AIR TRAFFIC CONTROL FACILITY STAFFING

(110–138)

HEARING

BEFORE THE

SUBCOMMITTEE ON AVIATION

OF THE

COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
HOUSE OF REPRESENTATIVES

ONE HUNDRED TENTH CONGRESS

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June 10, 2008

SUMMARY OF SUBJECT MATTER

TO: Members of the Subcommittee on Aviation

FROM: Subcommittee on Aviation Staff

SUBJECT: Hearing on Air Traffic Control Facility Staffing

PURPOSE OF HEARING

The Subcommittee will meet on Wednesday June 11, 2008, at 2:00 p.m. in room 2167 of the Rayburn House Office Building to receive testimony regarding air traffic control facility staffing issues, including concerns about staffing alignment and training at such facilities.

BACKGROUND

During 2007, the nation's air traffic system carried 769 million passengers[1] and 22.3 million tons of cargo.[2] The flights that carried these passengers and cargo were controlled by Federal Aviation Administration (FAA) air traffic controllers. Controllers work in towers, terminal radar approach control centers (TRACONs) and air route traffic control centers (ARTCCs). The latter is more commonly known as an enroute center.[3] The system that supports these operations, while using sophisticated communications, computing and surveillance technology, relies on controllers to maintain safe separation and proper sequencing during all phases of flight operations.

Following the Professional Air Traffic Controllers Organization (PATCO) strike in 1981, and subsequent firing of a significant number of controllers, most of the FAA's current 14,800 controllers were hired during the mid to late 1980's. During the five years following the strike, the

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[1] U.S. Airlines Carry Record 769 Million Passengers in 2007, Press Release, Bureau of Transportation Statistics, (March 2008).

[2] Airline Summary (U.S. Flights), Bureau of Transportation Statistics, (June 2008).

[3] Airport towers direct traffic on the ground, before landing, and after takeoff within 5 nautical miles of the airport and about 3,000 feet above the airport. TRACONs sequence and separate aircraft as they approach and leave airports, beginning about 5 nautical miles and ending about 50 nautical miles from the airport and generally up to 10,000 feet above the ground. Enroute centers control air space that extends above 18,000 feet for commercial aircraft. In addition they control approaches and departures for some airports.

FAA hired and trained 12,456 new controllers. During this timeframe, 80 percent of the nation's air traffic controllers were developmental controllers undergoing on-the-job training. This large scale hiring over twenty years ago has created a unique demographic profile for the FAA's controller workforce. Many of the controllers hired within this narrow time frame are becoming eligible to retire. [4]

This potential retirement bubble was first noted in a 2002 Government Accountability Office (GAO) report, which stated that the FAA will need "to hire thousands of air traffic controllers in the next decade to meet increasing traffic demands and to address the anticipated attrition of experienced controllers, predominately because of retirement."[5] This predicted surge in retirements has begun and the FAA has responded with an aggressive hiring program.

However, the Department of Transportation Inspector General (DOT IG) has identified several issues that could impact the FAA's ability to accommodate these changes in its workforce. In particular, the DOT IG and others have expressed safety concerns regarding the ratio of fully certified controllers to developmental controllers (controller trainees) at FAA air traffic control facilities.

To set the context for this hearing, this memo will discuss the way controllers are selected and trained, the FAA's current facility structure, the methodology the FAA uses to set controller staffing levels for its facilities, the current demographics and future requirements of the FAA controller workforce, to include the impact of the Next Generation Air Transportation System (NextGen), and the findings and recommendations of the DOT IG.

I. How Controllers are Selected and Trained

The FAA hires its controllers from a number of different sources. These include military veterans with air traffic control experience, civilian controllers currently working for the Department of Defense (DOD), graduates from FAA-sponsored Controller Training Initiative (CTI) programs, and off the street hires.[6] Also, in 1993, controllers fired during the PATCO strike were allowed to apply for controller positions.

Candidates hired off the street, or participating in the CTI program, are required to take the Air Traffic Selection and Training Test (AT-SAT). Applicants who have already worked as certified controllers in some other capacity (military and DOD civilian controllers for example) are not. The AT-SAT is a computer-based exam that tests for aptitude in controller skills. It tests sequencing skills, visualization skills, and ability to work quickly and accurately under pressure.[7] The test, which the FAA administers to applicants throughout the year, can take as long as eight hours. To be considered for a controller position, applicants must obtain a score of 70 (out of 100) or better.

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[4] Air traffic controllers are eligible for retirement at age 50 if they have worked for 20 years, and can retire at any age if they have worked for 25 years. To be eligible for these retirement provisions, all of the credited time must be in air traffic control operations. Also, controllers face a mandatory retirement age of 56.

[5] U.S. GAO, Air Traffic Control: FAA Needs to Better Prepare for Impending Wave of Controller Attrition (June 2002), at 14.

[6] The Controller Training Initiative is a college and university based program that provides students with air traffic control training. There are currently 23 institutions in the program.

[7] FAA, Civil Aeronautical Medical Institute, Documentation for the Computerized AT-SAT Test Battery, (March 2001), at 11.

FAA centralizes hiring and selection of controllers. To receive an offer from the FAA, all candidates are required to pass a medical exam and meet the requirements for a security clearance. Once a candidate is hired by the FAA, the first stage of training is to attend the Air Traffic Controller Academy in Oklahoma City, Oklahoma (Academy). This training phase lasts approximately twelve weeks. Some students, based on prior experience or previous academic training, such as CTI students, may be excused from the introductory part of the program.

Training for new controllers at the Academy is a mix of classroom instruction, equipment training and, in particular, extensive instruction using several different simulation tools. The Academy has a large suite of simulators that covers the entire range of air traffic environments. While students share a core curriculum – depending upon the trainee's assignment, a tower, a TRACON, or an enroute center – the type of training will vary to some degree.

When a controller graduates from the Academy, the next assignment is to a facility where training will be continued. While in training at the facility, the controller will be classified as a developmental controller. The objective of the on-the-job training is to achieve certification for each position in a respective facility. When a developmental controller meets this goal, he or she will be classified as a Certified Professional Controller (CPC).

The number of positions required for certification, and the time it takes to become certified, varies with the type of facility. A tower requires certification in ground control, local control, clearance delivery and runway crossing coordinator positions. A TRACON requires certification in departure data positions, final vector positions, and several progressively complex radar control positions. An enroute facility requires certification in each of the facility's 14 different control and radar associate positions.

Certification training in these positions will include performing the tasks of the position under close supervision of a CPC, classroom training and the use of simulators. Simulator training, because of the sophistication of the technology, and the diversity of problem solving situations it can provide, is increasingly important in controller training. In addition, contract trainers, often retired FAA controllers, are frequently used to provide instruction to developmental controllers.[8] However, it should be noted, that while a facility must train its new controllers, it also faces an on-going obligation for regular training requirements and recertification of existing controllers. Accordingly, the pace of training for a developmental controller often depends on a facility's capacity to provide training.

The FAA, while hiring significant numbers of new controllers, has only been training controllers on a large scale for the past two years. Since most of these employees are still classified as developmental controllers the amount of data available to analyze attrition rates is limited. However, the FAA did report that 60 of the 1,815 controllers in training at the Academy in 2007 failed to complete the course. Additionally, in 2007, 164 developmental controllers, those who had already graduated from the Academy and had gone to facilities, left the program.[9]

II. How the FAA Staffs Facilities

[8] Contract trainers at the facilities are provided through a central contract administered by the FAA Academy. This contract is currently pending renewal.

[9] FAA, *A Plan for the Future: The FAA's 10-year strategy for the Air Traffic Controller Workforce 2008-2017*, (2008), at 22.

The FAA reviews the staffing levels at its air traffic control facilities once a year. In determining facility staffing levels, the FAA considers a range of factors, such as the operating environment, the controller experience mix, and expected retirements. As to the operational environment, the FAA considers the number of operations, the complexity of the operations, weather conditions, and the impact of air traffic operations from nearby airports and military facilities. In addition, other factors, such as the experience mix of the facility's current workforce, the number of developmental controllers on staff, the use of overtime (for example, extensive use of overtime could indicate a possible staffing shortage), the projected number of potential retirements expected, and the number of controllers likely to be promoted and assigned to other facilities are also considered.

FAA does not assign air traffic control facilities a staffing number; rather, they are given a range. Based on a review of the factors noted above, this range can vary from year to year. For example, if air traffic activity levels were to increase then the staffing range might be increased to reflect the change. On the other hand, if there were a reduction in air traffic volume, the facility staffing range might be reduced.[10]

Facilities are classified according to types and levels. Levels are determined based on the air traffic volume and complexity of the airspace. There are currently 315 FAA staffed air traffic control facilities in the air traffic control system and these are divided into 9 different types of facilities.[11] These range from towers without radars to large enroute centers. The following chart reflects the different kinds of facilities in the National Airspace System:

Type	Facility Description[12]	Number in the System
1	Tower without Radar	1
2	Terminal Radar Approach Control (TRACON)	22
3	Combination Radar Approach Control and Tower with Radar	137
4	Combination Radar Approach Control and Tower without Radar	2
6	Combined Control Facility	4
7	Tower with Radar	123
8	Air Route Traffic Control Center	21
9	Combined TRACON Facility	4

Though not shown on this chart, the FAA's Command Center in Herndon, Virginia, which coordinates the flow of traffic throughout the United States, is also considered an air traffic control facility and is staffed by air traffic control personnel. However, its status and staffing, is considered highly unique and, as such, is not included in this discussion.

These facilities are further differentiated according to levels based on annual activity. Along with the type of facility, the level of the facility, is important in setting controller pay grades. The

[10] Discussion with Mr. Mark House, Director Financial Analysis and Process Re-engineering, Air Traffic Organization, Federal Aviation Administration (April 21, 2008).
[11] In addition to these facilities, there are 240 FAA towers that are staffed with contract employees, 165 military towers, and 26 non-federal towers.
[12] This chart does not include a type 5 air traffic control facility. Type 5 refers to automated flight service stations (FSS). However, this function, with the exception of FSS activities in Alaska was contracted out to Lockheed Martin in 2005.

FAA routinely reviews the levels it assigns to facilities and there are often changes. During its 2007 review, the FAA downgraded 17 facilities and upgraded 2.

III. The Controller Workforce and Future Requirements

There were 583 controller retirements in 2006, 828 in 2007 and, between 2008 and 2017, the FAA projects that 7,068 of the current controller workforce will retire. In addition, the FAA estimates that an additional 5,316 (CPCs) will leave for other reasons to include promotion, reassignment, resignation and removal. [13]

According to the FAA, 2,233 controllers are currently eligible to retire, but so far have chosen not to. Based on past experience, the FAA projects that 56.4 percent of employees who reach eligibility will retire within two to three years, another 16.6 percent will continue to work up to five years, and the remainder will work past this point. [14]

The age distribution of the workforce is weighted towards controllers in their mid to late 40's. There are 1,800 controllers between ages 46 and 47, and 1,500 between ages 48 and 49. These are amongst the most experienced controllers in the workforce, and even if they are eligible to retire, but choose not to, they will nonetheless face mandatory retirement when they reach age 56.[15]

The FAA, as noted earlier, has set aggressive hiring goals. In 2007, the FAA hired 1,815 developmental controllers; in 2008 plans to hire 1,877, and in 2009, the target is 1,914. This pace is expected to continue for at least the next ten years. The FAA's objective is to reach a workforce level, larger than the current one, totaling 16,371, by 2017.[16]

The FAA states that NextGen will change the nature of air traffic control. NextGen relies on satellite based navigation systems and various automated tools that are likely to change the air traffic control environment. However, the FAA, at this point, does not believe it has adequate data to determine how these changes will affect the needs for the future controller workforce. Accordingly, the current controller staffing plan does not consider, at least at this point, the potential impact of NextGen.[17]

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[13] FAA, *A Plan for the Future: The FAA's 10-Year Strategy for the Air Traffic Control Workforce 2008-2017*, (2008) at 17-24.
[14] Id. at 20.
[15] Id. at 18.
[16] Id. at 10.
[17] Id. at 16.

IV. DOT IG Findings and Recommendations

The DOT IG has conducted a review of the FAA's controller workforce, its hiring practices, training programs, and future requirements. In general, the DOT IG found that:

- **FAA reports to stakeholders must reflect the changing makeup of the controller workforce.**

FAA facility staffing reports show the total number of controllers at a facility. However, these reports currently do not reflect the number of developmental controllers on staff. The DOT IG recommends that the number of developmental controllers at each individual facility be reflected on FAA controller staffing reports. The DOT IG also conducted a review of databases the FAA maintains to track the status of developmental controllers. This data includes their current training status and level of certification. The DOT IG found significant gaps in the quality of the data.[18]

- **The FAA must establish realistic standards for the level of developmental controllers that the facilities can accommodate.**

The FAA sets 35 percent as the maximum acceptable threshold for the level of developmental controllers that should be at any one facility. The DOT IG found that 22 facilities had levels in excess of 35 percent. Several facilities were well in excess of this level, including Teterboro Tower where 52 percent of the controllers are developmental; Oakland Center, where 38 percent of the controller staff are developmental, and Las Vegas TRACON where 50 percent of the controller staff are developmental. However, the DOT IG further noted that the FAA does not believe that "one size fits all" when it comes to setting the level of developmental staff that any one facility can accommodate. The DOT IG recommends that the FAA convene a working group to identify, on a case by case basis, the appropriate level of developmental controllers that should be assigned to each facility.[19]

- **FAA must ensure the standards developed address individual facilities training capacity.**

The FAA has met its stated goals for recruitment and the Academy is training and graduating a large number of developmental controllers. However, since controllers receive a substantial amount of their training at the facility level, to include position training, classroom training, and simulator training, there is concern that many existing FAA air traffic control facilities may not have adequate facilities, both in terms of personnel and equipment (primarily simulators), to train these developmental controllers in a timely and cost efficient manner. Further, the DOT IG is concerned that the FAA may be assigning more developmental controllers to some facilities than the training facilities can accommodate.

For example, as of December 2007, the Miami Center had 98 developmental controllers. This represents 34 percent of the workforce. However, while below the FAA's 35 percent maximum threshold, this represents more developmental controllers than the facility is currently

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[18] DOT IG, Review of the Air Traffic Controller Facility Training Program, Report Number: AV-2008-055, (June 5, 2008) at 3.
[19] Id. at 4.

capable of training. The result has been a substantial lengthening in the time it takes the Miami Center to train developmental controllers.

Accordingly, the DOT IG recommends that, in assigning developmental controllers to a facility, the FAA consider (1) the number of available on-the-job instructors at a facility, (2) available classroom space, (3) the number of available simulators, and (4) training and certification requirements for existing CPC staff.[20]

- **FAA must continue to encourage veteran controllers to transfer to busier, higher level facilities.**

The DOT IG has found that veteran controllers, often CPC's with substantial experience in lower level facilities, are not transferring to more complicated facilities. Normally, this kind of progression would be expected from controllers seeking to move up through the controller ranks. However, many controllers, because they are "grandfathered" through a special agreement, under the older, pre-2006 controller contract pay levels, have had no financial incentive to move to a new, more complicated and more demanding facility. Under the pay scales of the new contract, many controllers would actually have to take a reduction in pay to move to a new facility. There is a concern that this structural imbalance is creating a shortage of seasoned personnel at high demand facilities. To cope with this issue, the FAA has begun to offer bonuses to encourage experienced controllers either to continue in high demand facilities or to transfer to these facilities.

The DOT IG recommends that the FAA consider waivers, which are allowed under the current contract, to permit experienced CPC's to relocate to higher demand facilities without losing pay. In the meantime, the DOT IG expressed concern that in some facilities, such as the Potomac, Atlanta, and Chicago TRACONS, newly certified professional controllers are being assigned to positions that might be better filled by more experienced personnel.

- **The FAA needs to clarify responsibilities for oversight of the facility training program at the national level.**

While the recruitment of new controllers is centralized, as is the initial training at the Academy, once developmental controllers are assigned to a facility, training management becomes much more dispersed. The DOT IG found that there was confusion in the FAA's facilities as to what FAA Headquarters office is responsible for controller training. It noted that the Air Traffic Organization (ATO) Vice President for Acquisition and Business Practices oversees controller hiring and the FAA Academy program, and that the ATO Vice President for Finance oversees the Controller Workforce Development Plan. Further, once a developmental controller is assigned to a facility, training becomes the responsibility of either the ATO Vice President for Enroute and Oceanic Services, or the Vice President for Terminal Services. The DOT IG states that these responsibilities need to be better coordinated and clearly communicated to FAA facilities. [21]

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[20] Id. at 7.
[21] Id. at 10.

V. National Air Traffic Controllers Association (NATCA) Perspective

NATCA has expressed several concerns about the on-going changes in the controller workforce. It notes that the number of CPCs in the workforce has fallen to a 15 year low and that retirement rates, even for personnel with time remaining before mandatory retirement, are unusually high. NATCA believes that the shortfall in the number of experienced controllers has led to: more controller fatigue because controllers are working longer days for sustained periods; an alleged increase in the number of operational errors; and increased delays because there are not enough controllers available to safely manage demand.[22]

VI. H.R. 2881

The FAA Reauthorization Act of 2007, H.R. 2881, which passed the House on September 20, 2007, includes several provisions concerning staffing and training. Section 607 of H.R. 2881 directs the FAA to enter into an arrangement with the National Academy of Sciences to conduct a study of the assumptions and methods used by the FAA to estimate staffing needs for FAA air traffic controllers.

Section 608 focuses on training and directs the FAA Administrator to conduct a study that will assess the adequacy of training programs for air traffic controllers. This will include a review of the current training system for air traffic controllers, an analysis of the competencies required of controllers under the current air traffic control environment, an analysis of the competencies that will be required under the NextGen, and an analysis of various training approaches available to satisfy these competencies.

In addition, section 609 addresses the CTI Initiative and directs the Administrator to conduct a study of training options for graduates of these programs. The study will review the impact of providing a new controller orientation session for graduates. As a component of this work the study will analyze the cost effectiveness of this alternative training approach as well as the effect that such alternative training would have on the overall quality of training received by CTI graduates.

[22] NATCA, The FAA's Imposed Work Rules: The Effect on Air Traffic Controller Attrition, System Safety and Delays, (March 2008), at 3.

Witness List

Panel I

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HEARING ON AIR TRAFFIC CONTROL FACILITY STAFFING

Wednesday, June 11, 2008

HOUSE OF REPRESENTATIVES,
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE,
SUBCOMMITTEE ON AVIATION,
Washington, DC.

The Subcommittee met, pursuant to call, at 3:17 p.m., in Room 2167, Rayburn House Office Building, Hon. Jerry F. Costello [Chairman of the Subcommittee] presiding.

Mr. COSTELLO. The Subcommittee will come to order. Obviously everyone knows now that we have been on the floor voting since about 1:30 and hopefully we will not be interrupted, but there are no guarantees on this end. You never know when we will get a vote. But we appreciate your patience.

The Chair will ask all Members and staff at this time to turn their electronic devices off or on vibrate.

The Subcommittee is meeting today to hear testimony on air traffic control facility staffing. I will summarize my opening statement, call on Mr. Petri to give an opening statement or his remarks, and then we will introduce our first panel of witnesses and under the 5-minute rule ask them to offer their testimony, and I am sure will have questions as well.

I welcome everybody today on the Subcommittee hearing on air traffic control facility staffing. The public relies on our air traffic controllers every day to make sure runways operate safely, flight patterns are checked, systematic takeoffs and arrivals occur and, most importantly, that airplanes maintain separation. They do these activities 130,000 times every day, making air traffic the safest form of transportation in the United States.

However, we are facing a serious problem, some believe a crisis, in the controller workforce. Because of the PATCO strike and subsequent firing of air traffic controllers in 1981, most of the air traffic controllers that we have today in the workforce were hired in the mid-1980s. As a result, most are eligible to retire and it is very clear, at least to me, that the FAA was not and is not ready to deal with the situation. As early as 2002, the Government Accountability Office warned of a controller retirement crisis.

Further exasperating the problem has been the FAA's imposition of a contract on the air traffic controllers. According to NATCA, the National Air Traffic Controllers Union, since the workforce rules were imposed on controllers, retirement and attrition numbers have increased. Fatigue and operational errors are at an all-time high and morale is very low.

Already in fiscal year 2008 the FAA has lost 954 experienced controllers, almost 5 controllers per day. According to NATCA, since the beginning of fiscal year 2007, 40,000 years of experience has been lost. This situation has some serious efficiency and safety consequences. Around the country, because of staffing shortages and misalignment between experienced personnel and new hires, more experienced controllers are being asked to work longer hours to handle increasingly congested runways and airspace.

Fatigue is becoming an issue that must be addressed and is creating risk to the operational efficiency and safety of the air traffic control system. A good example is the rate of runway incursions. So far this year we have had 16 type A and B incursions. I believe controller fatigue and scheduling are factors in these incursions and they must be addressed.

Though the FAA prides itself in reducing the time it takes to train a controller, there are many facilities where controllers are not receiving their training in a timely manner. I am concerned that unless this problem is dealt with, there will be an increase in the attrition rate of new hires, making a bad situation even worse. The numbers the FAA uses in the Controller Workforce Plans, the CWP, can be deceiving. While the CWP is accurate that the number of controllers has increased since 2004, the FAA does not differentiate between a certified controller and one still in training. This is a critical piece of information that must be reported to all stakeholders. According to the Department of Transportation Inspector General, the number of controllers in training has increased by 62 percent while the number of certified controllers has decreased by 11 percent.

The FAA's controller workforce is dramatically changing and it needs to acknowledge that and work with stakeholders and Congress to keep up with our air transportation system and make sure that it is running safely and efficiently.

With that, I welcome our witnesses here today and before I recognize Mr. Petri for his opening statement or comments, I would ask unanimous consent to allow 2 weeks for all Members to revise and extend their remarks and to permit the submission of additional statements and materials by Members and witnesses. Without objection, so ordered.

And at this time the Chair recognizes Mr. Petri.

Mr. PETRI. Thank you very much, Mr. Chairman. This is an important and timely hearing to discuss air traffic control facility staffing. The controller retirement bubble we have been discussing for years is beginning to burst.

As we are all aware, following the PATCO strike in '81 a large number of controllers were fired and an equally large number were hired. In the early '80s the FAA hired over 12,000 controllers. During that time 80 percent of the Nation's air traffic controllers were developmental controllers in training. Today 25 percent of the Nation's controllers are developmental controllers. Now, not surprisingly, over 25 years later, the controllers hired in the '80s are approaching or reaching retirement age. As they retire others begin their careers.

Over the last several years FAA has pursued an aggressive recruitment and hiring plan. In 2007, the FAA hired some 1,800 con-

trollers and it plans to hire nearly 1,900 more in 2008. Ultimately the FAA plans to have 16,371 controllers on board by 2017. As this wave of retirements was anticipated, we would have been better off if this hiring had begun sooner to allow more transition time. While the FAA has had little trouble recruiting new controllers, the large number of developmental controllers is creating new challenges.

The FAA must ensure that air traffic control facilities are properly staffed and that controllers receive all required training. Of particular concern to me is how the FAA will ensure the appropriate ratio of certified controllers to developmental controllers at each air traffic control facility. I realize that this involves a balancing act. However, the FAA needs to remain vigilant and keep it a priority.

We also must be mindful that the needs of the air traffic control system are changing. With the transition to NextGen, the role of controllers is going to change. During the transition to NextGen the FAA must work closely with controllers to develop the best training and operational processes for the new air traffic management system. Likewise, it will be vital that we update our facilities and ensure that they are staffed appropriately.

Finally, I would like to reiterate that everyone would be well served if the controllers union and FAA management can settle their outstanding labor issues. I understand that FAA sent NATCA a new settlement offer in the last day or so, and as I have done many times before, I would like to again encourage the parties to seriously pursue settlement discussions.

Mr. Chairman, thank you for holding this important hearing. I look forward to our witnesses, and I yield back the balance of my time, and I think Mr. Poe has a statement if you take them.

Mr. COSTELLO. The Chair thanks the Ranking Member and would ask because of the delay in beginning the hearing if Members would consider submitting their opening statements for the record so that we could proceed to our witnesses. Is there any objection to that? If not, then the Chair appreciates your consideration and will now recognize the first panel of two today that we will be hearing from. Our first panel, I will introduce all of our witnesses: Mr. Hank Krakowski, who is the Chief Operating Officer of the Air Traffic Control Organization at the FAA; the Honorable Calvin Scovel, who is the Inspector General of the U.S. Department of Transportation; Dr. Gerald Dillingham is the Director of the Physical Infrastructure Issues at the U.S. Government Accountability Office; Mr. Patrick Forrey, who is the President of the National Air Traffic Controllers Association; and Mr. David Conley, who is the Vice President of the FAA Managers Association.

Gentlemen, we welcome you before the Subcommittee. Again we apologize for the late start of the Subcommittee hearing. But we are anxious to hear your testimony and we would ask you to summarize your testimony in 5 minutes which will allow Members the opportunity to ask questions. We of course will receive your testimony and ask questions of the first panel before we move on to the second panel.

With that, Mr. Krakowski you are recognized under the 5-minute rule.

TESTIMONY OF HANK KRAKOWSKI, CHIEF OPERATING OFFICER, AIR TRAFFIC ORGANIZATION, FEDERAL AVIATION ADMINISTRATION; THE HON. CALVIN L. SCOVEL, III, INSPECTOR GENERAL, U.S. DEPARTMENT OF TRANSPORTATION; DR. GERALD DILLINGHAM, DIRECTOR, PHYSICAL INFRASTRUCTURE ISSUES, U.S. GOVERNMENT ACCOUNTABILITY OFFICE; PATRICK FORREY, PRESIDENT, AIR TRAFFIC CONTROLLERS ASSOCIATION; AND DAVID CONLEY, VICE PRESIDENT, FAA MANAGERS ASSOCIATION, INC.

Mr. KRAKOWSKI. Okay and I intend to be brief.

Chairman Costello, Congressman Petri, and Members of the Subcommittee, it is an honor to be before you today to talk about air traffic controller staffing. I joined the FAA after a long career in safety and operations, and I came to FAA to focus on safety, efficiency, and to work to improve the labor relations atmosphere. The American people deserve nothing less.

Aviation has experienced a decade of turbulence: the events of 9/11, airline failures and bankruptcies, with unspeakable trauma on the private sector employees that work for those companies. Delays in soaring fuel prices are before us now. Yet over the last decade the safety of aviation in the United States continues to improve. We are now the best in the world. The employees of the FAA produced this record, the controllers, technicians, managers, scientists, inspectors, and staff all working together as a team.

Serious runway incursions have been brought down by focused efforts in the past year. Significant operational errors are level but still above our targets by about one per day, and we do need to work harder on that. Yet the flying public does remain safe because a combination of training, teamwork and technology continues to provide the safety net when human error does occur.

We will shortly be rolling out our first efforts to improve the safety culture within the ATO with NATCA in the Midwest, with our Air Traffic Safety Action Program. Both NATCA President Forrey and I are committed to make this work, and I thank him for his unwavering leadership in this critical safety initiative.

Next week, FAA will be convening its first ever Fatigue Safety Summit, bringing together worldwide leaders in the science of understanding fatigue and human factors. Airlines, manufacturers, and the FAA will be represented as well with strong support from the National Transportation Safety Board. New techniques of science and scheduling technology will be presented and evaluated, and our hope is that there will be actionable strategies which can be understood and implemented for the 24 by 7 nature of the ATO workforce.

It has taken a few years to smooth out our hiring and training efforts, but today we are solidly on target with our hiring plan. Better hiring processes and training are yielding greater stability to the plan in the efforts we have underway. This year we plan to hire 2,000 controllers here in 2008 and right now we have 7,500 candidates for those opportunities. We will carefully watch the mix of new controllers with the established controllers as they enter the workforce. We are deploying 24 high fidelity tower simulators, which have already demonstrated a 25 to 50 percent reduction in training time.

In response to the Inspector General, we are also establishing a new Vice President of Technical Training to ensure that the national focus of our training efforts is understood and well managed. We have used retention incentives to retain retirement-eligible controllers, and we have hired seasonal controllers to work as instructors through our contract training program.

Finally, the FAA is working diligently to craft solutions to our ongoing labor dispute. I will hold my management team accountable for being part of that solution as we operate the system with fiscal responsibility while setting our employees up for success. Leadership from labor will also be required to achieve that aspiration. We have an opportunity to do this, but it will demand focus and leadership from both sides.

There is something unique about aviation professionals. While labor and management have inherent conflicts, professionalism always prevails. When people are working traffic, flying airplanes, or doing their jobs, their work continues to be stellar. As they continue to serve the traveling public with distinction this translates into a reliable and a safe system. We have many issues to address from refreshing the workforce to the transition to NextGen modernization. These efforts are too important to be attenuated by a continuing atmosphere of contentious labor relations.

Mr. Chairman, Mr. Petri, and Members of the Committee, the dedicated employees of the Air Traffic Organization are proud to be providing a critical service to the American people. To enhance this mission we need to continue to find ways to work better together to keep our skies as safe as possible, and I very much look forward to working with the Committee as we proceed. Thank you.

Mr. COSTELLO. The Chair thanks you Mr. Krakowski and now recognizes the Inspector General Mr. Scovel.

Mr. SCOVEL. Chairman Costello, Ranking Member Petri, and Members of the Subcommittee, we appreciate the opportunity to testify today regarding key issues facing FAA's controller workforce. FAA plans to hire and train nearly 17,000 new controllers to offset retirements over the next decade. Ensuring enough certified controllers at FAA's more than 300 air traffic control facilities will remain a significant watch item for this Subcommittee.

Since 2005, 3,300 controllers have left the workforce, 23 percent higher than FAA had projected. However, since 2005 FAA has hired 3,450 new controllers, 25 percent more than projected. FAA now faces a fundamental transformation in the composition of its controller workforce. New controllers represent 25 percent of the workforce, up from 15 percent in 2004.

