

Parallel Session

*Current State of Mitigation:
Shiftwork Operations*

Overview of Fatigue Mitigation Initiatives in the FAA Air Traffic Organizations

Mr. Kenneth Myers
Federal Aviation Administration

9:25 - 9:50

June 18, 2008



Kenneth Myers
Biography

Ken Myers is the Manager for Quality Assurance and Safety for the En Route and Oceanic Service Unit (ATO-E). As Manager for Quality Assurance and Safety, he is responsible for developing tracking initiatives for facility, service area, and service unit performance related to FAA Safety related goals and metrics. He develops, coordinates, implements and evaluates action plans to achieve positive metric movement related to operational errors. He provides quality assurance oversight to service unit developed products, including directives, policies, hardware and software. The ATO-E organization has met their safety targets during each year of Mr. Myer's tenure, reducing their most severe operational errors by approximately 20% from FY-2005 through FY-2007. Additionally, he is so responsible for implementation of the ATO Safety Management System in ATO-E.

Prior to serving in this position Mr. Myers was the Air Traffic Manager at the Washington Air Route Traffic Control Center (Washington ARTCC) in Leesburg, VA. Washington ARTCC is one of the FAA's busiest control facilities, handling more than 2.7 million aircraft operations per year.

Mr. Myers started with the FAA in June 1978. In addition to his most recent positions, he has been the Assistant Air Traffic Manager at the Cleveland ARTCC, and was also Support Manager for Quality Assurance, first line manager, and a certified professional controller at that facility. He also served as an en route instructor in the Center option at the FAA Academy in Oklahoma City, Oklahoma.

Mr. Myers received a Masters of Business Administration from Oklahoma City University in 1988, graduating with honors. Mr. Myers received his Bachelor of Science in Aerospace Technology from Kent State University in 1978 and completed additional coursework in Mechanical Engineering at the University of Akron.

Mr. Myers is married, and has two girls. In his spare time he enjoys reading, music, and open-wheel automobile racing.



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Fatigue Mitigation Initiatives in the FAA's Air Traffic Organization

(NTSB Recommendations)

Prepared by: Ken Myers
Manager, Quality Assurance and
Safety, ATO-E

Date: June 18, 2008



Today's Briefing

- **Which NTSB Recommendations we are working with?**
- **How did the FAA respond?**
- **What have we found out so far?**
- **What is a potential strategy going forward?**
- **Next Steps**

Presented at the FAA Fatigue Management Symposium: Partnerships for Solutions; Vienna, VA: June 17-19, 2008

2008 Symposium on Fatigue in Aviation

June 18, 2008



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NTSB Recommendations

- **A-07-30 (FAA)**

To the Federal Aviation Administration:

Work with the National Air Traffic Controllers Association to reduce the potential for controller fatigue by revising controller work-scheduling policies and practices to provide rest periods that are long enough for controllers to obtain sufficient restorative sleep and by modifying shift rotations to minimize disrupted sleep patterns, accumulation of sleep debt, and decreased cognitive performance.

- **A-07-32 (NATCA)**

To the National Air Traffic Controllers Association

Work with the Federal Aviation Administration to reduce the potential for controller fatigue by revising controller work-scheduling policies and practices to provide rest periods that are long enough for controllers to obtain sufficient restorative sleep and by modifying shift rotations to minimize disrupted sleep patterns, accumulation of sleep debt, and decreased cognitive performance.

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How did the FAA Respond

- **Accepted all 4 recommendations**
 - **Expanded the scope of the recommendations**
 - **Air Traffic Front Line Managers and Operations Managers**
 - **Airway Transportation Systems Specialists**
- **Formed a workgroup to focused on recommendations A07-30/32**
 - **Civil Aerospace Medical Institute (CAMI)**
 - **ATO-E/T/R/W**
 - **NATCA**
 - **PASS**
 - **NAGE**
 - **SUPCOM**
 - **Support from AHR/LR**

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What We Have Learned So Far:

- **There is no silver bullet**
 - As long as you have non-circadian shifts you have a potential fatigue issue
 - Fatigue, and the person's response to it, is personalized
- **Is not peculiar to air traffic control**
 - Long-haul commercial flights
 - Maintenance and ground crews working overnight
 - Is becoming a subject of interest for the industry
- **There are some initial first steps that can be taken**

