

# Creating A New CRM Framework For New Zealand Military Air Operations PACDEFF 2012



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# Introduction



# A New CRM Framework: Why?



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## Training a factor in RNZAF crash



**Sqn Ldr Nick Cree died in the crash of one of the Red Checkers' CT-4 Airtrainers.**

The Court of Inquiry findings on the air accident that took Sqn Ldr Nick Cree's life on 14 January last year was



National

## Second fatal Iroquois crash in NZ air force history



ANDREW GORRIE/The Dominion Post

## Vision

To produce a coherent, phased human factors programme for all levels of RNZAF aircrew training. This will result in shared human factors mental models, language and practices (philosophies, policies, procedures ), in order to improve the operational effectiveness of military air operations.



## How will we build the framework?

- Phased
- *Small* theory component
- Shared language and mental models
- Focus on skill development
  - examples, explanations, exercises
- Incorporate current practices
- Measurable
- Every Sortie is an opportunity



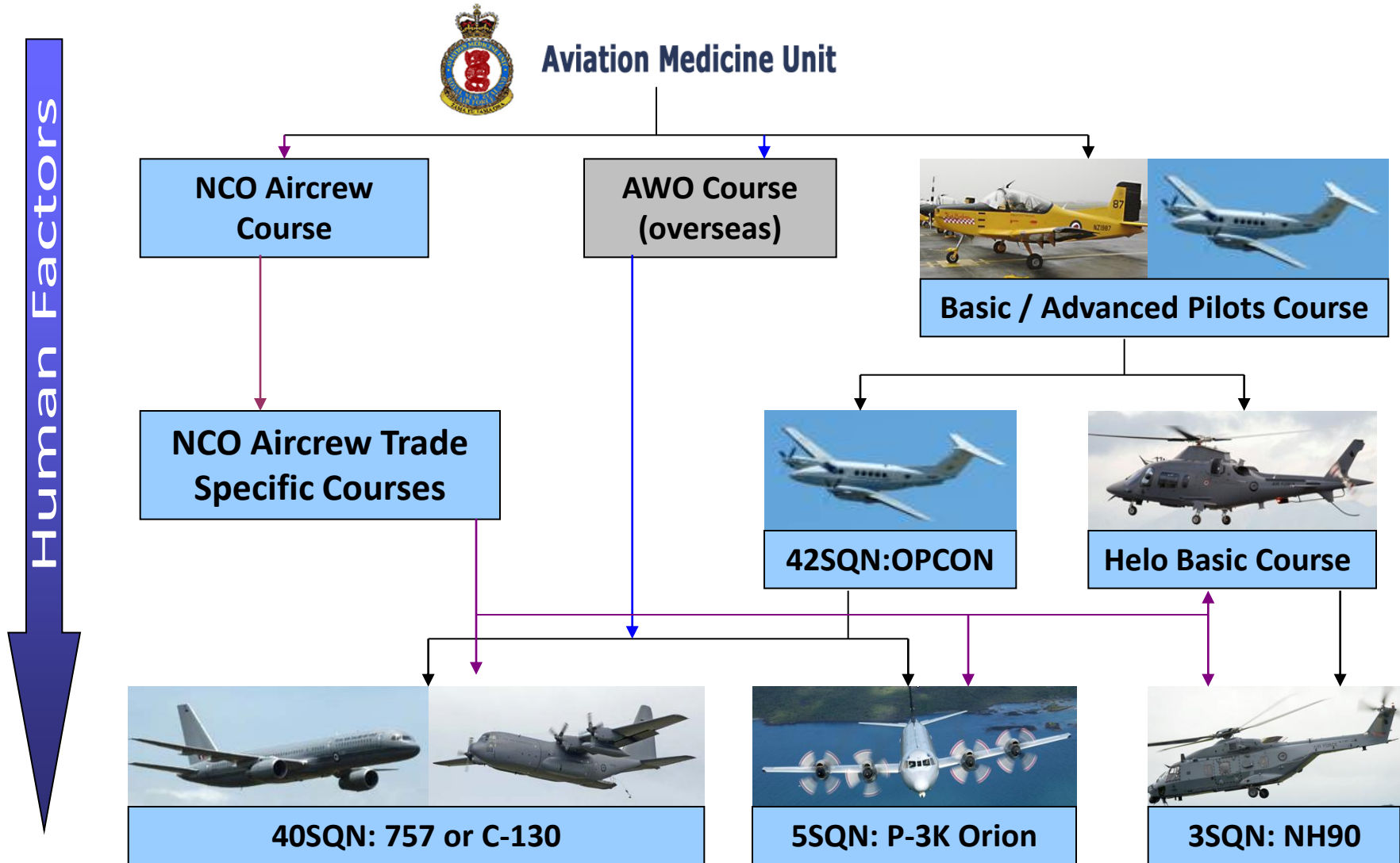
## How will we embed this?

