

**Testimony of:**

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**National Air Traffic Controllers Association**

**Before the Senate Commerce Subcommittee on Aviation  
Operations, Safety, and Security**

**May 24, 2011**

**“Air Traffic Control Safety Oversight”**



### Introduction

The National Air Traffic Controllers Association (NATCA) is the exclusive representative of over 15,500 air traffic controllers serving the Federal Aviation Administration (FAA), the Department of Defense (DOD), and the private sector. In addition, NATCA represents the FAA's Alaska flight service specialists and approximately 1,200 FAA engineers, 600 traffic management coordinators, 500 aircraft certification professionals, agency operational support staff, regional personnel from FAA's logistics, budget, finance and computer specialist divisions, as well as agency occupational health specialists, nurses and medical program specialists.

Air traffic controllers are dedicated to ensuring that our National Airspace System (NAS) is the safest in the world. In order to maintain that safety, our controllers work to modernize the NAS, promote new technology, and improve safety procedures. Controller skills are put to work every day as they handle an impressive volume of flights – air traffic controllers monitor takeoff and landing for more 70,000 flights each day, safely moving nearly two million passengers throughout the country. Air traffic controllers handle these flights in complex air space with roughly 5,000 planes in the sky at any given moment.

With about 64 million takeoffs and landings each year, our highly trained controller workforce ensures safety. According to MIT, flying is 22 times safer than driving; and the chance of a fatality on a scheduled flight in the U.S. is one out of 14 million.

Air traffic controllers take considerable pride in their work. The controller work ethic and commitment to safety is not reflected in the high-profile incidents that recently gained media attention; the professional reputation of air traffic controllers should not be tarnished by a few incidents.

In this testimony, we would like to address the three policy changes that have led to increased reporting of operational errors. We will also discuss the series of incidents that gained widespread media attention, specifically explaining what we believe is the root cause of these incidents: fatigue. Our joint FAA-NATCA Fatigue Workgroup has made 12 recommendations for mitigating the risks associated with the midnight shift and fatigue. As subject matter experts qualified to determine inherent risks in air traffic control, we are working with the FAA to ensure that the risk of fatalities and errors are mitigated to their lowest possible levels.

### **Recent Increase in Reporting of Operational Errors**

As per the Committee's request, NATCA will address the policy changes that have led to the increase in reported operational errors in the NAS. Just this month, the Department of Transportation Inspector General (DOT IG) cited a 53 percent increase in the number of reported operational errors between fiscal years 2009 and 2010 (from 1,234 to 1,887)<sup>1</sup>. The increase can be attributed in large part to policy changes intended to improve the identification and reporting of operational errors and promote a safety culture in which errors can be reported without fear of punitive measures, as well as certain strains on the system associated with high ratios of trainee to fully certified controllers.

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<sup>1</sup> Department of Transportation Inspector General testimony before Subcommittee on Transportation, Housing, and Urban Development, and Related Agencies, "The Federal Aviation Administration's Fiscal 2012 Budget Request: Key Issues Facing the Agency." May 12, 2011.

### *The Definition of Operational Errors*

By definition, an operational error is an event that involves a loss of separation, and is attributable to an element of the air traffic system (see appendix for full technical definition). Operational errors are not always near-collisions or potential aircraft accidents; in most cases they are breaches of procedure or safety buffers that require investigation to determine cause and how to prevent recurrence.

It is important to note that not all operational errors are a result of a controller error. An operational error can also be a system error, such as an equipment malfunction or an improperly worded procedure that leads to a loss of separation.

Operational errors are categorized by risk associated with each event. Where it can be measured in terms of distance, separation losses are categorized in range bands designated as A, B or C operational errors, with A being the closest range and C the furthest apart. For other separation losses, where such precise measurements are not possible, for example, non-radar, oceanic, terrain or procedural errors, or in the event of procedural or equipment malfunctions they are classified as “Other” or “Miscellaneous” operational errors.

