FAA Fatigue Management Symposium: Partnerships for Solutions - June 17-19, 2008

Michael Moody Jr - Chairman IPA Safety Committee

This Symposium was the first ever conference hosted by the FAA on fatigue. It was very well attended by over 300 scientific and industry experts. By one count there were over 40 Senior Vice Presidents of Flight Operations in attendance in addition to FAA Acting Administrator Robert Sturgell, NTSB Vice Chairman Robert Sumwalt and the head safety administrator for the FAA, Assistant Administrator Nicholas Sabitini. Attending for UPS were Flight District Manager, Rick Barr, System Chief Pilot, J Barnes and Director of Airline Safety, Chris Williams

As quoted from source material for the Symposium, "While this event will cover many aspects of fatigue, it is not designed to solicit recommendations on FAA regulations or policies or reach consensus on any course of action. Rather, we hope that you will use this event to enhance your knowledge and awareness of fatigue and various fatigue-mitigation techniques for application in your working environments."

It would be easy to get frustrated with this barrier to addressing fatigue, as it is quite obvious to all that the fundamental problem with fatigue in aviation is the current regulatory structure that allows fatiguing schedules. It was stated several times over the course of the conference that current regulations can create an unsafe condition towards fatigue, and at the same time create a safe condition that is against the regulations. "It can be legal and unsafe, or safe but not legal."

The reality is that without Congressional intervention, we are years away from effecting meaningful change to the current Flight Time/Duty Time (FT/DT) regulations. This Symposium could play an important role in helping further the discussion that just because something is legal, doesn't mean it is safe.

Expert Presentations

Dr. Malcolm Brenner, Human Factors expert for the NTSB, provided a concise review of why fatigue is such a critical safety issue for aviation. It was not until the August 1993 DC-8 accident in Guantanamo Bay, Cuba that fatigue was ever cited as a causal factor in an air carrier accident. That crew was on duty for 17 hours and 56 minutes at the time of the accident. In addition, they were scheduled to complete the landing and turn the aircraft for a part 91 Tail End Ferry flight for a scheduled duty day in excess of 24 hours. This is still completely legal to this day.

Since 1993 there have been seven accidents with 252 fatalities where the NTSB has determined fatigue was a contributor:

1.	August 1993	Guantanamo Bay, Cuba	Kalitta DC-8
2.	August 1997	Nimitz Hill, Guam	KAL B747
3.	June 1999	Littlerock, AR	AA MD-82

4.	July 2002	Tallahassee, FL	FedEx B727
5.	October 2004	Kirksville, MO	American Connection BAE J32
6.	February 2007	Cleveland, OH	Delta Connection ERJ 170
7.	April 2007	Traverse City, MI	Pinnacle CL-600

It should not be difficult to see the increasing frequency of incidents that have fatigue cited as a causal factor. Some other interesting information that Dr. Brenner provided, ½ of all accidents had crews on duty for over 14 hours. Corporate Airlines, dba American Connection at the time of the BAE J32 accident in Kirksville, had sent warning letters to 20% of its pilots concerning calling in fatigued and the possibility of termination if problems persisted. Dr. Brenner also stated, "Most pilots are afraid to call in fatigued." Corporate culture is the defining driver of how fatigue is handled. If a corporation feels it is acceptable and commonplace to be "tired" while on duty, they probably have issues with fatigue in their operation.

Since the 1970's the NTSB has issued 117 recommendations concerning fatigue, 34 of them directed towards aviation. It has been a most wanted item for the NTSB since 1990 with the hours of service (FT/DT) recommendation currently graded unacceptable.

John Caldwell, Ph.D., Archinoetics, LLC provided disturbing information from industry studies. Dr. Caldwell stated that falling asleep on the flight deck is a common result of fatigue. "50% of military, 80% regional and 71% of corporate/executive pilots have fallen asleep on the flight deck. Schedules drive the fatigue problem." Dr. Caldwell stated the effects of fatigue are easily measurable, "Pilots flying at night are 9 times more likely to experience micro sleep than those flying during the day. There is also a tenfold increase in micro sleep in the early morning hours."

Discussion Groups

Half of the Symposium was broken out into five separate Discussion Groups. The purpose of the Discussion Groups were to allow a smaller group, lead by a panel of experts, to more deeply discuss a topic as it related to fatigue. As Chairman of the IPA Safety Committee I was asked to participate as a panel member for the International Long Haul Operations: Passenger and Cargo Discussion Group. Our group was facilitated by Captain Mary McMillan, CSSI (formerly United Airlines) and the panel leaders were UPS Chief Pilot Captain J Barnes, Captain Don Gunther, Continental Airlines and Captain Don Wykoff, ALPA FT/DT Chairman.

