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Fatigue Risk Management - Valuable for Safety, Good for Business



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Aviation has embraced a safety culture and a desire to mitigate risk on a continual basis. In 2016, IS-BAO added a dedicated chapter for fatigue risk management. This formalization reflects the increased awareness of fatigue and the availability of processes and tools to mitigate the risk.

Fatigue risk impacts every part of flight operations including pilots and flight attendants working long hours and crossing multiple time zones, as well as mechanics and ramp personnel whose mission-critical activities ensure the plane is ready for flight. And don't forget the schedulers and dispatchers who work fatiguing schedules as well. Unmanaged fatigue risk can jeopardize the safety of the passengers, crew and the workforce, be very costly, and negatively impact company reputation.

Developing a Culture of Fatigue Risk Management

From an operational viewpoint, there are systems that monitor every aspect of the airplane's performance so that we can keep it in good working order and get the most out of the asset. But what about the people who fly the plane, service the plane, and ensure a successful trip from start to finish? Are they performing at their peak? Do we know when they are redlining? Working hard to meet business objectives is a good thing, but only up to the point that the work can be done safely. Developing a culture of fatigue risk management is a must and, in many cases, can be a cost-neutral endeavor.

Fatigue has been shown to result in alertness deficits comparable to being drunk. We clearly wouldn't let our employees work if they were drinking, but oftentimes the fatigue levels they are operating at are similar. What can we do to know when this is occurring and, more importantly, what can we do to avoid this?

In order to manage fatigue risk, Safety Officers must develop a process to: (1) provide education and training with job specific relevance to fatigue risk; (2) quantify fatigue risk across the operation so that the issues are well defined and communicated; (3) provide mitigation



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procedures to address problem areas; and (4) monitor the risk profile of the operation and evaluate the effectiveness of mitigations. Additionally, approaches should address fatigue-related risk factors for its employees as they commute to-and-from work. How many of your employees have long commutes to the hangar?

Regulations and guidance documentation such as the Flight Safety Foundation and National Business Aviation Association Duty/Rest Guidelines for Business Aviation (April 2014) specify a multi-modal approach to fatigue risk management including guidance related to work hour limits. Prescriptive duty and rest rules are a good starting point, however, situation-specific information about fatigue levels is needed in order to know when mitigations need to be employed even when within the limits.

There are commercially available tools built on biomathematical models of the human biology that can be used to assess duty schedules across an organization to predict fatigue. For these tools to be effective, the accompanying people and process aspects need to be in place--who uses the tools and what actions are taken based on the information.

Fatigue Mitigation Strategies

The goal is to achieve a company culture that goes beyond identifying fatigue issues by implementing acceptable mitigation strategies that are non-punitive to the employee. Fatigue risk management tools must be able to: (1) track flights or duties that have increased fatigue risk; (2) identify the root causes of increased fatigue risk; (3) aid in the selection of fatigue mitigation strategies; and (4) facilitate an internal process of collaboration and integration with SMS processes.

Common fatigue mitigation strategies include strategic use of hotel "day-rooms" for naps, pre-positioning relief crews, augmented crews, and protected recovery days following a fatiguing trip or work set.

When we mitigate fatigue risk and get the rest that we need, the health benefits can be significant. Disorders such as hypertension, diabetes, obesity, and heart disease can all be positively influenced when we get the rest that we need. Operators who have developed a fatigue management culture often report that employees have increased awareness of good sleep habits and make getting daily adequate rest a higher priority.

We wouldn't implement a flight plan if the plane did not have enough fuel to safely make it to the destination. In the same way we must strive to develop work plans that consider rest as a critical resource that is needed to ensure that fatigue is managed so our employees can safely complete their duties.



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Pulsar Informatics, Inc.

Pulsar Informatics is an IS-BAO I3SA certified company specializing in systems that help organizations reduce fatigue-related risk and achieve peak performance. Fleet Insight enables safety managers and schedulers to proactively evaluate fatigue across their entire operation's schedule and formulate mitigation strategies. Fatigue Meter Pro Planner is used by pilots, flight attendants, and maintenance personnel to evaluate their individual flight and duty schedule.

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