### *The New Safety Culture at the FAA – Count Every Error and Learn from It*

The safety culture that NATCA and the FAA have worked to create demands that all categories of errors be reported and counted as accurately as possible. One highly accurate program identifies errors imperceptible to the human eye, and will continue identifying increasing numbers of errors once it is fully operational and monitoring all air traffic (it is currently only employed for a certain number of hours per week). In addition to this precise error identification program, in July of 2008, NATCA and the FAA introduced a confidential safety reporting system intended to address systemic safety concerns rather than treat individual errors punitively, creating an atmosphere in which air traffic professionals feel confident that reporting errors will not result in punitive measures. The goal of each of these programs is to increase reporting of errors so they can be utilized to evaluate, propose, and implement changes to further the goal of risk mitigation. Simply stated, the best way to increase safety is to find every error and use this data to increase the safety of the system and, ultimately, the passengers and users of the system. While these programs likely account for most of the increase in reported errors, another contributing factor is the strain placed on the entire system and workforce by the hiring of 7,800 new air traffic controllers in the last five years.<sup>2</sup>

### **Increased Accuracy in Error Identification Adds to Increased Number of OEs**

- **Traffic Analysis and Review Program (TARP) Identifies Minimal Losses of Separation that Cannot Be Identified by the Human Eye.** The FAA has started using TARP more and more over the past year. This automated system identifies when operational errors or other losses of separation occur at terminal facilities. It measures down to 1/100th of a mile, measurements that cannot be seen with the human eye, and thus were previously unreported. This can be seen in the fact that category C errors (those with the least significant loss of separation of any errors) have increased from 618 in FY 2009 to 1,059 in FY 2010. In layman’s terms, this program is picking up errors that have previously existed in the system, but have never been counted as errors. More importantly, TARP will soon be operating continuously, and we expect that this precise electronic monitoring of the operation will actually result in another increase in reporting of errors.

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<sup>2</sup> FAA, “A Plan for the Future 10-Year Strategy for the Air Traffic Control Workforce 2011-2020.”

## Safety Culture Enables Air Traffic Professionals to Report Errors without Fear of Reprisal

- **The Air Traffic Safety Action Program (ATSAP) allows controllers to report errors without fear of reprisal or punitive measures.** As part of efforts to enhance the safety culture of air traffic control and meet Congressional mandates, voluntary non-punitive programs have been implemented for the open reporting of safety concerns by controllers and other FAA employees. **The result of this has been an environment in which operational errors are openly reported, as never before.**

The Air Traffic Safety Action Program (ATSAP), is modeled after the very successful program used for over 12 years for airline pilots, known as Aviation Safety Action Program (ASAP). Like ASAP for pilots, ATSAP has created an environment in which employees can report mistakes (operational errors, operational deviations, and other reportable events) to management without fear of reprisal from their employer. This has led to an increase in reported errors.<sup>3</sup> It is important to note that ATSAP does not remove accountability or responsibility from controllers; it takes a more systemic approach to addressing safety issues. ATSAP also improves the FAA's ability to provide additional training because an Event Review Committee (ERC), which reviews and analyzes the ATSAP reports to identify actual or potential safety problems, proposes solutions for those problems. The ERC recommends training with facility input, which provides a more measured approach compared to knee jerk reactions or punitive approach that had been taken in the past.

Our collaborative efforts with the Air Traffic Organization (ATO) to increase reporting through ATSAP and to address those safety issues that contribute to high-risk events are essential, and NATCA looks forward to working with the ATO to develop and implement meaningful strategies to continue to reduce risk in the NAS.

- **Elimination of operational error (OE) quotas that prevented managers from reporting all errors.** As ATSAP was implemented, the facility operational error limits, or quotas, were removed in an effort to get more realistic and honest reporting. In other words, each facility had a yearly or quarterly maximum number of operational errors that they were expected not to exceed. Prior to the elimination of the operational error quotas, a manager's performance was tied to the number of operational errors as a metric during their performance evaluations. Thus the more reported operational errors charged against a facility, the greater the negative impact on the facility manager's evaluation and pay. By removing this disincentive to report operational errors, we have no doubt seen increased reporting of errors up the chain that were occurring all along but had not been reported. In addition, the rise in reported errors was concurrent with the implementation of ATSAP and removal of the error quotas in August 2008.

