



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

SAFO

Safety Alert for Operators

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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.

Subject: Approach and Landing Accident Reduction: Sterile Cockpit, Fatigue.

Purpose: The Air Transportation Division, AFS-200, issues this SAFO to emphasize the importance of sterile cockpit discipline, especially during approach and landing when adverse factors may compound, such as night instrument meteorological conditions (IMC) and crew fatigue. This SAFO also calls attention to fatigue as one of the most important elements to be addressed in crew resource management (CRM) training and directs operators to the information and countermeasures being developed by the Department of Transportation (DOT) Operator Fatigue Management (OFM) program, as well as other competent sources such as National Aeronautics and Space Administration (NASA).

Background: On October 19, 2004, a BAE-J3201 struck trees on final approach and crashed short of runway 36 at the Kirksville Regional Airport (IRK), Kirksville, Missouri, destroying the airplane and killing all but two of the airplane's occupants. The National Transportation Safety Board (NTSB) found that factors contributing to the accident included: (1) breaches of sterile cockpit discipline, and (2) crew fatigue.

Discussion:

Sterile cockpit discipline.

Compliance with the so-called sterile cockpit rules is required by Title 14 of the Code of Federal Regulations (14 CFR) part 121, section 121.542, and 14 CFR part 135, section 135.100. Furthermore, compliance makes irrefutable good sense since breaches of those rules continue to contribute to fatal accidents in air carrier operations.

Managing fatigue.

Operator fatigue is one of the most persistent hazards in all travel modes, including commercial aviation. For years, the FAA has promoted awareness and countermeasures for fatigue by funding various research organizations, including NASA. Recognizing and managing fatigue is one of the most important elements recommended for inclusion in CRM training. CRM is

required in part 121 crew training, and is highly recommended in part 135 crew training. Rulemaking in part 135 now in progress would make CRM training mandatory for crews under that regulation, as well.

Recognizing the importance of managing operator fatigue, DOT modal administrations joined together in 2000 to start a partnership research initiative, OFM. That partnership has produced three valuable tools for use by air carrier managers, with two more expected some time during 2006, as follows:

- (1) Software application to evaluate/design work schedules.
- (2) Guidance for validating fatigue models for different uses.
- (3) Handbook of scientifically-based fatigue management practices and countermeasures.
- (4) Logic model for prioritizing fatigue research gaps (due 2006).
- (5) Blueprint to derive a business case for the implementation of fatigue management activities (due 2006).

Recommended action: The director of safety of each air carrier operating under part 121, and the director of operations of each air carrier under part 135, should accomplish the following:

- Become familiar with the circumstances of the accident at Kirksville, Missouri
<http://www.nts.gov/nts/query.asp> (enter Kirksville in the City block, click on Submit)
- Become familiar with the contents of this SAFO
- Emphasize the importance of sterile cockpit discipline in flightcrew operating manuals and in their training programs.
- Stay abreast of the latest research and fatigue countermeasures being developed under DOT's collaborative OFM program by regularly visiting the following public Web site:
<http://scitech.dot.gov/research/human/#programs> (click on Operator Fatigue Management Program)
- Emphasize sterile cockpit discipline and incorporate new material regarding operator fatigue management, as it is developed, in the CRM training provided to flightcrews.

Other pertinent reference material on public Web sites:

- NASA's public Web site containing information and recommended practices regarding flightcrew fatigue management:
<http://search.nasa.gov/nasasearch/search/search.jsp?nasaInclude=rosekind>
- FAA Advisory Circular (AC) 120-51, Crew Resource Management Training, current edition:
http://www.airweb.faa.gov/Regulatory_and_Guidance_Library/rgAdvisoryCircular.nsf/MainFrame?OpenFrameSet (enter AC 120-51E in the Search: box, click on Go)