CASA - an update

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safe skies for all

CASA

New DAS

Progress

- Part 61 and the Part 61 Manual of Standards
  - New licence competencies
    - NTS1 - the knowledge and skills required to manage a safe flight

      NTS1.1 – Maintain effective lookout

      NTS1.2 – Maintain situational awareness

      NTS1.3 – Assess situations and make decisions

      NTS1.4 – Set priorities and manage tasks

      NTS1.5 – Maintain effective communications and interpersonal relationships

Progress

- Part 61 and the Part 61 Manual of Standards
  - New licence competencies
    - NTS2 - the knowledge and skills required to recognise, direct and manage threats and errors during flight operations

      NTS2.1 – Recognise and manage threats

      NTS2.2 – Recognise and manage errors

      NTS2.3 – Recognise and manage undesired aircraft state

Post Licence

- Operational HF&NTS training requirements
  - Part 141/142
  - Operational Regs (Part 121,135,…)
  - Contextualised for operations
  - Informed and directed by SMS where available

CASA Support

- Safety Behaviours: Human Factors for Pilots
- Safety Behaviours: Human Factors for Engineers
- CAAPs to ACs
- Web-based support

Fatigue Management

The last 70 years

- Pre-1947
  - Maximum of 100 flying hours in 30 days – then grounded or medical examination

The last 70 years

The Chicago Convention

- Signed 7th Dec 1944
- Came into effect 4 April 1947

Fatigue management SARPs

- Regulators should establish regulations that:

  “ensure that fatigue occurring either in a flight or successive flights, or accumulated over a period of time due to these and other tasks, does not endanger the safety of a flight”.

The last 70 years

- 1947

  Australia, imposed prescriptive limits, on flight and duty times

- 1953

  The 1947 rules were expanded with the introduction of *Air Navigation Order 48* in 1953

  These limits described what the aviation industry was doing at the time

- *1988*

  Civil Aviation Order (CAO) *48*, which remained largely unchanged from the rules of the 1950s, was introduced in 1988 with the formation of the Civil Aviation Authority

Exemptions

Traditional Prescriptive Limits

- Simplistic view of safety - Single defensive strategy
  - Inside the limits is safe
  - Outside the limits is not safe
- One-size fits all

- Adequate for some types of operations

Early FRMS

- 2001

  A trial of operator-developed safety cases, as the basis of exemptions against CAO 48

  - Initially 21 operators, mainly commercial balloon and emergency medical service (**EMS**) operators
  - Overall consensus - significant benefits over CAO 48
  - Substantiated by the field validation conducted for CASA by the Centre for Sleep Research, at the University of South Australia, which found that:

"…it is appropriate for CASA to develop an ongoing program to ensure that FMSs continue to evolve and improve based on current scientific knowledge, industry feedback and current best-practice from around the world on how to best manage fatigue"

Reason for change

- Old rule set – Exemptions
- Beyond the midnight oil (2000)
- Fatigue research developments
- Societal changes and Social pressures
- Risk management advances – systematic approaches
- Need for greater flexibility
- World trends in the aviation industry
- History of fatigue in Australian aviation accidents and poor analysis of events
- General under-reporting of fatigue
- Amendment to SARP Annex 6