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<sup>3</sup> Note: ATSAP has contributed to the increased number of reported errors. Confidential reports made by front-line employees to ATSAP are otherwise unknown to the FAA unless individuals choose to also report directly to their first level supervisors. Thanks to the new safety culture, they are likely to report errors in both systems. This is the identical process successfully in use by the airlines and is producing significant amounts of safety data for the Air Traffic Organization (ATO).

### *The Stress on the System and the Workforce*

As we are all aware, the NAS has recently hired unprecedented numbers of new controllers, which is contributing to a strain on the system and workforce. High trainee ratios is an issue that NATCA has been warning about for over five years, and testified about before the Senate Subcommittee on Aviation Operations, Safety, and Security in March 2007<sup>4</sup>, and before the House Subcommittee on Aviation in June 2008<sup>5</sup> and March 2007<sup>6</sup>. Our message was consistent: The recent surge in new hires is placing a serious strain on the system and leading to safety concerns as experienced controllers retire and are replaced with trainees who require several years to become fully certified controllers.

- **Large numbers of new hires require additional resources to train.** NATCA testified before the House Aviation Subcommittee in May 2007 and again in June 2008 about the strains of hiring thousands of new controllers in a relatively short period (7,800 new hires over the past of five years) would have on the ATC system. In the long-term, these new hires will enhance the safety and efficiency of our NAS, but in the short-term, this places a strain on facilities where they train because while achieving certification on position, trainees work under the direction of a fully certified controller or on-the-job-training instructor (OJTI). Their OJTI is therefore taken away from his normal controller duties, leaving one more position to staff in his absence. We have seen that fewer controllers in a facility or a higher trainee to controller ratio may also lead to an increased safety risk. Trainees currently account for 22 percent of the workforce<sup>7</sup> across the system. For example, Chicago TRACON (C90) currently has 20 percent trainees, while Atlanta ARTCC (ZTL) has 26 percent trainees working at their facility.<sup>8</sup>
- **On the job training takes a toll on the instructing controller.** Providing on-the-job-training (OJT) to a new hire is extremely demanding, as the OJTI needs to be aware of every transmission and every keystroke the trainee makes. During OJT, a trainee works live air traffic, while the OJTI monitors both the trainee's actions and the radar or runway environment. The OJTI is held responsible for any errors made by the trainee. This essential training process increases workload for the OJTI and contributes to fatigue, particularly when these controllers are expected to train on nearly a daily basis. These instructors may also lose their proficiency while spending the majority of their time training others instead of working on position themselves, removing highly-trained, certified controllers from the operation and exacerbating the staffing shortage.

It is clear that the policy changes implemented by the FAA to gather as much operational error data as possible in order to create a safer ATC system has led to the increase in reported operational errors. The increase can be attributed in large part to policy changes intended to improve the identification and reporting of operational errors and promote a safety culture in which errors can be reported without fear of punitive measures, as well as certain strains on the system. It is important to note that in the coming months, increased use of programs such as TARP are expected to result in another spike in errors – even with partial implementation, we have seen an increase in Category C errors from 618 in FY 2009 to 1,059 in FY 2010, largely

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<sup>4</sup> Testimony of Patrick Forrey, President, NATCA Before the Senate Committee on Commerce, Science, and Transportation's Subcommittee on Aviation Operations, Safety, and Security, March 8, 2007.

<sup>5</sup> Testimony of Patrick Forrey, President, NATCA Before the House Transportation and Infrastructure Committee Subcommittee on Aviation, June 11, 2008.

<sup>6</sup> Testimony of Patrick Forrey, President, NATCA Before the House Transportation and Infrastructure Committee Subcommittee on Aviation, March 22, 2007.

<sup>7</sup> FAA payroll data, July 2010

<sup>8</sup> FAA, "A Plan for the Future 10-Year Strategy for the Air Traffic Control Workforce 2011-2020."

because TARP can identify errors too precise for humans to identify. While the human error will always be a part of the system, it is our responsibility to work to identify and rectify errors as often as possible. To that end, NATCA fully supports and endorses the increased safety culture and the use of the ATSAP Program.

