Communicating for Safety (CFS) 2011 was a huge success with over 800 NATCAvists, pilot union representatives, FAA representatives, and other aviation industry stakeholders in attendance.

The National Safety Committee has worked hard to make CFS one of the largest, and most relevant, safety conferences in the world by focusing on timely and thought-provoking issues that are of concern to both controllers and pilots. Your continued support in the safety conference goes to show just how important the safety of the flying public is to NATCA on a daily basis.

This year we held panels and presentations on fatigue (very timely considering the events that followed), ATSAP and the confidential information share program with United and Southwest Airlines, the globalization of ATC, and pilot/controller communications. We expanded our breakout sessions to allow us to include more topics than ever before. These breakouts included important discussions on RNAV off the ground, collaborative decision making, professional standards, ERAM and runway safety.

One of the more interesting panels to me was the ATC InfoShare panel, which highlighted facilities around the country that work collaboratively to address local safety issues. We hope to build on these successes in the future by creating a national infrastructure to provide support for those facilities that choose to participate in a collaborative approach to addressing safety issues.

We also heard from our keynote speakers, which included FAA Administrator Randy Babbitt, NTSB Vice Chairman Chris Hart and former Congressman and Chairman of the House Transportation and Infrastructure Committee Jim Oberstar.

We are already in the planning stages for CFS 2012, which will be held Jan. 30-Feb. 1 in Atlanta at the Westin Peachtree. For up-to-date information as it’s made available, please visit www.natcacfs.org. We are working hard to ensure that we improve the experience, and have already identified areas that we will be working on to ensure that the CFS continues to grow and progress each and every year. Some of the improvements that we plan to implement are longer question-and-answer sessions, a more interactive experience with the panel/speaker, further expansion of the breakouts, and increased participation by the pilot community.

If you missed CFS 2011 or want to take a look at the presentations again, you can find them on the web at http://www.natcamembers.org/videos.

A special thank you goes out to National Office Outreach Coordinator Kelly Richardson, Reloaded Committee Great Lakes Region Representative Leanne Martin, and the National Reloaded Committee. We could not have done it without them.

We look forward to seeing everyone in Atlanta for CFS 2012.
Fruits of Collaboration between NATCA and the FAA: The Evolution of Science-Based Fatigue Mitigation Recommendations

By Peter F. Gimbrere, NATCA Attorney and Fatigue POC

In April 2007, in response to the August 27, 2006 crash of Comair flight 5191 in Lexington, Ky., the NTSB issued recommendations to both the FAA and NATCA regarding the need to address the impact of fatigue on the performance of air traffic controllers. The safety recommendations urged the parties to work together 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, modifying shift rotations to minimize disrupted sleep patterns, and developing a fatigue awareness and countermeasures training program.

During the years of the Bush administration, despite a number of requests from NATCA to begin work on the issue and the NTSB’s request that the Parties work together in a collaborative fashion, the Agency refused to fully engage with NATCA. Based upon the Agency’s unwillingness to work with us, NATCA decided to form its own fatigue workgroup and develop its own fatigue risk management system. While NATCA was in the process of establishing the internal workgroup, the White House changed hands, and under the Obama administration the Parties ultimately agreed to a new collective bargaining agreement (CBA), which included a commitment to jointly address the issue of fatigue.

The Workgroup’s Structure and Goals

The CBA language required that the Parties establish a Joint Fatigue Workgroup. The Workgroup was tasked with developing a fatigue risk management system, identifying and mitigating workplace fatigue concerns, and referring recommendations to leadership of both organizations for action.

The Workgroup was formed in November 2009, shortly after the new CBA was ratified and became effective. The overarching driver for the Workgroup was the reality that fatigue is a substantial hazard to both the National Airspace System (NAS) and the controller workforce. The Workgroup recognized that there was no formal, structured, overarching fatigue mitigation program or policy in place within the Agency. In order to address the hazards and operational risks caused by fatigue, it was therefore necessary for the Workgroup to develop formal mitigations that were not in existence. To do this, the group decided to focus on discovering the science and data that supported the safety case for each possible mitigator. By developing recommendations grounded in science, the group was able to make progress without being distracted by the numerous and inevitable implementation issues. Accordingly, the Workgroup determined that its goals would be fourfold: to increase the safety of the NAS; to improve the health and well being of the workforce; to base any findings and recommendations on science and data; and to collaborate with internal and external organizations along the way.