ICAO Approach

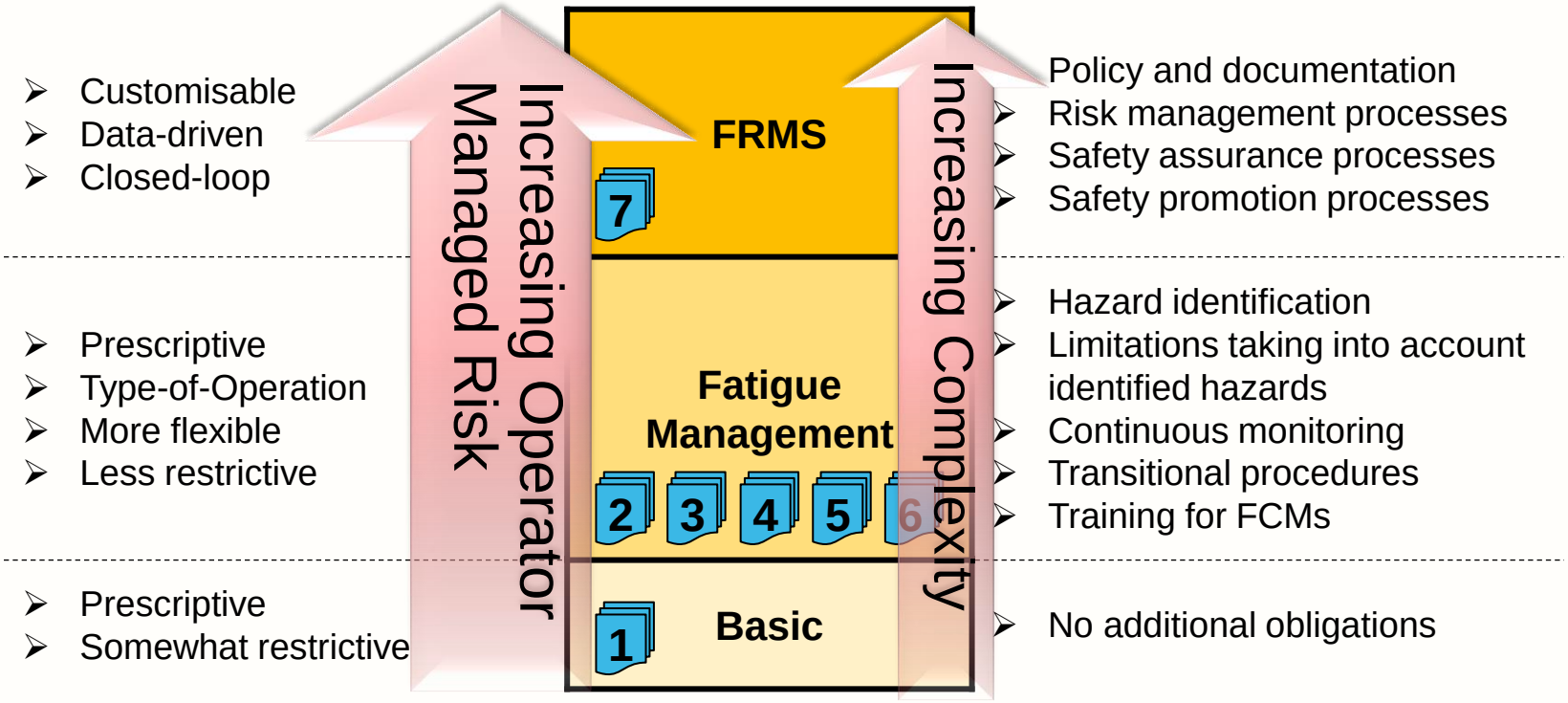
Apply the knowledge from fatigue and sleep science and sleep science as well as Safety Management Systems

- Two streams
  - Prescriptive Limits
  - Fatigue Risk Management System (FRMS)
- FRMS
  - To provide an equivalent, or enhanced, level of safety
  - Offer greater operational flexibility

Three Tiers of Compliance

Limitations

Operator Obligations



- Customisable
- Data-driven
- Closed-loop

- Policy and documentation
- Risk management processes
- Safety assurance processes
- Safety promotion processes

- Prescriptive
- Type-of-Operation
- More flexible
- Less restrictive

- Hazard identification
- Limitations taking into account identified hazards
- Continuous monitoring
- Transitional procedures
- Training for FCMs

