

VI. CONCLUSIONS

“Together, We Can Address Fatigue in Aviation”

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June 19, 2008: Conclusions Session

MR. NICHOLAS SABATINI: Good morning. What a week this has been! As Dr. Mallis told us on Tuesday morning, we have 325 aviation safety professionals from eight countries here this week (see Appendix D). We have the world’s leading experts on sleep, fatigue, performance measurement, mitigation and aviation safety. We have people who have known each other, who have worked with each other, and who have wrestled with these issues for years.

And, what a symposium it has been! Yet, hasn’t it been a study in contrasts — to be at a conference on fatigue, and to feel so much energy in the room.

Conferences like this do not just happen. Any conference takes a lot of planning and coordination and work. Good conferences take even more planning and coordination and participation. Great conferences take work, yes, but they also require planning by experts and participation by professionals. To our conference planners, speakers, and participants: This has been a great conference. For me, I can tell you that this has been an outstanding professional and personal experience.

Thank you all and I will single out the dynamic duo of FAA’s Rick Huss and Dr. Melissa Mallis of the Institutes for Behavioral Resources for their A-plus work on this symposium and for all their work fostering the “collegial energy” here this week.

For this symposium, we, at the FAA, set out to accomplish three things:

- Provide the most current information on fatigue physiology, management, and mitigation alternatives;
- Share information and perspectives among decision makers and scientists about fatigue management; and
- Discuss fatigue mitigation concepts and best practices.

We accomplished all three. Tuesday, we immediately got off to a great start with our keynote speakers.

Acting Administrator Bobby Sturgell put the issue right on the table when he said, “Fatigue can kill.” That is why we are here. He said that “even with an outstanding safety record, we’re

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not where we need to be when it comes to understanding and managing fatigue.”

Then, we had a great history presentation from NTSB Vice Chairman Robert Sumwalt. Looking at those early air mail letters was a powerful reminder of why we are here this week. Why we do what we do. And, how fatigue is a timeless, yet timely, issue. As Mr. Sumwalt reminded us, “Fatigue is real and it does affect safety.”

Next, we turned to the science and we got an excellent state-of-the-science snapshot from Dr. David Dinges. The easy way to sum up his fact-filled presentation can be done in six words: Sleep is good. Everyone needs more. Yet, those six words do not begin to do justice to this presentation from one of the world’s leading authorities on sleep and human performance. Dr. Dinges rightly pointed out that fatigue is not an aviation issue, nor is it limited to transportation. Fatigue risk management is a universal issue and, as he said, with our modern society, it will remain so.

Dr. Dinges reminded us, “We are biological creatures ... and “our ability and desire to go further than our biology can lead to disaster” ... if we don’t take steps to properly manage and mitigate it.

One thing this week’s session has made very clear: We have science and technology on our side. We can use technology to predict and detect vulnerabilities. We can use data and technology to be proactive and take preventive measures, and we can use them to help with interventions and mitigation strategies.

Three things that Dr. Dinges said really resonated:

- One, he urged us to leverage what has already been done for other federal

agencies — such as the Air Force, NASA, and NHTSA.

- Two, the U.S. must come to grips with novel and creative ways to manage fatigue.
- And, three, our children will make change happen.

I’ll come back to those points. They are important.

Next, we heard from the NTSB and we heard very clearly in a data-rich presentation why the Board has recommended actions on fatigue.

On the panel on Fatigue Risk Management Systems and SMS, Boeing’s Curt Graeber gave his own history lesson about the work that has been done on fatigue management. Yes, Curt, research and data are available, and the time is now to determine the best way to apply existing science and knowledge to operations. Yes, indeed, it is time to “stop thinking about tomorrow.”

And, as Captain New reminded us: Safety management begins from the top down.

Just as illuminating as the panels were the sidebar conversations, with their intensity and passion. With our current work on data sharing and analysis, I appreciated Mary McMillan’s comment that, “Fatigue is the advertisement for the effectiveness of ASAP.”

Yesterday, day 2, was rich in mitigation strategies and best practices. Across the globe, many are putting the science to work for their organizations. We heard from NAV CANADA about its science-based comprehensive approach, which includes education, alertness strategies, and scheduling practices.

We heard from EasyJet and United Airlines about their understanding of fatigue risk

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management and the controls they put in place. Mitigation is the key word here. Which brings me to one of the most important points raised this week: Measurement.

Aviation has come so far. Across the board, we have a much greater appreciation that you cannot manage what you do not measure. With measurement comes evaluation and evaluation enables continuous improvement. And, in aviation's dynamic environment continuous improvement is essential.

FAA's Greg Kirkland provided a rulemaking overview. While rulemaking in this area may be in the future, rulemaking is tough. And, it takes a long time.

We need to start now, working together, to address and mitigate risk. Yes, we need to balance science with safety and with operational realities. Not everyone can travel, or work, on 9-to-5 schedules. And, we are a global economy with 24 time zones. I think everyone understands after this week that domestic short legs, as well as shift work, present challenges as —or more — difficult than long-haul flying.

As you heard yesterday, we will make the proceedings available in six to eight weeks. This morning's report-outs captured the work of the discussion groups on identifying challenges, barriers, and potential mitigation concepts.

As for challenges, I have to agree with the multi-leg / short-haul group: "12 hours in Detroit is not the same as 12 hours in Palm Beach."