The Workgroup’s philosophy of operations was premised upon complete collaboration between the Parties. This was not an easy path, as the Workgroup was the first joint group formed under the new CBA and began its work prior to President Obama’s Executive Order that required Agencies and Unions to work more closely together. There was simply no roadmap available showing what true collaboration should look like in the new Administration. But by utilizing transparency, active participation, broad discovery, and the process of consensus, the parties were able to establish a working relationship with a basis in trust.

The core membership of the Workgroup consisted of four FAA members and six NATCA members. They were supported in their work by seven different components of the FAA, including Aerospace Medicine and CAMI scientists. External support included subject matter experts from NASA, the Air Force, MITRE, and others. In 16 meetings held over 14 months, the group utilized fatigue and sleep scientists, medical experts, and numerous other experts from the safety and aviation worlds to help in analyzing the numerous fatigue issues and developing viable recommendations.

The fundamental questions that the Workgroup started with were 1) how does fatigue happen and 2) how does fatigue compromise safety? It is well established that “fatigue” refers to a physiological state in which there is a decreased capacity to perform cognitive tasks combined with an increased variability in performance. There is a clear cause and effect relationship between the two forces. Because of the high degree of variability and unpredictability, the challenge for the Workgroup was to correlate the cause and effect. To do so, the group developed a multi-layered approach of mitigations that all interrelate.

The impacts of fatigue are well-documented in many industries—from pipelines, trucking, rail and shipping to the nuclear power industry. The physiological and cognitive impacts relate to one’s ability to stay on task as your accuracy and timing degrade, as you experience involuntary micro-sleeps, and as your attention wanes. The impacts to individual performance can be numerous—from a loss of situational awareness, to an increased risk of operational errors, to an overall decline in performance. The cost to productivity can be high in terms of both increased absenteeism and higher operational costs. Finally, the impact of fatigue on safety is clear: since 1993 over 14 accidents resulting in 263 fatalities had fatigue as a causal or contributing factor.

It is well known that shift work contributes to cumulative fatigue, which equates to overall sleep debt. In the Air Traffic Control (ATC) environment, operational demands require shift work. Over 51 percent of federally-operated terminal facilities and 100 percent of en route fa-
facilities operate 24 hours a day/ seven days a week. Over 3,000 controllers are exposed to midnight shifts annually. When it comes to acute fatigue, which is all about the immediate effect, the reality is that anybody can be fatigued at any time of any day. The Workgroup kept these hard realities in mind while developing fatigue mitigators.

**What the Workgroup Ultimately Recommended**

After a thorough review of science and all available data, the Workgroup developed 12 recommendations for consideration in six topical areas: recuperative breaks, scheduling, sleep apnea, personal fatigue management, education, and the Fatigue Risk Management System. The group followed science alone in developing the recommendations. None of the recommendations by itself is sufficient to adequately mitigate the fatigue risks currently inherent in ATC operations: to substantially diminish the existing fatigue risk to the NAS requires the implementation of all of the recommendations together, in a comprehensive, layered fashion.

A summary of the recommendations reads as follows:

1. As fatigue can occur at any time and on any shift, the introduction of a recuperative break during a shift can mitigate the risk of reduced cognitive performance due to fatigue. **Recommendation:** Modify current policy and orders to permit recuperative breaks during relief periods.

2. Extensive scientific modeling clearly proves that introducing a recuperative break on the midnight shift can mitigate the identified risk of reduced cognitive performance due to fatigue. Re-entry time must be accounted for in all recuperative break planning, execution and management. **Recommendation:** Allow and schedule for a recuperative break of up to two and a half hours on the midnight shift.

3. Quick turns between evening and day shifts reduce opportunities for night time restorative sleep. Increasing the time between the second evening and the first day shift by one hour increases sleep opportunity and cognitive performance. **Recommendation:** Schedule a minimum of nine hours between evening and day shifts.