- Learning Manuals
- Teach Instructors and students concurrently
- Formalised non-technical skills assessments
- HF analysis of Flight Safety Events
- Continually grow operators to deliver content





# What will this look like?



## How will we build on the material? - example

- AVMED: Introduce T1 concept and models.
- BPC: T1 model reiterated, included in sortie briefs.
- AWC: T1 model in more depth, included in sortie briefs.
- OPCON: T1 includes crewed operations, peer feedback
- SQN: T1 includes all crew, formal pre and post-flight briefs



## How will we measure success?



- Qualitative assessment:
  - Common HF language used?
  - Effective Sortie briefs?
  - Senior Command happy?
- Quantitative assessment:
  - Operating consistently within safety requirements?
  - Reduced the occurrence of serious FSEs?
  - Ongoing Flight Safety Climate Survey
  - NTS Data from upgrades and check-rides.

## The Five Basic Tenets

- Human Performance
- Situational Assessment
- Decision Making & Threat and Error Management (TEM)
- Communication
- Automation



## Human Performance

- Information Processing
- Cognition and Memory
- Attitudes and Expectations
- Workload management
- Self-Regulated learning
- Dealing with pressure and anxiety



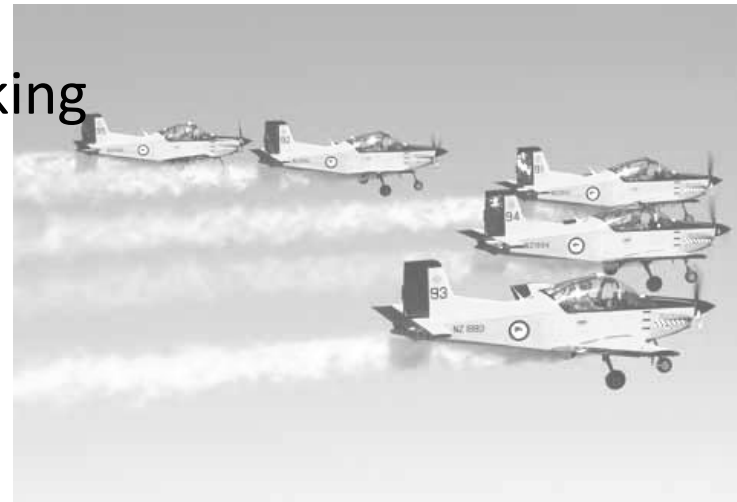
## Situational Assessment (SA)

- Based around Endsley's 1988 three-level model
- Sortie debriefs are integral
- How to build effective SA
- Threats to good SA
- Building from single-operator to whole-crew SA



## Decision Making and TEM

- Klein et al's (1993) Naturalistic Decision-making model:
  - Goal / Situation / Delta / Action
- Factors affecting decision quality
- Activities and practice during sorties, built from single-operator to whole-crew operations
- Building crew oriented critical thinking



## Communication

- Facilitate and manage barriers to effective communication
- Function of communication within Aviation safety
- Builds from single-operator to whole-crew operations
- Followership and Leadership
- Builds into Captaincy / Senior Trade status





## Automation

- Introduced in later parts of the framework
- How automation can both help and hinder airborne performance.
- Automation challenges for each of our new and upgraded platforms will be targeted by squadron.



# Questions?

