

# Operational Experience in Fatigue Management Decision-Making

## INTRODUCTION

Proper fatigue management requires the use of operational experience to be incorporated into the decision-making process. IFALPA has identified that there is a need across the industry to standardize and discuss what the term “operational experience” means in practical implementation.

While this paper addresses fatigue management, the topic also applies to broader safety management principles.

## CONTEXT

In the aviation industry there has been considerable focus on the management of flight crew fatigue. However, one aspect of fatigue management that has received relatively little attention is that of the meaningful inclusion of “operational experience” of flight crew to better inform fatigue management decisions.

ICAO Annex 6 outlines that flight crew fatigue be managed on a number of principles, specifically stating:

“The State of the Operator shall establish regulations for the purpose of managing fatigue. These regulations shall be based upon scientific principles, knowledge, and **operational experience** with the aim of ensuring that flight and cabin crew members are performing at an adequate level of alertness.” [emphasis IFALPA]

The inclusion of “operational experience” is required for both the prescriptive and performance-based approaches to the management of fatigue.

While Annex 6 and the supporting guidance manuals (the Manual for the Oversight of Fatigue Management Approaches (Doc 9966), and the four co-authored Fatigue Management Guides) are clear with the requirement to include “operational experience” of fatigue in decision-making, there is no standardization or definition of what is meant by “operational experience.”

Often, the inclusion of operational experience has been limited to an operator's organisational experience (e.g., management perspective). However, a strong approach to fatigue management includes the "operational experience" from other operators (when reasonably accessible and available), experiences from other jurisdictions and regions, input from the regulator, information from academic studies and literature, input from fatigue management experts, and, primarily, input from the flight crew.

There is no documented requirement that limits what "operational experience" is.

In making risk-based decisions, inputs should be drawn from multiple sources of data. Fatigue management is a shared responsibility between the regulator, the operator, and the flight crew (referred to as the tripartite). The unique party in this tripartite is the flight crew as they are also the data source when it comes to fatigue management.

Individual flight crew fatigue experiences are important to inform the fatigue management approach. A complete picture of fatigue risk requires information on fatigue experience from flight crew involved in all types of operations conducted and from the perspective of each crew member. Encouraging all crew to report will increase availability of fatigue data, allowing for improved identification of relevant trends and hotspots through data reviews and analysis.

"Operational experience" should not be examined in isolation from its context, associated risk control mitigations, safety culture and other influencing factors. The big picture of the operation and culture needs to be taken into account.

Example sources of flight crew "operational experience" include:

- Fatigue reports (both proactive and reactive)
- Subjective fatigue rating data (e.g., Karolinska, Samn-Perelli)
- Confidential surveys
- Sleep data and studies
- Informal crew room feedback
- Fatigue Safety Action Group (FSAG) input from crew member representatives
- Safety input from Pilot Association representatives

Supplemental operational experience fatigue markers could include higher rates of sick leave on certain duties compared to normal rates, the consistent high use of standby crew on certain duties, or flight data analysis trends.

## POSITION

Experience has demonstrated that there is insufficient utilisation of flight crew operational experience in the approaches to fatigue management. Fatigue management is a shared (tripartite) responsibility and flight crew are the fatigue management data source. For these reasons, IFALPA believes that the intent of the ICAO standards is for operators to involve representatives of line flight crew in their fatigue management discussions and decisions. Where flight crew at an operator are represented by an association, flight crew representatives should be drawn from the association.

The experiences of fatigue from an operator's flight crew is an essential source of data. The involvement of line flight crew in the fatigue management process provides highly important and valuable context to improve safety and fatigue decision-making.

The proactive inclusion of a broad selection of "operational experience" into the safety system and the tripartite enables the effective management of fatigue in aviation operations. To achieve these outcomes, it is essential that operators establish and continuously support a positive safety culture that encourages flight crew members to submit fatigue reports, as they are the ones who experience fatigue firsthand.

The position of IFALPA is that it is essential to include the experiences of flight crew members in all fatigue management decisions and discussions to optimise safety outcomes.