Addressing controller attrition will be FAA's major challenge for at least the next 10 years, and the agency must focus its efforts on three key areas: First, FAA must improve controller facility training. Last week we issued our report on FAA's Controller Facility Training Program, our second review of this program since 2004. FAA is taking actions at the national level to get this important program on track. For example, FAA is increasing the use of simulators and contractor training support. However, the program continues to be extremely decentralized and the efficiency and quality of the training vary from location to location.

We have identified several actions to improve this important program. First, FAA must establish realistic standards for the number of developmental controllers that facilities can accommodate. FAA plans to increase the number of developmental controllers to over 30 percent of the total workforce, which would be the highest percentage of developmentals in 15 years. FAA estimates that the total controller workforce at each facility can include up to 35 percent developmentals. As of April 2008, 67 facilities nationwide, 21 percent of all FAA air traffic control facilities, already exceeded that level which could significantly increase training times because the number of developmental controllers would surpass training capacity. Given the various sizes and complexities of FAA's 300 facilities, FAA needs to identify by facility how many developmentals each facility can realistically accommodate. Next FAA must clarify responsibility for oversight and direction of the facility training program at the national level. Facility training is shared between four different ATO Vice Presidents. As a result of these overlapping responsibilities, we found significant confusion at the facility level over exactly who is in charge. In its statement today, FAA announced that it has created a new senior position responsible for training, a much-needed step.

Second, FAA must address controller human factors. Addressing controller human factors such as fatigue and situational awareness is important for maintaining safe operations of the NAS. In its investigation of Comair Flight 5191, NTSB expressed concern that the lone controller on duty at the time of the accident had only slept about 2 hours before his shift. Training new controllers on human factor issues as well as technical aspects of air traffic control, such as airspace, phraseology, and procedures, will become increasingly important as FAA begins to address the large influx of new controllers.

In April 2003, we reported that almost 90 percent of controller operational errors were due to human factor issues rather than procedural or equipment deficiencies. In May 2007, we again reported that FAA needed to focus on controller human factors and training in order to reduce the risk of runway incursions caused by controllers. At the time FAA had done little in this area. Since last year, however, FAA has made progress in addressing human factor training initiatives.

Third, FAA must ensure consistency and accuracy in reporting and addressing controller operational errors. As FAA transitions to a new and relatively inexperienced controller workforce, it must investigate, mitigate and accurately report operational errors. In 2004, we reported that FAA relied on an inaccurate self-reporting system to track operational errors. Only 20 of FAA's more than 300 air traffic control facilities had an automated system to identify operational errors. In response, FAA is developing an automated system, Traffic Analysis and Review Program, to identify when operational errors occur at TRACON facilities. FAA started deploying this system in fiscal year 2008 with an estimated completion date at all locations by the end of calendar year 2009. FAA must ensure that these programs are used to enhance safety and must protect a new voluntary disclosure program, the Air Traffic Safety Action Program, from potential misuse.

Our work on a similar program which grants immunity to airline employees who report safety problems found that safety information was either inaccessible or not used to resolve the cause of the reported safety issue. FAA must ensure that similar issues do not occur with ATSAP.

That concludes my statement, Mr. Chairman. I would be happy to address your questions and those of the Subcommittee.

Mr. COSTELLO. Thank you, Mr. Scovel. And the Chair now recognizes Dr. Dillingham.

Mr. DILLINGHAM. Thank you, Chairman Costello, Mr. Petri, Members of the Subcommittee. My testimony this afternoon focuses on three air traffic controller workforce issues: First, the status of workforce attrition and hiring; second, facility staffing and its implications for the operation and safety of the Nation's air traffic control system; and, third, controller training for current ATC operations and NextGen.

With regard to attrition and hiring our analysis shows that experienced controllers are retiring faster than expected. For example, the proportion of controllers that are retiring within 2 years of becoming eligible has increased about from 33 percent in 2005 to 42 percent in 2007. Although we have not seen a comprehensive analysis of the reasons for the increased attrition, we do know that only a very small minority of it is because of mandatory retirement age. For example, in 2007 of the more than 1,600 attritions, only 17 were mandatory retirements. This pattern continues into early 2008.

To address this attrition and increase its pool of candidates, FAA has undertaken several initiatives. As a result, FAA met retiring goals in 2006, 2007, and is on target for meeting its 2008 goals.

With regard to my second issue, facility staffing, there are two key parts, the number of staff at a facility and the ratio of developmental controllers to fully certified controllers. In terms of staff numbers, we found that in May of 2008, 145 of 314 facilities were overstaffed and 12 were understaffed when compared with FAA staffing standards. According to FAA, it is deliberately overstaffing facilities with new hires so they will be trained and ready to replace retiring controllers over the next few years. Although we have some concerns about overstaffing as a concept, we think it makes sense. However, we are more concerned about the potential implications of understaffing for the safety and efficiency of the ATC system.

The major implication of understaffing is greater use of overtime, which can lead to fatigue. We have previously reported that controllers at some of the Nation's busiest airports are working 6 days a week because of staffing shortages. To its credit FAA is addressing this issue by establishing a group of stakeholders to work on solutions for this problem and offering incentives of up to $25,000 for controllers to relocate to understaffed facilities.

NTSB has also recommended that FAA take steps to mitigate air traffic controller fatigue, including working with NATCA to revise controller work scheduling policies. However, we are concerned because NATCA and FAA disagree on the level of cooperation that is taking place between them on these issues.

Regarding the ratio of developmental controllers to CPCs, historically trainees have accounted for less than 35 percent of the controller workforce. But because of the increase in retirements and hiring, these proportions are in flux. An imbalance between developmental and CPCs within facilities could have some potentially serious implications, including increased overtime, reduced system efficiency, and extended training time for developmental controllers. FAA is working to develop target ranges for facilities in light of these current circumstances. We think this is a positive development.

Training, my last issue, according to FAA, it has reduced the time it takes to train controllers by about a year. Controller training took from 3 to 4 years in 2005. It took 2 to 3 years in 2007. We caution that it may not be prudent for FAA to base estimates of its future capacity for developing CPCs on these early results, which may not be sustainable over time.

Mr. Chairman and Members of the Subcommittee, we have identified two additional training concerns that call for FAA's immediate attention. First, the attrition rate for developmental controllers has increased from 6 percent in 2006 to 9 percent in 2007 and is expected to rise to 14 percent in 2008. The IG's work suggested that even these figures may be low. This increase has serious budgetary implications since each time a trainee is lost, the government's investment to date is also lost.

A second training concern is related to NextGen. NextGen is a new paradigm that requires a new approach to training, including a focus on human factors and automation. Our work has shown that if human factors are not considered early in the development of systems, there will be delays in implementation and substantial cost increases. We are concerned that FAA has not obtained the expertise needed to conduct human factors research necessary for NextGen training, has not prioritized the needed research, and has not identified a funding source for it.

We also emphasize the importance of including controllers and other key stakeholders in developmental activities associated with NextGen training since they will be participants in NextGen.

Thank you, Mr. Chairman.

Mr. COSTELLO. The Chair thanks you, Dr. Dillingham, and now recognizes Mr. Forrey.

Mr. FORREY. Chairman Costello, Ranking Member Petri, and distinguished Members of the Subcommittee, my written testimony should be before you. In the interest of time I will try to summarize and keep my remarks short and answer any questions you may have.

Let me begin by thanking you. Mr. Chairman, for your understanding and attention and commitment to the air traffic controller staffing levels and for holding this important hearing. Under your leadership the House passed a comprehensive bill to address the many issues facing the National Airspace System, including controller retention and staffing levels, which is the subject of today's hearing. The men and women of the National Air Traffic Controllers Association hope that the Senate will follow suit and reconsider the FAA Reauthorization and Modernization Act that unfor-

tunately fell victim to jurisdictional and procedural bickering last month.

With the current authorization set to expire June 30 and with unmatched controller attrition rates approaching five per day, it has never been more imperative to address this issue than it is today. The National Airspace System is currently is experiencing an unprecedented and unsustainable loss of air traffic controllers, and those that have followed this issue know that NATCA attributes the current retirement wave to.

Before I get into that portion of my testimony, I want to tell the Subcommittee that the men and women I represent are among the most dedicated and professional employees found in government. Every day I am reminded that their first commitment has always been and continues to be the safe operation of our National Airspace System. The safety of the flying public will always be the priority of the union and of all the safety-relocated professionals that work for the FAA. I worry that sometimes this fact may get lost on the Members of the Subcommittee because of the focus of our labor dispute with the agency.

Let me be clear. This country is facing an air traffic control staffing crisis. The crisis is real, the crisis is serious, and the crisis is now. Those losses are leading to insufficient staffing levels across the country, requiring more use of overtime and leading to increased fatigue. All of this adds up to a burned out workforce and an unacceptable compromise to safety.

The FAA touts that they are hiring enough trainees to make up for the retiring of veterans and they are certifying faster than before. However, between fiscal 2005 and the end of fiscal 2007, of the 3,450 trainees still employed by the FAA because many have left, only 538 have achieved full certification. That is fewer than 16 percent. Of the 525 hired this year and still employed in the first 6 months of fiscal 2008, only 4 have fully certified.

Before the imposition of the work rules which the FAA continues to mislabel as a contract, the agency told Congress and the Subcommittee that there would not be a mass exodus of air traffic controllers. Unfortunately, the FAA was wrong. In June of 2006, the FAA predicted that 950 controllers would leave the workforce in fiscal 2007. The actual attrition numbers of controllers leaving in 2007 was 1,622, 70 percent higher than the agency's prediction. And halfway through fiscal 2008, we are down another 960 controllers and trainees, on a pace to break last year's staggering losses.

The FAA failed to plan for the retirement wave by hiring 13 controllers in 2004. They exacerbated that wave by prematurely cutting off contract negotiations in 2006 and causing an attrition tsunami that has seen nearly 2,700 controllers leave since they implemented that system. It is not by coincidence that delays, near misses, and runway incursions have all increased as the number of controllers has diminished.

In facilities across the country, most notably in our busiest towers, centers and TRACONs, controllers are spending more time on position and work more airplanes with fewer certified controllers since 1992, resulting in a dangerously fatigued workforce.

Aviation delays have increased since the work rules were imposed in 2006, and in our estimate this is no coincidence. Fiscal

year 2007 saw the number of delayed aircraft increase by more than 20,000 over the previous year, far outpacing the .2 percent increase in operations. Last month the Joint Economic Committee released a report that found that flight delays cost the U.S. economy an astounding $41 billion last year, while travelers lost a jaw-dropping 21 million hours in wasted time. Similarly, a recent association study by the Travel Industry Association determined that passengers concerned with delays have led them to bypass air travel altogether, costing the economy on additional $26 billion.

The FAA's response has been to unilaterally implement other misguided policies that work only to ensure that adequate staffing level targets continue to be missed. The FAA's insistence on moving on with controversial consolidations, decombinations, and other realignments of facilities and service requires more, not less controllers, cost more per operation and results in more operation errors when compared to other split facilities.

The agency also continues to sell NextGen as a cure-all for all aviation woes, from congestion to safety to efficient fuel use and even controller staffing. But I remind the Members of the Subcommittee that NextGen is at least 2 decades away. Before we hang our hat on a still conceptual program to take aviation to the next generation, let us fix the problems of the NowGen air traffic control system. And rather than taking a blind leap of faith, NATCA makes the following recommendations to help build a solid foundation that will safely bridge the gap between NowGen and NextGen.

First, the FAA and NATCA must return to the bargaining table to complete contract negotiations. Doing so will help to retain the veteran controllers that are leaving the system at unsustainable record levels. These veteran controllers are responsible for on-the-job training that turns a trainee into a certified controller and their retention is essential to maintaining safe operations of the system.

Second, the FAA must work with NATCA and the National Academy of Sciences or another independent third party to not only reestablish scientifically based staffing ranges for each facility, but also to establish concrete limits on training ratios at the facility level. These ratios, along with the current trainee to certified professional controller ratio breakdown of the workforce by a facility, must be published in the FAA's annual workforce plan.

Third, standardized training must continue to be the foundation for the development of skilled and capable air traffic controllers. The FAA must stop issuing blanket waivers on training to chronically understaffed facilities.

And finally, in order to avoid such a crisis in the future, the FAA must work collaterally and cooperatively with NATCA on all issues affecting air traffic controllers or their operations.

Thank you, Mr. Chairman, and I am ready to answer questions when you want them.

Mr. COSTELLO. The Chair thanks you, Mr. Forrey, and now recognizes Mr. Conley.

Mr. CONLEY. Chairman Costello, Ranking Member Petri, and Members of the Subcommittee, I thank you for the opportunity to testify before you today. I am the Vice President of the FAA Man-

agers Association. I am here on annual leave, and my comments do not represent the FAA.

The FAA Managers Association's mission is to promote excellence in public service and, in particular, represent the managers who ensure aviation safety and efficiency. Among those we represent are the front line managers who train and oversee the Nation's air traffic controllers. It is critical that you know that to become a front line manager, each of our air traffic front line managers must have first served successfully as an air traffic controller.

I would like to focus my comments on three areas. First, I would like to address new controllers; second, the need to increase the minimum number of supervisors within the FAA; and, third, our association's views on how the system is functioning.

It is undeniable that there is a need for additional controllers. However, it must be noted that with the hiring of new controllers, management and oversight is critical. Proper supervision is essential to a safe aviation system, and we believe that the best person to provide that oversight is a trained and dedicated front line manager.

I have been hearing from managers across the United States that the new recruits are eager and enthusiastic. They are up for the challenge of an accelerated and rigorous training program. The main difficulty we foresee is that the abundance of training will cause a backlog of simulation time as they compete with other forms of recurrent or remedial training. Although there are naturally some exceptions, we have every reason to be optimistic about the new batch of air traffic controller recruits. Lack of front line managers' oversight during training is a very big problem. Once training has been completed, oversight of these newly certified controllers is essential.

I was hired by the FAA in 1983, assigned to Little Rock Tower and TRACON and completed training at the tower at the age of 19. So I can identify with the newer controllers. The difference between then and now is that in 1981 through 1983 we had approximately 2,600 front line managers and fully staffed training departments. Today these numbers have been diminished by hundreds. Unfortunately, we have walked into the situation with eyes wide open.

It has come to our attention that there are some currently in the workforce disparaging our new hires. We believe these stories to be an unfortunate mischaracterization of our new recruits. The enthusiasm of today's new recruits has enhanced the overall morale at a number of facilities. We appreciate their dedication and welcome them to the team. These new recruits have brought passion and a youthful energy back into a workforce that has been plagued by contractual disagreements and low morale. Our organization is very concerned that a lack of sufficient oversight and mentoring could lead them towards a path of failure.

Essentially it is about providing support for the controllers. This is true whether a facility is fully staffed or severely understaffed. The oversight requirement is still the same, oversight is essential.

As an association, increasing the number of air traffic front line managers has been and still remains our number one priority in pending FAA reauthorization legislation. The FAA's statistics show

that there is clearly a link in the air traffic environment between the levels of supervision and safety. According to our research, the minimum number of front line managers needed to effectively supervise our air traffic control system is 2,060. We arrived at this number by conducting a facility-by-facility audit based on our collective experience of what the appropriate level should be.

The FAA Managers Association has held firmly that the number of front line managers should not be based on a ratio to the number of controllers. FAA has long used ratios, but ratios clearly do not make sense. The job of a front line manager is not characterized by how many people they supervise. We believe that a rigidly fixed ratio system fails to recognize the operational significance of the supervisors' duties. These men and women are not office managers. They are operational managers leading in the day-to-day delivery of safety and efficiency services to our customers.

In a snapshot, we are currently understaffed. We see upcoming retirements in our ranks. Our employment pool of qualified applicants is diminishing with their own retirements and those we are charging with supervising our new. Managing oversight is more critical now than ever before.

Finally, the air traffic control system is the safest and most efficient system in the world. Our goal is not only to keep it that way, but also to make it better. We have some stress points that present some management challenges, but we believe that together we can meet the challenges of both today and tomorrow.

I would like to again thank this Committee for inviting me to testify, and I am available for your questions.

Mr. COSTELLO. The Chair thanks you, Mr. Conley, and I will ask a few questions and ask Mr. Petri and then get to the other Members. I know that we have several Members here who have questions as well.

Mr. Krakowski, you are the guy here speaking for the FAA today, and realizing that you have been in your position, I guess, since October or November of last year and weren't around to make these projections as to the number of controllers that would retire in 2006, 2007, and 2007, one, you heard in my opening statement, and you and I have talked about my concerns over the number of controllers that are retiring, the experienced controllers who are leaving at a much higher rate than the FAA anticipated or projected, the difference between the number of certified controllers versus the noncertified or those new hires that are in training, and of course the runway incursions that have taken place, 16 in I think the first quarter or first half of this year. I think there is a correlation between everything that is going on here.

Do you share the same concern, not only the fact that there are more experienced controllers leaving, that there are fewer certified controllers on the job than the FAA anticipated, the fact that there are controllers who are working overtime? We heard the case in Washington where the controller was worked 8 hours, off 8 hours, had to come back 8 hours later and had about 2 hours sleep. While the unfortunate accident was not controller error, it was discovered that he only had 2 hours sleep in a 24-hour period.

So those are genuine legitimate concerns that I think everyone has, and I just wonder are they concerns that you share as well.

Mr. KRAKOWSKI. Mr. Chairman, actually, for clarity let me answer the runway incursion piece first because——

Mr. COSTELLO. Can you move the microphone a little closer. Thank you.

Mr. KRAKOWSKI. Yes, sir. Of those 16 runway incursions, only six were operational errors by controllers. None that we know of had any fatigue aspects to them. The other eight were pilot deviations into a vehicle or pedestrian deviations on the surface of the airport. And in a couple of those cases, the controllers actually were really on the ball to prevent something from getting worse in those situations.

Mr. COSTELLO. You probably saw the article in USA Today concerning pilot fatigue as well.

Mr. KRAKOWSKI. Yes. Let's start there because I have been an airplane pilot for nearly 35 years. And since the early 1920s, in this business, fatigue has always been present, not just for controllers, but pilots, flight attendants, mechanics. I think there is something unique happening next week. Next week, the FAA will start their first ever global symposium on fatigue for all aviation workers, all those categories I just talked to.

When I was at my previous employer, we actually talked to people, who are leading scientific technologies, who have developed techniques and software to allow companies to actually predict fatigue, look at what the cycle is, look at the recovery time after long duty days. This will all be discussed at this fatigue seminar.

NTSB, it is one of their big recommendations, they are going to be there in force, and this is the first time that we have had the entire aviation community really looking at how do we handle this from a data-driven, scientific point of view, which I think is the right approach.

Mr. COSTELLO. I am aware of that and I compliment the FAA, and I think that has been urged by both the IG and the GAO as well. So it is a step in the right direction and hopefully we will learn some things as a result.

The number of controllers that are retiring, five per day, the most experienced controllers, that obviously is more than the agency anticipated. There probably are several reasons why, but in your opinion why is this happening? Why are so many experienced—and you heard Dr. Dillingham, his testimony, that only a handful of these controllers retired because of mandatory retirement. They chose to retire, and why is that?

Mr. KRAKOWSKI. First of all, I would like to update you on the numbers that we see today because I think that is instructive. We have missed our projections over the past couple of years by around 125 per year, 125 controllers more retired than we were planning. This year, we are at 10 over right now. We are planning at this point in time for a run rate of about 17 over. Eight hundred and nine retirees is what we were planning. The reasons for it, Mr. Chairman, some are clearly personal decisions, but I won't deny that the labor atmosphere may have something to do with it.

Mr. COSTELLO. You would agree that—I mean everyone that has testified before this Subcommittee in the last year or so has acknowledged there is a problem with morale within the controller

workforce and the relationship between the FAA and the controllers.

Mr. KRAKOWSKI. That is one of the reasons I took the job, sir, is that I came from a background of a lot of experience with a lot of different labor unions in good times and bad times. We are trying to move it along a little bit. There is a little bit of thawing. The ATSAP program I think is a demonstration of that. It will be our first key test whether this workforce can work together between management and labor to handle those issues.

Mr. COSTELLO. Since I have limited time and we have other Members that want to ask questions, I was out at the academy and I think it was in November, and it was interesting to me. It struck me that in talking to and looking at new recruits and trainees, that they were enrolled in the academy and taking training, the lack of experienced people coming into the profession as opposed to a time when many controllers who were entering the workforce had military experience or past experience. And is there a reason why that is happening, why we do not have the number of experienced controllers coming from the military side, retiring or leaving the military and coming into the FAA as a controller?

Mr. KRAKOWSKI. The bulk of our hires last year did come either out of the military or what we call our CTI schools, which I know you are familiar with.

Mr. COSTELLO. When you say coming out of the military, I spoke with some of your recruits and trainees that came out of the military but they were not controllers. They were in other positions within the military. I am speaking past experienced controllers in the military. Are you saying that most of your trainees had prior experience as a controller in the military?

Mr. KRAKOWSKI. No. No. These are military people that are clearly good——

Mr. COSTELLO. Big difference.

Mr. KRAKOWSKI. I don't deny that. But now we are actually running out of that pool of candidates as we do hiring for 2008. Most of the new hires, the 7,500 candidates I spoke to, will be people coming from the general population.

Mr. COSTELLO. I have other questions for other members of the panel, but I have taken more time than I should have and I will now recognize Mr. Petri for his questions.

Mr. PETRI. Thank you.

First, I would like to ask Mr. Krakowski kind of a parochial question in a sense. In February, the Milwaukee air traffic control took over control from the Chicago Center of the Ripon airspace in central Wisconsin. Could you give us an update on how that transition has been going? There has been concern expressed by a number of people who have had 4 months of experience. And also could you discuss what preparations are needed or being planned for the EAA AirVenture this summer? It was sort of an annual but unique experience for the area and for the system? Concerns have been expressed to me about whether the controllers are ready or adequately trained for challenges they may face due to the increased traffic from this particular event.

Mr. KRAKOWSKI. Thank you, Mr. Petri. The Milwaukee airspace transition went as planned, quite smoothly in our opinion. It ap-

pears to be working well from everything that I have been able to determine. There have been some frequency problems, radio frequency problems, which actually were in existence prior to the transition, which we are working on. But the general read is it is going well. I am also getting good information relative to the Oshkosh event, which I always go to, being an aircraft owner myself, and I am being assured that the controllers that will be working on it will be adequately trained and ready for that event. I think one of the aspects of Oshkosh this year, which will be interesting, is with the increased cost fuel and insurance, we are receiving a dramatic, and I mean a dramatic, reduction in general aviation flying right now. So I am not quite sure what that means for Oshkosh.

Mr. PETRI. Thank you. And also I referred in my opening statement to this, that there have been on again, off again negotiations to attempt to resolve the impasse that exists, and I wonder if you could tell me whether you in fact do currently have a new or revised settlement offer on the table and what it entails.

Mr. KRAKOWSKI. Mr. Petri, I wouldn't characterize them as negotiations. There have been some settlement offers and concepts moving back and forth over the past few months. We refreshed one here this week which was presented to NATCA yesterday.

Mr. PETRI. Mr. Forrey, if you have any comments.

Mr. FORREY. Sure. I think first of all Mr. Krakowski is well underinformed about what is going on in Milwaukee. Let me tell you what is really going on in Milwaukee. They have terrible automation problems with the creation of the Ripon airspace. Their hand-offs are going to wrong sectors, going to wrong airports. By the way, all this documentation is documented at the facility level. They do have the statistics on this. The Ripon sector, those sectors, that airspace was designed to help the O'Hare modernization process. It is two sectors, a high and a low. They do not have enough staffing to decombine the position. So, therefore, they are now having to work that as one sector, working twice the capacity of traffic trying to go through there, and it is not working well at all.

They have—this month as far as overtime, they have scheduled 129 hours of 8-hour shifts, the controllers, to work this airspace. Sixty times they have used 10-hour days. So controllers have had to work sixty times 10-hour-long days. The month of July they have already scheduled 134 shifts of overtime. Several controllers there out of the last 30 weeks have worked 26 weeks 6-day weeks. Trainees are being assigned overtime for flight data. Flight data is processing flight plan information and stuff like that for the controllers. They currently have 37 certified professional controllers there. One is medical disqualified and will retire this year. One has been selected for the supervisor's job, which, by the way, are 100 percent staffed across the country, unlike the controller workforce. They have one mandatory retirement for this year for eligible by the year 2009. They currently have nine trainees. One of them probably will check out this year and certify fully, two possibly at the end of next year.

So if that sounds like a rosy picture to you, I want to drink what you are drinking. That sounds like a serious problem going on in Milwaukee. As far as Oshkosh is concerned, they are going to have

more trouble with that kind of low staffing numbers. They don't have enough people to open up those positions they just gave that airspace to. I don't see that as a big—that is not going rosy, and that is just indicative of what is going on across the country.

Mr. PETRI. Thank you.

Mr. COSTELLO. Mr. Forrey, let me clarify so I understand what you just said before I go on. Repeat that. You said that what percentage of the controllers work 26 weeks, 6-day weeks?

Mr. FORREY. I didn't say a percentage, sir. They told me—I asked if that was indicative of what is going on in the facility for everybody and the reply back was yes. So I would say the majority of controllers have been working 6-day workweeks since January when that airspace went over. I don't have the number, but I certainly can find out for you what the percentage is.

Mr. COSTELLO. Thank you. The Chair now recognizes the gentlewoman from California, Ms. Richardson.

Ms. RICHARDSON. Thank you, Mr. Chairman. First, let me start off with a comment. According to our notes here, the FAA, while hiring significant numbers, as you stated, sir, of new controllers, in terms of training, though that has really only taken place for the last 2 years significantly, most of these employees are still classified as developmental, and the data tells us that these are at alarming numbers. When I go to my next set of notes more specific to—we talked about today that the rate you feel is appropriate is 35. However, there are several locations where it is well over that number. And according to our notes here, the DOT IG recommends that the FAA convene a working group to identify on a case-by-case basis the appropriate level of developmental controllers that should be assigned to each facility. Has that happened?

Mr. KRAKOWSKI. Yes. The working group has been established, and they have had a couple of meetings already. Moreover, one of the reasons I am establishing a Vice President of Technical Training is to put some real high-level executive focus on just these very types of issues.

Ms. RICHARDSON. Excuse me, sir. I am a young freshman here and I have got 3 minutes and 47 seconds. So I have got to cut to the chase because my Chairman here is going to cut me off. My question is has the group informed and have you developed appropriate levels on a case-by-case basis for each facility? Yes or no?

Mr. KRAKOWSKI. We don't have the end product out there. The working group is working on that.

Ms. RICHARDSON. Okay. Thank you. So when can we expect that to be done?

Mr. KRAKOWSKI. I will give you an update and send it to your office.

Ms. RICHARDSON. To the whole Committee because I am sure they are all concerned.

Mr. KRAKOWSKI. You bet.

[Information follows:]

Information for the record at page 44, line 967:

The FAA is developing the facility by facility targets and expects to complete the effort by the end of the year.

Ms. RICHARDSON. My next key point that I wanted to go over affects my area personally. Pre-2006 the controller contract pay levels have had no financial incentives to move to a new, more complicated and more demanding facility. Under the pay scales of the new contract, many of the controllers would actually have to take a reduction in pay to move to a new facility. There is a concern that this structural imbalance is creating a shortage of seasoned personnel at high-level demanding facilities.

So my question is how many folks have actually been offered jobs at LAX and have turned them down? Do you know.

Mr. KRAKOWSKI. I will have to get that information for you specifically. I would like to say, however, that the FAA did recognize that issue, and we began offering relocation bonuses to the seasoned controllers. Right now we have had two rounds of those into key facilities like southern California TRACON, O'Hare, Dallas. We have had nearly 100 people accept those moves. We are into round three and four of those. So it looks like we have a tool that is starting to move people into the right locations.

[Information follows:]

Information for the record at page 45, line 989:

Last year, 15 candidates were selected for positions at LAX and there were no declinations.

This year, to date, we have hired 2 new people and selected 26 additional candidates. Of that latter number, 6 declined due to location and 1 was determined not to be qualified, for a total of 7.

Ms. RICHARDSON. How long do you intend upon continuing that program?

Mr. KRAKOWSKI. As the workforce changes and as people retire and the makeup of the facility changes, I think this is going to be an ongoing process to get the right people in the right place. It is the right way to approach it.

Ms. RICHARDSON. Okay. And then my last question is in September of 2004, the FAA determined in writing that safety required management to staff two more swing shifts per day. Why has the agency even with the average of 2.6 overtime shifts per day at LAX failed every day this year to staff the swing shifts at LAX with the required numbers?

Mr. KRAKOWSKI. We staff to traffic and when—that determination was made in 2004 you say?

Ms. RICHARDSON. The FAA determined in 2004, September.

Mr. KRAKOWSKI. I am not sure what assumptions were made relative to that in 2004. What I would like to offer is let me take a look at that, take a look at our current staffing and how we are staffing to traffic and try to make some sense of that for you.

Ms. RICHARDSON. And we expect it in writing back to this Committee because, as I said, it is my understanding that at an average of 2.6 overtime shifts per day, you fail to meet that every single day is what my understanding is.

Mr. KRAKOWSKI. We will get that information for you.

[Information follows:]

Information for the record at page 47, line 1016:

The reference made by Congresswoman Richardson is about staffing the "local assist positions," which assist the "local controller" positions in air traffic control towers. Local controllers "own" the runways and provide arrival and departure instructions. Ground controllers in the tower provide instructions on the taxiways.

Covering these local assist positions is not a mandatory requirement but it is practice to staff these positions when the schedule permits. The local assist positions at LAX are typically covered from 6:30 AM to 10:00 PM most days. It is important to note that not all positions are staffed during every shift at a facility. At LAX and all air traffic control facilities, the FAA staffs to traffic, which gives us the flexibility to match the number of controllers to traffic volume and workload.