4. Scientific modeling shows that increasing nighttime sleep opportunity during the night prior to the second day shift and subsequent mid results in significant fatigue risk reduction during the mid-shift. However, the placement of the one hour from the reduced shift into a previous evening or day shift has no effect on this risk reduction benefit. **Recommendation:** Reduce the day shift preceding the first midnight shift from eight to seven hours, and begin that shift one hour later, to provide the opportunity for an extra hour of restorative sleep at the end of the nighttime sleep period.

5. According to FAA Aerospace Medicine (AAM), 2.2 percent of the ATC workforce has diagnosed sleep apnea (SA), and a minimum of an additional 1.8 percent may be undiagnosed. Perceived non-standardized processes, as well as a lack of awareness of sleep disorders and treatments, may result in financial disincentives and unreported SA in the ATC workforce. **Recommendation:** Create policies and procedures that encourage self-initiated evaluation, diagnosis and demonstration of initial treatment effectiveness of SA by removal or reduction of economic disincentives.

6. There is a gap in awareness and understanding of SA amongst the controller workforce. Raising awareness and understanding of sleep disorders will reduce the risk to the NAS. **Recommendation:** Use AAM-prepared SA education to build SA awareness in the ATO workforce.

7. The scope of the sleep apnea issue requires collaboration across respective lines of business. **Recommendation:** Ensure that FAA AAM remain current with state of the art in sleep medicine; utilize AASM standards and practices for SA risk factor identification, diagnosis and treatment standards; document the process for medical qualification for individuals at risk for sleep apnea; develop educational materials for the workforce and AAM staff; and educate AMM staff on SA.

8. Controllers may not fully understand their responsibilities to minimize fatigue and the actions to be taken when they consider themselves too fatigued to safely perform their operational duties. **Recommendation:** Develop policy and education for employees defining responsibilities to minimize fatigue and report fit for duty, and actions to be taken when they consider themselves too fatigued to safely perform their duties.

9. Managers may not fully understand their responsibilities related to interacting with controllers who report that they are too fatigued to safely perform their duties. **Recommendation:** Develop policy and education for managers that incorporates emphasis on a non-punitive approach when an employee, in accordance with the developed policy, self-declares as too fatigued to safely perform operational duties.

10. Existing controller fatigue awareness training does not comprehensively capture current science, personalize fatigue mitigation strategies, or support practical operational needs. **Recommendation:** Update existing fatigue awareness training to reflect current science and to personalize the application of the training.

11. A formal Fatigue Risk Management System (FRMS) institutes a continuous, repeatable, collaborative process to identify, analyze, and mitigate fatigue risks. **Recommendation:** Design and implement an FRMS within the FAA operational ATC environment.

12. Retention of organizational knowledge supports a successful transition from the current Fatigue Workgroup to the implementation of an approved ATO FRM. **Recommendation:** Retain current Fatigue Workgroup members to help in the transition to a formal FRMS.

**In Conclusion: The Recommendations’ Potential Benefits**

If fully and comprehensively implemented, the recommendations equip the Agency to:

1. Systematically manage ATC fatigue risk;
2. Reduce acute and chronic sleep debt;
3. Improve opportunities for nighttime sleep;
4. Improve ability to obtain restorative sleep;
5. Allow for the self-declaration of fatigue;
6. Gather data to support fatigue analysis and mitigations;
7. Educate the workforce on personal and professional responsibilities in reducing fatigue; and
8. Support the ongoing adoption of a positive safety culture.

The recommendations flow from the systemic approach of a complementing, cross-layered set of prescriptive and non-prescriptive fatigue risk mitigations. The mitigations would evolve and be managed within the formal structure of the FRMS, which operationalizes fatigue risk into the FAA decision process and cultural fabric. The parties have begun the process of evaluating and analyzing the recommendations for their potential impacts on staffing, budget, policy, the CBA, and other areas.
Greetings from Atlanta!

Communicating for Safety 2012
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natcacfs.com

SAVE THE DATE!

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