

Fatigue Risk Management Systems (FRMS)



The Pilot Perspective

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IFALPA's Involvement

- Industry ULR Workshops 2001-2005
- ICAO Ops Panel FTL Subgroup 2003-2006
 - review of SARPs & Guidance for developing prescriptive fatigue management regulations
- ICAO Ops Panel FRMS Subgroup 2006-2008
- ICAO FRMS Task Force 2009-2011
- FAA Flight Crew Member Duty & Rest Requirement ARC
- EASA NPA 2012-14 Comment Review Document

ICAO Context - Summary

- FRMS is optional for States
- If State authorises FRMS, then FRMS is optional for operators for all or part of their operations
- Must be conducted within specific limits
- Is required to provide an equivalent or better level of safety than the State prescriptive scheme
- The State prescriptive scheme is required to be based on scientific principles & knowledge
- Recommended to be part of an operator's SMS



Fatigue Risk Management

ICAO Definition

A data-driven means of continuously monitoring and managing fatigue-related safety risks, based upon scientific principles and knowledge and operational experience that aims to ensure relevant personnel are performing at adequate levels of alertness



What FRMS is Not

- A means to bypass an already poor prescriptive scheme, or labour agreements designed to protect crew from fatigue
- A means to increase operational flexibility (profitability) without mitigating fatigue and enhancing alertness
- An Alertness Model
- A one-time approach such as prescriptive rule making
 - Must be an on-going approach aimed at continuous improvement

IFALPA's Key Requirements

- Guidance materials for FRMS alone are insufficient. FRMS must have standards written that set minimum performance levels.
- FRMS must operate under regulatory approved processes similar to SMS. The key component for both SMS & FRMS is a free and open reporting system.
- An underlying set of State science-based prescriptive flight and duty time limitations form the basis for establishing equivalent or improved safety outcomes under FRMS
- Operations outside these limits must be defined, monitored, and where necessary adjusted to ensure an equivalent or better level of safety is achieved

Collaboration

An operator shall develop mechanisms for on-going involvement of management, flight and cabin crew members, and all other involved personnel (ICAO Annex 6 Part I Appendix 8 2.1)



Appendix 8 also requires that an operator's FRMS Policy 'reflect the shared responsibility of management, flight and cabin crews, and other involved personnel'. Regulators will need to find evidence of this sharing of responsibility.

The composition of the Fatigue Safety Action Group should reflect the shared responsibility of individuals and management by **including representatives of all stakeholder groups** (management, scheduling staff, and crew members and/or their representatives)



FRMS Implementation

- There is no 'off-the-shelf' version of an FRMS that will suit all operators
- Regulatory oversight and a tripartite approach is mandatory
- Should be an integral part of an operator's SMS
- An FRMS needs to be developed, understood and managed by people who have comprehensive experience in the complex operational environment to which it will apply
- FRMS can be a valuable supplement to prescriptive flight time limitations as FRMS processes are established – this provides a good starting point
- A fully functioning FRMS doesn't happen overnight and has a phased implementation

FRMS Implementation

Pilots



The diagram features a central white rectangular box with a dark blue border containing the text "Shared Responsibility". This box is positioned between two dark blue triangles. The upper triangle is an upright triangle with its apex at the top, labeled "Pilots". The lower triangle is an inverted triangle with its apex at the bottom, labeled "Operators" on the left and "Regulators" on the right. The background consists of a stylized globe with horizontal lines extending from its sides, suggesting a global or interconnected context.

Shared
Responsibility

Operators

Regulators

FRMS Implementation

Pilots:

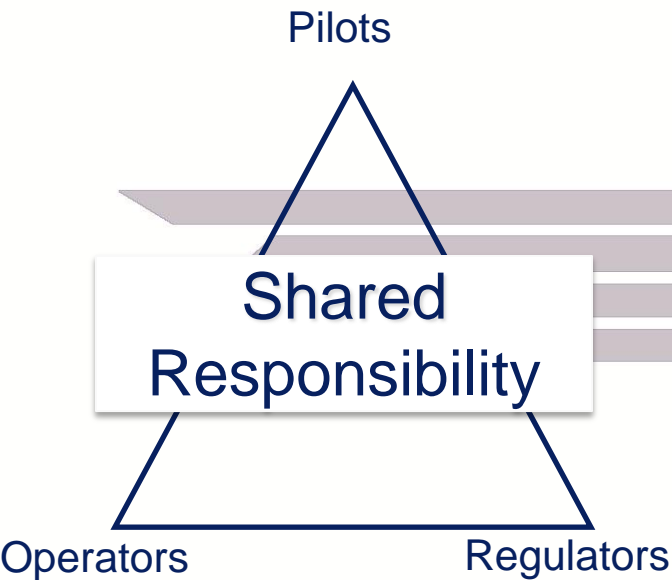
- responsibly provide accurate data to the FRMS not based on personal bias.
- Openly report instances of fatigue trusting that your data will be handled responsibly.