Ms. RICHARDSON. Thank you, Mr. Chairman, with a minute to spare.

Mr. COSTELLO. With a minute to spare. We will keep that in mind the next time you go over. The Chair thanks the gentlewoman and now recognizes the gentleman from Texas, Mr. Poe.

Mr. POE. Thank you, Mr. Chairman.

I thank all of you for being here today. There is no doubt that operational errors, that is when controllers allow airplanes to get too close together, and operational deviations, and that is when controllers allow airplanes to enter another controller's airspace without permission, are all on the rise nationally. At the Houston TRACON at George Bush Intercontinental near my district in Houston, errors are up over 2,000 percent from last year, deviations are up over 900 percent, while staffing is down and overtime is up.

As a matter of fact, the FAA added to Houston TRACON's workload when they decided to transfer the Beaumont airspace to Houston back in April without providing extra staffing. For 2 years I have been discussing this with the FAA and have considered other people in the area and we all have said that this was going to occur. The FAA predicted there would be no staffing shortages, but in truth there are staffing shortages at the Houston TRACON.

To me there is a clear nexus between the staffing shortages, overtime usage, operational errors, and deviations. And the FAA allows staffing levels at facilities across the country like Houston TRACON to plummet while even at this hearing saying things are going to be better. It seems to me that the FAA on predictions on staff are like predictions by the weather folks. Weather people are the only ones I know that can consistently be wrong and keep their jobs, and to me it seems like that is what is occurring with the FAA in their predictions.

Mr. POE. As long as I have been on this Committee, the FAA says things are getting better, we have a hearing, we find out things are getting worse.

I want to know when staffing shortages are going to stop and actually staffing will increase. And when is overtime, especially mandatory overtime, going to stop and overtime will be reduced? Can you tell me when that is going to occur?

Mr. KRAKOWSKI. We are staffing up each year for the next 10 years. And, each year, we are adding more controllers. And we actually expect to have more people onboard year after year after year. So we are actually growing the controller workforce. As we do that, we expect the staffing situation to get measurably better.

Now, we acknowledge——

Mr. POE. What does ″measurably better″ mean?

Mr. KRAKOWSKI. Well, so you have less——

Mr. POE. We have air traffic controllers retiring because they are working 6 days a week, they are working mandatory overtime. So when are things going to really get better?

Mr. KRAKOWSKI. When we get the new workforce up and running and trained, Congressman. We are pedaling as fast as we can.

One of the reasons I think we are a bit behind is the technology of training. I am used to flight simulators. From where I come from, that is how we train pilots. We are deploying 24 of those in

the next 2 years, 12 this year and 12 next year. We are already seeing 25 to 50 percent reductions in training times from these high-fidelity devices.

So our ability to hire the workforce is not really an issue. We have 7,500 people competing for 2,000 positions this year. What I am really trying to focus on is how do we train them faster so they can become, full CPCs faster.

Mr. POE. Aren't you concerned about safety by cutting training time down by 1 year?

Mr. KRAKOWSKI. Actually, what we found out in the airline industry is, because of the use of simulators, we were able to reduce the footprint, which, actually, the students liked as well. So they can get out there and do their job faster and they are better trained. These are fantastic devices, and I would like to——

Mr. POE. Would you agree that morale is worse?

Mr. KRAKOWSKI. Morale is a challenge. I will not disagree with—

Mr. POE. Do you agree that morale is worse, or is it better?

Mr. KRAKOWSKI. Well, since I am new here, I am not sure the what the reference point is. But it is——

Mr. POE. You have been there since November. Is it getting better or worse since November? Morale of air traffic controllers, people who work in the system.

Mr. KRAKOWSKI. It doesn't feel to me like it has changed measurably since I have been on the job.

Mr. POE. I want to ask Mr. Forrey some questions.

You have heard the answers. Why is morale—well, first of all, is it get better or getting worse?

Mr. FORREY. I think it is getting worse. And that is why——

Mr. POE. Why?

Mr. FORREY. Well, because people are being treated with very much disrespect. They are working a lot more time on position than they used to in the past.

Mr. POE. Why are you working more time if you are getting more personnel?

Mr. FORREY. Because the personnel we are getting are trainees. They are not certified to work traffic.

Mr. POE. All right. That explains it.

Mr. FORREY. And if you have to train someone, you are thinking for two people. You are thinking for yourself, and you are thinking for the person that is sitting in front of you, in front of the scope.

I would like to address that issue about the simulator training. It is wonderful stuff, but it works for about 25 percent of our workforce, because we are talking about tower simulators. 75 percent of our workforce is in a radar environment. We have had simulators since I am came in the agency 24 years ago.

So to tout this simulator stuff, that it is going to increase training, yeah, it will probably for the towers.

Mr. POE. Excuse me for interrupting, but I am down to a few seconds.

Mr. FORREY. Sure.

Mr. POE. Why are air traffic controllers retiring at a record rate? Give me the first reason.

Mr. FORREY. Because they have no labor contracts.

Mr. POE. All right.

Thank you, Mr. Chairman.

Mr. COSTELLO. I thank the gentleman.

And, you know, I think it is worth noting, to follow up on Mr. Poe's questions—and, again, it is before Mr. Krakowski's time, but the GAO issued a report in 2002 and said that you may be facing a retirement crisis in 2002.

The Chair now recognizes the gentlelady from Hawaii, Ms. Hirono.

Ms. HIRONO. Thank you very much.

I am intrigued by the number of retirements that are not due to requirements to retire. And, Mr. Forrey, you have said that it is because they don't have a contract.

Now, at the same time that FAA is trying to bring in new hires and it takes time to train them, what are you doing to keep the ones that you already have, presumably who are already trained, so that they don't retire when they don't have to?

There are hundreds of them in that category. I would think that you would want to keep your trained people.

What are you doing, Mr. Krakowski? Can you respond to that?

Mr. KRAKOWSKI. Sure. So one of the things that we are doing is we have retention bonuses for our key facilities right now, which create monetary rewards for people who are retirement-eligible not to retire. We have about 50 of those that have been accepted. We just started that program recently.

Clearly, as I spoke to in my opening remarks, we would like to get the labor issues settled down and moving more productively as a team going forward. Pat and I are trying to figure out how we can work together better on some of the projects. And I think because of the history of the labor dispute that has been here for the past couple years, it is going to take a little time to thaw this out, but I can assure you I am going to work as hard as I can toward it.

Ms. HIRONO. Probably the best way to resolve that labor situation is to go back into negotiations. Do you all have any intentions of doing that?

Mr. KRAKOWSKI. Well, as I said, we have forwarded a settlement offer to NATCA this week, and we are awaiting a response when they evaluate it.

Ms. HIRONO. Mr. Forrey, would you like to respond to Mr. Krakowski's statement?

Mr. FORREY. Yes, thank you, ma'am. Apart from the fact that those discussions were confidential, which the agency has a problem keeping things confidential, the proposal that the FAA gave is nothing more than what they did last time or just a little bit extra. We will consider it, and we will take a look at it, and we will respond. But I think a couple things need to be made here.

You know, here is a perfect example of an FAA that wants to work with us. The IG puts in a report and says you should work with NATCA, managers, with first-line supervisors to come up with ratios for training, yada, yada, yada. They concurred. NATCA hasn't been told anything about it. And they already started that work group back on June 1st. So we have never been contacted. You would think you talk to the people that are actually doing the

training and the people that are actually working, that you would want to get their perspective on how to do this.

That is indicative of what the FAA has been doing for the last 2, 3 years. It is their way or the highway. And guess where they are going? The 2,200 controllers that can leave today are going to go for the highway. And I don't care how many new people you bring in, the system is going to grind to a halt. And it is just a matter of time.

Ms. HIRONO. Well, we have already had a number of hearings on the whole labor question. And it keeps coming up. And I am just waiting for some kind of breakthrough here, where the two sides, the management and the workers, can truly work together to come to a meeting of the minds. Because that is not how your so-called contract was arrived at right now. So we are going to continue to have, I think, these kinds of hearings. And it seems as though the fundamental issue here really is the willingness on both sides to sit down at the table.

So right now I am hearing that you have made another offer, and that doesn't seem to do the job. So that is just an expression of frustration on my part, that I am hoping for the time that you are able to sit down and get to what I think is a fundamental reason that these various problems are occurring with all your people retiring by the droves no matter what bonuses you put in there.

Thank you, Mr. Chairman.

Mr. COSTELLO. The Chair thanks you and now recognizes the gentleman from North Carolina, Mr. Hayes.

Mr. HAYES. Thank you, Mr. Chairman.

I am not quite sure how to do this. I have been to this hearing before. Having been here 10 years, it is deja vu all over again.

Mr. Scovel and Dr. Dillingham, I want you all to put on the striped shirts and carry the whistle here. You have guys on both sides of you that are again guilty of verbal overkill. If I could ask you all to declare a truce and get right down to the heart of the matter—and I promised my distinguished Chairman, who is a dear friend, to talk about energy.

Folks, we are going to solve this crisis of air traffic controllers because nobodyis going to be able to afford to fly. You said that, Mr. Krakowski. So hopefully this Congress will address the issue of energy and we can get on down the road.

But after 10 years as a Member, 40 years of flying, we have the same problem. The gentlelady from Hawaii is right on the money. It is about morale. Single best source of controllers, best source of problem-solving is in this group of experienced folks. They are leaving every day. There is a huge morale problem.

FAA refuses, for my 10 years, to address the staffing problem head-on. You talk about decombining. Decombining is an emergency caused by not meeting the staffing problem. You are doing something that you are forced to do because you are not doing it through the front door, you are trying to come through the back door.

I have had a very positive experience, Mr. Chairman, members of the panel, having people from the FAA come to our office, go to the field, and talk directly to members of NATCA who are trying to get the job done.

Now, Pat, you alluded—excuse me, Mr. Forrey; I need to keep the proper title here—to the incredibly—and this is my opinion; I am not speaking from the dictionary—cumbersome mechanism that exists in this contract negotiation. This is supposed to be secret, that is supposed to be secret.

We are trying to help get over the hump, get the job done. I would like to know how we are going to get that done. One, using the basketball analogy, says it is charging. The other one says, no, it is blocking.

Referee Scovel, which is it here?

Mr. SCOVEL. You are absolutely right, Mr. Hayes, it is a significant morale problem. It is a policy decision, of course, for the administration on the one hand, with the Congress's help, to try to get the parties together.

There are 101 different reasons why controllers today are choosing to retire. At the top of many controllers' lists that we have spoken to has been the contract situation. Family considerations, other financial considerations, medical, they all enter into it. But for the most experienced controllers who see their retirement calculations essentially capped, that is a significant factor for them that they have to consider.

Mr. HAYES. Dr. Dillingham, can you help us with this here? If people love what they are doing and they love to go do it, then other considerations sort of take a backseat. What would you suggest since we have been here before?

Mr. DILLINGHAM. Well, Congressman Hayes, I think, as usual, there is probably enough blame to go around on both sides. I think what Mr. Forrey said about the conversation not taking place, in a number of different areas we found that to be true too.

And I guess, from my perspective, everybody here appreciates aviation and knows what aviation is to this country. And I think, you know, we are starting to at least have some more conversation.

My concern is that we don't end up with a forensic kind of approach to this, as opposed to a prospective approach. And that is to say, if we are talking about controller fatigue, if we are talking about operational errors, if we are talking about runway incursions, then I think, you know, the seriousness of the issue is going to, you know, make the parties—we would hope, make the parties come together and address it before we really have a catastrophe that pushes us together.

Mr. HAYES. I am convinced—and this is not necessarily in any order; pick your order—FAA, NATCA, NATCA, FAA, they want to solve the problem. Somehow you guys and ladies have got to declare a truce on whatever it is that is keeping you from talking constructively among yourselves. And once that truce is declared, then attack the problem, whatever they may be. Because we have got to keep these folks. Without controllers, NextGen doesn't matter. Two decades for NextGen? FAA, you have to get some sales classes going here. You have a product that people need and want, but you are telling them you are going to impose it on them.

Same thing with the contract. You are telling them, ″Hey, you are not doing it right.″ Okay, you all get in a room somewhere, secretly or publicly, and figure out how you are going to get this thing done.

Mr. FORREY. I am ready to go back to the table.

I just would point out that we didn't have these problems when we had a contract that was agreed to by the parties. We didn't need retention bonuses. We didn't have to go to retirees and say, ''Come on back to work.'' We didn't have to pay people to go to other facilities because it was built into the system under the career ladder that we had in the contract. All that was stripped and taken away, and that is why they are leaving.

We are willing to talk. I want to go back to the table.

Mr. HAYES. You have good people, you have a heck of a challenge, great opportunity, wonderful system. Let's get her done.

Thank you, Mr. Chairman.

Mr. COSTELLO. The Chair thanks you, Mr. Hayes.

As a side note, let me say, as Mr. Forrey and Mr. Krakowski knows, the Chairman of the Full Committee, Mr. Oberstar, and Mr. Mica and myself, Mr. Petri spent many hours in the room with both the FAA and NATCA. And I will offer my opinion, and my opinion I have shared with you privately and I will say again, is that I thought the controllers agreed to the provisions and the offer that the FAA laid on the table, and then the FAA upped the ante. And, frankly, I think it is over Mr. Krakowski's pay grade. I think it was over Marion Blakey's pay grade. I think it was over the Acting Administrator's pay grade. And I think that the stopping point is the White House and OMB, frankly. And until it comes down from on top that they want to address this problem, we are going to be in a holding pattern.

Mr. HAYES. So let's forgive the past and remember what we got to do in the future.

Mr. COSTELLO. The Chair now recognizes the gentleman from Oregon, Mr. DeFazio.

Mr. DEFAZIO. Thank you, Mr. Chairman.

Okay, let's talk about the future. I would like each member of the panel to say what are the two steps they think that could be taken that would most directly address the problem we are confronted with here, the loss of experienced controllers, controller fatigue, increased numbers of errors because of all this mess. What two steps?

Let's go. Start with you, Mr. Krakowski.

Mr. KRAKOWSKI. Clearly, to make it attractive for controllers who are retirement-eligible not to retire. They are good at their work; they like doing it.

And secondly, I think we have some opportunities to invest in training technologies and whole new approaches to do this much better, much faster.

Mr. DEFAZIO. Mr. Scovel?

Mr. SCOVEL. Good afternoon, Mr. DeFazio.

I would echo Mr. Krakowski's comments on his first point. But I would offer as a second point to get on the ball with regard to facility training.

When we see differential percentages in terms of certified professional controllers versus controllers in training at some facilities ranging into the 30s and 40 percent, even at one facility mentioned in our statement, 67 percent at the Rochester tower, clearly facility training is an urgently needed item, and FAA needs to pay atten-

tion to it. We commend their effort on the work group, but they need to kick that into high gear.

Mr. DEFAZIO. Dr. Dillingham?

Mr. DILLINGHAM. Yes, Mr. DeFazio, I think certainly we should do whatever we can to stop the exodus of experienced controllers.

And also, with regard to the developmental controllers that are here, an increasing percentage of developmental controllers are being lost after they come out of the academy. Somehow that has to be addressed, because that is another leakage that stops from having adequate staffing.

Mr. DEFAZIO. Okay.

Mr. Forrey?

Mr. FORREY. Mr. DeFazio, first of all, we need to stop the attrition of veteran controllers. And that means going back to the table. And that means negotiating an agreed-to and ratified agreement. If we don't have that, we don't have anything.

Then we need to staff the system. And we need to staff the system based on scientific methods that determine what the system needs for staffing by facility. They haven't done that. They are right now staffing the budget.

Mr. DEFAZIO. Okay.

Mr. Conley?

Mr. CONLEY. Congressman, I believe that both sides are in love with the past, the pendulum swings of the past, and it makes it very difficult for both sides to come together.

The association itself has no position on this issue. But, from my personal opinion, we need to move forward, clearly, with the labor disputes and move beyond these and get to the real issues of the safety of the air traffic control system and the services provided to the flying public.

And I would have to echo what these other gentlemen have said, that the training program has to be streamlined to the point that we can restaff our facilities quickly enough to manage the rates of retirement that are coming.

Mr. DEFAZIO. Okay. So we have agreement on attrition, we just have to figure out how to get there. I think the Chairman addressed that.

And what about this developmental controller issue and the training issue? Mr. Forrey, why are we losing the developmental controllers?

Mr. FORREY. I think there are a number of reasons. One, they are not getting training.

Mr. DEFAZIO. So what are they doing when they are not getting training?

Mr. FORREY. Well, they twiddle their thumbs.

Mr. DEFAZIO. So they are basically a lost asset. They are sitting around and——

Mr. FORREY. Absolutely. Plus, too, they are not paid well enough, so they are out getting other jobs.

Mr. DEFAZIO. So as a developmental they are not paid very well. Is the pay lower than it used to be for developmentals?

Mr. FORREY. Yes.

Mr. DEFAZIO. How much?

Mr. FORREY. At least 20, 30 percent.

Mr. DEFAZIO. Thirty percent. Over what period of time, 3 years?

Mr. FORREY. Well, they start at about less than $9 in Oklahoma City, and then they come out to about $31,000 a year or $32,000 a year. And if they are sitting in somewhere, Miami, Oregon——

Mr. DEFAZIO. That takes us back to the contract issue, I believe.

Mr. FORREY. Yes, absolutely, it does.

Mr. FORREY. All right.

Does anybody else have an opinion on the developmental controllers?

Okay. One other issue, I had a briefing, a discussion on the simulators yesterday. Mr. Forrey, you seemed to say that you don't believe they can address much of the problem. But it seems to me that some of the problem with developmental controllers could be addressed.

Mr. FORREY. I think simulator training is a good thing. The problem, when you bring 24 tower simulators, that is going to help 24 towers. Towers make up 25 percent to 30 percent of our controller workforce. The rest of our workforce is under radar control. And they have their own simulators. They have had simulators. That training has not speeded up at all.

So it is great that we can speed up the controllers' ability in the tower to get them certified quicker. We need do that, and we should continue to do that. But it not an end-all, be-all.

Mr. DEFAZIO. Do we need more than 24 simulators then?

Mr. FORREY. Probably. We have a couple hundred towers.

Mr. DEFAZIO. Anybody else have an opinion on how many simulators we might need? Is 24 enough throughout the system? Can people train remotely, efficiently on these? I understand that the military decided people couldn't use them really remotely. They needed to be on station.

Mr. KRAKOWSKI. Actually, we are deploying 12 of the 24 this year, the other 12 next year.

Mr. DEFAZIO. Right. And what percentage of the problem does that take care of, in terms of developmental controllers at towers?

Mr. KRAKOWSKI. Let's say you have a simulator at O'Hare, you can also turn that very simulator into a Milwaukee control tower simulator. So, actually, it serves a lot of different functions other than just the O'Hare facility.

Mr. DEFAZIO. Right. But if O'Hare is—I mean, there is so much down time, you are saying, that all these sites can share them, I mean, and access them efficiently remotely? Because, again, I understand the military had some problems with that, sort of, kind of, spoke system, that they went—they said, ″No, gee, actually, we want to put one at each of these facilities.″

Mr. KRAKOWSKI. Yeah, I am not familiar with the military issue, but I will look into that. I would like to understand that.

Mr. DEFAZIO. You might check into that. That is my understanding anyway. I am not an expert on that.

Mr. DILLINGHAM. Mr. DeFazio, there is another aspect of losing the developmental controllers. We are talking about a candidate who has completed the academy and is now at their first duty station and, for one reason or another, they drop out. It would seem to me that, depending on why they drop out, some of this screening

can take place at the academy so that, if we are going to lose them, let's lose them sooner rather than later.

I think there used to be a test upon graduation. If you didn't pass the test, you didn't go on further. I am not sure that test is still in place in terms of once you complete the academy.

Mr. DEFAZIO. Okay. One last quick question, Mr. Chairman.

Are we doing some comprehensive attempts at exit surveys for all of these dropouts and asking them why?

Mr. SCOVEL. Mr. DeFazio, if I may, my office is responding to a request from Chairman Costello to conduct an audit of new controller training failures. And we are looking at the rate of those failures and the reasons for those failures.

Mr. DEFAZIO. Okay. That would be very helpful. Thank you.

Thank you, Mr. Chairman.

Mr. COSTELLO. The Chair thanks the gentleman and now recognizes the gentleman from Michigan, Mr. Ehlers.

Mr. EHLERS. Thank you, Mr. Chairman.

I apologize for being late. I was in a different meeting. And I will try to ask a semi-intelligent question anyway.

Mr. Conley, just to direct something to you, you represent the FAA Managers Association, so your members or your colleagues are really there where the rubber hits the road or maybe I should say where the tires hit the runway. You are at the forefront of the action, right?

Mr. CONLEY. Yes, sir, that is correct.

Mr. EHLERS. And I am wondering, I have been in several towers and have watched the operations. Can you just—and I apologize again for covering ground that others may have covered here. The training program, how long is the training program for a typical controller before they actually get behind a mike?

Mr. CONLEY. That question would actually be better asked of Mr. Krakowski. He has the facts and figures on that. It varies by facility. It varies by function. So I don't have the specific answer for you. But I can research and get it back to you.

Mr. EHLERS. Okay. Well, Mr. Krakowski, do you have it at the tip of your tongue?

Mr. KRAKOWSKI. Yes. Good to see you again, sir.

We have controllers checking out in under a year right now at some facilities, to as long as 3, 3 1/2 years to become fully qualified. It depends upon the complexity, the size of the facility, the background of the student.

It is one of the actual strengths of the training program that when you have people who can qualify and come to you with innate skill sets—they call them ″naturals″ out there—the training program is set up so they can certify faster. And, you know, when you certify faster, you also get the pay raises as you move through your certifications. So there is an incentive for the students to work hard as well.

We have watched over the past 3 years the time of certification actually shorten, and we are putting more people out. So the numbers are looking good right now. I can give you any specific numbers you would like, though, sir.

Mr. EHLERS. All right. I am just trying to get the full picture. Generally, you start them out in a smaller tower and they work up to the more complex traffic situations, correct?

Mr. KRAKOWSKI. Not necessarily. We are in kind of a unique situation where we are actually putting new developmental controllers in some of the higher-level facilities. And that is somewhat of a first for the FAA.

But, again, the training program is designed to make them successful. I assure you they are not put on position, either as a developmental or a CPC, until they are ready and qualified.

Mr. EHLERS. And what educational requirements do they have to have before they beginning the training?

Mr. KRAKOWSKI. I believe it is just high school, sir.

Mr. EHLERS. Just high school? And are they paid while they go through the training?

Mr. KRAKOWSKI. Yes, they are. They are paid throughout their training experience at Oklahoma City. And then when they show up at the facility, they actually become a developmental, and they get quite a pay raise at that point, pay bump.

Mr. EHLERS. I see. Okay.

Yes, I would be happy to yield to Mr. Diaz-Balart.

Mr. DIAZ-BALART. Thank you.

And thank you, Mr. Chairman.

I actually have a question for the FAA about this. Supposedly the FAA intends to decombine the Miami tower and the TRACON in the near future. And it is something that has some of us a little bit concerned.

And the question really is, has a controller staffing study been conducted to date on both the tower and TRACON?

Because it is my understanding that the risk—or whatever it is called, the safety risk management plan that was scheduled for earlier this week was postponed. And if that is the case, is there a plan to reschedule it in the near future?

Does the FAA plan to hold off efforts to decombine until a proper staffing study and risk management plan has been conducted and those results have been reviewed? And if not, you know, what data was used by the FAA to make decisions to separate the two facilities? And when does the FAA intend, if, in fact, they are going to continue to do that, to bring the process of decombining to happen?

Mr. KRAKOWSKI. Okay. Congressman, I would like to offer to give you a detailed briefing on the specifics of the entire approach at that facility. I can assure you, though, we would never actually pull the trigger on something like that until the staffing effects are understood through the study and that we have done the safety risk management study as well.

Mr. COSTELLO. The Chair would tell the gentleman from Michigan that his time has expired. And if that is agreeable, if he can give you a private briefing.

The Chair now recognizes—let me say that we have two votes on the floor. We have about less than 5 minutes to get to the floor. But, however, Mr. Hall has been here the entire time, and I want to recognize Mr. Hall from New York.

Mr. HALL. Thank you, Mr. Chairman.

I just quickly wanted to ask Mr. Krakowski, you commented that you were working to improve labor relations, and I assume that is not just with NATCA. Because I remember a hearing last year—I am not sure if you—I guess you probably weren't on board then—but we had not just the controllers, but the airline pilots, the flight attendants, the mechanics, and even the attorneys from the FAA who had joined unions because they were complaining that they couldn't be heard, that their concerns were not being addressed when they dealt with them as individuals.

So I assume it is agency-wide?

Mr. KRAKOWSKI. Yeah. Actually, that is a very good point, and I appreciate your bringing it up, because I have over 40 unions in my organization. And because NATCA is the big elephant, like the pilots union was where I came from were the big elephant, they get the most attention. But I don't want to proceed with a labor strategy that is just focused on one labor group either. We really do, as a management team, want to look at and treat all the labor organizations equally. And that certainly is my passion, sir.

Mr. HALL. Equally and fairly, I assume.

Mr. KRAKOWSKI. Always.

Mr. HALL. And I just quickly would ask Mr. Scovel, you mentioned a significant confusion over who is in charge at certain towers, I believe? Could you describe quickly what that means?

Mr. SCOVEL. Sir, I apologize if I was misunderstood on that. I didn't mean to say that there was a confusion over who was in charge at towers, but rather confusion in the field and even on the part of some headquarters officials over who was in charge of facility training.

Mr. HALL. Got it. Okay.

Mr. SCOVEL. There had been four different vice presidents at the ATO who had a hand in it. Mr. Krakowski is attempting to solve that now with his senior vice president for training.

Mr. HALL. Thank you. You answered my question already.

And, Mr. Forrey, if I may just ask you, what is the effect on the experienced controllers' work in a tower when 30 to 35 percent of the staffing are developing trainees who may be needing coaching or calling on some of the more experienced controllers for advice or instruction?

Mr. FORREY. First of all, when you have that many trainees in a facility, in a tower, that means you have probably a very serious staffing problem to begin with, because you have fewer certified controllers. So you are now training more often. You are working a position behind the person that is a novice, in most cases, or very limited experience. And it is very fatiguing. It is very hard to not say anything while this person tries to work traffic and learn the job as they are going along without interfering into that.

So it is very fatiguing. That means they are working longer time on position. They are double-thinking for themselves and for the person they are watching. And it is very fatiguing. It has an impact where someone is going to make a mistake. And that is what we are concerned about.

Mr. HALL. Thank you very much. I yield back.

Mr. COSTELLO. The Chair thanks the gentleman.

We have a little less than 3 minutes to get to the floor. So let me dismiss the first panel.

I do have some other questions. I will submit them to you in writing.

We have a second panel that some of them, I believe, have flights out that we need to get to.

So let me thank all of you for your testimony. It has been very informative. And I thank all of you on behalf of the Members of the Subcommittee.

The Subcommittee will stand in recess for 15 minutes. And hopefully those of you want to take a break will take a quick break and be here before 15 minutes, so that when we come back from our recess we can immediately go to the second panel.

Again, the Chair thanks all of you for your testimony.

And the Subcommittee stands in recess.

[Recess.]

Mr. COSTELLO. The Subcommittee will come to order.

And the Subcommittee would ask the second panel to come forward. And as you are being seated, let me introduce the second panel.

Mr. Don Chapman is the Philadelphia International Airport facility representative from the National Air Traffic Controllers Association, FAA certified professional controller; Mr. Melvin Davis, Southern California TRACON facility representative, NATCA, FAA certified professional controller; and Mr. Steven Wallace, Miami Center facility representative, NATCA, FAA certified professional controller.

Gentlemen, again, we appreciate your patience. We understand that some of you may have a flight to catch, so we will immediately go to you for your testimony. We would ask that you summarize your testimony. Your entire statement will appear in the record. And under the 5-minute rule, the Chair now recognizes Mr. Chapman.

TESTIMONY OF DON D. CHAPMAN, PHILADELPHIA INTERNATIONAL AIRPORT, FACILITY REPRESENTATIVE, NATIONAL AIR TRAFFIC CONTROLLERS ASSOCIATION, FAA CERTIFIED PROFESSIONAL CONTROLLER; MELVIN S. DAVIS, SOUTHERN CALIFORNIA TRACON, FACILITY REPRESENTATIVE, NATIONAL AIR TRAFFIC CONTROLLERS ASSOCIATION, FAA CERTIFIED PROFESSIONAL CONTROLLER; STEVEN A. WALLACE, MIAMI CENTER, FACILITY REPRESENTATIVE, NATIONAL AIR TRAFFIC CONTROLLERS ASSOCIATION, FAA CERTIFIED PROFESSIONAL CONTROLLER

Mr. CHAPMAN. Good afternoon, Chairman Costello and Ranking Member Petri. And I would be remiss if I did not thank you for holding these hearings to bring this issue to the forefront, so thank you.

My name is Don Chapman. I am a controller at the Philadelphia tower and TRACON, and I have been a certified controller for over 18 years. I have served as a union representative for nearly my entire career. I am a qualified instructor and a controller in charge.

Understaffing is a serious issue that has affected the entire air traffic system. Many facilities, such as the New York TRACON,

Miami Center, the Southern California TRACON, are outright dangerous in terms of their low staffing. Others are facing different kinds of issues, all as a result of the controller staffing crisis.

Philadelphia Tower and TRACON is one of 137 combined facilities within the FAA inventory. Controllers certify in both the control tower and radar approach control. Combined facilities like Philadelphia enjoy the lowest operational cost and lowest error rates of any type facility within the FAA system.

