



U.S. Department
of Transportation
**Federal Aviation
Administration**

SAFO

Safety Alert for Operators

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Flight Standards Service
Washington, DC

http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/safo

A SAFO contains important safety information and may include recommended action. SAFO content should be especially valuable to air carriers in meeting their statutory duty to provide service with the highest possible degree of safety in the public interest. Besides the specific action recommended in a SAFO, an alternative action may be as effective in addressing the safety issue named in the SAFO.

Subject: Concepts for Fatigue Countermeasures in Part 121 and 135 Short-Haul Operations

Purpose: To provide insights to operators and crew for mitigating fatigue in short-haul flight operations.

Discussion: Short-haul pilots commonly identify sleep deprivation and high workload as the main factors contributing to their fatigue. Conversely, long-haul pilots generally attribute sleep deprivation and circadian rhythm disruption caused by multiple time-zone crossings as the main causes of fatigue. However, both short-haul and long-haul flight crewmembers report fatigue resulting from multiple flight legs, early wake times, consecutive duty days, insufficient recovery sleep periods, time demands and high workloads resulting from high density air traffic environments. Fatigue is a hazard that if not properly mitigated or countermeasures enacted, can elevate the risk of these flight operations. Certificate holders must recognize the potential for elevated risk and be proactive in minimizing exposure to fatigue-related incidents or accidents.

Typically, short-haul (domestic) pilots are engaged in "hub and spoke" operations with some limited point-to-point flying. Short-haul crews are challenged by schedules that involve short turn-around times between multiple flights. Pilots conducting these types of operations report their schedules typically consist of four to five segments, averaging approximately six hours of flight time. Thirteen to fifteen hour duty days typify this type of operation. The result is an increased workload due to the multiple take-offs and landings and time constraints of meeting schedule deadlines over the course of the long day.

Scheduling factors have a major impact on a crewmember's ability to sleep and maintain a proper level of alertness. Sleep loss is one of the primary contributors to fatigue in flightcrew and is directly related to a variety of scheduling factors. In short-haul operations, pilots normally fly a round trip out of a hub and then may sit for several hours before their next flight. This type of scheduling has the potential for a latent condition that contributes to the cumulative effects of fatigue.

Effective sleep opportunities are a critical countermeasure to fatigue. This should be the responsibility of both the certificate holder as well as the individual pilots. Certificate holders should consider providing crew rest facilities that have rooms away from the general traffic for quiet, comfortable and uninterrupted sleep as well as expedited transportation to and from the airport in the layover city. Individual pilots must understand the importance of sleep opportunities and ensure they are properly rested prior to the next flight day.

Recommended Action: The part 121 Directors of Operations and Safety and part 135 Directors of Operations should review their current policies and procedures addressing flight crewmember fatigue countermeasures. This review should address at minimum:

- Current scheduling practices;
- Scheduled or assigned rest periods;
- Establish effective rest enhancing prerequisites for layover city hotels; and
- Encourage the use of flightcrew rest facilities between flights to counter the effects of cumulative fatigue.
- Educate their pilots and crew on the importance of proper rest and encourage them to take advantage of rest facilities.

Pilots in part 121 or 135 operations should understand their responsibility with regard to ensuring that they achieve the required rest so they are properly rested and fit for each assigned or scheduled flight.

The Federal Aviation Administration (FAA) will continue to research the subject of fatigue, evaluate the relevant data and inform the commercial operations community of effective methods for reducing flightcrew fatigue.

Contact: For more information about the content of this SAFO, please contact Dale E. Roberts at the Part 121 Air Carrier Operations Branch, AFS-220 at 202-267-5749.