Each of the five Groups spent at least eight hours over the three days of the Symposium working on their assigned topic of discussion. We were tasked with three goals:

1. Discuss major fatigue-related challenges and drivers in the topic area.
2. Discuss the major current (as well as historical) barriers to fatigue mitigation.
3. Discuss fatigue mitigation concepts that may apply to the above.

At the end of the Symposium each Group presented a Summary Report back to the entire conference. These reports are to be compiled and published with 6-8 weeks and available to the general public.

Findings

The primary point of view as verbalized during the conference, both by scientific experts and the Group Discussions was that in order to effectively deal with fatigue in aviation, you must have a "Just Culture" in all aspects of your operational environment. Without this key concept, any attempt to address fatigue is merely window dressing.

Working within current regulations it is difficult to effectively mitigate fatigue if FARs are used as a supposed "safe" framework. Regulations that were written 50 years ago, when there were very few international routes and no concept of night freight are just not safe. Today with the tools available due to scientific research, we can create safe schedules using a Fatigue Risk Management System (FRMS). An FRMS is a system that uses science to predict how an average human being will react to a certain schedule. It is predictive for planning purposes, and can also be used during schedule disruptions "on the fly."

In an industry success story, easyJet Airlines implemented a FRMS that resulted in a 30% decrease in insurance costs due to a corresponding decrease in accidents and incidents. This also resulted in a decrease in regulatory costs and oversight while at the same time a dramatic increase in morale and productivity. (http://www.faidsafe.com/news/easyJet-paper.pdf)

There were strongly held beliefs that communication and education are some of the low hanging fruit that can positively impact fatigue. Captain Ed Davidson, Senior Vice President Emirates Airlines described how Emirates has developed predictive sleep and nutrition information that is published with each trip pairing to better help crewmembers plan for duty. It shows recommended rest, nap and eating periods that is based on sound science from their FRMS. It is neither regulatory, nor required policy to follow this guidance, but is offered as additional information for crewmembers. During research to determine this information, several schedules were proactively modified based on fatigue science. Since inception it has been very well received and dramatically reduced fatigue calls.

One topic that was discussed in depth was the issue of crewmembers commuting. After almost an hour of discussion the accord of the panel was that crewmembers are expected to behave in a professional manner and report for duty rested. Whether one commutes or lives in domicile does not change this fact. I stated that due to the economic realities of our industry, commuting was here to stay. Quite often it is not a choice, but the result of domiciles being closed or moved by the company. Captain Barnes echoed the panel consensus and stated, "I don't agree it should be regulated."

When the topic of counter-measures was discussed I expressed the IPA's position very clearly, "Any attempt to create a schedule that relies on several days of restorative sleep at home is not safe or acceptable. We expect our crewmembers to behave in a professional manner by being well rested and healthy for their scheduled duty period, and be able to return home in the same manner." Having a crewmember fall asleep while driving home 30 minutes after landing is not a safe or acceptable schedule. This point was echoed when the topic of pharmacology to mitigate fatigue was brought up. "The IPA's position is that any requirement to use drugs to complete a duty period is by definition unsafe and unacceptable."

There were some positive discussions regarding countermeasures and how they can positively impact fatigue. UPS was very pleased to highlight the ability for crewmembers to sleep in a single occupancy room during the night sorts as another fatigue mitigation technique.

In summary, I applaud the FAA for finally publicly acknowledging the risk our aviation system is exposed to every day (and night) due to the effects of fatigue. It is the position of the IPA Safety Committee that fatigue and the schedules that create fatigue is the number one risk we face. There are definitely some areas that can be improved immediately while we wait for the needed FT/DT regulations to be modified and we look forward to working with UPS to enact some of these changes.

The vast majority of fatigue events are **not** the result of a crewmember's behavior. Instead, they are the result of other influences. Yet we rely on a crewmember diagnosing they are fatigued and then justifying their lack of performance. All of this is in addition to the potential of punitive measures such as a loss of pay – due to circumstances beyond the control of the crewmember. The dichotomy of placing crewmembers into a fatigued state and then expecting them to make sound and safe decisions is a recipe for failure. We will continue to see an increase in accidents and incidents until we meaningfully address the underlying causes of fatigue in our system.