- Prescriptive
- Somewhat restrictive

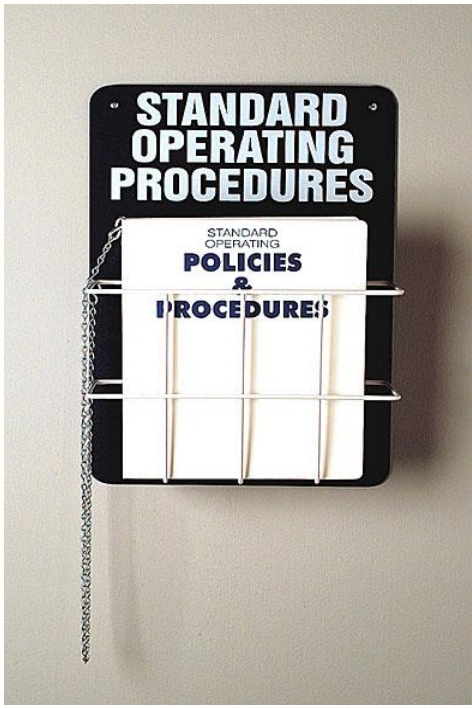
- No additional obligations

CASA Limits

- Broadly applicable
- Optimum conditions
- Expect risk management within limits
- Provide a last ditch safety net

Operator's Limits

- Specific to Operator
- Reflective of FCMs and all operations
- Adjusted to manage identified fatigue risks
- Provide an acceptable level of safety, signed off by AOC holder



Tier 2

CASA Limits

- Broadly applicable
- Optimum conditions
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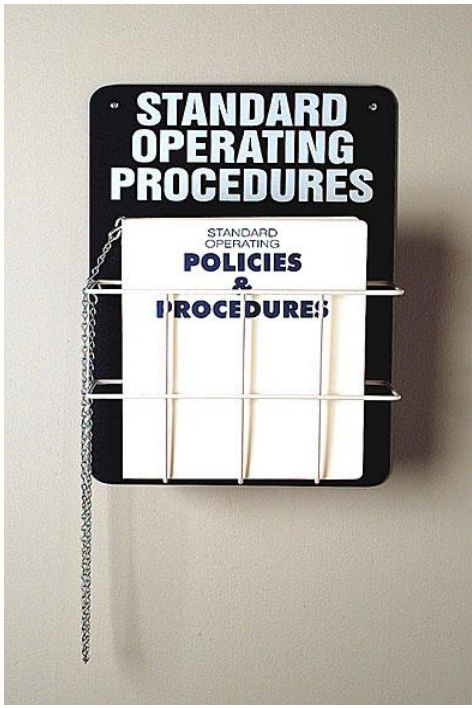
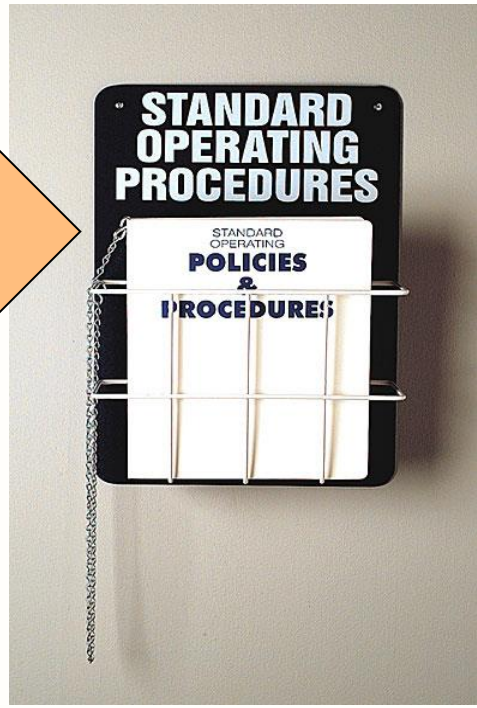


Tier 2

CASA Limits

Operator's Limits

Developed?



Tier 2

CASA Limits

Operator's Limits

- Hazard Identification
- Risk Management
- Consideration of all FCMS
- Consideration of all operations
- Transitioning between operations

New Amendment

- Transition Dates
  - 1st May 2017
  - Manual 31st October 2016
- Appendix 1 – Basic Limits
- Appendix 4A - Ballooning
- Appendix 5A - Mustering
- Next
  - Appendix 4B - Medical Transport/Emergency Service Operation

Thank You