While much of the increase in reported operational errors can be attributed to improved reporting accuracy, we also acknowledge that the combined stress of high attrition rates from 2006 to 2009 and the resulting surge in new hires has left the system overwhelmed with trainees. While this is productive in the long run, the essential process of training these new hires uses scarce resources such as controller time and energy, placing an additional burden on the system. NATCA strongly encourages the FAA to conduct a full staffing survey to find appropriate staffing levels to mitigate this strain.

## **Recent Incidents and the Effects of Controller Fatigue**

The Committee has requested that we address the incidents that occurred over the course of four weeks in March and April of 2011. These nine incidents gained significant media attention, resulting in veritable media frenzy. These incidents involved supervisors and controllers who had allegedly fallen asleep while on position during the midnight shift (midshift), a controller who had been watching a DVD while on position, and one incident in which the First Lady's plane experienced a loss of separation. Additionally, some have included an event when a jumbo jet clipped a regional jet at JFK, despite the fact that this was not a controller error. The FAA is treating each incident as unique and investigating each one. To date, they have suspended several controllers from working traffic and one is no longer with the Agency. The Agency has stated it will continue to investigate each incident and take action as appropriate.

### *NATCA Response To The Incidents*

When the first incident occurred, NATCA responded swiftly and firmly, issuing a statement declaring that safety is NATCA's number one priority and our members are committed to performing their critical function in the safest, most professional manner possible. NATCA does not condone sleeping while on position. In letters to Congress and other public communication, NATCA President Paul Rinaldi emphasized that the professional reputation of air traffic controllers should not be tarnished by these incidents. President Rinaldi and FAA Administrator Randy Babbitt jointly wrote an editorial in USA Today outlining their concerns and steps both the Union and Agency are taking to reduce fatigue and safety concerns. (See Appendix for article). Our controllers work every day to ensure the safety of the system, and NATCA believes that the safety of the system is paramount.

However, President Rinaldi also quickly pointed out that the controller fatigue issue is real and relevant in this discussion, especially when addressing issues regarding the midnight shift. Fatigue has existed in our system for many years, and NATCA has a consistent record of encouraging the Agency to address the issue. NATCA has warned about the safety concerns associated with staffing the midnight shift with only one controller. We have always insisted that if the FAA decides to keep a tower open overnight, they should staff the tower with a minimum of two controllers. President Rinaldi praised the FAA's announcement of increased staffing as a strong first step in ensuring that fatigue is mitigated on midnight shifts.

NATCA President Rinaldi and Executive Vice President Trish Gilbert also joined a Call to Action tour with FAA Administrator J. Randolph Babbitt and other FAA senior officials to begin an honest dialogue with employees about the recent incidents. They discussed at length the largest

underlying problem that contributed to the majority of recent events: fatigue. The majority of incidents occurred during midnight shifts, when fatigue is most problematic. For more than a decade NATCA has expressed its deep concerns about increasing controller fatigue. Our national constitution calls for the ending of single staffing on the midnight shift, and for years we have advocated past Administrations and Congress on the need to find more complete solutions to controller fatigue before it is too late.

### *Impact of Fatigue*

NATCA has not been alone in warning about the dangers of fatigue. The National Transportation Safety Board (NTSB) and others have joined NATCA in issuing these warnings. In April of 2007, in response to the August 27, 2006 Lexington crash of Comair Flight 191 (Delta Connections Flight 5191) in which 49 people were killed, the NTSB issued parallel safety recommendations to both the FAA and NATCA. The 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 long enough for controllers to obtain sufficient restorative sleep; by modifying shift rotations to minimize disrupted sleep patterns; and to develop a fatigue awareness and countermeasures training program. The resulting joint Fatigue Workgroup, which came into being with the 2009 Collective Bargaining Agreement (CBA), was **required to develop a fatigue management system; to identify and mitigate workplace fatigue inherent in a 24/7 operation; and to refer recommendations for action.**

The Fatigue Workgroup consisted of FAA managers and NATCA members, supported by scientists from seven different components of the FAA, including Aerospace Medicine and FAA's Civil Aerospace Medical Institute (CAMI) scientists. External support included subject-matter experts and scientists from National Aeronautics and Space Administration (NASA), the Air Force, The MITRE Corporation, and others. In sixteen meetings held over 14 months, the group utilized fatigue and sleep scientists, medical experts, and other experts from the safety and aviation worlds to help in analyzing the numerous fatigue issues and developing viable recommendations.