Prior to September 2006, 109 controllers were authorized at Philadelphia. In March of 2007, the FAA implemented a staffing range, reducing the number to a minimum of 71 controllers, approximately a 35 percent reduction in authorized staffing. In contrast, when I arrived at Philadelphia in 1993, there were approximately eight trainees and few, if any, eligible for retirement. Philadelphia Tower and TRACON currently has 69 certified controllers and 18 trainees. Fifteen controllers are eligible to retire by the end of the year.

In an FAA staff study dated June of 2007, the FAA itself noted that Philadelphia Tower TRACON is faced with the possibility of a severe staffing shortage of certified professional controllers due to the number of controller retirements. The study went on to say, ″The loss of qualified controllers, supervisors and support staff is creating a strain on the required operational staffing and the training of developmental controllers assigned to the facility.″

Traditionally, high-density terminal facilities have always recruited experienced controllers from lower-density facilities to fill vacancies. Due to the staffing shortage, the FAA has begun introducing newly hired controllers with no experience into these top-tier facilities, creating an extreme burden on facility training as well as a drastic reduction in experience level.

At Philadelphia, for example, a typical crew of seven controllers manning the tower had an average combined total of 40 to 50 years' experience. Today the tower cab may be staffed with controllers with only 1 to 2 years of experience each.

Because of the staffing crisis, the FAA announced its intent to split Philadelphia Tower and TRACON into two separate facilities in January 2009. The FAA also intends to separate Miami, Orlando, Memphis, Charlotte and more facilities after that.

The FAA itself admits that separating the facility will actually require increasing the number of controllers and management necessary to staff the facility. This action will allow the FAA to misleadingly report that they have more certified controllers, when they will have only changed the structure of the facility. Decombining facilities will remove the optimal seamless environment and efficiencies that have existed for approximately 40 years and also provide the FAA an excuse to further cut salary levels of controllers.

The FAAis compounded staffing problems rather than easing them. Instead of allowing the controller ranks to become healthier, the FAA has continually reduced the active controller staffing levels in favor of moving controllers to management or other non-controlling positions.

While controller staffing levels remain inadequate, management positions have been increased. In Philadelphia, in the past 4 years,

16 certified controllers have been transferred to noncontrolling positions. For example, in 2004, Philadelphia had nine supervisors, four second- or third-level managers, and approximately 89 controllers, and worked 475,000 operations. In 2007, Philadelphia has seven second-level managers, 12 supervisors, and as few as 82 controllers, and we worked 516,000 operations.

Additionally, the FAA has made questionable management decisions regarding staffing. Earlier this year, a certified veteran controller who was also a qualified instructor was given an incentive bonus of $20,000 under the FAA's incentive program to transfer from Philadelphia to Chicago. Shortly thereafter, the FAA offered a new incentive bonus of $20,000 to attract controllers to transfer to Philadelphia. In other words, the FAA paid $20,000 to attract a replacement for the controller the agency just paid $20,000 to leave.

Staffing shortages have created a situation where it is nearly impossible to allow current certified controllers to have meaningful participation in the development of vital procedures and equipment, leading to either the development of unsafe changes or equipment deployment delays and cost overruns.

Due to staffing shortages, controllers routinely work 10-hour shifts. As a result, scheduled time between shifts is shortened, resulting in exacerbated fatigue issues that would not otherwise exist or be as acute. Tired controllers work slower. And often, when controllers are worn out, they tend to slow down in the interest of safety.

The act of providing training can itself be extremely fatiguing. Live training requires an instructor to have to try to anticipate what a trainee will say or do and be able to instantaneously override or correct the trainee if they make a mistake. In the fast-paced environment of air traffic control, this can be extremely taxing. Many times, the instructor must slow operations to maintain an adequate safety margin, adding to delays.

Controller training has also been detrimentally impacted by the staffing shortage. Training debriefs are rushed because instructors are needed to staff other positions. This has reduced the quality of instruction the next generation is receiving.

These are but a sample of the myriad of issues facing the air traffic control system today. Thank you for allowing me the opportunity to testify, and I look forward to any questions.

Mr. COSTELLO. Mr. Chapman, the Chair thanks you, and now recognizes Mr. Wallace.

Mr. WALLACE. Chairman Costello, Ranking Member Mr. Petri, and Members of the Aviation Subcommittee, my name is Steven Wallace, and I am an air traffic controller at Miami Center. We are located in Miami, Florida.

I started my career with the FAA in November 1991, and in addition to my duties as an air traffic controller, I have had the honor and the privilege of representing my co-workers since 1996.

When I began air traffic controller training at Miami Center, there were 196 fully certified controllers, 108 trainees, and we handled 1.5 million operations a year. Today there are 192 controllers that are certified, 84 trainees, and we post an annual number exceeding 2.5 million operations.

Our target staffing number has always been 279 controllers. Fifteen years ago, a busy day at Miami Center meant that we would handle 5,000 aircraft in a day. Today that number is 10,000. Years ago, on a busy day it was mandated that the busiest positions be staffed with three controllers. Five years ago, that number was two. Now it is not uncommon to have no one to help you when you are working 10,000 operations in a day.

When controllers get two airplanes too close together, it is called an operational error. Fifteen years ago, 12 operational errors in a year at Miami Center was a big deal. Now the agency believes that 25 is okay. In 2007, the FAA adopted the term ″proximity event″ for minor errors and then quit tracking those. As a result, the real number of errors that we make is not known. But in the FAA's eyes, safety was never compromised.

The last thing that anyone wants is for two aircraft to get too close to each other. It is my job to ensure that never happens, and my co-workers and I meet that challenge every day with passion and professionalism. Each of us is dedicated to seeing that passengers get from point A to point B safely, not 99.5 percent of the time, but 100 percent of the time. I do not want my family on an aircraft that is protected by less than a 100 percent fully certified, competent air traffic controller.

Constantly working in this manner wears on you, though. As the numbers of controllers in Miami and the rest of the country have dwindled, the level of stress and fatigue endured by controllers has continued to rise.

The FAA likes to say that they are managing resources better than they used to. They use programs with cute names like Snowbird to hide the real staffing crisis. The better resource management that they speak of means mandatory 6-day work weeks comprised of 10-hour days for me and my colleagues. When we signed up for this job, we knew that we would be giving up many holidays with our families, time with our friends at neighborhood cookouts, and soccer games with our children on the weekends. It was a commitment that we made. We did not want to make a commitment to give up our lives, though.

With no hope in sight and the horizon getting farther away, many of my fellow co-workers have retired as soon as they were able, because they didn't want to spend the rest of their lives working this way.

The current working conditions, coupled with the increased stress of working at your highest performance level while not making a mistake, has taken its toll on many of my co-workers. I have watched as many of them have become so stressed out, so fatigued, so preoccupied with not making a fatal mistake that they have quit rather than run the risk of being the person on position when an accident occurs.

Two years ago, Miami Center was designated as a focus facility by the FAA due to our staffing shortage. Developmental controllers report into the facility. Then, this past year, the FAA implemented the functional training program at Miami Center and eliminated the seasoning that used to be a prerequisite to advancement. As a result of the new training program, many of those developmental controllers have sat doing nothing for the past year and a half.

Many of the trainees may still check out within the usual 4 years, but under the new program it will take that much time to certify because of delays, not because they are gaining valuable seasoning time.

The developmental controllers that are being hired are leaving in record numbers because they do not want to make the same kind of commitment that I made. And why should they? Their pay has been cut by 30 percent, and their working conditions are not acceptable.

At Miami Center, 14 developmental controllers have resigned since July of last year. That is 14 more than in all of the other years that I have worked for the FAA. They see the same thing that I see. There is no quick fix to the problem.

This last year, four developmental controllers failed the training program. I also watched as 12 of my co-workers left due to mental or physical illness, from stress and fatigue.

While our numbers have been depleted due to unexpected attrition, the FAA has also taken many supervisors and moved others to jobs outside of that of talking to airplanes. We have supervisors who are responsible for as few as four controllers. Ten years ago, they used to have to watch eight or nine. We have managers that supervise two. It is obvious that the number of chiefs has grown proportionately with the number of errors.

Without including the expected retirements for supervisors and staff assignments, the stress-related losses, the training failures, and the resignations at Miami Center represent 16 percent of workforce loss. At the end of this year, there will be 19 more controllers eligible to retire at Miami Center, and more next year, and still more the next.

While airspace changes and technological advances have enabled me to handle more airplanes, there is a breaking point. Air traffic control is a very unique occupation, and not everyone can be an air traffic controller. It takes time to train someone to do the job.

The current staffing level at my facility, like many major facilities across the country, cannot adequately sustain the level of safety that the flying public expects and that air traffic controllers demand if something doesn't change. Because the FAA has failed to take the necessary steps to fix the air traffic controller staffing crisis that has been 2 1/2 decades in the making, we are asking Congress to step in and bring the system some much-needed relief.

Thank you very much for the opportunity you have given me today, and I look forward to questions.

Mr. COSTELLO. The Chair thanks you, Mr. Wallace, and now recognizes Mr. Davis.

Mr. DAVIS. Mr. Chairman and Ranking Member Petri, again, thank you also for the opportunity to speak. And I am honored to be here.

My name, again, is Melvin S. Davis, air traffic controller at the Southern California TRACON. And I worked there 9 years. And then prior to that I worked 10 years at the Los Angeles International Airport. I got my training in the United States Marine Corps, and I am proud of that.

The FAA will tell that you staffing does not affect safety, and that is simply not true. In 1991, there was a scenario that devel-

oped, there was a controller that had been certified for less than a few months and had been in the FAA for just a couple of years, was working position. It was at night. She did not have an assist. And she cleared an aircraft to land on an occupied runway. And, as a result, 34 people died that night.

That is the exact same thing that is happening at facilities across the country today. It happens at mine every day.

With the training, as the developmentals come in, they are certified, they are making mistakes, and there isn't anybody there to help catch them. We had one situation where a controller came in, was certified on their first sector, made a mistake, and it resulted in three aircraft coming too close together over the skies of Burbank. She went immediately to the psychiatrist's office, hasn't been back yet.

We had another situation where a young man, certified on position less than a month, first position, he has got six or seven to go, puts two aircraft on a collision course, same altitude, doesn't recognize it. The TCAS takes over, the flight crews intervene, and they saved the situation.

Again, those types of things are happening on a daily basis.

As our veteran workforce reaches retirement eligibility, the effort to pass the baton has just begun too late. My facility handles 2.2 million operations a year. It is the busiest of its kind in the world. In the past 4 years, there has been 261 controllers 4 years ago; there is 160 today. That is a 40 percent reduction. There was $250,000 spent in overtime 4 years ago. We spent $4 million last year. That is a 1,600 percent increase. There was 10 operational errors 4 years ago. This year we are on a pace to hit 40. That would be a 400 percent increase.

These mistakes will eventually result in a catastrophe. The fact that they haven't at this point is amazing to me.

We are totally mission-oriented. We are committed as controllers to getting the job done. We will to do what the agency asks us to do. But they continue to ask us to do more with less.

Unlike my counterparts explained earlier, at our facility we have actually consolidated work. We have assigned more sectors to fewer people. So it is the exact opposite response to the problem that they are doing elsewhere in the country, and it makes no sense.

As the staffing decreases, the automatic reaction is to reduce the amount of time controllers are assigned to the assistant controller position. This eliminates the redundancy provided by the extra set of eyes and ears, and, again, it does reduce safety.

The further reductions of staffing have required the FAA to combine the sectors. This leads to increased fatigue. I see people walk by my office—I am actually a controller, but I spend some time in the office a couple days a week—and the have bags under their eyes, third or fourth cup of coffee, and they are completely losing it.

One career veteran, he is 22 years in, he has 5 years until he is mandatory retirement, walked into my office about 2 weeks ago, said, ″I have lost it.″ He just had a situation where it was the breaking point, tears in his eyes, again, leaves, goes directly to the psychiatrist's office, he will never work airplanes again.

These are statistics when you look at a whole, but they are tragedies individually.

Two weeks ago at the Southern California TRACON, Bruce Johnson, the FAA ATO vice president for terminal operations, sat and said, ″You know, I am afraid that if we reverse course now, things will only get worse. Why don't we just wait another year and see what happens?″ Those are the type of people leading this organization. They have completely lost track of the stresses and strains that we deal with on a daily basis because their experience is so far back. Their hearts have just grown cold. And it is extremely frustrating to say, what is it going to take to wake them up and respond to the problem?

Again, I just thank you for the opportunity to testify. Thank you for the time.

Mr. COSTELLO. Mr. Davis, thank you.

And I thank all three of you for being here and offering very thoughtful testimony concerning not only your experiences but what you have experienced on the job, dealing with some of your colleagues.

A couple of questions and to clarify a point or two, Mr. Davis. You mentioned that, at your facility, fully qualified controllers went from 261 to 160. And that was due to retirements.

You were here, I think, for the earlier testimony with Mr. Krakowski and the Inspector General and the GAO. Mr. Krakowski would give us a list of reasons why controllers have been retiring. But if you had to identify the two main reasons why we are seeing so many experienced controllers leave the workforce and take their retirement, what would the two reasons be?

Mr. DAVIS. The two main reasons are fatigue. It is a downward spiral. It is a never-ending cycle.

It is a small window where we are eligible to retire and then where we are mandatorily retired. It is usually about 5 years. So you are thinking about it the day you come into the agency. You are thinking, ″Okay, I am going to go at this date,″ and then you are forced out 5 years later. Well, now these people are going. They look at somebody around them and say, ″Okay, I am leaving because I don't want to stay the extra 2 years or 3 years.″

It is fatigue. And the more people that leave, the worse the problem gets. And that is the main reason.

Mr. COSTELLO. You were here when I asked Mr. Krakowski why we are having such a difficult time recruiting experienced controllers at the FAA. In previous years, we were able to recruit many military controllers, such as yourself. When you entered the workforce, when you left the military, you went to the FAA and became a civilian controller.

Why are we having such a difficult time recruiting experienced controllers over at the FAA?

Mr. DAVIS. I believe that what Mr. Forrey said earlier was the reduction in pay. There is competition out there for those jobs now that there wasn't before. There is private contractors that have air traffic control jobs. And there is Department of Defense that has air traffic control jobs, civilian Department of Defense jobs. And they are paying more.

So they are being attracted to those other locations. The work isn't as intense, and the pay is better. So it is a relatively simple equation. I think that that is a huge factor in our inability to attract the most qualified people.

Mr. COSTELLO. For the record again, you gave the figures as to what the FAA has spent in overtime at your facility in comparison to previous years. Would you restate that for the record?

Mr. DAVIS. Yes. In 2004, we used $250,000 in overtime. And in the last 12 months, we have used $4 million in overtime.

Mr. COSTELLO. So $4 million in overtime in the last 12 months.

Mr. DAVIS. Correct.

Mr. COSTELLO. Just at your facility.

Mr. DAVIS. Correct. I have seen 2,000 years of experience walk out the door.

Mr. COSTELLO. Let me ask a question for all of you, and it deals with the issue of fatigue. It is an alarming problem to me. We have heard testimony both from the Inspector General, the GAO. The agency continues to, kind of, play fatigue down and say that, ″It is a concern of ours, we are looking into it, we are having input, and we are having a gathering of many people, academic people and so on, coming in to look at the issue.″

I wonder, in dealing with the new recruits, the new hires—we know why the most experienced controllers are leaving. I mean, you have detailed that, and we have heard that from others. Why are the new hires leaving?

When they come out of the academy and they come into the job, there is a much higher attrition rate with new hires than the FAA ever anticipated. I wonder if you would talk about that. And does it deal with stress and fatigue?

Mr. DAVIS. I would say that the way the system was set up in the past, that you would test at the academy, and you would see a 75 percent or 80 percent attrition rate there. There was very stringent hiring practices and a huge amount of the attrition. And then when an individual finally made it through that and got to a facility, he is a better candidate.

What they are doing now is they are just shotgun-hiring, and they are running them through the academy without those hurdles that they have to jump over to get to the facility. They show up. And we are just experiencing the same amount of attrition, it is just happening at a different location. It is happening at the facility, where it used to be happening at the academy.

Mr. COSTELLO. Mr. Wallace?

Mr. WALLACE. Thank you, Mr. Chairman.

At Miami Center, the primary cause of the developmental departure is pay—pay and their working conditions.

They report to Miami Center, they are told that you will get pay progression when you complete certain portions of your training. In the past, those types of classes, the upgrade classes were scheduled out every 9 months, 10 months or so. Classes would last about a month and a half to 2 months. They would come downstairs to the floor, and they would then certify on a position or two, and they would get a pay raise.

You have moved developmental controllers, brand-new hires who have $75,000 worth of college debt, into high-cost living areas, such

as southern California, south Florida, Philadelphia, and you are paying them 30 percent less. You take them to facilities such as Miami Center, you change the training program on them, and then don't let them have a chance for any upgrade training for upwards of 2 years. We have folks that have sat at Miami Center for a year and a half.

It doesn't take long for the next group, the group that is in there, after a certain portion, realizes that they have made such a commitment now, they have to see a portion of it through. But the people that have just come in sit and look and say, ″Well, if I am going to be a year and a half, I might as well go to work for Lockheed Martin or another competitor somewhere, or, better yet, go back to flying airplanes, which is what I was doing before, what I was trained to do out of college. And then maybe I can make some money, instead of sitting around doing nothing to only end up making less.″

And to actually tag onto that, the FAA just changed the hiring requirements. The kids that are here now—and forgive me for calling them kids; they are very young, very dedicated professionals, some of the hardest-working folks that I have seen.

Those folks come into the facility, and they have been told, ″You must have a 2- or 4-year degree from a select number of universities.″ It has cost them $75,000. They walk in the first day, they get there, and 3 to 6 months later they are told, ″You no longer have to have this type of education. We are going to hire anybody off the street to come do the job.″ Well, they just made that group of people very upset, and they are not helping them pay for their school. That is why you are seeing them leave.

Mr. COSTELLO. Mr. Chapman?

Mr. CHAPMAN. To go specifically to your question, the FAA has turned air traffic control from what used to be a career occupation that you felt you had a future in, to an uncertain occupation. It is as if they are working at McDonald's or 7/11.

They have no trust in the agency that they will have a future. The agency has no more structure left where you can work in a smaller facility and progress up the ladder. They don't have any assurance of where their pay will be, where their career will be. They can't trust their families to the occupation anymore, because the agency has decimated it with both mistrust and what they have done with the pay system, quite frankly.

Mr. COSTELLO. Final question, and then I will turn to Mr. Petri. We have heard some of the new hires, because of the reduction in the entry-level pay, that they are actually out working second jobs in order to pay their college tuition, in order to live in very expensive areas, as you detailed, Mr. Wallace, in the country.

Mr. COSTELLO. [Continuing.] I just wonder from your experience with the new hires in the facilities where you are, are you seeing that? Are you seeing new hires that are working other jobs other than on the job as a controller.

Mr. CHAPMAN. Yes, sir. We have a few. I have one who worked as a computer engineer, and he is still doing freelance work. He is lucky because he has the skills to do that without actually working and he can still earn additional money.

One thing I would add to that is a lot of them are hanging on to see what will happen and they have all given us the impression of, look, if this isn't fixed within a year or two, I am working on a college degree in another area. I am going to do something else. But they are hopeful that there will be a correction and they want this to be their career. They are just not comfortable that it will be their career.

Mr. COSTELLO. Mr. Wallace.

Mr. WALLACE. Thank you. A lot of the developmentals that we have now wait a very long time to get hired by the FAA and they are very committed and, as Mr. Chapman said, they are committed enough to go get a second job to try to make it work. There are developmentals at Miami Center that are still trying to find second jobs that will allow them the latitude to have a rotating shift or that will allow them latitude to be gone during certain days of the weeks so that they can eventually get into a training class. The difficulty they are having in doing that, they have a career. They have a career choice. It is very hard to explain to someone at a restaurant or at a hotel, for instance, that you are an air traffic controller and you need a second job. Most of the time they feel that you are not going to be committed to that and if you take the second job the FAA will turn it around on you, or if you try to better yourself through going through school—this just happened with one of our developmentals who is having a little bit of difficulty in his training—they will turn it right back around on you and say you are not committed to the FAA and you are not committed to your training. And if they have a single hiccough in their training, then the FAA will use that as a means to try to separate them.

Mr. COSTELLO. Mr. Davis.

Mr. DAVIS. Yes. I am not specifically aware of individuals that have two jobs, but I do see the type of coping mechanisms that are associated with that type of a scenario. They are living together. They are grouping together, pooling their resources and those types of things. But like Mr. Wallace said, it takes an incredible amount of commitment to absorb the information that you have to do the job on a daily basis. I don't have any specific knowledge of second job people, but I do have definitely people that are struggling.

Mr. COSTELLO. Thank you. The Chair now recognizes the Ranking Member, Mr. Petri.

Mr. PETRI. Thank you very much, Mr. Chairman. Maybe I could expand on some of the questions that you asked. I think, Mr. Davis, you mentioned what is astounding to me and I think to some others, the number of $4 million overtime. Do you know how much of that was voluntary and how much was not, or is that an important distinction?

Mr. DAVIS. I think it is an important distinction. There is a list of individuals in the facility where they will say do you want to work overtime? And then there is a list that says I don't want to work overtime, but I will work it if you have me do it. Sixty-five percent of the people at the facility are on the "yes" list. But we are all being assigned overtime because the agency has to do that to accomplish the mission.

So I am not sure if I have answered your question. We know the agency has a right to assign us overtime and they are doing that

and they have to do that to accomplish the mission. That is the only way the airplanes can move through the airspace at this point. So it is in my mind irrelevant whether I am on the ″yes″ list or the ″no″ list. If I have 2 days off I get four calls for overtime every weekend, in the morning, in the evening, in the morning, in the evening, and I am on the ″no″ list.

Mr. PETRI. In our area that I am familiar with sometimes people look forward to getting overtime and other times they have had enough or it is very inconvenient for them. So they have a way of allocating it or working it. Is that done or is it basically people are doing overtime whether they want to or not?

Mr. DAVIS. What has happened at our facility specifically with the 40 percent reduction in staffing, there is no option. The majority of us of are timed out where you can only work 6 days a week and you can only work 10 hours a day. There isn't anybody to trade it to where there was in the past when, say, the staffing was down 10 or 15 or 20 percent. There are no options. So there is an increase in the use of sick leave. That is one coping mechanism, is to say I am burned out and need a day off, but there isn't anybody to turn it to and trade it to because the staffing has gotten so bad.

Mr. PETRI. Mr. Wallace, in your written statement and your summary you also mentioned change in the definition of operational error by the FAA. Could you expand on that or describe exactly what that means in practice?

Mr. WALLACE. Yes, sir. Our accepted standard for separation is 5 miles and 1,000 feet. There is a severity classification for operational errors, category A, B, C, D. Minor errors, which are 80 percent, 90 percent is that total separation or more, meaning it is not quite 100 percent but it is greater than 90 percent or greater than 80 percent, have always been considered to be minor errors. It still occurs. But the FAA recently changed the category from classifying those minor errors as operational errors, which are carefully tracked. They are put into the FAA Administrator's handbook that is distributed at the beginning of every quarter. That classification was changed to proximity event, and proximity events, while they were intended in some degree to allow some latitude for air traffic controllers to run airplanes a little bit tighter together in areas where maybe there is a lot of congestion and maybe it was just a slight mistake, those types of situations are no longer tracked. It is still an error. It is still a mistake. The safety standard did not change. And the fact that the airplanes were not 5 miles apart, not 1,000 feet separated, that did not change, only the name and we don't count those anymore. And as a result of that I can't tell you how many operational errors we have had at Miami Center this year. I just know we had 25 more, which is a 67 percent increase in the number of errors over the last ″X″ number of years, and we are working a million airplanes more.

Mr. COSTELLO. The Chair thanks the gentleman and now recognizes the distinguished Chairman of the Full Committee Mr. Oberstar and congratulates the Chairman on what I think is a historic day here in the Congress in passing rail legislation that really puts this country on the right track and did it by not only passing the legislation but by an overwhelming margin.

Mr. OBERSTAR. I thank the gentleman for those comments and for his vote and I thank all the colleagues on the Committee. We had an overwhelming vote: 87 Republicans voted with all of the Democrats in passing Amtrak legislation. We are not quite going to put aviation out of business, but we are improving the quality of surface transportation, high-speed inner-city passenger rail.

What does the FAA tell you the time it takes to become an FPL, full performance level controller? What is their standard now?

Mr. DAVIS. At my facility it is roughly 2 years.

Mr. OBERSTAR. Two years. But that is checking out on how many positions?

Mr. DAVIS. Well, what they have done with the consolidation recently, what used to be an average of six or seven sectors it has gone to eight or nine now. So it has definitely extended at my facility, the time it takes to certify.

Mr. OBERSTAR. It seems to me the FAA has changed the standard for definition of FPL over the last 15 years or so.

Mr. DAVIS. I would say that the definition is still—it is now CPC versus FPL. The definition seems to me to be about the same but the requirements of the time it takes to become that have increased now definitely.

Mr. OBERSTAR. That is sleight of hand. It is manipulation of the reality of the workplace. When they have a staffing standard for a facility, whether it is a tower, TRACON, or other facility, if they say the staffing standard for this facility is 150 controllers and they include in the count, in the actual count developmentals but don't include first line supervisors who are actually working controls, then the number is skewed. If they weed out the developmentals and count the first line supervisors, they are counting people who are under the rules supposed to be performing—working at controls only 10 percent of the time, not full time.

So what this panel has told me, what the testimony, which I read last night because I was going to be on the floor today for the Amtrak bill—I knew I would miss the early part of this hearing. But I hear your saying developmental controllers. Three controllers at this position down to two controllers today, 297 at our facility down to 197, 6-day workweeks, 10-hour days. You didn't talk about leave time or respite time. You didn't talk about time away from controls after continuous work at the boards. And now you are saying in at least one situation they are saying an FPL status in 2 years? It used to be 5 for a FPL to check out at all three major positions. And you are saying that in Miami the same number of controllers as in 1992.

Mr. DAVIS. Yes, sir.

Mr. OBERSTAR. And you are talking about the stress you are experiencing and your colleagues have expressed and experienced. Some of you may know this, but from the mid-1970s to the mid-1980s, FAA conducted 27 different studies of stress on controllers. Every one of them came back with a report controllers are overstressed, putting in too many hours at controls, too many continuous hours at controls, not enough leave time, not enough respite time in the course of the workday, not enough training and retraining opportunities, and the FAA rejected every one of those reports. That was under different Administrators, under different adminis-

trations. And then all that came to a head in 1981 and we have a strike and the firing and well over a billion dollars of Federal funds to rebuild the air traffic control workforce. And what we heard from one after another Administrator in this hearing room was we are getting a better quality controller, more experienced, more savvy with work stations. They know more than the Nintendo generation and they are better prepared and they are not going to be cry babies because that is what they said about controllers who complained about the factors I just cited.

So where are we today? This is what we are hearing. This could be the transcript of 1981. This could be the transcript of 1985. This could be the script I heard in 1990. And still this FAA wants to shove down your throat or has done already a contract that no one in the private sector would accept. No one is going to say we will work for 5 years at 2 years ago pay and then renegotiate our contract 5 years out in the future based on 5- or 6-year-old pay. No one will do that except Members of Congress. We don't get any increases either, but we ask for it. And that is the problem. But it is the same problem resurfacing all over again. And I have been through it for 25 years and I am exasperated at what is happening. And I am further exasperated that the other body, as we affectionately call that crowd over 200 meters away from here, hasn't moved our aviation bill that has a pathway to at least partial resolution of the problem you are citing today.

I find it astonishing that there is no recognition of history repeating itself on the part of the managerial echelon at FAA. And I am sorry you have to be here, but I am glad you are here to tell us this story. I am sorry for your having to experience it. I have been in towers, at TRACONs, in contract facilities, in every imaginable FAA facility. I have seen controllers at work. I have seen a situation where a controller has 27 aircraft in her section. And in this particular situation, there was a KC-135 that had a fire on board, and that controller had to move 27 aircraft out of the airspace to give that tanker room to dump fuel so he could get on the ground before the plane blew up. And the other FPLs all gathered around and supported this woman, and the first line supervisor was skilled, capable, did the same. She got that aircraft on the ground, no incident. She and the other five coworkers were etched in sweat.

You believe in what you are doing. You know you have lives at stake. You know you have the safety of helpless people in your hands dependent upon your skill and your level of alertness and your ability to be at your top edge every moment of the day. We need to respect that. We need to do better than this system, than the FAA is doing for you today. And we are trying.

Thank you.

Mr. COSTELLO. Thank you, and the Chair now recognizes the gentlewoman from West Virginia, Mrs. Capito.

Mrs. CAPITO. Thank you, Mr. Chairman. I thank the gentlemen for their testimony here today. I have one quick question and then one sort of wish list question.

What is the starting salary for a developmental, range-wise now?

Mr. WALLACE. I can speak for Miami Center. Right now when someone arrives at Miami Center that beginning salary is $37,500.

Mrs. CAPITO. And it can go up after 6 months, did you say, or is it not until 2 years?

Mr. WALLACE. It goes up predicated on how many positions a person certifies on. And in the past, trainees that reported to Miami Center would immediately be put into certain upgrade training, and it would take anywhere from 3 to 4 months they would see their first raise. Then about 9 months to a year later, they would see another raise and it was incremental. But it also went with the seasoning time that they gained in between checking out on certain categories of positions, whether it was a manual assistant over here or a radar controller over here.

And that has changed now with the new functional training program where they come in and they sit and they do nothing for a year and a half, and then they begin what should be a 3-month training session. The last big training session at Miami center that was scheduled for 3 months lasted for 9 because the FAA repeatedly changed the training program on the fly. They changed the training program and the requirements twice 2 weeks before Christmas to try to facilitate the class and make it a little bit better. As a result, the class continued to get lengthened and the students became very disinterested and very disheartened. Many of them—there were several that left from that class.