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Possible Strategy for Addressing Fatigue

- Revise the guidance contained in various FAA directives related to scheduling practices
 - **For ATCS/TMC/FDCS: FAA Order 7210.3, paragraph 2-6-6/2-6-7**
 - Clarify that this guidance applies to all safety related positions
 - Time between shifts
 - Breaks
 - **Other organizations (ATO-W) will identify their governing directive**
- Utilize the expertise of CAMI in identifying these good work-scheduling policies and practices
- Training is being developed and implemented by ATO-A/S
 - **Recommendation A07-31 (Fatigue Awareness and Mitigation)**
 - **Recommendation A07-34 (Crew Resource Management)**
- We are working within the Collective Bargaining Agreements

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What This Might Look Like:

- **FAA Order 7210.3, paragraph 2-6-7**

- **Current**

- 2-6-7. BASIC WATCH SCHEDULE**

- a. Facility watch schedules shall take into account normal traffic flow, thereby permitting the posting of a continuing schedule for an indefinite period of time. Facility management is responsible for ensuring watch schedules are in accordance with collective bargaining agreements.
 - b. Air traffic control specialists whose primary duties are those directly related to the control and separation of aircraft must meet the following criteria:

- **PROPOSAL**

- 2-6-7. BASIC WATCH SCHEDULE**

- a. *Facility watch schedules shall take into account normal traffic flow, thereby permitting the posting of a continuing schedule for an indefinite period of time. Facility management is responsible for ensuring watch schedules are in accordance with collective bargaining agreements.*
 - b. *Air traffic control specialists, front line managers, traffic management coordinators, supervisory traffic management coordinators, and operations managers whose primary duties are those directly related to the control and separation of aircraft must meet the following criteria:*

- 1-3 (no change)*

- 4. Have an off-duty period of at least 10 hours from the time work ends to the start of any subsequent shift*

- 5. Have an off-duty period of at least 24 hours following the last midnight shift in a work rotation.*

- NOTE A midnight shift is defined as a shift in which the majority of hours are worked between 10 PM and 8 AM (local time)*

- 6-8 (no change)*

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Guidance on Good Shift Scheduling Practices (Ergometric Principles of Scheduling)

- **Shift Rotations:**
 - Clockwise rotation if possible
 - Six successive shifts at most
 - Four successive of the same shift type at most
 - Avoid shifts that are longer than 10 hours
- **Basis for training for supervisors and managers**
- **Start times for midnight shifts**

