AIRBORNE LAW ENFORCEMENT ASSOCIATION

Safety First

Crew Rest and Fatigue

According to the FAA, ensuring that all pilots and crewmembers receive adequate "rest" is key to maintaining a safe aviation operation. We should make a distinction between the terms "rest" and "sleep." I believe that the FAA will make this known when they write a rule that mandates that pilots need to be given rest periods that provide the opportunity for a minimum number of hours of sleep that is necessary for safe operations. I suspect the FAA uses the term "rest" because the operator can only provide a "rest" period that enables pilots the opportunity to get eight hours of necessary sleep in an environment conducive to getting quality sleep. Ideally this requires a dark, quiet, cool room[1] Therefore, I have chosen to use the term "rest" as a time period the employer is required to provide in order for the pilot to get the necessary sleep to achieve safe flight.

Fatigue Risk Management (FRM) can be defined as the management of fatigue in a manner appropriate to the level of risk exposure and the nature of the operation in order to minimize the adverse effects of fatigue on the safety of operations. FRM should be an integral part of an established SMS. It should apply the SMS principles and processes needed to proactively identify and continuously manage fatigue safety risk.

FRM should include:

- A commitment of senior management to the general philosophy and goals of the organization's FRM
- Defining management and employee responsibilities at all levels of the organization
- Sleep/fatigue awareness and countermeasure training for management and supervision
- Having clearly defined crew rest standards that help ensure repeatable results
- Requirements for supervision to monitor compliance with crew rest standards[2]

FAA Administrator Randy Babbit has made the creation of new flight, duty, and "rest" rules based on fatigue science a high priority. We should do likewise. The FAA is working on an aggressive timeline to issue a new proposal in 2010. The FAA continues to be at the forefront of raising awareness on fatigue and mitigation techniques. We will need to wait to see the Notice of Proposed Rule Making when it is published in 2010 to make final judgment. I will be soliciting feedback from our members in order to respond to the NPRM.

Regulations limiting flight time and pilot rest have been in place since the 1940's. The rules address flight time limitations and required rest periods. Current FAA regulations for domestic flights for Part 121 and Part 135 operators generally limit pilots to eight hours of flight time during a 24-hour period[3]

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[1] FAA Aviation News January/February 2010, Finding and Fighting Fatigue, William B Johnson/Katrina E. Avers,

[2] Title 14 Code of Federal Regulation Part 121, subparts P,Q,R and S and Part 135, subpart F
Operational Benefits of an FRMS, Captain Don Gunther, Contental Airlines, June 17, 2008; FAA Aviation Fatigue Management Symposium: Partnership for Solutions, "Top-Down Safety Focus: Fatigue Risk Management Systems, June 17, 2008

[3] Titel 14 Code of Federal Regulations, Part 121 and Part 135 [3] Title 14 Code of Federal Regulation Part 121, subparts P ,Q, R. and S and Part 135, subpart F; [3] FAA Aviation Fatigue Management Symposium, Partnerships for Solutions, B. Joint Session, June 17, 2008

This limit may be extended provided the pilot receives additional rest at the end of the flight. However, a pilot is not allowed to accept, nor is the airline allowed to assign a flight if the pilot has not had at least eight continuous hours of rest. This limit may be extended provided the pilot receives additional rest at the end of the flight. In other words, a pilot needs to be able to look back in any preceding 24-hour period and find that he/she has had an opportunity for at least eight hours of sleep. If a pilot's actual rest is less than eight hours in a 24-hour period, the next rest period must be lengthened to provide for the appropriate compensatory rest agreement.

It is the responsibility of both the operator and the pilot to prevent fatigue, not only by following the regulations, but also by acting responsibly while serving the public. This means taking into consideration weather conditions, air traffic, the health of each pilot, and any other personal circumstances that may affect the pilot's performance. The FAA has recommended that operators include fatigue training as part of their crew resource management training programs. We should do the same.

According to aviation physiologists, including Dr. Dudley Crosson, a regular ALEA trainer, the average adult needs at least eight hours of sleep in a 24-hour period. This can pose significant challenges for law enforcement pilots. We should also maintain the same standards for TFO's and other crewmembers.