Mrs. CAPITO. Thank you. I think all three of you have lined out, and I have heard also from my constituents who are air traffic controllers and I am proud of their service, the issues—less pay, more work, shorthandedness. I was a little alarmed when you mentioned—more than a little alarmed when you mentioned the reclassifying of the operational errors and how they have—what was acceptable at 12 is now acceptable at 25, the number of aircraft that you are dealing with every day. I guess my question to each one of you is how do we solve this problem? What is the answer? Is it higher pay? Is it better training?

So I will give you a chance to give me a top two, each one of you. Thank you.

Mr. CHAPMAN. I will go first. The answer to each one of your questions is a collective bargaining agreement because each one of those elements is contained within the collective bargaining agreement, probably much more so for us than traditional occupations. Everything within the air traffic system, technology development, improvements, procedures, along with the labor issues, are all under the umbrella of the collective bargaining agreement. Without that nothing works.

Mr. WALLACE. Thank you. And I have to echo what Mr. Chapman says, that is first and foremost to resolving the problems. The collective bargaining agreement is the absolute foundation for resolving most of the issues. As far as the developmentals and their maybe unique situation with respect to training, we need to go back to the old tried and true method for training air traffic controllers. You have got an air traffic controller done in the same length of time that they are going to get it done with this functional training program, but you got it done with a lot of experience along the way.

Mr. DAVIS. I actually have three if that is okay. The first one is we are very rule oriented. Clearly we live and die by the rules, and that is that is why the contract is so important. It is critical.

The second one would be to decriminalize operational errors. What happens right now is if I make one mistake a year I will be fired. One.

Mrs. CAPITO. Is that a new development or is that something that has always been that way?

Mr. DAVIS. It has always been that way, but it is a disincentive to be honest about what is really going on. If I have three errors in less than 30 months, I can be terminated.

Mrs. CAPITO. But you are not necessarily terminated.

Mr. DAVIS. I have seen it.

Mrs. CAPITO. There is probably some judgmental decision.

Mr. DAVIS. Downgrades and separations and those things. At the facilities that are hurting the worst, there has to be some support for the traffic management initiatives to work a realistic amount of traffic. In 1981 after the strike, they set up a general aviation reservation system. They set up a slot program to recognize the fact that we can't continue handling the same level of traffic with a significantly reduced amount of people. We can't do it. We are going to hurt somebody.

Mrs. CAPITO. All right. I thank you for your answers. Thank you for your service.

Mr. COSTELLO. The Chair thanks the gentlewoman and now recognizes the gentleman from Kansas, Mr. Moran.

Mr. MORAN. Mr. Chairman, thank you very much for holding this hearing and we often say that as a matter of pro forma, politeness I suppose. But in this instance I think it is especially important that Congress continue to be engaged in this issue. Every time we hear testimony, every report I have from visiting with air traffic controllers continues to outline the significant challenges that the air traffic control system faces, and I really do want to see this Committee, our Congress, and especially the administration realize what significant problems we face today and how much more difficult this becomes over time in the absence of resolution of staffing issues, which perhaps in large part relate to reaching an agreement in regard to collective bargaining.

I appreciate your testimony here today. I think this issue is serious. I think it is one that affects lives. I have great regard for air traffic controllers who I think face tremendous stresses, challenges, and perform admirably under very difficult circumstances.

So when I say thank you for holding the hearing I am sincere in that regard. I appreciate you and the Ranking Member making certain that this issue is not forgotten.

I have just a couple of questions. Is there any evidence that the collective bargaining agreement process is on track? Is there any evidence that there is a desire to see this issue resolved? Are we still perhaps in a holding pattern?

Mr. CHAPMAN. I don't know that we would be the appropriate people to answer that question with detail. Obviously Mr. Forrey would be the person to take that question. From our knowledge out in the field, no. To be quite honest, there is no movement by the agency to make a sincere effort.

Mr. MORAN. Which I assume has an effect upon morale as far as retention and recruit many. Is that accurate?

Mr. CHAPMAN. It tells everybody there is no respect for them as employees is the clearest answer.

Mr. MORAN. Is there any place within the system that is a role model for recruitment and retention? Is there any place, any location geographically or any particular program that is working to recruit or retain air traffic controllers within the system?

Mr. DAVIS. I can tell you in the past there was. There was in the late 1980s; there was a system set up where they were having trouble staffing 11 facilities. They rolled out a program called up-pay demonstration project to say, listen, this is going to be an extra pay incentive to go and commit yourself to solving the problem at those facilities, high-density facilities, high cost of living areas. It lasted 5 years and I responded to that. I went to L.A. As opposed to staying out where I was and became committed to solving the problem, and that was the reason.

So I would say that is something that worked in the past that can work now. But I don't know any place I—if there is one I haven't heard about it.

Mr. MORAN. So the answer to my question is you have to look historically, nothing in the present.

And then one of the features that is true in a congressional district like mine that is so rural is the prevalence of contract towers. Do you have any sense or knowledge about recruitment, retention or transfer of traffic controllers between the two systems? Are they better able to recruit/retain, or do they face the same challenges?

Mr. DAVIS. Well, I would say I do have some experience with it. I was the representative for one of the facilities that was contracted out. So it converted one day with FAA. The next day it was a contractor. Those facilities that have been contracted out are the lowest level, the bottom level, or the bottom rung; so they are not as intense. They are not as——

Mr. MORAN. It is apples and oranges?

Mr. DAVIS. I believe so.

Mr. MORAN. And finally, Mr. Chairman, I would ask your permission to submit a question in writing to the earlier panel for their response.

Mr. COSTELLO. Without objection.

Mr. MORAN. Again, Mr. Chairman, thank you for the opportunity.

Mr. COSTELLO. Thank you. Thanks to all of you for testifying. I know it has been a long day for you on a hearing that was supposed to start much earlier and was delayed because of votes on the floor.

Let me just say, as I have said before and I will say again after hearing the testimony today from our first panel as well as the three of you gentlemen, I am very concerned about where we are today, about the staffing levels, about the ratio between certified controllers and new hires and trainees, the rate of attrition not only with the most experienced controllers. In my opening statement I mentioned in fiscal year 2008 we have already seen 954 controllers leave. There is no question and there has been testimony in this room, every one involved in the air traffic control sys-

tem recognizes that there is a major problem with fatigue. There is a major problem with morale, and that is a recipe for disaster in the future unless it is rectified and addressed immediately. Unfortunately, the FAA shares concerns, but there is little action, in my judgment, being taken to address these problems.

Finally, I will say that—as I think and hope that the three of you know, that in H.R. 2881, in the legislation that we passed out of the House, we try to address some of these issues, not only the contract situation between the FAA and NATCA but in providing funds and additional things in the bill that we think will help with the current situation.

But again we thank you for being here. I know you are not used to coming up and testifying before Congressional Committees and Subcommittees. You are union representatives. Your President, Mr. Forrey, who was on the earlier panel, they normally are the ones who are testifying and do a very good job in presenting the views. But it is good for this Committee and its Members to hear directly from those who are on the job and what you are seeing firsthand, what you are experiencing.

So again we thank you for taking the time to offer your testimony here today. We wish you well and would ask that you continue to talk to your colleagues and anyone that you can and ask them to call on their United States Senators to move legislation that is pending in the Senate that passed the House with bipartisan support.

Again, thank you, and that concludes the Subcommittees hearing. The Subcommittee stands adjourned.

[Whereupon, at 6:04 p.m., the Subcommittee was adjourned.]

OPENING STATEMENT OF
THE HONORALBE RUSS CARNAHAN (MO-3)
HOUSE TRANSPORTATION AND INFRASTRUCUTRE COMMITTEEE
AVIATION SUBCOMMITTEE

Hearing on
Air Traffic Control Facility Staffing
June 11, 2008 11:00
2167 Rayburn House Office Building

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Chairman Costello and Ranking member Petri, thank you for holding this important hearing on air traffic control facility staffing.

The effect of the Federal Aviation Administration's work and pay rules imposed on the controller workforce in September 2006 has been felt throughout the entire air traffic control system. Since the FAA imposed the work and pay rules nearly twenty percent of the controller workforce have left their jobs causing rampant understaffing of air traffic control towers nationwide. As a result air traffic controller's workload have increased and controllers are being forced to work overtime. I have grave concerns that this leading to increased time on position and decreased opportunity for controllers to take break during their shifts. Adequate rest is absolutely necessary to preventing air traffic controller fatigue.

Additionally, it is critical that we provide new controllers adequate training. However, understaffing of our air traffic control towers is detrimental to controller training. In many air traffic control facilities there are not enough veteran controllers to conduct proper on-the-job training for new controllers.

The FAA Reauthorization Act passed by the House last September will take steps to address many issues concerning staffing and training of air traffic control facilities. Specifically, H.R. 2881 directs the FAA to conduct a study that will assess the adequacy of training programs for air traffic controllers, including a review of the current training system for air traffic controllers, an analysis of the competencies required of controllers under the current air traffic control environment and under the NextGen, and an analysis of various training approaches to ensure these competencies.

In closing, I want to thank our witnesses for joining us today and I look forward to hearing their testimony.

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FOLLOW UP QUESTIONS OF
THE HOORABLE RUSS CARNAHAN (MO-3)

Questions for Hank Krakowski:

1. Do you believe controllers should spend an entire eight hour or ten hour shift on position? So when you use these figures about time on position, you are not taking into account meals, breaks, other duties, airline scheduling practices, weather, or other factors into account?

2. In the 2006 Controller Workforce Plan, staffing ranges were introduced for each facility. What empirical data was relied upon to create these new staffing ranges?

3. The FAA has hired a contractor, Grant Thornton, to assist in creating new staffing standards for air traffic control facilities. The FAA bean counter and the contractor have been visiting facilities across the country to observe air traffic control operations and take measurements of air traffic controllers at work. How can legitimate, scientific staffing standards possibly be conceived by bean counters and contractors, neither of which knows the first thing about air traffic control operations?

OPENING STATEMENT OF REP. STEVE COHEN

Transportation and Infrastructure Subcommittee on Aviation

"Hearing on Air Traffic Control Facility Staffing"

June 11, 2008

I am pleased to be here today to receive testimony from the Air Traffic Organization Chief Operating Officer, the U.S. Department of Transportation Inspector General, the President of the National Air Traffic Controllers Association (NATCA) and others today, as we examine air traffic control facility staffing issues.

During 2007, the nation's air traffic system carried 769 million passengers and 22.3 million tons of cargo. The flights that carried these passengers and cargo were controlled by Federal Aviation Administration (FAA) air traffic controllers.

NATCA has expressed several concerns about the on-going changes in the controller workforce. It notes that the number of CPCs in the workforce has fallen to a 15 year low and that retirement rates, even for personnel with time remaining before mandatory retirement, are unusually high. As of March 31, 2008, there were 11,164 Certified Professional Controllers (CPCs) working at FAA facilities, the lowest number in 16 years. I have also heard concerns from constituents over whistleblower protection rights.

The Department of Transportation Inspector General has conducted a review of the FAA's controller workforce, its hiring practices, training programs and future requirements and issued several recommendations to improve the air traffic controller workforce.

I look forward to hearing from our witnesses today on what can be done to improve working conditions for our nation's air traffic controllers.

STATEMENT OF
THE HONORABLE JERRY F. COSTELLO
SUBCOMMITTEE ON AVIATION
HEARING ON
AIR TRAFFIC CONTROL FACILITY STAFFING
JUNE 11, 2008

- I welcome everyone to our Subcommittee hearing on air traffic control facility staffing.

- The flying public relies on our air traffic controllers every day to make sure runways operate safely, flight patterns are checked, systematic takeoffs and arrivals occur, and most importantly, that airplanes maintain separation. They do these activities 130,000 times every day, making air travel the safest form of transportation in the United States.

- However, we are facing a serious problem in the controller workforce. Because of the PATCO strike and subsequent firing of air traffic controllers in 1981, most controllers were

hired during the mid to late 1980s. As a result of this massive hiring over twenty years ago, many controllers are becoming eligible to retire and it is clear that the Federal Aviation Administration (FAA) was not and is not ready to deal with the situation. As early as 2002, the Government Accountability Office (GAO) warned of a controller retirement crisis.

- Further exacerbating the problem has been the FAA's imposition of a contract on the air traffic controllers. According to the National Air Traffic Controllers (NATCA), since the work rules were imposed on the controllers, retirement and other attrition numbers have increased substantially; fatigue and operational errors are at an all time high; and morale is extremely low.

- Already, in FY2008, the FAA has lost 954 experienced controllers – almost five controllers per day. We are losing valuable, experienced controllers. According to NATCA, since the beginning of FY2007, 40,000 years of experience has been lost.

- This situation has some serious efficiency and safety consequences. Around the country, because of staffing shortages and misalignment between experienced personnel and new hires, more experienced controllers are being asked to work longer hours to handle increasingly congested runways and airspace. Fatigue is becoming an issue that must be addressed and is creating risks to the operational efficiency and safety of the air traffic system.

- A good example is the rate of runway incursions. So far this year, there have been 16 type A and B incursions. I believe both controller fatigue and scheduling are factors in these incursions and must be addressed.

- I have said time and again that the FAA tends to be reactive, not proactive – another example is the problem with controller training and hiring.

- Though the FAA prides itself on reducing the time it takes to train a controller, there are many facilities where controllers are not receiving their training in a timely manner. I am concerned that, unless this problem is dealt with, there will be an increase in the attrition rate for new hires, making a bad situation worse.

- The numbers FAA uses in its Controller Workforce Plans (CWP) can be deceiving. While the CWP is accurate that the number of controllers has increased since 2004, the FAA does not differentiate between a certified controller and one still in training. This is a critical piece of information that must be reported to all stakeholders.

- According to the DOT IG, the number of controllers in training has increased by 62 percent, while the number of certified controllers has decreased by 11 percent. The FAA's controller workforce is dramatically changing and it needs to acknowledge that and work with stakeholders and Congress to keep our air transportation system running safely and efficiently.

- With that, I want to again welcome our witnesses today and I look forward to their testimony.

- Before I recognize Mr. Petri for his opening statement, I ask unanimous consent to allow 2 weeks for all Members to revise and extend their remarks and to permit the submission of additional statements and materials by Members and witnesses. Without objection, so ordered.

Opening Statement for the Honorable Eddie Bernice Johnson
House Subcommittee on Aviation
Hearing on Air Traffic Controller Staffing
Wednesday, June 11, 2008 – 2167 RHOB

Thank you Mr. Chairman.

I want to thank you and Ranking Member Petri for calling this important hearing on the issue of Air Traffic Control Facility Staffing.

The dedicated men and women who serve as air traffic controllers are an integral component to our nation's aviation system being one of the safest in the world.

By 2015, it is projected that one billion passengers will board planes domestically each year.

The safe and efficient movement of these passengers will depend on a viable, robust, and experienced fleet of air traffic controllers.

Mr. Chairman, the issue of Air Traffic Controller staffing is one of particular importance to me as the volume of alarming concern from controllers in my district—as well as controllers residing outside of my district—has consistently increased.

Coincidentally, on last evening I conducted a telephone town hall meeting with my constituents. This format allows me to stay in touch with my constituents while I'm here in Washington during the legislative work week.

I remember one caller in particular. The gentleman identified himself as an air traffic controller and expressed his frustration, hurt, and anger about current conditions concerning not only DFW TRACON, but similar conditions around the country.

The gentleman stated, "Ms. Johnson can you all please do something. Morale is the lowest it's ever been; we're experiencing a mass exodus of experience due to retirements;

and for this environment to continue only serves to undermine public confidence in the system."

Mr. Chairman, it is my understanding that in the Dallas-area, the DFW TRACON currently has 57 Certified Professional Controllers and 23 trainees.

The FAA's staffing range for the DFW TRACON is 80-98, which is predicated on budget and not a scientific staffing-standard. The previously agreed-upon staffing authorization level for the DFW TRACON, which was based on a scientific staffing-standard, was 117. Even using the FAA's staffing range, DFW TRACON is critically understaffed.

As the GAO indicated in February of this year, with seventy-two percent of its controller workforce eligible for retirement in less than eight years, FAA has a huge staffing challenge on its hand that must be addressed now.

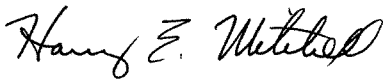
At every turn, the Agency has failed to account for shortages due to controller retirements.

According to GAO, in fiscal year 2006, FAA estimated 467 controllers would enter retirement—583 eventually retired. In fiscal year 2007 there were 828 retirements and FAA predicted only 700. We've simply got to turn this ship around.

As I close Mr. Chairman, I want to thank you for your work and persistent oversight on this matter. This issue represents a challenge we simply can not allow to go unaddressed.

I want to thank the witnesses that have come before us this morning, and look forward to their testimony regarding this extremely important matter for the flying public.

Thank you Mr. Chairman and I yield back the balance of my time.



Statement of Rep. Harry Mitchell
House Transportation and Infrastructure Committee
Subcommittee on Aviation
6/11/08

--Thank you Mr. Chairman.

--As you know our aviation system is facing serious challenges with regard to maintaining a fully trained, fully staffed team of air traffic controllers.

--According to the FAA, over the next 10 years, approximately 70 percent of our air traffic controllers will become eligible to retire.

--Making matters even more difficult, we are seeing higher than expected rates of attrition. According to the U.S. Department of Transportation's Inspector General, since 2005 the rate of attrition has been 23 percent higher than the FAA projected.

--We are seeing many controllers retire before they reach the mandatory retirement age of 56. According to the Inspector General, of the 1876 controller who retired between 2005 – 2007 1876 only 37 had reached the mandatory retirement age.

--As more controllers leave, the demands placed on the remaining controllers increases.

--According to the General Accountability Office, "with fewer fully certified controllers and greater on-the-job training demands, controllers may work more overtime hours.

Overtime can lead to fatigue, and many controllers routinely work overtime, raising safety concerns."

--It is not just the GAO that has expressed concern about controller fatigue. We have heard concern from the Inspector General as well as the National Transportation Safety Board.

--Air traffic controllers are charged with keeping the flying public safe, and clearly we don't want to do anything to impede their ability to do that.

--I am eager to hear from today's witnesses about how we can meet the challenges ahead.

--Thank you, Mr. Chairman. I yield back the balance of my time.

STATEMENT OF
THE HONORABLE JAMES L. OBERSTAR
SUBCOMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
HEARING ON "AIR TRAFFIC CONTROL FACILITY STAFFING"
JUNE 11, 2008

- I want to thank Chairman Costello and Ranking Member Petri for calling today's hearing.

- Mr. Chairman, the nation's air traffic controllers, working at airport towers, terminal radar approach control centers, and en route centers, handle at any given moment, approximately 5,000 planes in the national airspace. According to the National Air Traffic Controllers' Association, in one year, "controllers handle an average of 64 million takeoffs and landings."

- The air traffic control system is highly technical. The system relies on advanced computing, sophisticated communications and a wide array of surveillance technology. However, the glue that makes this sophisticated system work – that ensures safe separation of aircraft and smooth traffic flows – is the controller workforce. They are critical to the safe and efficient operations of the nation's air traffic control system.

- Today's roughly 15,000 Federal Aviation Administration (FAA) controller workforce is facing a serious challenge. Because so many controllers, over 12,000, were hired in the years after the 1981 strike and subsequent firing of air traffic controllers, the FAA is facing a retirement bubble.

- Over the next 10 years, over 70 percent of FAA's nearly 15,000 air traffic controllers will be eligible to retire. FAA estimates that it could lose more than 15,000 air traffic controllers between 2008 and 2017. The FAA plans to hire approximately 17,000 controllers over the next 10 years to have enough recruits in the pipeline to meet the positions lost. The FAA states that it hired 1,815 controllers in fiscal year (FY) 2007; it plans to hire 1,877 in FY 2008, and 1,914 in FY 2009.

- Unfortunately, it is not clear that, in spite of the recent hiring initiatives, the FAA is ready to cope with this crisis in controller staffing. It also may be underestimating the problem. The FAA is predicting that between 700 and 900 controllers will retire each year. However, in 2007, 1,559 controllers left their jobs,

including 828 retirements. The acceleration of controllers leaving their jobs could be directly attributable to the imposition of the 2005 contract (imposed work rules).

- However, hiring new controllers is a complex process. Controllers are highly skilled professionals and it takes several years to train a controller. According to the FAA, in FY 2007, the failure rate for controller trainees in both the FAA Academy and in air traffic control facilities is approximately four and eleven percent, respectively. Therefore, replacing a controller who retires must begin several years in advance.

- That is why I am concerned about the current staffing of FAA air traffic control facilities, the rate of retirements, and the pace at which the FAA is able to hire and train new controllers.

- I am also concerned about the ratio of experienced controllers and developmental controllers at FAA air traffic control facilities. According to the Department of Transportation Inspector General, the number of developmental controllers (controllers in training) increased by 62 percent between 2004 and 2007. In some cases, developmental controllers represent a substantial portion of the workforce and, in at least one facility, the majority of the controller staff are developmental. This could present serious safety and operational issues, including controller fatigue, and I want to know what the FAA is doing about it.

- It is imperative that the FAA has enough controllers in the right place, at the right time, with sufficient experience to safely manage the air traffic system today and to accommodate the future demands for air transportation.

- Thank you again Chairman Costello for your leadership on this issue. I also want to thank the witnesses for sharing their testimony with us today.

Rep. Poe - TX For the record

Committee on Transportation and Infrastructure
Aviation Subcommittee Hearing on Air Traffic Controller Staffing
Wednesday, June 11, 2008

Opening Statement

Thank you Mr. Chairman for holding this hearing on this very important subject. There is no doubt that operational errors, when controllers allow airplanes to get too close together, and operational deviations, when controllers allow airplanes to enter another controllers' airspace without permission, are on the rise. At the

Houston TRACON at George Bush Intercontinental Airport near my district, errors are up over 2000% (1 error vs. 23-to-date) from last year and deviations are up over 900% (0 vs. 9), while staffing is down and overtime is up. As a matter of fact, the FAA added to the Houston TRACON's workload when they decided to transfer the Beaumont airspace to Houston back in April without providing extra staffing. To me, there's a clear

nexus between staffing shortages, overtime usage, and operational errors and deviations. As the FAA allows staffing levels at facilities across the country, like the Houston TRACON, to plummet, I am very concerned how this will impact safety in the skies and would like to know how the FAA is addressing staffing shortages and the sharp rise in operational errors and deviations that

have accompanied such understaffing during this hearing today?

I am also concerned with the Department of Transportation Inspector General (DOT IG) report that just came out that reviews air traffic controller training at ATC facilities. The report states that the "FAA needs to continue encouraging veteran controllers to transfer to higher-level, busier locations," and it goes on to

say that the number of controllers transferring from "lower-level, less-complicated facilities to higher-level, busier locations" decreased by nearly 34% between April 2004 and December 2007. It's important to note that the FAA imposed work rules on controllers in September 2006, which has created a disincentive for veteran controllers to transfer. I don't think we want pilots fresh out of flight school flying our

busiest airliners, so I can't understand why we want new controller-trainees working at our nation's busiest ATC facilities. I am interested in learning how is the FAA is addressing the decline in veteran controllers transferring, and how is the FAA revamping training at the Houston-area facilities to accommodate trainees with far less experience?

Opening Statement
Congressman John T. Salazar
T&I Aviation Subcommittee Hearing
Hearing on Air Traffic Control Facility Staffing
June 11, 2008

Thank you, Mr. Chairman, for calling this very important hearing.

I'm very concerned with staffing shortages at our nation's air traffic control facilities.

To say that the FAA is facing staffing "challenges" is a vast, and dangerous, understatement.

I've raised concerns to the FAA about staffing shortages at many of the towers in Colorado.

At Pueblo, for instance, they are operating with 8 certified controllers, not the 12 which was previously agreed to, back in 1998.

They do have 6 trainees, but given the low retention and passage rate of the trainees, we cannot guarantee they will all become certified.

And at Aspen, they currently have 7 certified controllers, down from 15, with 3 in training.

If safety is the number one priority for the FAA, I do not understand how they allow towers to operate with such insufficient staffing numbers.

I have had numerous conversations with the FAA on the matter of consolidating the Pueblo TRACON to Denver.

And I'm not convinced that co-locating to Denver, which itself is under-staffed, is the best and safest idea.

While I can understand the desire to cut costs, I have serious concerns over the necessity for such moves and the possible safety issues that would result.

I look forward to the testimony today and I thank the panel members for being here.

Thank you.

Question for Panel 1

To Hank Krakowski--FAA

Currently it takes a Pueblo radar controller nearly 2 years to certify at Pueblo. How long would it take for a Denver TRACON controller to certify on the Pueblo positions?

Question for Panel 2

To Mel Davis--Southern California TRACON:

You assumed Palm Springs approach control airspace recently, similar to what I am facing in my district with Pueblo. What can my local flying community expect when these services are transferred to Denver TRACON?

Mr. David S. Conley
FAA Managers Association, Inc.
4410 Massachusetts Avenue, NW
Washington, DC 20016
202-741-9415

Testimony before
House Aviation Subcommittee
June 11, 2008

Testimony of David S. Conley
Vice President, FAA Managers Association, Inc.
Before the Subcommittee on Aviation
House Transportation and Infrastructure
Air Traffic Control Facility Staffing
June 11, 2008

Chairman Costello, Ranking Member Petri and Members of the Subcommittee, I thank you for the opportunity to testify regarding Air Traffic Control Facility Staffing on behalf of the FAA Managers Association. I am the Vice President of the FAA Managers Association and currently serve in the FAA's Houston Air Route Traffic Control Center as the Traffic Management Officer. I am here on annual leave and my comments do not represent the views of the FAA.

The FAA Managers Association's mission is to promote excellence in public service, and in particular, represent the managers who ensure aviation safety and efficiency. Among those we represent are the front line managers who not only develop, train and oversee the nation's air traffic controllers, but also ensure safety and efficiency in the National Airspace System (NAS) and implement changes in the NAS, whether they be hardware, software, or procedural changes. It is critical that you know that to become a front line manager, each of our Air Traffic Front Line Managers must have first served successfully as an air traffic controller.

I believe the FAA Managers Association holds a unique perspective on air traffic control facility staffing since it is the first level of supervisors who manage and oversee the controller workforce. While we manage the day-to-day operation of our air traffic facilities, we are also charged with supervising the significant number of new controller hires, as well as providing oversight of the seamless integration of new technology (NextGen). We have the duty of trying to replenish our own workforce, partly due to retirements and partly due to cuts in years past, in order to provide sufficient oversight of our system. Additionally, with the increased demand on the system and NextGen on the horizon, supervisory oversight becomes critically important.

I would like to focus my comments on three key areas. First, I would like to address the new controllers that the FAA is hiring to fill record numbers of retirements. Second, I will address the need to increase the minimum number of supervisors within the FAA to improve and enhance safety in the system. Supervisor Staffing is even more important due to the diminishing levels of cumulative experience that we have in our controller workforce. It is important to note that we can soon expect to see higher rates of supervisory retirements that will compound the experience gap that are already exists. Third, I want to provide you with my Association's views on how the current system is functioning.

It is undeniable that there is a need for additional controllers. However, it must be noted that with the hiring of new controllers, management and oversight is crucial. This is

not meant to be critical of the new controllers, but rather to emphasize that fact that proper supervision is essential to a safe aviation system, and we strongly believe that the best person to provide this oversight is a trained and dedicated Front Line Manager. Although there are naturally some exceptions, we have every reason to be optimistic about the new batch of air traffic controller recruits.

I have been hearing from our Managers across the United States, including Alaska, that the new recruits are eager and enthusiastic. They are up for the challenge of an accelerated and rigorous training program. The main difficulty we foresee is the fact that the abundance of trainees will cause a backlog of simulation time as they compete with other forms of recurrent and/or remedial training. Lack of Front Line Managers' oversight during training is a very big problem. Once training has been completed, oversight to these newly certified controllers is essential.

I was hired by the FAA in 1983 and had no previous air traffic control experience. At that time, there was no Collegiate Training Institute (CTI) hiring program and I did not have military experience. I was assigned to Little Rock Tower and Terminal Radar Approach Control (TRACON) in Little Rock, AR. After completing training at LIT Tower, my managers at the time told me that I was the youngest fully-certified tower controller in the FAA. Over the course of my career, I have worked at towers, TRACON's, and Centers in Little Rock, AR; Savannah, GA; Jacksonville, FL; Philadelphia, PA; and Houston, TX; as well as military, and research facilities in Atlantic City, NJ and Colorado Springs, CO. As I said before, I am now employed at Houston Center in Houston, TX.

The situation in 1981-1983 is eerily similar to today. In the early 1980's, the US was struggling with similar economic conditions as we are today. The difference between then and now is that in 1981, we had 2600 front line managers and fully staffed training and quality assurance departments in place to facilitate the training and certification of the brand new controller workforce. Today our supervisory staff is woefully understaffed and our training and QA staffs are still staffed at the reduced levels of the 1990's, as if no training dilemma even exists.

In many of our towers and TRACONs, we are hearing reports that training departments, with or without contractor personnel, are only now being fully supported. This concerns us, as it is our core belief that not only is it important to provide operational training oversight with a front line manager, but it is essential that all of our facilities have the means to provide classroom and simulation training without compromising the integrity of the program or depleting existing controller resources. This represents an area where the FAA could do better.

It has come to our attention that there are some currently in the workforce who are spreading tales of new hires who lack the talent and initiative needed to meet the rigors of such a demanding job. We believe these stories to be an unfortunate mischaracterization of our new recruits. In fact, a side-by-side comparison of the certification times of the new hires compared to the certification times of transferring controllers within the last 10 years may shed some light on the truth. A transferring controller is a controller who has been

previously certified in an ATC facility and is moving to another. When this happens, the controller is trained in the new facility in much the same way as a new hire. Even in this case, the transferring controller must demonstrate before a supervisor his/her ability to correctly perform the functions of an air traffic controller. In many cases, we are seeing today's new hires meet all the requirements to reach full certification in times far below that of some of our previous transferring controllers.