The Workgroup decided to develop formal mitigations in order to address the hazards and operational risks caused by fatigue. To do this, the Workgroup focused on discovering the science and data that supported the safety case for each mitigation, with their specific focus being the following: 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 recommendations were briefed to the FAA Administrator in the spring of 2011, shortly before the series of incidents. NATCA fully supports their 12 recommendations, and advocates adopting all 12 to effectively mitigate the risks associated with fatigue.

### *What Science the Workgroup Relied Upon*

The reality is that ATC operations demand shift work. ATC is a 24-hour, seven day-a-week operation (24/7). Fifty-one percent of federally operated Terminal facilities are 24/7. One hundred percent of En Route facilities are 24/7. Over 3,000 controllers are exposed to midnight shifts annually, sitting in dark rooms frequently with little traffic to direct. Shift work contributes to cumulative fatigue (overall sleep debt), as well as acute fatigue (immediate fatigue that can affect an individual at any time of day). Time on task and task intensity also contribute to fatigue. Since we cannot eliminate shift work, the Workgroup developed formal mitigations in order to address the hazards and operational risks caused by fatigue.

The fundamental question is how does fatigue happen and how does it compromise safety? **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 an established cause and effect relationship between the two forces, influenced by multi-variant fatigue drivers and causes. To correlate the cause and effect, the Workgroup developed a multi-layered approach of mitigations that fall within six different areas which all interrelate.

The effects and 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.

Fatigue drivers are clear. There are four of consequence: Circadian rhythm; the amount of time since the last sleep period; the quantity and quality of one’s sleep; and task intensity as a result of workload. The primary driver is Circadian rhythm, which is the physiological regulator of the human “sleep and awake” cycle. Circadian rhythms combined with sleep debt, cause sleep pressure, i.e. the urge to sleep, especially at night, which creates problems inherent on midnight shifts.

Fatigue causal factors include 1) workplace elements such as schedule, culture, seniority, task complexity, and the physical environment; 2) personal elements such as life events and personal choices; and 3) individual differences and biological factors such as sleep disorders (there are over 70 disorders that influence how we sleep) and age. The NTSB uses similar drivers and causal factors as their criteria whenever it analyzes for fatigue during a post-accident investigation.

#### *Methodology and Findings of the Workgroup*

The Workgroup sought to determine the extent to which ATC schedules induce fatigue, and which schedules provide increased cognitive performance and opportunity for restorative rest over a six-week timeframe. They identified the most widely used schedules and modeled 110 schedule and sleep permutations to identify risk. They also modeled alternative work schedules that increased opportunities for restorative nighttime sleep between shifts. Finally, they comparatively analyzed modeling results to measure the effect of proposed countermeasures and schedule adjustments.

The Workgroup found that the greatest risk on any schedule is during the midnight shift when sleep pressure becomes intense as the body is fighting its natural Circadian rhythm. That can be compounded by cumulative sleep debt or simply acute fatigue. During that time, introducing a sleep opportunity during a shift can mitigate the risk of reduced cognitive performance due to fatigue. Proactive sleep prior to a midnight shift proved beneficial. Other personal mitigation techniques for a recuperative break may include exercise, hydration, light exposure, and caffeine.

#### *What the Science-based Workgroup Recommends*

The Workgroup developed 12 recommendations in six topical areas. Those areas are: recuperative breaks, scheduling, sleep apnea (SA), personal fatigue management, education,



and the Fatigue Risk Management System. None of these recommendations stands by itself as sufficient to adequately mitigate fatigue risks in ATC operations; therefore the proposed solution requires the implementation of all of the recommendations together, in a comprehensive, layered fashion. The Parties have only now begun the process of evaluating and analyzing them for their potential impacts on staffing, budget, policy, the CBA, and other areas.