We need to address circadian rhythm issues, since we often work during hours that our bodies are wired to be asleep. Additionally, we often need to appear in court during the day, and then report for duty without sufficient sleep. Many pilots and TFO's work off-duty jobs that present similar challenges. Management has the duty to maintain awareness of these competing issues to ensure crews receive the opportunity for eight hours of quality sleep.

According to aviation physiology research, after being awake for 20 hours, your body is at the equivalent of a .08 percent blood alcohol level. Ask yourself; would you fly after having had several drinks? TFO's: would you fly with a pilot that is legally under the influence? Similarly, we should not fly without adequate sleep, as the effects are very similar.

There are counter-measures we should consider for dealing with sleep deprivation. These include taking short naps of no more than 90 minutes between flights. This can even extend your work schedule by three to four hours. This goes against much of our police culture that often forbids sleeping on duty. However, we should adopt rest standards based upon the most current science that can make us safer by taking naps when needed.

One of the primary contributors of fatigue in aircrews is directly related to sleep loss associated with a variety of work scheduling factors that require aircrews to jump back and forth from night to day and day to night shifts. [4] It is best to go to sleep at the same time each day. However, this is sometimes unavoidable, so countermeasures should be taken to minimize the increased risk. Night flights have a high potential for fatigue because aircrews are operating at the low point of the circadian rhythm.[5] Night flight increases workload by an average of 30 percent. Other factors include high workload during vehicle and foot pursuits, perimeter management, extended work periods, and consecutive duty periods without sufficient recovery time.

Supervisors need to monitor work schedules, court appearances, and have an off-duty employment policy that does not interfere with the opportunity to get eight hours of sleep in a twenty-four hour period. We should also encourage exercise and a healthy diet. Other considerations include limiting flight time and assigning people to ground duties. We have all had those days where it's slow and boredom sets in. This is a good time to land, stretch, and get a cup of coffee. But don't walk away from your aircraft with the engine running and nobody at the controls. That can get you hurt as exemplified by the recent tragedy where a pilot walked away from his helicopter with the engine running, returned, and walked into the main rotor and was killed. It can also result in a 90-day suspension by the FAA under CFR 91.13a(6).

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[4] Aviation Fatigue: Shiftwork Operations, Operational Evidence of Fatigue, John Goglia, Aviation Technology Solutions, June 17, 2008; Sleep/Wake Cycles and Performance of ATC Operators, David Schroeder, Ph.D, FAA Retired, June 17, 2008; Fatigue Risk Management System: Measurement and Evaluation of Effectiveness, June 18, 2008

[5] FAA Aviation Fatigue Management Symposium, "Sleep and Psychomotor Performance during Commercial Ultra-Long Range Flights, John A. Caldwell, Ph.D, Archinoetics, LLC

We need to adopt a Safety Management System (SMS).[6] An essential component of an SMS is having a "just culture" that includes having a non-punitive reporting system where employees willingly report safety related occurrences without fear of punishment for honest mistakes. But, don't expect a free ride for reckless conduct. Example: You are approaching a signal-controlled intersection, you become distracted and inadvertently run a red light; an honest mistake. However, reckless conduct occurs when you see the light is red and run it anyway.

Sleep deprivation is often insidious. We often don't realize the toll taken by sleep loss because it becomes the norm in our lives. The FAA has taken the crew rest issue seriously. You can be assured that the new crew rest rule will likely be based on science that requires pilots to get eight hours of sleep in a 24-hour period.

Remember, you are only as safe as your mind and body are properly rested and able to perform in the challenging law enforcement aviation environment. Air carriers have crew rest standards because the public's safety is at stake. Our lives are every bit as important. Rules have required a minimum of eight hours from "bottle to throttle." Crew rest standards should ensure eight hours of rest from "throttle to throttle." For additional information on crew rest, refer to the FAA's website: http://www.faa.gov/news/aviation_news/ and click on "Finding and Fighting Fatigue." Send comments and questions to: safety@alea.org.

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[6] FAA Aviation Fatigue Management Symposium, Partnerships for Solutions, B. Joint Session, June 17, 2008; Fatigue Risk Management Systems within SMS, R. Curtis Graeber, Ph.D., June 17, 2008; Operationsl Benefits of an FRMS