



Fatigue Management

Fatigue is defined as a physiological state of reduced mental or physical performance capability resulting from sleep loss or extended wakefulness, circadian phase, or workload (mental and/or physical activity) that can impair a crew member's alertness and ability to safely operate an aircraft or perform safety-related duties.

Fatigue is a known causal factor in aviation accidents and incidents. Effective fatigue management presents significant challenges for both safety and efficiency in civil aviation.

There are two approaches to managing fatigue-related risks in aviation. Prescriptive limits on flight and/or duty hours are the more traditional method. More recently, a fatigue risk management systems (FRMS) approach has also been used. An FRMS is defined as a data-driven means of continuously monitoring and managing fatigue-related safety risks, based upon scientific principles and knowledge as well as operational experience that aims to ensure relevant personnel are performing at adequate levels of alertness.

ICAO Fatigue Management Requirements

Fatigue management requirements applicable to air operators are addressed in Annex 6—*Operation of Aircraft, Part I—International Commercial Air Transport—Aeroplanes*. They require States to put in place regulations for managing fatigue based on scientific principles, either through mandatory prescriptive regulations on flight time, flight duty period, duty period and rest period limitations or optional fatigue risk management systems (FRMS) regulations. These provisions are applicable to flight and cabin crew.

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Expanding Fatigue Management to ATC Personnel

Air Navigation Service Providers (ANSPs) are currently under pressure to implement fatigue management to mitigate the risks associated with controller fatigue. Currently, many ANSPs use pre-defined work/rest cycles based on labour agreements or operational needs to create rosters. The scientifically-based methodology that already allows air operators to address fatigue-related risks in their specific types of operations can be applied to ATC and allow for data-driven roster cycles that would be more beneficial to manage fatigue. There is a clear need to expand fatigue management principles and the development of ICAO Standards and Recommended Practices (SARPs) and guidance material that support prescriptive and non-prescriptive approaches to managing fatigue of to all safety-critical personnel, not just flight and cabin crew.

ICAO responded to the clear need for new measures to manage fatigue among air traffic controllers, a group of professionals for whom no fatigue management provisions currently exist. ICAO has begun coordination with ATC-focused members of its FRMS task force to commence work on a proposal for SARPs applicable to air traffic controllers. The task force has wide geographical representation and is composed of all stakeholders involved in the issue including regulators, service providers, air traffic controllers and scientists.

Look Ahead at Development Process

The Organization aims to have a proposal for adoption of new provisions, concerning air traffic controller fatigue management, by the Council of ICAO by the end of 2015. ICAO will also develop detailed guidance material for ANSPs and amend the Fatigue Risk Management Systems Manual for Regulators (Doc 9966) to reflect the inclusion of new SARPs.

Focus on Implementation

In conjunction with the new SARPs and guidance material, ICAO will hold a series of events to support States and service providers in the implementation of fatigue management requirements applicable to air traffic controllers. A Fatigue Management Symposium is planned for 2015, which will be followed by a series of regional workshops aimed at assisting stakeholders implement the new ICAO provisions.



ICAO

For more information on ICAO's Fatigue Management programme, please visit:

www.icao.int/safety/fatiguemanagement

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