The recommendations and a summary of their related findings are 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. The Parties recommend that current policy and orders be modified 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. The Parties recommend the allowance for a recuperative break of up to 2½ hours.
3. Quick turns between evening and day shifts reduce opportunities for nighttime restorative sleep. On a 2-2-1, increasing the time between the second evening and the first day shift by one hour increases sleep opportunity and cognitive performance. The Parties recommend the scheduling of a minimum of nine (9) hours between evening and day shifts. This has already been implemented by the Parties.
4. Scientific modeling shows that increasing night time sleep opportunity during the night prior to the second day shift and subsequent midnight shift results in significant fatigue risk reduction during the midnight 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. Therefore, the Parties recommend that on a 2-2-1 CCW rotation, 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 night time sleep period.
5. Per Aerospace Medicine (AAM), 2.2% of the ATC workforce has diagnosed sleep apnea, and a minimum of an additional 1.8% 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 sleep apnea in the ATC workforce. The Parties recommend the creation of 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 sleep apnea among the controller workforce. Raising awareness and understanding of sleep disorders will reduce the risk to the National Airspace System. The Parties recommend the use of AAM-prepared SA education to build Sleep Apnea awareness in ATO workforce, include raising awareness of respiratory coaching to SA patients.
7. The scope of the sleep apnea issue requires collaboration across respective lines of business. The Parties recommend that:
  - AAM to stay current with state of the art in sleep medicine.

- AAM to utilize AASM standards and practices for SA risk factor identification, diagnosis and treatment standards.
  - AAM to document the process for medical qualification for individuals at risk for sleep apnea.
  - AAM to develop educational materials for the workforce and AMEs.
  - AAM to educate AMEs on SA.
8. Controllers may not fully understand their responsibilities to minimize fatigue, and actions to be taken when they consider themselves too fatigued to safely perform their operational duties. The Parties need to develop policy and education for employees defining responsibilities to minimize fatigue and report fit for duty, and action 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. In order to avoid on-the-job fatigue that threatens safety, the Parties need to 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. The Parties need to 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. The Parties should design and implement a Fatigue Risk Management System (FRMS) within the FAA operational ATC environment.
  12. Retention of organizational knowledge supports a successful transition from the current Fatigue Work Group to the implementation of an approved ATO FRM. The Parties recommend the creation of a transition team composed of current Fatigue Work Group members until the formal FAA FRMS is established for ATC.

This set of recommendation outcomes 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 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.

After the recommendations were presented, the Parties agreed to collaboratively examine the implementation considerations for all twelve recommendations, with a joint work team that was tasked with delivering Questions and Answers within 90 days of their initial meeting. Once that group finished their analysis, senior leadership from both Parties would determine how to proceed with implementation.

### **NATCA Recommendations**

NATCA fully supports the implementation of the 12 recommendations put forth by the joint Fatigue Workgroup. These recommendations are science-based measures to mitigate fatigue and safety risks posed by the 24/7 schedule of air traffic control. It is imperative that we act quickly to mitigate these risks.

NATCA recommends that the Agency continue on its current path of enhancing the safety culture. Advances in the working environment have led to a more open, honest discussion about errors and a more transparent process for dealing with those errors in a productive manner that deals with root causes rather than punitive responses. As one component of that safety culture, NATCA fully supports the accurate, precise reporting of all errors and/or safety concerns. While the expected rollout of the TARP will add to the increase in reported errors, it will help the Agency and controllers perform their jobs with more accuracy and a higher degree of safety.

Thank you again for the opportunity to testify on operational errors and fatigue in the workforce. NATCA and the FAA must continue working together to mitigate fatigue and safety risks and reduce the strain on the National Air Space.