Operators:

- recognize that FRMS is 'data driven' thereby requiring:
 - full and absolute participation by your pilot body thus ensuring crew "buy-in" to the FRMS process
 - 'just safety culture' where pilots are encouraged to report fatigue without fear of intimidation or reprisal.

Regulators:

- responsibly ensure the environment exists for FRMS implementation.
- regularly 'audit' the FRMS to ensure FRMS principles are upheld.



Reporting Culture

Effective Reporting

- Declared management commitment to effective safety reporting
- Individuals feel motivated to report
- Organisation encourages reporting, & acts appropriately to safety reports and communicates openly
- Recognises unintentional errors are part of normal human behaviour
- Acknowledges that sometimes it is the design of the systems that we operate in which contribute to poor choices
- Protects employees when they speak up, but not if they have acted with malicious intent, been reckless, or failed in their obligations to report safety matters



Just Safety Culture

**“If your crews are
intimidated by
reporting fatigue,
then you
don’t have an FRMS”**

A graphic of a globe with wings, positioned behind the text. The globe is light gray with white grid lines, and the wings are dark gray with a white outline. The wings are spread out horizontally, framing the globe.

Just Safety Culture

**“If your crews are
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ICAO FRMS Symposium

Montreal August 2011

Dr Curt Graeber

**ICAO FRMS Task Force
Chairman**

30 Aug 2011

Challenges for Pilots

- Group acceptance of scientific principles and their application
- Confidence in the operator's safety culture & a willingness to report fatigue hazards
- Focusing on safety needs vs. personal preference
- Focusing on safety needs vs. industrial desires

Safety vs. Industrial

(How we can mess up a perfectly good programme)

• Fouls

- Pilots - Interrupt data collection and/or halt participation for industrial reasons
- Operators - Use voluntary information for punitive reasons or other than intended purposes
- Regulators - Fail to set rules to protect data, not hold everyone accountable

• How to avoid the “Fouls” - The Three “R’s”

Relationship *Respect* *Responsibility*

Challenges for Stakeholders

- Building an adequate knowledge base for stakeholders to meet their FRMS responsibilities
- Resources / Costs required to meet the FRMS requirements (regulator and operator)
- Maintaining Balance between competing goals – reducing fatigue risk / productivity gains
- Ensuring stated goals are actually achieved
i.e. reduced fatigue risk → improved aviation safety

Concerns

- Many Prescriptive Fatigue Management Regulations do not yet adequately take account of scientific principles and knowledge
- Inappropriate use of, or reliance on, bio-mathematic models
 - A Bio-mathematical Model is not an FRMS
 - A Bio-mathematical Model is not a go/no go tool
 - A Bio-mathematical Model predicts population average and is as good as the underlying assumptions it makes
- Use of Flight Data events as a surrogate for proper determination of crew alertness status and / or fatigue-related risk
- Pilot (not management) technical representation on the fatigue coordinating committee

Essential Requirements

(Enabling A Way Forward)

- An Effective Reporting Culture (A prerequisite)
- A Team / Partnership Approach that includes involvement of pilot technical representatives
- Education / competency based training for regulators, managers, crew members and other relevant personnel
- First, understand and mitigate identified risks in existing operations
- Don't rush. Small iterative steps will build confidence & trust
- Regulatory / Independent oversight & audit
- Learn from others experienced in FRMS. Get involved; be prepared to share your experiences
- Consider joining the FRMS Forum www.frmsforum.org

Mutual Challenge

We're all new at this game
Collaboration and active involvement
of key stakeholders is essential



Thank You



Questions