The challenges are many. As you heard, rulemaking is tough. Gary Thompson of Delta Air Lines summed it up for the TransCon discussion group: "Under the current rules,

you can be legal, but not safe, and safe, but not legal."

The International Long-Haul Group and the Multi-leg / Short-haul Group came to the same conclusion: About the paramount importance of education across all the stakeholders. Knowledge and understanding are key.

The Maintenance / Ramp Operations / and Dispatch group agreed that counter-measures to fatigue must consider both individual responsibilities as well as organizational responsibilities, and "organization" includes employer, union, and professional organization.

Ken Myers of the ATC / Tech Ops group joked that they "would not *rest* until they solved this fatigue issue." Seriously, this group was energized by the challenge to address the significant human performance differences between controllers and technicians ... and to develop fatigue mitigation strategies.

We just heard from a panel of experts, and to a one, they reinforced the wisdom of our conference planners in naming this symposium: partnership for solutions.

Together, we can address fatigue. Together, we manage fatigue issues.

Alone, we cannot.

In that regard, I would like to add my sincere thanks to our Discussion Group facilitators, panel leaders, and scribes. They invested their time and their impressive leadership to prepare for, and lead, productive discussions. These discussions have expanded and clarified our understanding of issues, which built on the outstanding scientific presentations that we have heard this week. Their hard work has delivered to us the product of this landmark event. To each of you – THANK YOU.

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After a week like this, it is really important, no, it is imperative, that no one go back to our workplace next Monday to “business as usual.” As if there is ever “business as usual” in aviation!

This week, we wanted to have a conversation. We wanted to share the science and best practices. We also want to maintain momentum. As Acting Administrator Sturgell urged us, we wanted you to think outside the box this week. And, we got a great start with the discussion groups to come up with novel and creative ways to manage fatigue.

Look beyond aviation; we do not have all the answers. And, as you build and expand your Fatigue Risk Management Programs, develop younger talent. As Dr. Dinges said, “Our children will make change happen.”

In closing, on Tuesday morning Vice Chairman Sumwalt was eloquent in his evocation of Lindbergh’s historic transatlantic crossing. I will close by repeating one of the Lindbergh quotations that we heard on Tuesday. Lindbergh wrote: “Nothing that life can attain is quite so desirable as sleep.”

I agree! And, after this intense week ... of hard science ... of hard work ... and of hard discussions, we are all rightfully fatigued. I urge you all to go home, say hello to your families, and get some sleep — deep restorative sleep.

Then, on Monday, after you have paid your sleep debt in full, it is back to work. Use the facts and science, the networks and the resources that you gained this week.

Take what you learned to make aviation safer for all those people who depend on us.

Thank you, again, for your participation, your passion, and for everything that you do for aviation safety.

Biography

Nicholas A. Sabatini became Associate Administrator for Aviation Safety, effective Oct. 15, 2001. Mr. Sabatini is responsible for the certification, production approval, and continued airworthiness of aircraft; certification of pilots, mechanics, and others in safety-related positions. He is also responsible for certification of all operational and maintenance enterprises in domestic civil aviation; development of regulations; civil flight operations; and the certification and safety oversight of some 7,300 U.S. commercial airlines and air operators. Mr. Sabatini oversees some 6,800 employees in FAA Washington Headquarters, nine regional offices, and more than 125 field offices throughout the world. The FAA's annual aviation safety budget is over \$1 billion.

At the time of his appointment, Mr. Sabatini was director of FAA's Flight Standards Service. From 1990 until May 2001, he was manager of the Flight Standards Division for FAA's Eastern Region. From 1979 to 1990, he served in a variety of aviation operations and management positions in the agency's Eastern Region, as a principal operations inspector, aviation safety inspector, manager of the Flight Standards Division Operations Branch, and assistant manager of the Flight Standards Division. Prior to joining the FAA in 1979, Mr. Sabatini was a pilot for the U.S. Customs Service in New York. From 1958 to 1976, he was a police officer and helicopter pilot for the New York City Police Department. He served in the U.S. Army from 1956 to 1958.

Mr. Sabatini holds an airline transport pilot certificate and the following ratings: Airplane

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multi-engine land, rotorcraft-helicopter, DC-9, CE-500, BH206, EMB110, commercial privileges, airplane single-engine land, as well as flight and ground instructor certificates. He attended the John Jay College of Criminal Justice; the Kellogg School, Northwestern University; and the Fletcher School of Law and Diplomacy, Tufts University.

Mr. Sabatini was recognized in 2002 with the Aviation Week & Space Technology magazine's Laurels Award for his vision and actions that expedited the publication of the landmark document, "Criteria for Approval of Category I and Category II Weather Minima for Approach." In 2003, the Air Transport Association's Engineering, Manufacturing and Materiel Committee awarded him its "Nuts and Bolts" award for outstanding contributions to

the airline industry. In 2006, the Aircraft Electronics Association recognized Mr. Sabatini with its Industry Partnership Award. In 2007, Aviation Week & Space Technology nominated Mr. Sabatini for a Laureate Award for his leadership in FAA's Aviation Safety organization achieving ISO 9001:2000 registration. This made Aviation Safety the largest government entity to operate under a single Quality Management System. In 2007, Mr. Sabatini was elected a Fellow of the Royal Aeronautical Society.

Mr. Sabatini is a member of the Auburn University Aviation Management Advisory Board. The Board provides guidance in support of the University's aviation management program's instruction, research, and outreach.