The enthusiasm of today's new recruits has enhanced the overall morale at a number of facilities. We appreciate their dedication and welcome them to our team. FAAMA Managers have seen numerous success stories with these new hires; such as, a VRA hire completing a two-and-a-half year training program within seven months, and a Collegiate Training Institute (CTI) student completed the same program in one year and two months. These new recruits have brought passion and a youthful energy back into a workforce that has been plagued by contractual disagreements and low morale. FAAMA is not naïve to the fact that this new workforce is "green" and that we have a long way to go. This is why our Organization is very concerned that a lack of sufficient oversight could lead them towards a path of failure.

As an Association, increasing the number of Air Traffic Front Line Mangers has been and still remains our number one priority in pending the FAA Reauthorization legislation. In 1998, the Clinton Administration, as part of the Collective Bargaining Agreement with the air traffic controller union, agreed to fund controller pay increases by eliminating 700 first-level supervisor positions, or Front Line Managers as we call them today, at air traffic control facilities across the country. This significant slash in supervisors led to the lack of proper supervision at air traffic control facilities and has had a dramatic impact on safety as well as the working environments. Operational Errors and delays immediately increased as result of the reductions in Front Line Managers. As the following graph shows, clearly there is a link in the air traffic environment between the level of supervision and safety. Both the DOT Inspector General (DOT IG)[1] and the Government Accounting Office (GAO)[2] have agreed with this assessment. Additionally, Congress has time and again stressed the importance of maintaining vital supervisor position[3]. It was only when Congress stepped in and mandated increases in the supervisory workforce that the error rate leveled off and eventually began to decline.

Year	Operational Errors	Error Rate Per 100,000 Flights	Supervisor Staffing
1993	761	0.53	2300
1994	767	0.52	2300
1995	767	0.52	2300

[1] Testimony of Alexis M. Stefani, Principle Assistant Inspector General, U.S. Department of Transportation at June 15, 2004 hearing before the House Committee on Transportation, Titled: Addressing Controller Attrition: Opportunities and Challenges Facing the Federal Aviation Administration.
[2] GAO Report 02-591. Air Traffic Control: FAA needs to better prepare for impending wave of controller attrition (June 2002)
[3] FY02 House Report to accompany H.R. 2299, the Department of Transportation Appropriations Bill; FY03 House Report to accompany the Department of Transportation Appropriations Bill; FY04 and FY05 Conference Report language to accompany the Department of Transportation Appropriations Bills.

1996	791	0.53	2300
1997	790	0.51	2300
1998	894	0.56	2060
1999	992	0.60	1967
2000	1138	0.69	1897
2001	1182	0.74	1726
2002	1042	0.66	1609
2003	1211	0.79	1556

*All numbers taken from FAA Administrator's Fact Books

According to our research, the minimum number of Front Line Managers needed to effectively supervise our air traffic control system is 2060. We arrived at this number by conducting a facility-by-facility audit based on our collective experience of what the appropriate level should be. Attached is the breakdown on Front Line Managers' numbers by air traffic facility. The FAA Managers Association has held firmly that numbers of Front Line Managers should not be based on a ratio to the number of controllers. We believe that the FAA should be provided the latitude to determine specific oversight requirements in individual facilities and should be able match those requirements with an appropriate allocation of supervisory resources. Again, FAAMA used its own resources to conduct a facility-by-facility assessment, based on needs from a field perspective, and determined the correct number to be 2060.

The job of a Front Line Manager is not characterized by how many people they supervise, nor should the number of Front Line Managers be determined by the number of people supervised. That is only a part of the equation. (The attached numbers marry all aspects of the job.) While there have been discussions in the past about ratios of supervisors to controllers, we believe that a rigidly fixed ratio system fails to recognize the operational significance of the supervisors' duties. These men and women are not office managers; they are operational managers leading in the day-to-day delivery of safety and efficiency services to our customers. We need the flexibility to responsibly manage our supervisory resources and be able to place more front line managers where we need them. Today, the system is stressed and we need to be able to use our resources in our facilities effectively to ensure that we maintain the level of safety and efficiency that the flying public demands.

Retirements are affecting us on all fronts…from the controller to the manager to the administrative support staff. As controllers retire, we loose our employment base for the most seasoned air traffic controllers to move up to supervisory positions, as well as losing qualified controllers to supervise. As is the case government-wide, many of our managers are becoming eligible for retirement. In a snap-shot, we are currently understaffed, we see upcoming retirements in our ranks, our employment pool of qualified applicants is diminishing with their own retirements, and those we are charged with supervising are new. Management oversight is more critical than ever before.

Finally, the Air Traffic Control System is remarkably the safest and most efficient system in the world. Our goal is to not only keep it that way, but also make it better. We welcome the new controller work force. Together, we can meet the challenges of today and

tomorrow. We applaud the introduction of "NextGen". These upgrades are essential to managing the Nation's airspace where new demands of higher fuel prices, unmanned air systems, climate change, and very light jets will all pose significant challenges. I have no doubt that we will meet them, but there has to be an across the board assessment of needs. I will also acknowledge that we cannot fix or address all of our future problems by merely addressing equipment, controllers and oversight. We need effective leadership at every level. We are encouraged by the leadership of the FAA's Chief Operating Officer for the ATO, Hank Krakowski, and trust that he will guide, structure, and facilitate the Air Traffic Organization to achieve it's objectives. We look forward to working with him.

I would like to again thank this Committee for inviting me to testify today. I am available for your questions.

Attachement 1

Type Fac Code	Facility ID	Facility Name	ATC Grade	Service Area	Sup #
7	ATL	ATLANTA ATCT	12	EASTERN	7
3	A80	NORTH GEORGIA TRACON	12	EASTERN	15
3	MIA	MIAMI INTL ATCT	12	EASTERN	12
3	CLT	CHARLOTTE ATCT	11	EASTERN	12
3	CVG	GREATER CINCINNATI INTL ATCT	11	EASTERN	12
3	MCO	ORLANDO INTL ATCT	11	EASTERN	12
3	TPA	TAMPA INTL ATCT	11	EASTERN	12
3	DAB	DAYTONA BEACH ATCT	10	EASTERN	12
3	MEM	MEMPHIS INTL ATCT	10	EASTERN	12
3	BNA	NASHVILLE METRO ATCT	9	EASTERN	7
3	JAX	JACKSONVILLE INTL ATCT	9	EASTERN	7
2	P31	PENSACOLA TRACON	9	EASTERN	7
3	PBI	PALM BEACH INTL ATCT	9	EASTERN	7
3	RDU	RALEIGH DURHAM ATCT	9	EASTERN	7
3	SDF	LOUISVILLE STANDIFORD ATCT	9	EASTERN	8
6	ZSU	SAN JUAN CERAP	9	EASTERN	9
3	BHM	BIRMINGHAM MUNICIPAL ATCT	8	EASTERN	4
3	CHS	CHARLESTON INTL ATCT	8	EASTERN	4
7	FLL	FORT LAUDERDALE ATCT	8	EASTERN	5
3	GSO	GREENSBORO ATCT	8	EASTERN	5
3	MOB	MOBILE ATCT	8	EASTERN	4
3	RSW	FORT MYERS ATCT	8	EASTERN	4
3	SAV	SAVANNAH INTL ATCT	8	EASTERN	4
7	SFB	CENTRAL FLORIDA REGIONAL ATCT	8	EASTERN	4
3	TYS	KNOXVILLE ATCT	8	EASTERN	4
3	CAE	COLUMBIA METRO ATCT	7	EASTERN	4
3	CHA	CHATTANOOGA ATCT	7	EASTERN	4
3	FAY	FAYETTEVILLE MUNI ATCT	7	EASTERN	4
7	FXE	FT. LAUDERDALE EXEC ATCT	7	EASTERN	2
3	GPT	GULFPORT BILOXI REG ATCT	7	EASTERN	4
3	GSP	GREER ATCT	7	EASTERN	4
3	HSV	HUNTSVILLE ATCT	7	EASTERN	4
3	ILM	WILMINGTON ATCT	7	EASTERN	4
3	JAN	JACKSON INTL ATCT	7	EASTERN	4
3	LEX	LEXINGTON ATCT	7	EASTERN	4
3	MGM	MONTGOMERY RAPCON	7	EASTERN	4
3	MYR	MYRTLE BEACH ATCT	7	EASTERN	4
2	NMM	MERIDIAN NAS RATCF	7	EASTERN	4
7	ORL	ORLANDO EXECUTIVE ATCT	7	EASTERN	3
7	PDK	DE KALB PEACHTREE ATCT	7	EASTERN	3
3	FLO	FLORENCE ATCT	6	EASTERN	3
3	AGS	AUGUSTA ATCT	6	EASTERN	3
3	AVL	ASHEVILLE ATCT	6	EASTERN	3
7	PIE	ST. PETERSBURG ATCT	7	EASTERN	3
7	SJU	SAN JUAN INTL ATCT	7	EASTERN	4
7	SRQ	SARASOTA ATCT	6	EASTERN	4
3	TLH	TALLAHASSEE ATCT	7	EASTERN	4
7	TMB	TAMIAMI ATCT	7	EASTERN	3

3	TRI	TRI-CITY REGIONAL ATCT	7	EASTERN	4
7	BOS	BOSTON LOGAN ATCT	11	EASTERN	6
2	F90	BOSTON CONSOLIDATED TRACON	11	EASTERN	12
3	PVD	PROVIDENCE ATCT	9	EASTERN	7
2	Y90	YANKEE TRACON	9	EASTERN	7
2	K90	CAPE TRACON	8	EASTERN	5
3	MHT	MANCHESTER ATCT	8	EASTERN	3
7	ACK	NANTUCKET ATCT	7	EASTERN	3
7	BDL	BRADLEY INTL ATCT	7	EASTERN	4
3	IAD	DULLES INTL ATCT	12	EASTERN	6
9	N90	NEW YORK TRACON	12	EASTERN	30
9	PCT	POTOMAC TRACON	12	EASTERN	30
3	DCA	WASHINGTON NATIONAL ATCT	11	EASTERN	5
3	PHL	PHILADELPHIA INTL ATCT	11	EASTERN	12
3	PIT	PITTSBURGH INTL ATCT	11	EASTERN	12
3	BWI	BALTIMORE INTL ATCT/TRACON	10	EASTERN	5
7	EWR	NEWARK INTL ATCT	10	EASTERN	5
7	JFK	JOHN F KENNEDY INTL ATCT	10	EASTERN	5
7	LGA	LA GUARDIA ATCT	10	EASTERN	5
3	ORF	NORFOLK INTL ATCT	9	EASTERN	6
3	RIC	RICHMOND INTL ATCT	6	EASTERN	3
3	ABE	ALLENTOWN ATCT	8	EASTERN	4
3	ACY	ATLANTIC CITY ATCT	8	EASTERN	4
3	ALB	ALBANY COUNTY ATCT	8	EASTERN	4
3	AVP	WILKES-BARRE ATCT	8	EASTERN	4
3	BUF	GREATER BUFFALO INTL ATCT	8	EASTERN	4
3	MDT	HARRISBURG INTL ARPT ATCT	8	EASTERN	4
3	ROC	ROCHESTER MONROE CNTY ATCT	8	EASTERN	4
3	SYR	SYRACUSE INTL ATCT	8	EASTERN	4
7	FPR	FORT PIERCE	6	EASTERN	2
7	FRG	REPUBLIC ATCT	7	EASTERN	2
7	HPN	WESTCHESTER ATCT	7	EASTERN	2
7	HTS	HUNTINGTON ATCT	6	EASTERN	2
7	ILG	GREATER WILMINGTON	6	EASTERN	2
7	ISP	LONG ISLAND MAC ATCT	7	EASTERN	2
7	TEB	TETERBORO	7	EASTERN	2
3	ERI	ERIE TRACAB	6	EASTERN	2
7	MMU	MORRISTOWN ATCT	7	EASTERN	2
7	PNE	NE PHILADELPHIA ATCT	5	EASTERN	2
7	PNS	PENSACOLA ATCT	6	EASTERN	2
7	POU	POUGHKEEPSIE ATCT	6	EASTERN	2
3	RDG	READING ATCT	6	EASTERN	2
7	RME	GRIFFISS ATCT	6	EASTERN	2
7	VRB	VERO BEACH ATCT	6	EASTERN	2
7	ADW	ANDREWS ATCT	5	EASTERN	4
7	LOU	LOUISVILLE BOWMAN	5	EASTERN	1

			Sub Total		521
Type Fac Code	Facility ID	Facility Name	ATC Grade	Service Area	Sup#
7	STL	ST. LOUIS/LAMBERT INTL ATCT	10	CENTRAL	5
2	T75	ST. LOUIS TRACON	10	CENTRAL	7
3	MCI	KANSAS CITY INTL ATCT	9	CENTRAL	7
3	ICT	WICHITA MIDCONTINENT ATCT	9	CENTRAL	5
3	DSM	DES MOINES MUNI ATCT	8	CENTRAL	4
2	R90	OMAHA TRACON	8	CENTRAL	4
3	SGF	SPRINGFIELD REGIONAL ATCT	8	CENTRAL	4
3	LNK	LINCOLN MUNICIPAL ATCT	7	CENTRAL	4
7	OMA	OMAHA ATCT	7	CENTRAL	4
3	CID	CEDAR RAPIDS MUNI ATCT	6	CENTRAL	2
7	SUS	SPIRIT OF ST. LOUIS ATCT	6	CENTRAL	2
3	ALO	WATERLOO MUNICIPAL ATCT	5	CENTRAL	2
7	MKC	KANSAS CITY DOWNTOWN ATCT	5	CENTRAL	2
3	SUX	SIOUX CITY ATCT	5	CENTRAL	2
2	D10	DALLAS/FORT WORTH TRACON	12	CENTRAL	18
7	DFW	DALLAS/FORT WORTH ATCT	12	CENTRAL	7
2	I90	HOUSTON TRACON	11	CENTRAL	9
7	IAH	Houston ATCT	11	CENTRAL	6
3	SAT	SAN ANTONIO ATCT	10	CENTRAL	7
3	ABQ	ALBUQUERQUE ATCT	9	CENTRAL	7
3	AUS	AUSTIN ATCT	9	CENTRAL	7
3	CRP	CORPUS CHRISTI ATCT	9	CENTRAL	7
7	DAL	DALLAS LOVE FIELD ATCT	8	CENTRAL	5
7	FTW	FORT WORTH MEACHAM ATCT	7	CENTRAL	2
3	LIT	LITTLE ROCK ATCT	9	CENTRAL	5
3	MSY	NEW ORLEANS MOISANT ATCT	9	CENTRAL	5
3	OKC	OKLAHOMA CITY ATCT	9	CENTRAL	5
3	TUL	TULSA INTL ATCT	9	CENTRAL	5
3	ELP	EL PASO INTL ATCT	7	CENTRAL	4
3	FSM	FORT SMITH TRACAB	8	CENTRAL	3
7	HOU	WILLIAM P. HOBBY ATCT	8	CENTRAL	4
3	MAF	MIDLAND REGIONAL ATCT	8	CENTRAL	4
7	RVS	TULSA JONES ATCT	8	CENTRAL	3
3	ABI	ABILENE DYESS RAPCON	7	CENTRAL	4
3	ACT	WACO ATCT	7	CENTRAL	4
7	ADS	ADDISON ATCT	7	CENTRAL	2
3	AMA	AMARILLO ATCT	7	CENTRAL	4
3	BTR	BATON ROUGE METRO ATCT	7	CENTRAL	4
7	DWH	HOUSTON HOOKS ATCT	7	CENTRAL	3
3	GGG	GREGG COUNTY TRACAB	7	CENTRAL	3
3	LBB	LUBBOCK ATCT	7	CENTRAL	4
3	LFT	LAFAYETTE REGIONAL ATCT	7	CENTRAL	4
3	ROW	ROSWELL ATCT	7	CENTRAL	3
3	SHV	SHREVEPORT ATCT	7	CENTRAL	5
3	LCH	LAKE CHARLES TRACAB	6	CENTRAL	3
3	HUF	TERRE HAUTE ATCT	6	CENTRAL	3
3	FSD	SIOUX FALLS ATCT	6	CENTRAL	3
7	FNT	FLYING CLOUD	6	CENTRAL	2

3	FAR	FARGO	6	CENTRAL	3
3	EVV	EVANSVILLE ATCT	7	CENTRAL	3
3	DLH	DULUTH	6	CENTRAL	3
7	DPA	DUPAGE	7	CENTRAL	2
7	CPS	EAST ST. LOUIS	6	CENTRAL	2
3	BPT	JEFFERSON COUNTY ATCT	7	CENTRAL	3
3	BIS	BISMARCK TRACAB	5	CENTRAL	2
3	AZO	KALAMAZOO ATCT	7	CENTRAL	3
3	MFD	MANFIELD ATCT	5	CENTRAL	2
3	MBS	SAGINAW ATCT	6	CENTRAL	3
3	MKG	MUSKEGON	6	CENTRAL	3
3	C90	CHICAGO TRACON	12	CENTRAL	20
3	D21	DETROIT TRACON	11	CENTRAL	8
7	DTW	DETROIT ATCT	11	CENTRAL	5
3	M98	MINNEAPOLIS TRACON	11	CENTRAL	8
7	MSP	MINNEAPOLIS ATCT	11	CENTRAL	5
7	ORD	CHICAGO ATCT	12	CENTRAL	10
7	MDW	CHICAGO MIDWAY	8	CENTRAL	5
3	CLE	CLEVELND ATCT	10	CENTRAL	10
3	CMH	COLUMBUS ATCT	9	CENTRAL	7
3	DAY	DAYTON	9	CENTRAL	7
3	IND	INDIANAPOLIS ATCT	9	CENTRAL	7
3	MKE	MILWAUKEE ATCT	9	CENTRAL	7
			Sub Total		346
1	JNU	JUNEAU INTL ATCT	5	WESTERN	1
2	D01	DENVER TRACON	11	WESTERN	8
7	DEN	DENVER INTL ATCT	11	WESTERN	5
2	S46	SEATTLE TACOMA TRACON	11	WESTERN	7
2	S56	SALT LAKE CITY TRACON	10	WESTERN	7
7	SEA	SEATTLE TACOMA INTL ATCT	9	WESTERN	5
7	SLC	SALT LAKE CITY INTL ATCT	10	WESTERN	5
7	APA	CENTENNIAL ATCT	8	WESTERN	4
2	P80	PORTLAND TRACON	9	WESTERN	5
7	PDX	PORTLAND INTL ATCT	8	WESTERN	4
7	BFI	BOEING FIELD ATCT	8	WESTERN	3
3	BOI	BOISE ATCT	8	WESTERN	4
3	COS	COLORADO SPRINGS ATCT	8	WESTERN	4
3	GEG	SPOKANE INTL ATCT	8	WESTERN	4
3	BIL	BILLINGS INTL ATCT	7	WESTERN	4
3	EUG	EUGENE ATCT	7	WESTERN	4
7	LAX	LOS ANGELES INTL ATCT	11	WESTERN	8
9	NCT	N. CALIF TRACON	12	WESTERN	28
9	SCT	SO. CALIFORNIA TRACON	12	WESTERN	35
3	HNL	HONOLULU INTL ATCT	11	WESTERN	5
2	P50	PHOENIX TRACON	11	WESTERN	8
7	PHX	PHOENIX INTL ATCT	11	WESTERN	6
6	ZHN	HONOLULU CONTOL FACILITY	11	WESTERN	12
2	L30	Las Vegas TRACON	11	WESTERN	7
7	LAS	LAS VEGAS INTL ATCT	11	WESTERN	5
7	OAK	OAKLAND ATCT	9	WESTERN	5
7	SFO	SAN FRANCISCO INTL ATCT	10	WESTERN	5
7	LGB	LONG BEACH ATCT	8	WESTERN	4

7	SNA	ORANGE COUNTY ATCT	9	WESTERN	4
2	U90	TUCSON TRACON	8	WESTERN	4
7	VNY	VAN NUYS ATCT	8	WESTERN	3
3	BFL	BAKERSFIELD ATCT	7	WESTERN	3
7	DVT	PHOENIX DEER VALLEY ATCT	8	WESTERN	3
6	E10	HIGH DESERT TRACON	8	WESTERN	4
3	FAT	FRESNO ATCT	8	WESTERN	4
3	RNO	RENO ATCT	8	WESTERN	4
7	SAN	SAN DIEGO ATCT	7	WESTERN	4
3	SBA	SANTA BARBARA MUNI ATCT	8	WESTERN	4
3	SCK	STOCKTON ATCT	8	WESTERN	4
7	SJC	SAN JOSE INTL ATCT	7	WESTERN	4
7	TUS	TUCSON INTL ATCT	8	WESTERN	4
6	HIO	HILLSBORO	5	WESTERN	1
3	GTF	GREAT FALLS	5	WESTERN	2
4	HLN	HELENA ATCT	6	WESTERN	2
7	HWD	HAYWARD ATCT	6	WESTERN	2
2	A11	ANCHORAGE TRACON	9	WESTERN	7
7	ANC	ANCHORAGE ATCT	8	WESTERN	4
3	FAI	FAIRBANKS ATCT	7	WESTERN	4
7	MRI	MERRILL ATCT	7	WESTERN	4
			SUB TOTAL		**277**
					1144
Type Fac Code	Facility ID	Facility Name	ATC Grade	Service Area	Sup#
8	ZBW	BOSTON CENTER	11	EAST	42
8	ZDC	WASHINGTON CENTER	12	EAST	56
8	ZJX	JACKSONVILLE CENTER	11	EAST	44
8	ZME	MEMPHIS	12	EAST	44
8	ZNY	NEW YORK CENTER	12	EAST	42
8	ZTL	ATLANTA CENTER	12	EAST	52
8	ZMA	MIAMI CENTER	11	EAST	35
8	ZAN	ANCHORAGE CENTER	10	WEST	31
8	ZDV	DENVER CENTER	10	WEST	35
8	ZLA	LOS ANGELES	11	WEST	44
8	ZLC	SALT LAKE CENTER	10	WEST	30
8	ZSE	SEATTLE CENTER	10	WEST	30
8	ZOA	OAKLAND CENTER	11	WEST	42
8	ZAB	ALBUQUERQUE CENTER	10	CENTRAL	33
8	ZAU	CHICAGO CENTER	12	CENTRAL	56
8	ZFW	FORT WORTH CENTER	12	CENTRAL	56
8	ZHU	HOUSTON CENTER	11	CENTRAL	44
8	ZID	INDIANAPOLIS CENTER	12	CENTRAL	56
8	ZKC	KANSAS CITY CENTER	11	CENTRAL	44
8	ZMP	MINNEAPOLIS CENTER	11	CENTRAL	44

8	ZOB	CLEVELAND CENTER	12	CENTRAL	56
6	ZUA	GUAM CERAP	8	WEST	5
6	ZJU	SAN JUAN CERAP	9	EAST	10
			Enroute Totals		***936***
			Combined Totals		***2060***

United States Government Accountability Office

GAO

Testimony

Before the Subcommittee on Aviation, Committee on Transportation and Infrastructure, House of Representatives

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FEDERAL AVIATION ADMINISTRATION

Efforts to Hire, Staff, and Train Air Traffic Controllers Are Generally on Track, but Challenges Remain

Statement of Gerald L. Dillingham, Ph.D.
Director, Physical Infrastructure Issues

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GAO-08-908T

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Highlights

Highlights of GAO-08-998T, a testimony to the Subcommittee on Aviation, Committee on Transportation and Infrastructure, House of Representatives

FEDERAL AVIATION ADMINISTRATION

Efforts to Hire, Staff, and Train New Air Traffic Controllers Are Generally on Track, but Challenges Remain

Why GAO Did This Study

Each day, the Federal Aviation Administration (FAA) controls the take-offs, landings, and flights of over 50,000 aircraft. To accomplish this mission safely and efficiently, FAA must have a sufficient number of adequately trained air traffic controllers working at its air traffic control facilities. Over the next decade, FAA will need to hire and train nearly 17,000 controllers to replace over 15,000 current controllers, most of whom will be retiring. This massive hiring effort will occur as FAA begins to implement the next generation air transportation system (NextGen), which will integrate new technologies and procedures into air traffic operations and fundamentally change the role of air traffic controllers from controlling individual aircraft to managing air traffic flow. Hence, FAA will need to train experienced controllers to use the new technologies at the same time that it hires and trains new controllers to operate both the current and the new technologies.

This testimony addresses FAA's progress and challenges in hiring, staffing, and training air traffic controllers in the current air traffic control system and in preparing them for NextGen. It is based on prior GAO work, updated with reviews of FAA documents and interviews with FAA officials, controller union representatives, and other stakeholders.

To view the full product, including the scope and methodology, click on GAO-08-998T. For more information, contact Gerald L. Dillingham at (202) 512-2834 or dillinghamg@gao.gov.

What GAO Found

To prepare for the projected departure of over 15,000 air traffic controllers between 2008 and 2017, FAA began significantly increasing the number of new hires in fiscal years 2006 and 2007, when it hired 1,116 and 1,815 controllers, respectively. By contrast, in fiscal years 2002 through 2005, it had hired an average of 467 controllers per year. Retirements are taking place sooner than FAA expected. As a result, FAA has had to adjust its hiring targets upward—from 1,420 in fiscal year 2008 to 1,877, for example. While FAA has met its hiring targets so far and is on track to meet its target for fiscal year 2008, it has had to expand its applicant pool, in large part because fewer military controllers have sought civilian employment since the Department of Defense began to offer reenlistment bonuses of up to $60,000.

As FAA brings new controllers on board, it faces the challenge of ensuring that its control facilities are adequately staffed to meet their unique traffic demands. In 2007, FAA established staffing ranges for each facility based on facility-specific information, such as air traffic operations, productivity trends, expected retirements, and number of controller trainees. However, FAA's staffing is not aligned with the new ranges at about half of its facilities. While overstaffing will provide trained replacements as retirements occur, understaffing has potential safety and efficiency implications. As the proportion of new hires increases over time, FAA will face further challenges in balancing the numbers of trainees and fully certified controllers at each facility. Furthermore, with fewer fully certified controllers and greater on-the-job training demands, controllers may work more overtime hours. Overtime can lead to fatigue, and many controllers routinely work overtime, raising safety concerns. Both GAO and the National Transportation Safety Board have found that controllers' work schedules can contribute to fatigue and have made recommendations to mitigate it. FAA is taking steps to address these recommendations.

In the training area, FAA faces the dual challenge of certifying its new hires to operate today's air traffic control system as quickly as possible and of preparing to train both experienced controllers and new hires to operate NextGen technologies. Through training improvements, scheduling efficiencies, and greater use of simulators, FAA has, it says, reduced the amount of time controllers remain in trainee status; however, attrition among controllers in developmental training is increasing. It will be important for FAA to monitor the attrition and ensure that performance problems are addressed as early as possible to avoid unnecessary costs. Preparations for NextGen training are still in the early stages—as FAA observes, it is difficult to develop training for systems that have not yet been defined. However, GAO's work has shown that further research is needed to determine what training will be required to support the transition to NextGen—a transition that will involve changes in the roles and responsibilities of air traffic controllers as well as changes in technologies.

Mr. Chairman and Members of the Subcommittee:

Thank you for the opportunity to testify today on air traffic controller staffing. The Federal Aviation Administration (FAA) is responsible for managing the national airspace system and ensuring the safe and efficient movement of air traffic. Each day, FAA controls the take-offs, landings, and flights of over 50,000 aircraft. To accomplish this mission, FAA must have a sufficient number of adequately trained air traffic controllers working at its air traffic control facilities. Over the next decade, FAA will need to hire and train nearly 17,000 controllers to replace over 15,000 current controllers who are expected to retire from or leave the agency.[1] As FAA brings these new employees on board, it will be important for the agency to manage the process carefully and expeditiously and to maintain the highest levels of safety in the national air space system. Furthermore, FAA will be dealing with this massive hiring need at the same time that it transforms the current air traffic control system into the next generation air transportation system (NextGen), which will integrate new technologies and procedures into air traffic operations and fundamentally change the role of air traffic controllers from controlling individual aircraft to largely managing air traffic flow. Hence, FAA will need to train existing controllers to use the new technologies at the same time that it hires and trains new controllers to operate both the existing and the new technologies.

My testimony today focuses on FAA's progress and challenges in hiring, staffing, and training air traffic controllers in the current air traffic control system as well as preparing them for NextGen. This statement is based on prior GAO studies and work we conducted in May and June 2008, including reviews of FAA's annual controller workforce plans and other key documents; discussions with senior FAA officials and representatives of FAA's controllers union—the National Air Traffic Controllers Association (NATCA)—and aviation industry groups; and updates of the results of prior GAO studies. We conducted all of our work in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions

[1]In 1981, over 11,000 air traffic controllers went on strike and were subsequently fired by President Ronald Reagan. Between 1982 and 1990, FAA hired thousands of individuals to permanently replace the fired controllers. Most of this hiring took place between 1982 and 1986. Many of these controllers, as well as those controllers who did not participate in the strike, are now eligible or will soon be eligible to retire from FAA.

based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

FAA Is Making Progress in Hiring Air Traffic Controllers, but New Hires May Have Less Experience Than in Prior Years

During the coming decade, FAA will be challenged to continue hiring thousands of air traffic controllers to replace those who will retire and leave for other reasons. In March 2008, FAA projected that between 2008 and 2017, it will lose a total of 15,483 controllers through retirement and other reasons, and our analysis of FAA data indicates that about 63 percent of the current controller workforce will become eligible for retirement by 2017. However, FAA's data indicate that more controllers are retiring sooner than FAA anticipated. As table 1 shows, the percentage of controllers retiring within 2 years of eligibility has increased from about 33 percent in 2005 to 42 percent in 2007. For fiscal year 2006, FAA estimated that 467 controllers would retire, but 583 actually retired—about 25 percent more than planned. For fiscal year 2007, FAA anticipated 700 controller retirements, while 828 controllers actually retired—an 18 percent increase over anticipated retirements.