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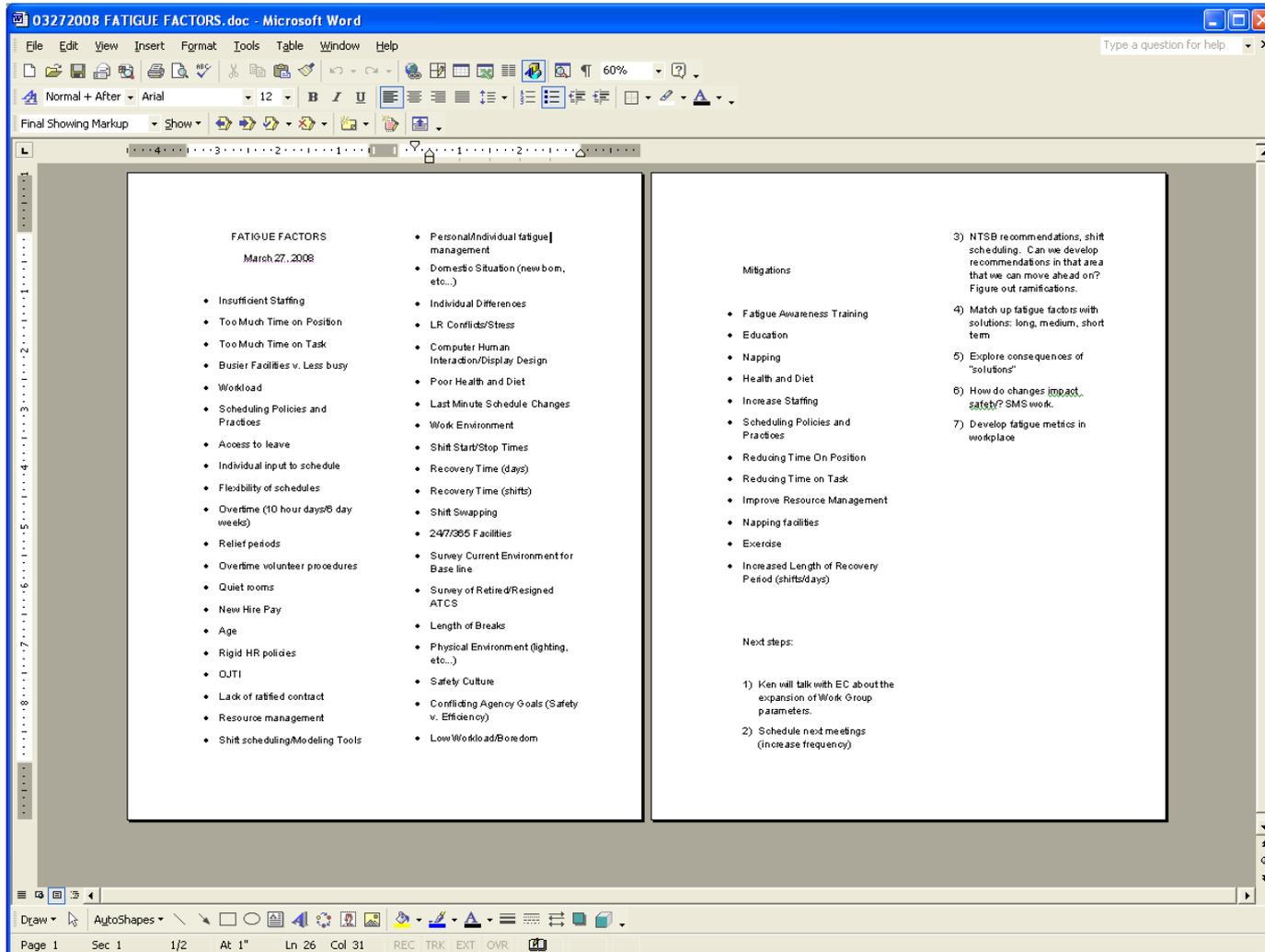
Relief Periods

- **FAA Order 7210.3, paragraph 2-6-6**
- **2-6-6. RELIEF PERIODS**
 - a. Personnel performing watch supervision duties are responsible for ensuring that breaks are administered in an equitable manner and applied so as to promote the efficiency of the agency. They are also responsible for ensuring that breaks are of a reasonable duration.**
 - b. Personnel performing watch supervision duties are responsible for knowing the whereabouts of employees to ensure their availability for position assignments.**
 - c. Personnel performing watch supervision duties shall not condone or permit individuals to sleep while on duty. Any such instance shall be handled in accordance with FAPM 2635, Conduct and Discipline.**
- **Proposed change:**
 - c. Personnel shall present themselves for work assignments in a condition ready to safely perform the assignment.**

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Other Things that Might Contribute to Fatigue



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Steps Already Underway

- **Fatigue Analysis Tools such as FAST**
 - Graphically depicts the impacts of shift rotations and schedule rotations to highlight areas of concern
 - Already developed and in-use
 - Provide proof of ideas moving to a facility-level application
- **FAA Human Factors Analysis**
 - Time on Task
 - Acquisition/Loss of Situational Awareness

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Next Steps

- **Do modeling:**
 - Impacts of a 10 or 12-hour break between shifts
 - Can a schedule be built
 - What are the staffing impacts
 - What are the issues that will need to be trained
 - Determine how training will be accomplished
 - Use of scheduling tools
 - What is a timeline to accomplish
 - What are the LR impacts/obligations
- **Determine how we should address the other factors**

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Safety Risk Management

- **In most areas we anticipate that these changes will be documented under an SRM Decision Memorandum (SRMDM):**
 - Maximizing the potential to achieve rest periods specified in agency directives





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