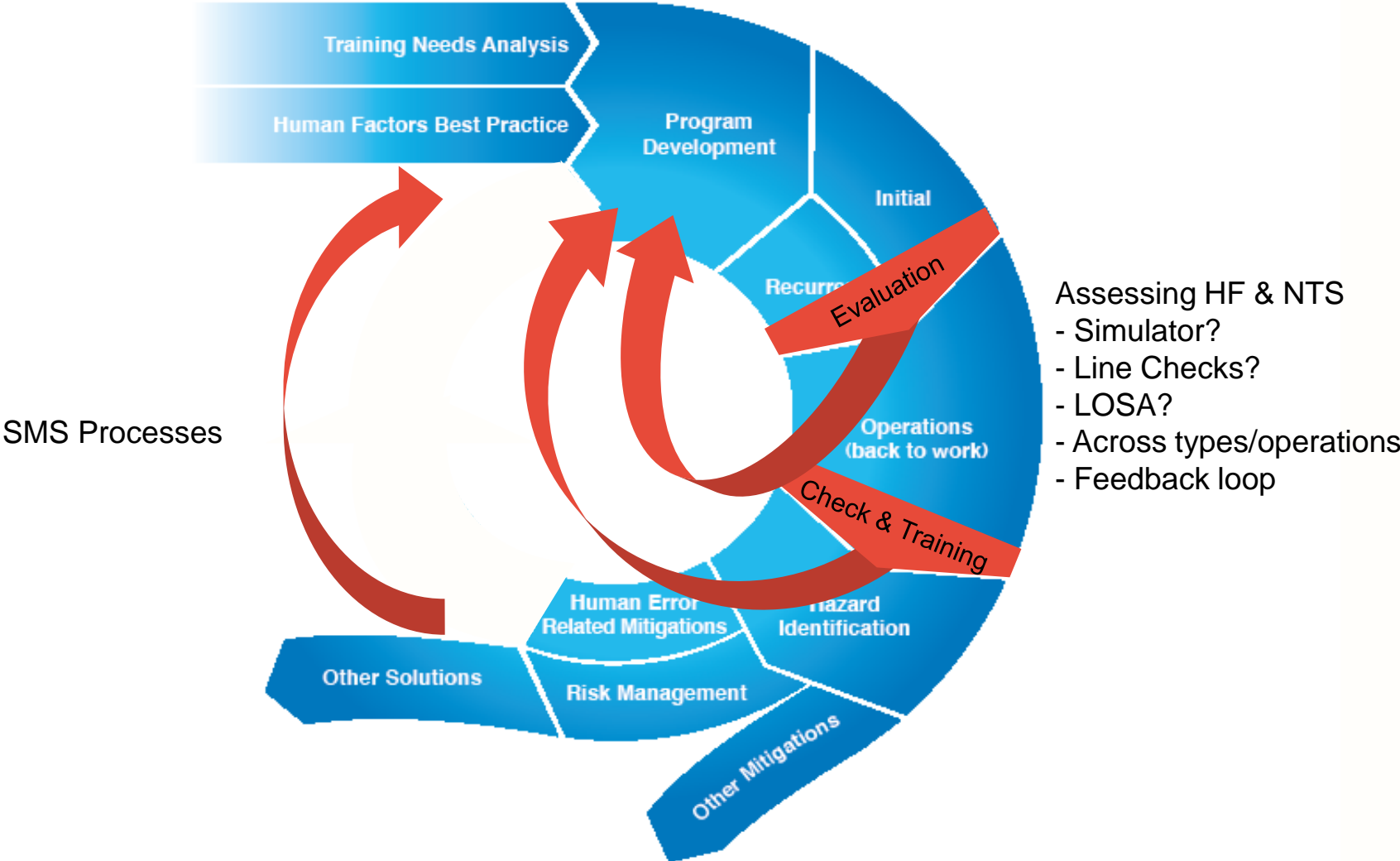
The goal of human factors training is to improve safety in an organisation by;

- 1. Improving the humans knowledge of**
  - their performance characteristics
  - the characteristics of the workplace within which they operate; and
  - How these characteristics can influence the performance of personnel, including the risk of human error
- 2. Developing skills and techniques for personnel to reduce both the likelihood and consequence of human error in the work environment.**

# HF & NTS Program



# Program Effectiveness?



# ‘outcome-based’ legislation.

- a *broadly* framed statement
- of an *outcome* (*not* specific or prescribed conduct or action)
- the achievement of which is *required* (by law – not an option); and
- which will presumably result from a range of unspecified action or conduct, calculated to achieve the required outcome, but devised largely (if not entirely) by the person obliged to do so.



# Topic Focus of HF & NTS

- Targeted non-technical skills – SMS
  - Your operation
  - Like operators
  - International experience
- General skills
  - Basic Toolbox of NTS
  - Black Swan events
    - Startle management skills
    - Skills for regaining Situation Awareness
    - Decision making skills
    - What to do in the interim 'Aviate-Navigate-Communicate-Administrate'

- “...over-reliance on automation systems appears to have trumped basic flying skills and crew resource management [CRM] in the crash of Asiana 214...” *(John Croft in July 15, 2013 edition of Aviation Week and Space Technology)*

- ‘Both theory and practice make clear that safety management that *follows* developments rather than *leads* them runs a significant risk of lagging behind and of becoming reduced to uncoordinated and fragmentary fire-fighting’ (Erik Hollnagel, 2012).

# Resources

- CAAPs
  - CAAP SMS-1(0) — Safety Management Systems for Regular Public Transport Operations;
  - CAAP SMS-2(0) — Integration of Human Factors (HF) into Safety Management Systems (SMS);
  - CAAP SMS-3(1) — Human Factors and Non-Technical Skills Training for Regular Public Transport Operations.
- Safety Behaviours: Human Factors for Pilots
- Safety Behaviours: Human Factors for Engineers
- Future
  - AMC/GM
  - AC's



*Questions?*



***Questions?***

- 2.7 In this paragraph:
- **human factors** or **HF** means the minimisation of human error and its consequences by optimising the relationships within systems between people, activities and equipment.
- **non-technical skills** means specific human competencies, including critical decision making, team communication, situational awareness and workload management, which may minimise human error in aviation.