Table 1: Years beyond Earliest Retirement Eligibility in Which Retirement Occurred, 2005 through 2007

	Percentage of controllers retiring		
Number of years beyond earliest retirement eligibility	2005 retirements[a]	2006 retirements[b]	2007 retirements[c]
0-1	23.4 %	24 %	28.9 %
1-2	9.3 %	11 %	12.7 %
Total	**32.7 %**	**35 %**	**41.6 %**

Source: GAO analysis of FAA data.

[a]Based on 2005 data.

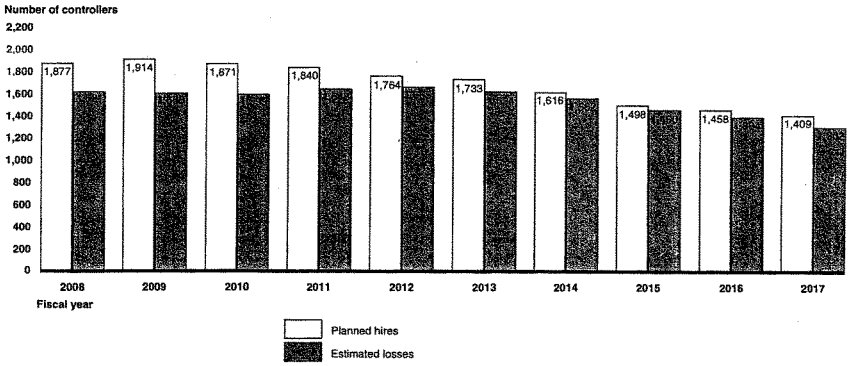
[b]Average annual percentage based on 2005 and 2006 data.

[c]Based on 2007 data.

To replace these controllers, FAA started making significant increases in controller hiring in fiscal years 2006 and 2007, when it hired 1,116 and 1,815 controllers, respectively. (By comparison, during fiscal years 2002 through 2005, FAA hired an average of 467 controllers each year.) FAA plans to hire about 16,980 new controllers during fiscal years 2008 through 2017. FAA anticipates hiring 1,877 controllers in fiscal year 2008, which would bring the total number of air traffic controllers to 15,130. Figure 1 shows the estimated numbers of losses and planned hires for fiscal years

2008 through 2017. FAA projects the total number of controllers will gradually increase from 15,130 in fiscal year 2008 to 16,371 in fiscal year 2017.[2]

Figure 1: FAA's Projected Air Traffic Controller Losses and Hiring, Fiscal Years 2008-2017



Source: FAA.

FAA incorporates each year's retirement numbers into its plans for future years and has increased its hiring to compensate for the larger-than-expected numbers of retirements. For example, the 1,877 controllers that FAA plans to hire in fiscal year 2008 represent a 28 percent increase over the 1,420 hires for 2008 that the agency planned for a year ago. According to FAA data, the agency is on track to meet its hiring target for fiscal year 2008. As of May 30, 2008, it had hired 1,290 controllers—about 62 percent of the planned hires. FAA recognizes that some of these increases in retirements may be attributable to recent labor disputes and disagreements over the contract that went into effect in 2006.

[2]Although air traffic is expected to increase significantly over the next decade, FAA expects that NextGen technologies and procedures will allow air traffic controllers to be more productive. Thus, FAA does not currently plan for any dramatic increases in overall controller staffing through 2017.

To keep on track with hiring controllers, in 2007 FAA expanded its applicant pool to include the general public. Previously, FAA had generally limited its hiring to individuals with prior FAA or Department of Defense (DOD) air traffic control experience and graduates of FAA's Air Traffic Collegiate Training Initiative (AT-CTI) program. The agency began looking farther afield, FAA officials said, because fewer military controllers have been seeking civilian employment since DOD established incentives to retain its controllers. For example, in 2007, the Air Force began offering reenlistment bonuses of up to $60,000 for military air traffic controllers, and the Marine Corps offers reenlistment bonuses of up to $40,000. By comparison, FAA offers recruitment incentives of up to $20,000 for air traffic controllers with experience and retention incentives of up to $24,000 for controllers who have submitted papers indicating that they plan to retire. To further expand its hiring pool, in October 2007, FAA added nine new colleges and universities to AT-CTI, bringing the total number of schools to 23. Students who have successfully completed aviation-related programs of study from these schools are an increasing source of FAA hires. The number of AT-CTI graduates hired as controllers increased from 195 in fiscal year 2005 to 1,019 in fiscal year 2007, or 56 percent of hires.

Hiring a Large Number of Controllers Presents a Staffing Challenge for FAA

As FAA brings new controllers on board, it faces the challenge of ensuring that its control facilities are adequately staffed to meet their unique traffic demands. In 2007, the agency established staffing ranges for each facility that considered facility-specific information, such as air traffic operations, productivity trends, expected retirements, and the number of controllers in training. These new ranges are an improvement over FAA's historical approach, which was to compute the number of controllers needed systemwide and negotiate the distribution of these totals to the facility level. In 2007, we found that FAA's staffing was not aligned with the new ranges at 104 facilities—about one-third of FAA's 314 facilities. At that time, 93 facilities were overstaffed and 11 were understaffed.[3] Our review of updated staffing ranges and on-board levels contained in FAA's 2008 controller workforce plan indicates that staffing is not aligned at 45 percent of the facilities. As of April 2008, 145 facilities are overstaffed and 12 are understaffed. According to FAA, the agency is purposefully

[3]GAO, *Federal Aviation Administration: Key Issues in Ensuring the Efficient Development and Safe Operation of the Next Generation Air Transportation System*, GAO-07-636T (Washington, D.C.: Mar. 22, 2007).

overstaffing facilities with new hires so that they are trained and ready to replace retiring controllers over the next few years. However, the understaffing at some facilities has potential safety and efficiency implications.

Within the next several years, the balance of experienced and newly hired controllers will shift dramatically, adding a layer of complexity to FAA's determination of proper controller staffing levels for its air traffic control facilities. Although the projected number of new hires each year represents a relatively small proportion of the total controller workforce—about 12 percent per year—in a few years, the cumulative effect of hiring at that rate on the experience level of the workforce can be large. According to FAA, about one quarter of the controller workforce had less than 5 years of experience at the end of fiscal year 2007. Our analysis of FAA's hiring and retirement projections indicates that by 2011, up to 59 percent of the controller workforce will have less than 5 years of experience and by 2016 that percentage will remain over 50 percent. With such a high percentage of newly hired controllers, fewer experienced controllers will be available to provide on-the-job instruction to trainees and more time may be needed to train and certify newly hired controllers, according to FAA. In addition, newly certified controllers may be less efficient than experienced controllers in handling the large volume of traffic that occurs at large and congested airports. However, the current and forecasted decline in air traffic that is being attributed to the rising cost of aviation fuel, the subsequent rise in costs to passengers, and the nation's general economic condition may provide a window of opportunity for hiring new controllers and providing experience in a less congested environment.

Managing air traffic safely and effectively while training new controllers will require balancing the numbers of trainees and fully certified controllers at each facility. Fully certified controllers have completed their training and are qualified to control traffic at all positions at their assigned location, and those who are fully certified for at least 6 months can become on-the-job instructors for new controllers. Our analysis of staffing at the 50 busiest airports showed that the percentage of fully certified controllers at each facility ranged from 56 percent to 94 percent. (See app. I.) The facilities with the lowest percentage of fully certified controllers include William P. Hobby Airport (Houston) (56 percent fully certified controllers), LaGuardia Airport (61 percent), Dallas-Ft. Worth Airport (62 percent), and Cleveland Hopkins Airport and Tampa Airport (both 63 percent). Facilities with the highest percentage of fully certified controllers include St. Louis Airport (94 percent), San Francisco Airport

(93 percent), Portland Airport and Logan Airport (both 92 percent), and Minneapolis/St. Paul Airport(90 percent).

FAA recognizes the importance of balancing the numbers of trainees and fully certified controllers. Historically, trainees have accounted for less than 35 percent of the controller workforce, but the agency is working to determine target ranges for the number of trainees that individual facilities can accommodate. These ranges are likely to depend on factors such as the size and workload of the facility. The speedy development and verification of these data will help to ensure that facilities have a sufficient number of fully certified controllers to instruct trainees and to safely and efficiently manage air traffic. For transparency, it will be important for FAA to include such data in its annual controller workforce plan.

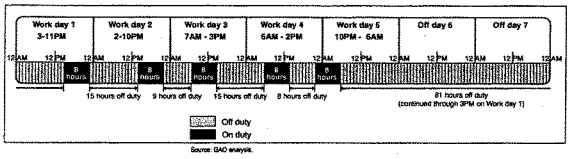
To the extent that retirement rates and the proportion of trainees at individual facilities leads to greater use of overtime, the potential for fatigue can increase, raising safety concerns. We previously reported[4] that air traffic controllers at some of the nation's busiest airports were regularly working 6-day weeks because of staffing shortages, raising questions about the extent to which this situation may cause fatigue. In November 2007, we identified controller fatigue as an issue affecting runway safety and recommended that FAA develop a mitigation plan for addressing controller overtime by adopting strategies to attract controllers to facilities with high volumes of air traffic and high rates of controller overtime. In response to our recommendation, FAA has established a working group to develop a mitigation plan and identify recruitment and retention tools. FAA has already taken positive steps toward implementing the mitigation plan by offering pay and relocation incentives of up to $25,000 to controllers who volunteer to relocate to facilities that are short-staffed. FAA's initial offerings have had generally positive results; volunteers accepted FAA's relocation offer for 11 locations but 1 location had no volunteers. It remains to be seen whether future planned offerings will be successful in achieving the needed staffing levels.

In addition, the National Transportation Safety Board (NTSB) has cited controller work schedules as contributing to fatigue and raising safety concerns. Since 1990, NTSB has placed efforts to address fatigue on its list

[4] *Aviation Runway and Ramp Safety: Sustained Efforts to Address Leadership, Technology, and Other Challenges Needed to Reduce Accidents and Incidents*, GAO-08-29 (Washington, D.C.: Nov. 20, 2007).

of "most wanted" transportation safety improvements, citing safety concerns about the effects of fatigue on air traffic controllers and other persons performing critical functions in the aviation industry. NTSB noted in 2007 that about 61 percent of controllers work rapidly rotating 8-hour shifts[5] with progressively earlier start times (see fig. 2), and about 40 percent of the controllers in this group (about 25 percent of all controllers) are assigned at least one midnight shift per week. Many controllers in this latter group work what is commonly referred to as a "2-2-1" schedule, which consists of two afternoon shifts, followed by two day shifts, followed by one midnight shift. For controllers, this schedule provides a longer weekend, eliminates the need to work more than one midnight shift in a single week, and allows a long recovery period after that one midnight shift. However, NTSB found that the schedule is problematic because it typically includes short rest periods of just 8 or 9 hours between shifts, allows minimal time for sleep when other necessary daily activities are taken into account, and may include rest periods during daytime hours when quality sleep may be difficult to obtain.

Figure 2: Example of "2-2-1" Rotation Schedule



Source: GAO analysis.

NTSB has recommended that FAA mitigate air traffic controller fatigue by working with NATCA to revise controller work-scheduling policies and practices so controllers will have enough sleep and to modify shift rotations to minimize sleep disruptions for controllers. The recommendation was jointly addressed to NATCA because NTSB found that the contract between NATCA and FAA stipulated certain scheduling practices, such as shift swapping, that had not been evaluated for their effect on controller fatigue. In addition, NTSB recommended that FAA develop a fatigue awareness and countermeasures training program for controllers and for the personnel involved in scheduling their work. In

[5]Rapidly rotating shift schedules are characterized by varying start and stop times that change too rapidly for circadian rhythms to adapt.

supporting its recommendation, NTSB cited four instances from 2001 through 2006 when tired controllers made errors while performing their duties that resulted in serious runway incursions.[6] In each case, NTSB linked controller fatigue to the work schedule. NTSB said that FAA regulations and policies do not adequately consider the potential effect of work scheduling on fatigue and performance.[7]

To address NTSB's recommendations, FAA plans to develop and implement a fatigue awareness and countermeasures training program. The agency also plans to convene a working group that includes NATCA to develop shift rotation and scheduling guidelines. However, NATCA and FAA disagree on the level of cooperation that is taking place between them on this initiative. It is critical that FAA and NATCA work together on this issue to mitigate the potential effects of fatigue on controller performance and aviation safety.

Training Program Has Expedited Certification of New Controllers, but Potential Hurdles Could Affect Further Progress in Training for New Controllers and Training for NextGen

Quickly training the newly hired controllers will be critical to FAA's ability to expeditiously replace the retiring controllers. FAA trains controllers in stages, starting with classroom training at its academy in Oklahoma City. Upon graduation from the academy, controllers are assigned to an air traffic control facility as "developmental" controllers, where they receive on-the-job training for specific air traffic control positions. Fully certified controllers conduct this training by observing and instructing the trainee. Controllers receive certification for each position as they progress through the training program.

According to FAA's 2008 controller workforce plan, the agency has been making progress in reducing the amount of time controllers remain in trainee status, which includes time spent at the academy and in a developmental role. In fiscal year 2005, it took 3 to 4 years to train an air traffic controller. In fiscal year 2007, it took about 1.9 years at terminal facilities and about 3.1 years at en route facilities, according to FAA's 2008

[6]A runway incursion is any incident involving an unauthorized aircraft, vehicle, or person on a runway.

[7]FAA regulation (14 CFR § 65.47) allows tower controllers to be scheduled for up to 10 consecutive hours of operational duty and requires that they be given a rest period of at least 8 hours between shifts and be provided at least 1 full 24-hour day off per week. An FAA order (7210.3) requires that controllers be provided a rest period of at least 12 hours after a midnight shift.

controller workforce plan.[8] The agency attributes this reduction in training time to improved training and scheduling processes and increased use of simulators. However, as of May 2008, about 2,700 controllers were in trainee status, and it is too early to tell how the length of their training will be affected by factors discussed previously in this statement, such as the decreasing proportion of fully certified controllers available to provide on-the-job training.

Figure 3: Air Traffic Controller

Source: FAA.

[8]Terminal facilities include air traffic control terminals at airports and terminal radar approach control (TRACON) facilities, which provide radar-control service to aircraft arriving or departing a primary airport and adjacent airports and to aircraft transiting the terminal's airspace. En route facilities provide air traffic control service to aircraft operating during the en route phase of flight.

While trainees appear to be moving through the training program faster, attrition among developmental controllers is increasing, from about 6 percent of new hires in fiscal year 2006 to about 9 percent in fiscal year 2007. According to FAA's projections, developmental attrition will rise to 14 percent in fiscal year 2008. As of May 2008, the attrition rate for the year for developmental controllers was about 7 percent. FAA has incorporated this information into its hiring forecasts, but a high attrition rate has budgetary implications for FAA—FAA projects that the average cost of a developmental controller will be $78,095 in fiscal year 2008. It will be important for FAA to monitor the attrition rate, track the reasons for attrition, and release poor performers as soon as possible to avoid unnecessary costs.

To achieve further efficiencies in training controllers, FAA has initiated a contracting effort—called the Air Traffic Control Optimum Training Solution (ATCOTS). ATCOTS would consolidate two existing contracts—one with the University of Oklahoma, which provides controller training at FAA's training academy in Oklahoma City, and the other with Washington Consulting Group (WCG), which provides controller training throughout the country at air traffic control facilities. FAA plans to award the contract in June 2008 and have it implemented by the end of fiscal year 2008. According to FAA, the consolidated contract will allow for more consistent training and potential improvements and efficiencies in the training. During the first year of the 10-year contract, FAA's training program is to remain unchanged. After the first year, the contractor may suggest changes to increase the efficiency of the training program. These changes would require FAA's approval, according to FAA officials. FAA's transition plans for the ATCOTS contract allow for 3-month extensions of the University of Oklahoma contract and 1-month extensions of the WCG contract to cover any gaps between the end of the current contracts and the start of ATCOTS.

FAA employees and other stakeholders have raised concerns about ATCOTS. According to FAA employees at the training academy, FAA has not addressed how current academy employees would be used under ATCOTS or determined what cost and time efficiencies could be achieved through the contract. An industry stakeholder maintained that ATCOTS will not provide a sufficient change from the current training and said it was not clear how the program would meet FAA's training needs over the next 10 years, especially any unique needs arising from FAA's

implementation of NextGen. In addition, because of concern that FAA has not sufficiently examined the costs and benefits of ATCOTS, a provision in FAA's fiscal year 2008 appropriation legislation[9] prohibits FAA from using any money in fiscal year 2008 for ATCOTS to displace, reassign, reduce the salary of, or take any other action that would result in a reduction in force for employees at FAA's academy or a discontinuation of the academy as the primary training facility for controllers. According to FAA, ATCOTS will not affect FAA personnel at the academy in any of these ways. FAA also does not anticipate much change in the contractor personnel at the academy, since the agency anticipates they would be retained by the ATCOTS awardee. With the current training contracts scheduled to expire in July and September 2008, the contract extensions that FAA has in place will be important in case the ATCOTS contract is delayed. If ATCOTS is delayed or cannot meet its objectives, FAA's workforce plan may not be achievable.

Both New and Experienced Controllers Will Need Training for NextGen, and Further Human Factors Research Is Needed to Support the Transition

Further work is needed to develop training for both new hires and fully certified controllers to deal with the paradigm shift that will come with NextGen. That paradigm shift calls for an increased reliance on automation and changed roles for both air traffic controllers and pilots under NextGen. In a more automated environment, controllers will be less responsible for controlling air traffic—that is, for directing specific aircraft movements—and more responsible for managing air traffic—that is, for monitoring conditions as pilots control their aircraft to maintain safe separation and perform other tasks now performed by controllers. Human factors[10] will be an important aspect of training air traffic controllers to handle both the old and the new equipment as the new systems are gradually brought online. Our past work has shown that when human factors are not adequately addressed, delays and cost overruns have occurred in implementing new air traffic control technology.[11]

While some industry stakeholders told us it was too early to begin training for NextGen systems that are not close to coming online, others said that it

[9] § 110-161.

[10] Human factors refers to what is known about people, their abilities, characteristics, and limitations in the design of the equipment they use, the environments in which they function, and the jobs they perform.

[11] GAO, *National Airspace System: FAA Has Made Progress but Continues to Face Challenges in Acquiring Major Air Traffic Control Systems*, GAO-05-331 (Washington, D.C.: June 10, 2005).

was time to begin developing the training to prepare FAA personnel and others for the paradigm shift that will be required to implement NextGen. Furthermore, a change of this magnitude and complexity will require adequate lead time. For example, one stakeholder noted that the educational community needs to be engaged now so that it can design training and be prepared to teach future air traffic controllers and pilots.

In response to these issues, FAA told us that it is difficult to develop training for systems that are not yet fully defined. However, according to FAA, it is in the early stages of talking to the educational community. Also, the simulation laboratories currently used to train controllers can be modified to reflect changes as NextGen technologies are deployed, according to FAA. In addition, in fiscal year 2008, FAA began a strategic analysis to determine how the controller's job will be expected to change as a result of NextGen. In fiscal year 2009, FAA expects that this effort will include an identification of changes to training for the existing workforce and for new controllers. It will be important for FAA to complete this effort expeditiously, because NextGen technologies and procedures are already being implemented. Furthermore, it remains to be seen how this effort will be affected by the lack of human factors research needed to support it.

In prior work, we have identified human factors research as a critical research need for NextGen.[12] The changes in roles and responsibilities for air traffic controllers that will be central to NextGen technology raise significant human factors issues for the safety and efficiency of the national airspace system. According to FAA, verbal communication is a human factors area that requires further research and development. Currently, air traffic controllers primarily rely on verbal communication to direct aircraft. Because NextGen will rely on automated communications, controllers will require training in both understanding and operating in an automated communication environment. The research to support such training has not been conducted, according to FAA. In addition, several stakeholders that we interviewed expressed concern that NextGen plans do not adequately address human factors research. Although the National Aeronautics and Space Administration (NASA) has historically been a primary resource for human factors and other aeronautical research and development, its ability to provide human factors research for NextGen

[12]GAO, *Next Generation Air Transportation System: Status of the Transition to the Future Air Traffic Control System*, GAO-07-784T (Washington, D.C.: May 9, 2007).

will be limited because it recently lost a significant proportion of its human factors staff, according to a NASA official. Understanding what skills air traffic controllers will need will help FAA develop an appropriate training curriculum for them.

In conclusion, a safe and efficient national airspace system is an essential part of the nation's critical infrastructure. It is a key element for domestic mobility and participation in the global economy. The steps and initiatives that have been initiated by FAA's Air Traffic Organization management team to ensure that there is an adequate and competent air traffic controller workforce show progress and are commendable. Going forward, it is imperative that both FAA management and the bargaining unit find ways to improve their ability to work together to ensure that the steps and initiatives are sustained, monitored, and periodically revised to ensure progress for years to come.

Mr. Chairman, this concludes my prepared statement. I would be pleased to respond to any questions from you or other members of the Subcommittee.

GAO Contact and Staff Acknowledgments

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Appendix I: Additional Information on Controller Staffing

Facility name	Number of fully certified controllers	Number of controllers	Percentage of fully certified controllers
Lambert-St. Louis International Airport	29	31	94
San Francisco International Airport	27	29	93
General Edward Lawrence Logan International Airport	36	39	92
Portland International Airport	22	24	92
Minneapolis/St. Paul International Airport	38	42	90
San Diego International Airport - Lindbergh Field	17	19	89
Baltimore-Washington International Airport	25	28	89
Phoenix Deer Valley Airport	16	18	89
Orlando/Sanford Airport	16	18	89
John Wayne Airport-Orange County Airport	21	24	88
Centennial Airport	19	22	86
Salt Lake City International Airport	29	34	85
Metropolitan Oakland International Airport	22	26	85
Washington Dulles International Airport	34	41	83
Seattle/Tacoma International Airport	26	32	81
Covington/Cincinnati International Airport	62	77	81
Philadelphia International Airport	69	87	79
Tucson International Airport	15	19	79
Los Angeles International Airport	36	46	78
Charlotte/Douglas International Airport	61	79	77
Honolulu Control Facility	64	83	77
McCarran International Airport	26	34	76
Miami International Airport	66	87	76
Chicago Midway Airport	25	33	76
The William B. Hartsfield Atlanta International Airport	37	49	76
Phoenix Sky Harbor International Airport	30	40	75
Detroit/Wayne County International Airport	27	36	75

Facility name	Number of fully certified controllers	Number of controllers	Percentage of fully certified controllers
Newark/Liberty International Airport	27	36	75
Memphis International Airport	51	68	75
Fort Lauderdale/Hollywood International Airport	21	28	75
Raleigh/Durham International Airport	33	44	75
Denver International Airport	28	38	74
Dallas/Love Field	19	26	73
George Bush Intercontinental Airport	29	40	73
Mesa/Falcon Field	13	18	72
Daytona Beach International Airport	40	56	71
Ronald Reagan - Washington National Airport	21	30	70
Ted Stevens Anchorage International Airport	16	23	70
David Wayne Hooks Memorial Airport	9	13	69
Chicago O'Hare International Airport	47	68	69
John F. Kennedy International Airport	24	35	69
Long Beach/Daugherty Field Airport	18	27	67
Orlando International Airport	50	75	67
Van Nuys Airport	15	23	65
Boeing Field/King County International Airport	15	23	65
Tampa International Airport	44	70	63
Cleveland Hopkins International Airport	40	64	63
Dallas/Ft. Worth International Airport	37	60	62
La Guardia International Airport	22	36	61
William P. Hobby Airport	14	25	56

Source: GAO analysis of FAA data.

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Testimony of

Patrick Forrey, President,
National Air Traffic Controllers Association

Before the House Transportation and Infrastructure Committee
Subcommittee on Aviation
Wednesday, June 11, 2008

Air Traffic Control Facility Staffing

Executive Summary

The dramatic loss of air traffic controllers since the Federal Aviation Administration's (FAA) Sept. 3, 2006 imposition of work and pay rules on the controller workforce has produced a ripple effect throughout the entire air traffic system. Rampant understaffing has caused a significant increase in controller workload and a subsequent need to increase the use of overtime, resulting in a dangerous and unsustainable rise in controller fatigue. The shortage of controllers is noticeable in the increased time on position, decreased opportunities for rest and recovery both during and between shifts, decreased availability of radar assistants, and increased frequency of position combining; all of these factors are contributory to air traffic controller fatigue.

The FAA has attempted to remedy this situation by radically increasing its hiring. However, hiring alone will not alleviate the situation, as it ignores the value of experience as well as the time and burden of training replacements on veteran controllers. The system has lost over 40,000 years of experience since the beginning of FY 2007 and the total number of fully certified controllers left on board has fallen to a 16-year low. The imposed work rules have hastened the decision to retire for many veteran controllers. Nearly 98 percent of retirees since the beginning of FY 2007 left before reaching the mandatory retirement age of 56 and 44 percent of FY 2007 retirees left within their first year of eligibility. The National Airspace System is increasingly reliant upon inexperienced controllers.

Understaffing, and the related fatigue and influx of inexperience into the workforce, has had a dramatic and detrimental impact on controller training. With nearly one-fourth of the current workforce in training nationwide, and many facilities well exceeding that threshold, there is often not enough time or fully-certified controllers to provide adequate training to all those that require it. Trainees (developmentals) often sit in limbo, forced to wait as much as 18 months at a facility before receiving the necessary on-the-job training (OJT) to obtain certification. Trainees are often called upon to work live traffic before completing training, slowing their training still further.

All of these factors have led to a dramatic increase in both operational errors and system delays. The FAA is currently 17 percent over its own performance limit for serious errors and runway incursions are up 45 percent over last year. Delays have increased 18 percent from FY 2006 to FY 2007 despite a traffic increase of only 0.2 percent. The declines in both safety and efficiency trace back to an unprecedented rate of air traffic controller attrition and widespread controller understaffing, manifest in errors made by developmentals working solo, errors during OJT, and controller fatigue.

In order to relieve the burden that understaffing places on our air traffic controller workforce and the entire national airspace system, the National Air Traffic Controllers Association (NATCA) recommends the following:

- **The FAA must remove push factors motivating experienced controllers to leave the workforce by removing the imposed work rules and negotiating with NATCA on a mutually agreeable contract which controllers can ratify.**

- **The FAA must work with NATCA and the National Academy of Sciences, or another independent third party, to reestablish scientifically-based staffing standards for each FAA air traffic control facility.**
- **The FAA must work with NATCA and the National Academy of Sciences, or another independent third party, to establish concrete limits on trainee ratios at the facility level. These ratios, along with the current Trainee/Certified Professional Controller breakdown of the workforce by facility, must be published in the FAA's annual workforce report.**
- **The FAA must negotiate with NATCA to reach a contract that would reinstitute a career ladder that encourages movement by experienced controllers into more complex facilities.**
- **In order to avoid such crises in the future, the FAA and NATCA must work collaboratively on all issues affecting air traffic controllers or their operations.**

Background

In 2002, the Government Accountability Office (GAO) warned the Federal Aviation Administration (FAA) that it must prepare for a wave of controller attrition as those hired following the Professional Air Traffic Controllers Organization (PATCO) firings in 1981 reached the age of retirement eligibility. Rather than heed the warnings of the GAO and begin hiring in preparation, the FAA first ignored the situation and then worsened it.

The National Air Traffic Controllers Association (NATCA) and the FAA began contract negotiations in July 2005 over a successor agreement to the 2003 extension to the parties' 1998 collective bargaining agreement. The FAA unilaterally declared an impasse after only nine months of negotiations.

To NATCA, it became clear during the negotiations process that the FAA planned to exploit a clause in Title 49 United States Code, through an incorrect and logically contrived reading of the statute, to unilaterally impose its proposals on America's 14,000 air traffic controllers, essentially stripping this union of its collective bargaining rights.

The imposed work rules ushered in a dramatic decline in the working lives of air traffic controllers. They have and continue to suffer increased workload, decreased rest periods, loss of leave flexibility, removal of career advancement opportunities, pay cuts, and a variety of minor indignities that have created an unsatisfactory work environment. This, during the period of increased retirement eligibility against which the GAO warned, has brought about unprecedented levels of attrition. The vast majority of those that have separated had not yet reached the mandatory retirement of age 56.

Scope of the Air Traffic Controller Shortage

As of March 31, 2008, there were 11,164 Certified Professional Controllers (CPCs) working at Federal Aviation Administration (FAA) facilities, the lowest number in 16 years. The situation

is bad and getting worse, as controllers continue to flee the workforce at an unprecedented rate. 1,622 controllers left the FAA workforce during FY 2007, and 960 left in the first six months of FY 2008. There are 996 fewer CPCs today than there were before the imposed work rules and 1,637 lower than the high point in 2002[1]. There is no question that we are in the midst of what can only be described as a crisis in air traffic controller staffing.

In 1998 the FAA and the National Air Traffic Controllers Association (NATCA) agreed upon the optimal number of controllers for each facility based on a scientific formula derived from time-and-motion studies, sector complexity and workload, number of operations on the 90th percentile day, and relevant non-operational activities (i.e. training, annual/sick leave). Although the number of operations is similar to that of 1998[2] and relevant technological changes have been negligible, the FAA has abandoned these standards in favor of new staffing ranges which dilute the scientific data by averaging them with current staffing (comparisons to peer facilities suffering the same staffing shortage), past staffing lows (by defining "highest productivity" as the greatest number of operations per controller)[3] and "service unit input" which did not include NATCA. The result of this new calculation is that, although the air traffic system is operating within the FAA's flawed staffing ranges, the system is operating with only 71 percent of the number of controllers authorized in 1998.[4]

The situation is particularly dire at facilities in certain major metropolitan areas whose economic well-being depends heavily on air travel for business and tourism. During the past six months, controllers at Atlanta, Chicago, New York, Dallas, and Northern and Southern California have declared staffing emergencies for their regions, asserting their concern that understaffing would have a severe impact on operations in those areas.