## Appendix

An operational error is “an occurrence attributable to an element of the air traffic system in which:

(1) Less than 90% of the applicable separation minima results between two or more airborne aircraft, or less than the applicable separation minima results between an aircraft and terrain or obstacles (e.g., operations below minimum vectoring altitude (MVA); aircraft/ equipment / personnel on runways), as required by FAA Order 7110.65 or other national directive; or

(2) An aircraft lands or departs on a runway closed to aircraft operations after receiving air traffic authorization; or

(3) An aircraft lands or departs on a runway closed to aircraft operations, at an uncontrolled airport and it was determined that a NOTAM regarding the runway closure was not issued to the pilot as required.

### **How we're already fixing our air traffic system**

By Randy Babbitt and Paul Rinaldi

USA Today OP-ED

Updated 4/17/2011 3:00 PM |

The traveling public rightly expects air traffic controllers to make sure their flight safely reaches its destination. We work diligently to maintain the trust the American people have in our aviation system. But as recently as Saturday, we have seen examples of a few individuals who have failed to uphold that trust.

After an air traffic supervisor at Reagan National Airport near Washington, D.C., fell asleep while two commercial flights landed last month, we immediately instituted a review of our air traffic control towers. In the last few weeks, we have seen more examples of controllers sleeping or being derelict in their duty in Seattle, Lubbock, Reno, Knoxville and over the weekend in Miami.

We cannot and will not tolerate this behavior.

This week, the FAA is changing long-time controller scheduling rules to make sure controllers have more time for rest between shifts. We have added staffing at airport control towers and other facilities around the country where we had only one controller on the midnight shift. Now there are two. We have instituted new hand-off procedures for the midnight shift that require contact between radar controllers and air traffic control towers to confirm that there is a controller prepared to handle each flight.

These recent incidents have cast doubt on whether our nation's controllers are truly committed to keeping the skies safe. We want to tell you they are. We have the safest aviation system in the world, but we know we can do better.

On Monday, we are kicking off our Call to Action on air traffic control safety and professionalism. We will be traveling to air traffic facilities around the country, to reinforce the need for all air traffic personnel to adhere to the highest professional standards.

Professionalism involves more than just what you do when you're on the clock. It means everyone must report to work ready to work. That means all air traffic employees must manage their time off appropriately and be rested and ready for duty.

We now understand more about fatigue than we ever did before. The FAA has already used the latest fatigue science to propose new rules for pilot flight and duty time. Science tells us that working irregular day and night shifts without adequate rest periods in between can cause chronic fatigue. We are now addressing fatigue in how we schedule our controller workforce. The steps the FAA took this weekend are just the beginning—we know more needs to be done.

The FAA will also commission an independent review of our air traffic control training curriculum and qualifications to make sure new controllers have mastered the right skills and learned the right disciplines before they start their careers.

The National Air Traffic Controllers Association is committed to expanding its own Professional Standards program nationwide, which will reemphasize for controllers how to maintain the highest degree of professional conduct.

Unfortunately, the events of the last few weeks have tarnished the professional and faithful work of thousands of controllers who routinely report to their shifts and steadfastly work their stations without incident.

Controllers safely handle an average of 47,000 flights each weekday. They direct planes carrying 1.7 million passengers per day. And they control air traffic over 15% of the world's surface, not only over North America but over the Atlantic and Pacific Oceans as well.

We work diligently every day to deliver a flawless performance of the air traffic control system. But as is the case with any system operated by people, we must have redundancies and back-ups to ensure that the system is always safe. And we do.

As a result, all of the aircraft affected by the recent lapses in professionalism remained in contact with air traffic control and landed safely. Nonetheless, we are committed to reinforcing our culture of accountability in all that we do. There are no simple tasks in aviation — every single one is critical.

We are approaching a complete generational turnover of the controller workforce, and in the last 30 years the relationship between the FAA and its workforce has been characterized by varying degrees of cooperation. But right now our relationship is as strong as it has ever been.

We have an important opportunity to take a step back and look at all aspects of our air traffic control system.

The American public trusts us to perform our jobs and make safety the highest priority, each day, year in and year out. We are committed to making whatever difficult changes are necessary to preserve that trust and to continue to provide the safest and most efficient air transportation system in the world.

Randy Babbitt is administrator for the Federal Aviation Administration. Paul Rinaldi is president of the National Air Traffic Controllers Association.