

D. PARALLEL SESSION

OPERATIONAL EVIDENCE OF FATIGUE: SHIFTWORK OPERATIONS



June 17, 2008
14:15 – 15:45

Panel Overview

The “*Operational Evidence of Fatigue: Shiftwork Operations*” session was chaired by Mr. John Goglia, of Aviation Technology Solutions, and included presentations from scientists in the field of aviation and human factors research. Dr. David Schroeder, retired from the Federal Aviation Administration Civil Aerospace Medical Institute (FAA CAMI), reported the results of empirical research documenting fatigue concerns associated with air traffic control (ATC) operations. Similar fatigue challenges during aviation maintenance operations were reviewed by Dr. William B. Johnson, of the Federal Aviation Administration (FAA). Dr. Colin G. Drury, of the University of Buffalo: SUNY, concluded the panel by presenting fatigue data collected during aviation inspections settings. The purpose of the panel was to disseminate the results of data collected in a variety of aviation shift work environments documenting the inherent fatigue risks associated with operations.

Scheduling approaches in shift work operations are particularly challenging due to the lack of a regular sleep/wake cycle. Shift workers, compared with non-shift workers, are generally more fatigued, have disrupted sleep and poorer sleep quality, and experience more digestive problems and driving issues following shifts. Typically, sleep loss associated with the non-

standard schedule can accumulate across the work week, and result in significantly negative effects on performance, mood and alertness. This is not unique to cabin and flight crew and needs to be considered in other aviation environments including Air Traffic Control (ATC), maintenance and aviation inspection operations. This was clearly demonstrated throughout the session.

Shift scheduling practices are highly varied in Air Traffic Control (ATC) operations and as reviewed during the panel, no single shift rotation plan completely eliminates scheduling demands placed on shift workers in ATC environments. While strategies are limited, napping in preparation of a challenging schedule or during a shift (on a scheduled rest break), can help to improve alertness and performance during the work shift.

Data presented during the panel suggests that maintenance shift workers do not get sufficient rest. This contributes to increased fatigue levels and as discussed during the panel, continues to be an apparent contributing factor in several accidents and incidents.

Aviation shift work operations often require individuals to work continuously on repetitive tasks, where there is a high requirement for sustained attention. Time on task performance decrements can occur and this has been clearly

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documented in aviation inspection operations, as presented by Dr. Drury. Specifically, aviation maintenance tasks requiring the ability to detect rare and perceptually difficult signals are particularly vulnerable. Scientific data, as well as anecdotal evidence, suggest that shift workers in all sectors of aviation could benefit greatly from the implementation of comprehensive fatigue management initiatives.