In New York, for example, staffing at each of the three major metropolitan area towers are at 66.7 percent (LGA), 67.5 percent (EWR), and 72.9 percent (JFK), while New York Terminal Radar Approach Control (TRACON) is at 66.3 percent and New York Air Route Traffic Control Center (ARTCC) is at 62.2 percent of authorized staff levels[5].

The situation in New York is not unique. The graphs on the following pages depict staffing levels at each of the major towers, En Route Centers, and TRACONs.

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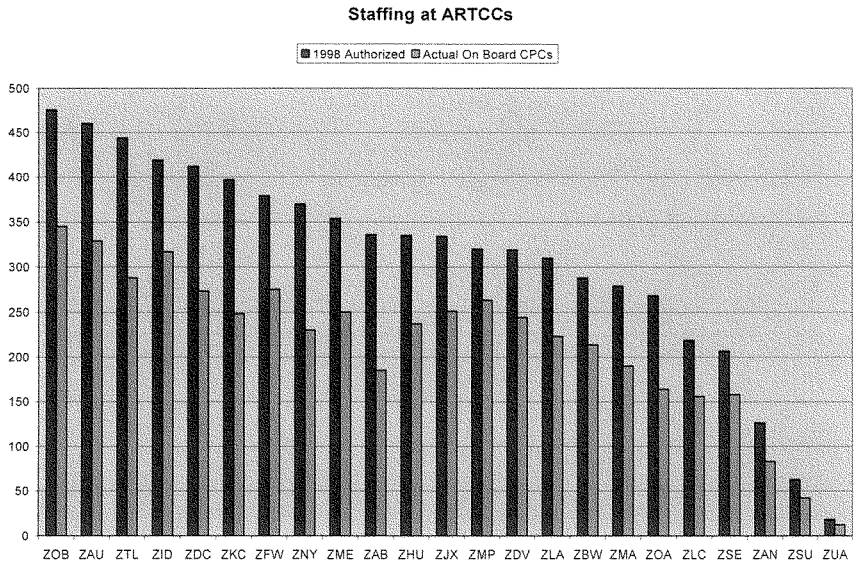
[1] Based on payroll data provided to NATCA by the FAA. Current as of 3/31/2008

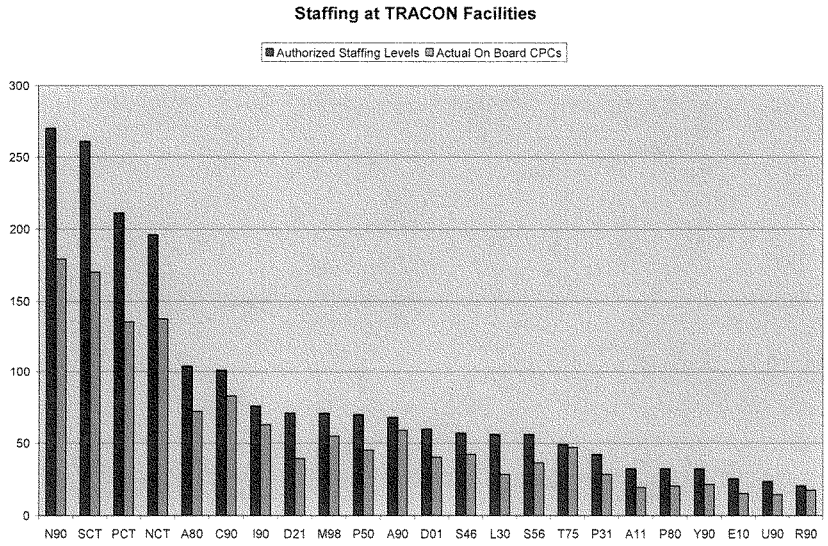
[2] According to the FAA's OPSNET database there were 45,394,027 instrument operations in FY2007 compared to 48,985,472 in FY1998 (93%).

[3] Federal Aviation Administration, "A Plan For the Future: 2007-2016" March 2007

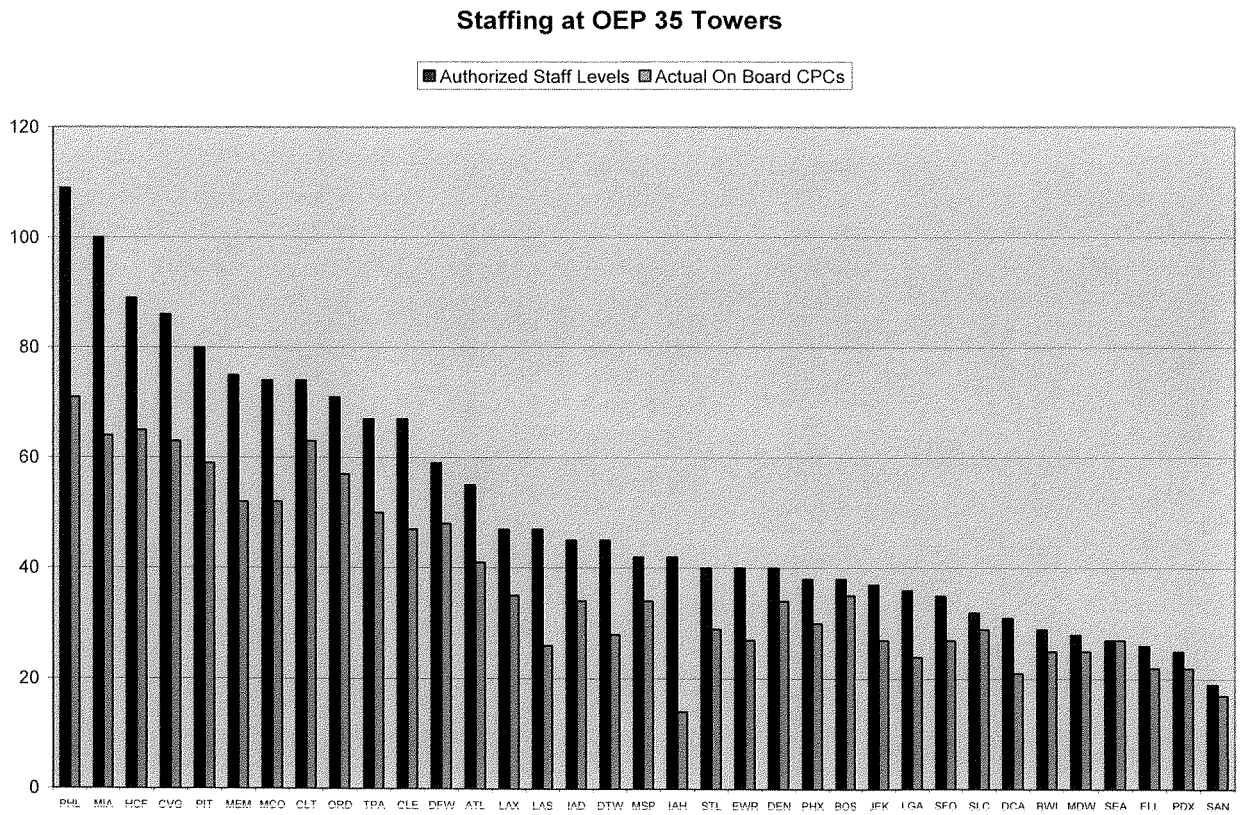
[4] Although the staffing levels authorized in 1998 do not exclude developmentals, at the time the contract was signed, developmentals in the system accounted for less than 10 percent of the authorized levels. No one at that time predicted that the number of trainees in the system would come to make up a significant portion of the workforce or that uncertified controllers would work large amounts of air traffic.

[5] Based on payroll data provided to NATCA by the FAA.





Staffing at ARTCCs and TRACONs is well below the authorized and scientifically-based staffing standard.



Staffing at these OEP 35 airports is well below the authorized and scientifically-based staffing standard.

The Origin of Understaffing: Unprecedented Levels of Air Traffic Controller attrition

In order to fully grasp the issue of air traffic controller understaffing and devise effective solutions, it is crucial to understand the origin of the understaffing problem. In its most recent workforce report, the FAA writes, "Fiscal Year 2007 was long projected to be a peak year for retirements of controllers hired in the years following the strike of 1981."[6] In this document and others, the FAA implies that the recent attrition is the natural outcome of an earlier hiring wave, and that the agency is fully in control of the situation. Neither could be further from the truth.

While the hiring wave that followed President Reagan's mass-firing of air traffic controllers in 1981 has created a rise in controller retirement eligibility, what we are currently experiencing cannot be explained by this alone. In 2002, the Government Accountability Office (GAO) conducted a study on air traffic controller attrition and warned the FAA of a potential future shortage of air traffic controllers. In this study, the GAO predicted that the same year, 2002, would be the peak for air traffic controller attrition, and that attrition would never exceed 4.4 percent of the workforce and that by 2007 attrition would have decreased to approximately 700, or 3.7 percent of the workforce[7]. The FAA predicted in June of 2006 that there would be 950 losses in FY 2007[8].

What actually occurred was an unprecedented 1,622 losses due to attrition in FY 2007. This number represents 8.7 percent of the year-end workforce, more than doubling GAO predictions in both raw numbers and percentages while shattering FAA predictions made only the previous year. Of these 1,622 losses, only 17 were mandatory retirements. In contrast, 894 retired before reaching their mandatory retirement age and an additional 200 resigned their FAA positions before reaching retirement eligibility.[9]

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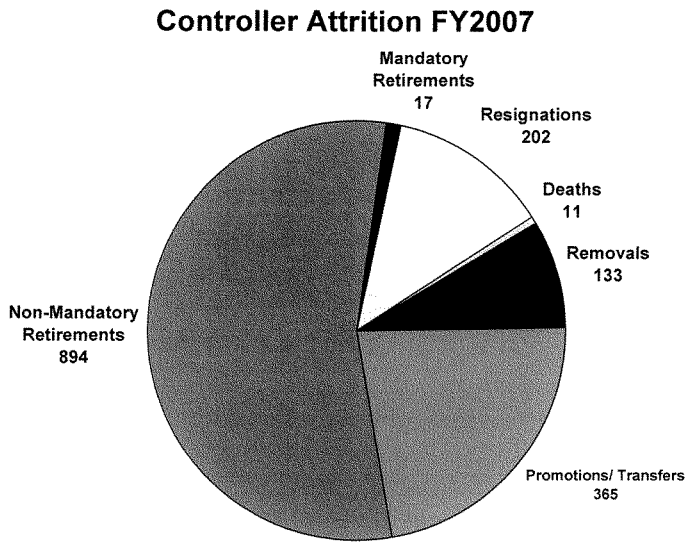
[6] Federal Aviation Administration, *A Plan for the Future: The Federal Aviation Administration's 10 Year Strategy for the Air Traffic Control Workforce 2008-2017*

[7] Source: 2002 GAO report entitled *Air Traffic Control: FAA Needs to Better Prepare for Impending Wave of Controller Attrition*

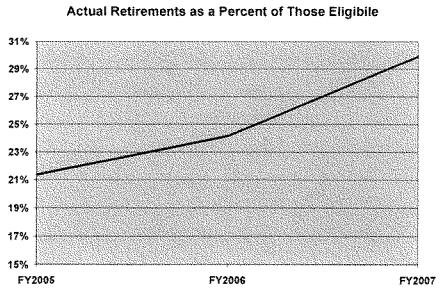
[8] Federal Aviation Administration "A Plan for the Future: 2006-2015"

[9] Based on payroll data provided to NATCA by the FAA.



The vast majority of the attrition we are experiencing is not due not to mandatory retirements but due to individuals opting to leave the workforce[10]

Both high attrition rates and high incidence of voluntary attrition have continued into this fiscal year. As of March 31st, 960 controllers have left the FAA workforce (including promotions and transfers) in FY 2008, a staggering 4.5 per day. Of those that left, only 1.3 percent did so because they had reached the mandatory retirement age; 15 percent resigned from the workforce without even being eligible to retire. The percent of retirement-eligible controllers who choose to leave has also increased significantly since the work rules were imposed.



[10] Based on data provided to NATCA by the FAA.

The percentage of people making the decision to retire has increased significantly since the work rules were imposed.[11]

The breakdown of attrition suggests that we must not only look at ways to repopulate the air traffic control workforce, but that we must also take steps to eliminate the "push" factors that continue to motivate the attrition of experienced controllers.

These push factors can be easily traced to the FAA's unilateral implementation upon the air traffic controller workforce a new set of work and pay rules by circumventing the collective bargaining process. These rules removed career advancement opportunities, established new pay bands that decreased controller wages considerably, reduced the availability and duration of rest periods, instituted unpopular changes to the annual leave policy, and created an adverse work environment.

Veteran controllers who are eligible to retire have, because of the new pay bands, already worked their three highest salary years that will determine their pensions. Combined with the deterioration of working conditions and a more acute fear of errors due to increased workload, all incentives for experienced controllers to stay on board until their mandatory retirement age have been removed.

One former controller summed up the sentiments of many in his resignation letter to the FAA:

> Under the FAA's new imposed work rules I cannot justify staying with the agency… I do not feel I can continue to work in an environment that is so vindictive, or for an employer who is more worried about the bottom line rather than safety. I cannot justify staying when I can return to a company that knows how and makes it a point to take care of its employees. My take home pay will go up, my quality of life will improve and my workload will decrease.[12]

What We Lose: The Value of Experience

The Federal Aviation Administration (FAA) continually assures Congress and other stakeholders that the Agency's aggressive hiring practices have negated the effect of attrition. According to its 2008 staffing plan, the FAA claims to have hired 1,815 "new controllers" in FY 2007 "to compensate for increased losses." The hiring of trainees, however, cannot make up for the loss of experienced controllers. Since the beginning of FY 2007, we have lost more than 40,000 years worth of experience[13].

The value of experience in this field is immeasurable, particularly during an era in which the training of the next generation of air traffic controllers plays such a central role. Study after study has shown that job experience is positively correlated with performance, largely because of

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[11] Eligibility data based on data in workforce plans from 2005, 2006 & 2007. Actual retirement data for FY 2005 and FY 2006 from the 2006 and 2007 workforce plans, FY 2007 retirement data obtained by NATCA from the FAA.
[12] Employee resigned from Albuquerque ARTCC, in October 2006.
[13] Calculated based on FAA payroll data provided by the Agency to the Union.

the amount of knowledge one acquires over years on the job[14]. For air traffic controllers, experience means the ability to reflexively guide aircraft through routine operations without having to puzzle through each aspect of the procedure. It means that for everyday operations, safety is second nature and efficiency can become a priority. It means having seen and worked through a wide variety of unusual circumstances and the development of enhanced problem solving skills. It means being able to react easily to a change in circumstance by, for example, creating holding patterns on-the-fly or altering a rout to avoid a turbulent ride. It means understanding how one's own actions effect operations in neighboring airspace. It is this experience, knowledge and ability that we are losing and that cannot be replaced by simply hiring new trainees.

The continuing exodus of veteran controllers forces the National Airspace System to rely on increasingly inexperienced controllers to conduct training. The ratio of trainees is increasing and the most experienced Certified Professional Controllers (CPCs) are retiring, forcing us to tap into greener controllers to conduct training. One controller from the Southern California TRACON reports being asked to give official training on flight data while he was still in training himself. New controllers, even those who have achieved full performance level, have not yet acquired the same job knowledge, skills and abilities as those of their more experienced counterparts. As such, they are less able to pass such knowledge on to the trainees in their charge, decreasing the effectiveness of training and the readiness of the workforce.

The Reality of Training: High Trainee Ratios and Inadequate Infrastructure

It is important to recognize that new hires do not enter the workforce capable of working air traffic. Before they can do so, they must undergo a rigorous training process that typically takes three to five years to complete, as long as it takes for many to receive a college education. In order to maintain the safe and smooth operation of the air traffic system, the FAA would have had to act with foresight and increase hiring rates several years prior to the expected rise in attrition. The FAA was negligent in this regard.

Prior to 2005, Federal Aviation Administration (FAA) hiring was nearly non-existent; in 2004, the FAA hired 13 new trainees. Of those hired since 2005, only 538– 10 percent – have yet been able to achieve full certification. In that same period of time, we have lost 2,000 veteran controllers to retirement.

The FAA also underestimates the time it will take these new hires to reach full performance level. Although the Agency estimates that it now takes only two to three years to reach certification, only 50 percent hired in FY 2005 have become Certified Professional Controllers (CPCs), indicating that a majority of trainees need more than three years to reach CPC level. Although the FAA has claimed that innovations in training will reduce the necessary training time, experience in the field has not supported this notion. A combination of less prepared trainees entering the facilities and high trainee ratios has slowed down the training process for

[14] Quinones, Miguel, J. Kevin Ford, Mark Teachout "The Relationship Between Work Experience and Job Performance: A Conceptual and Meta-Analytic Review", *Personnel Psychology* 1995 v. 48.

many developmentals. Of those hired during FY 2007, 85 percent are still in training, 42 percent have not progressed beyond the academy graduate level.

	FY 2005	FY 2006	FY 2007	FY 2008	4 Year Total
Total Hired for FY	**519**	**1116**	**1815**	**1877***	**5327**
CPC	166	215	153	4	538
CPC-IT	2	6	5	0	13
Third Developmental Level (D3)	62	167	182	12	423
Second Developmental Level (D2)	78	452	338	12	880
First Developmental Level (D1)	11	134	261	11	417
Academy Graduate	2	56	758	486	1302
Total Hired and still on Board	321	1030	1697	525	**3573**
Total Hired and Still in Training	155	815	1544	521	**3035**
Total Hired and Certified	166	215	153	4	**538**

*FAA Summer 2008 Planned hires vs AOB March 31, 2008

In its 2006 workforce report, the FAA made the following statement which was conspicuously absent from the most recent reports.

> "To reduce the on-the-job portion of facility training, developmentals need continuous, uninterrupted access to facility training opportunities and resources. However, management practices within the operational environment can have a detrimental effect on these opportunities and may greatly extend this time-to-certification. These practices include, but are not limited to, *canceling or delaying OJT [On the Job Training] to use developmentals to work positions they were previously certified on,* as staffing backup behind, spot leave, annual leave, work group assignments and a variety of other activities that remove CPCs from the operational environment."

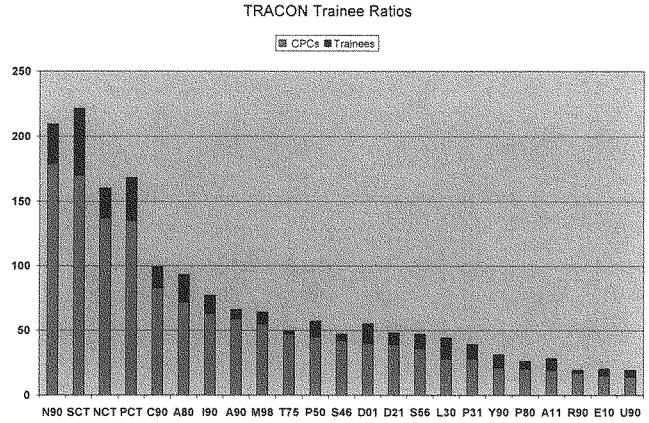
Instead of accelerating training by allowing developmentals uninterrupted access to on-the-job training (OJT) opportunities, the FAA is relying heavily on developmentals to work traffic. As it states in the 2008 workforce report, "these position qualified controllers are the focus of our staffing to traffic efforts."

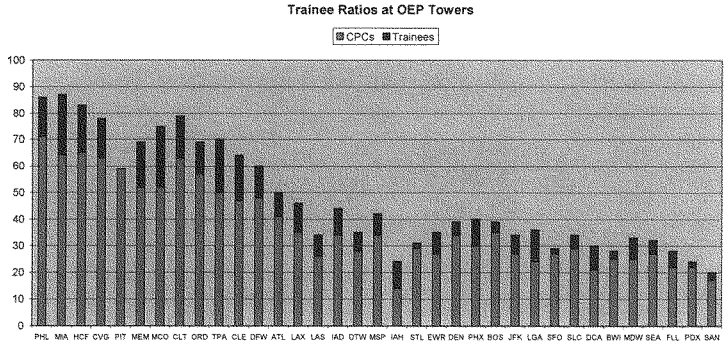
It has become necessary to rely on developmentals to work traffic because of the high and rising ratio of developmentals to the total workforce. As of March 31st, nearly one-fourth (23.3 percent) of the workforce was still in training. Of those developmentals, 38.4 percent are not yet permitted to work traffic on their own at any position. Although it has backpedaled on this statement in its most recent workforce report, in the past the FAA has held that the air traffic system can only safely and efficiently handle a workforce of 35 percent developmentals.[15] The Inspector General of the Department of Transportation has recently indicated that even this may be too high a percentage. In a recent document it reported, "Many facility managers, training officers, and union officials we spoke with disagreed with the FAA's estimate of an acceptable

[15] Department of Transportation Inspector General Report AV-2007-032, "FAA Continues To Make Progress In Implementing Its Controller Workforce Plan, But Further Efforts Are Needed In Several Key Areas" 9 February 2007 pg 13.

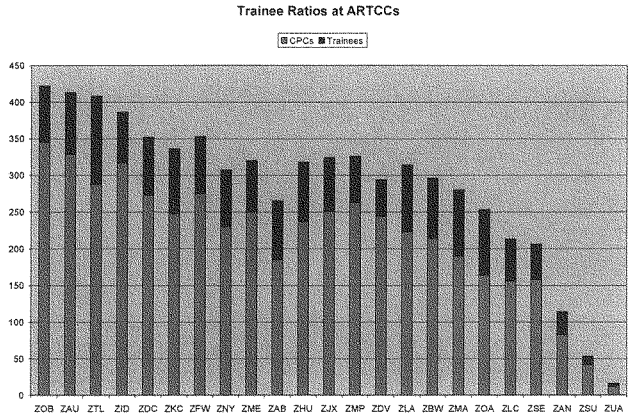
level of developmental controllers. It stated that, in order to achieve effective controller training while maintaining daily operations, the *maximum* percentage of developmental controllers should be limited to between 20 percent and 25 percent of a facility's total controller workforce."[16]

As of March 31st, forty-four air traffic facilities exceed 35 percent developmental ratio – double that of just three years ago – and 126 facilities exceed 25 percent. Even some major high-traffic facilities have exceedingly high developmental ratios. Las Vegas TRACON, Oakland Center, and Teterboro Tower all exceed 35 percent trainees.





[16] Statement made by Calvin L Scovel III, Inspector General, US Department of Transportation before The Senate Committee on Appropriations Subcommittee on Transportation, Housing and Urban Development, and Related Agencies 17 Apr 2008 " Key Safety and Modernization Challenges Facing the Federal Aviation Administration"



Trainees make up nearly ¼ of the workforce at most major facilities

Although OJT is an integral part of preparing the next generation of air traffic controllers, training itself adds a level of complexity to Air Traffic Control operations. During OJT, a trainee works live air traffic, while a CPC monitors both the trainee's actions and the radar. The CPC is held responsible for any errors made by the trainee. This combination of inexperience and complexity increases the likelihood of errors, while the increased workload for CPCs contributes to fatigue. Additionally, the high ratio of trainees also contributes to delays as the least experienced of controllers are least adept at quickly moving aircraft and more likely to increase the margin of separation to maintain safety.

Staffing shortages and high trainee ratios also have a direct effect on the efficiency of training itself. With so many trainees, and a small and shrinking number of CPCs, there are a limited number of controllers capable of providing training. These CPCs are also responsible for working the majority of air traffic and in many cases there simply aren't enough people to conduct training. In addition, when trainees make up such a large percentage of the workforce, facilities must frequently rely upon those certified to work particular positions to do so, thereby limiting their opportunities to receive OJT. At Miami Center, for example, trainees have had to wait up to sixteen months from their date of hire to receive OJT[17] due to the facility's staffing shortage.

The preparedness of the trainees entering the facility has also decreased as a result of the staffing shortage. The FAA's need for new hires has exceeded the number of individuals available from Collegiate Training Initiative (CTI) schools or the military, traditionally the two biggest air traffic control recruiting pools for the Agency. The FAA has therefore had to turn to the general public to fill the gap, recruiting through venues like Craigslist and Facebook. The general public

[17] Interview with facility representative from ZMA

requires greater amounts of training on air traffic control basics than do its CTI or military counterparts.

For the first time since the 1980s, trainees are being put directly into some of the most demanding and difficult terminal facilities after completing their classroom training at Oklahoma City. These facilities include Atlanta Hartsfield Jackson Tower (ATL), Atlanta TRACON (A80), Charlotte Tower (CLT), New York TRACON (N90), Dallas-Fort Worth Tower (DFW), San Francisco Tower (SFO), Southern California TRACON (SCT), and Northern California TRACON (NCT).

In the past, terminal trainees were placed in a lower-level tower to receive initial certification and would transfer to a higher-level facility as their careers and skills advanced. Higher level facilities had neither the curricula nor the training to teach new hires aircraft types, airline identification and other basic fundamental air traffic control knowledge and skills. The imposed work rules, however, removed financial incentives for experienced controllers to transfer to more difficult facilities because many would actually take a pay cut with such a transfer. With the staffing shortage and the removal of the career ladder, these facilities have had no choice but to turn directly to the academy for new hires. One exasperated trainer recently described his situation, saying, "For the first time, I was teaching a trainee who didn't know the difference between a regional jet and an MD80." Naturally, these developmentals require increased training time.

While high-level FAA officials tout improvements in the training system and claim that they decrease the necessary training time, in the field even management recognizes that this is not the case. In New York TRACON for example, management issued a notice in March of this year increasing the number training hours allotted for certification on nearly half of the positions in the Kennedy Area (the rest were unchanged), indicating that the FAA has not been able to increase the pace of certification.

The FAA, in short, is burning the candle at both ends when it comes to training. It is hiring a large number of trainees, with less background, relying upon them to work greater amounts of traffic, and expecting them to certify more quickly. All of this is expected to be accomplished with a certified controller workforce already stretched to the limit and continuing to shrink. This goal is unrealistic, and the practice is harmful to the air traffic control system.

Short-handed shifts, Overtime and Fatigue

The staffing shortage has created an environment conducive to high levels of fatigue among Air Traffic Controllers. Operations managers at understaffed facilities are faced with two choices for handling the ever-increasing air traffic: call in overtime or work short-staffed. In the most severe cases, they must do both simultaneously. Each of these options creates fatigue among the workforce.

The only way to fully staff shifts at severely understaffed facilities is to call in excessive overtime. While moderate amounts of overtime can be absorbed into the system without noticeable effects on performance, excessive overtime introduces fatigue into the system. In order to absorb the fatigue-inducing effects of overtime, an individual controller must have

sufficient time for recovery following a long week, while the workforce must be made up of non-fatigued controllers who can provide support during the shifts themselves. A recent study by the Government Accountability Office (GAO) reports that "at least 20 percent of the controllers at 25 air traffic control facilities, including towers at several major airports, were working six-day weeks." [18] These 25 facilities included six facilities that had between 40 percent and 52 percent of its controllers working six-day weeks, and seven facilities that had 30-39 percent working six-day weeks. Hartsfield-Jackson International Airport in Atlanta, the busiest airport in the country, had 52 percent of its controller workforce regularly working six-day weeks. This overtime rate is excessive. Under this system, an individual controller is likely to be required to work multiple six-day weeks in a short span of time, removing his opportunity for recovery. Additionally, a significant number of controllers on each shift are working overtime schedules, scarcely allowing a fatigued controller to rely on his coworkers for operational support, as the coworker's needs are as great as his own.

The other alternative is to work each shift without proper staffing levels. Prior to the imposition of the Agency's work rules in September of 2006, many facilities had locally-agreed-upon staffing levels for each shift, with larger facilities having these levels further delineated by area. Results of a recent facility survey conducted by the National Air Traffic Controllers Association (NATCA) showed 97 percent of facilities are operating at least one controller short on a typical shift. The average morning shift is operating with 1.7 fewer controllers than had previously been authorized (4.2 at major facilities), more than 367 controllers short in total. In the evenings the numbers are even worse. Each shift is short 1.8 controllers, for a total of 383 controllers short in the 211 facilities that responded to that question in the survey. [19]

Some of the busiest facilities in the country are also some of the most short-staffed. McCarran International Airport in Las Vegas (LAS) operated with only 33 percent of the authorized number of controllers on a randomly selected day. JFK Tower in New York operated with 43 percent of the authorized amount.

A short-staffed shift often means controllers are afforded fewer opportunities for rest and recovery during the shift itself. They are being required to work longer on position and given shorter rest periods. Although the FAA had, until recently, limited time on position to 2 hours based on the results of a Civil Aeronautics Medical Institute (CAMI) study, this limitation was removed when the imposed work rules were instituted. In Atlanta tower (ATL), controllers describe that they are given exactly 20 minutes of break time, regardless of the length of time on position or the intensity of the traffic.

Not only are controllers working longer on position, but the workload during that time has increased as well. On a short-handed shift, managers reduce the number of Radar Assistants (RAs), increasing the workload for the controller working radar. A controller working without an assistant is responsible not only for communication with aircraft but also coordination with

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[18] GAO Report to Congressional Requesters, *Runway and Ramp Safety: Sustained Efforts to Address Leadership, Technology, and Other Challenges Needed to Reduce Accidents and Incidents* GAO-08-29

[19] NATCA Government Affairs department issued this survey on 11 November 2007 and collected responses through 29 January 2008. A total of 238 responses were received. 215 facilities answered the questions relevant to the shift staffing statistics indicated. The data shown is based on the responses from those 215 facilities.

other controller positions and facilities and updating flight progress information. Additionally, managers may be forced to combine positions, creating greater complexity by requiring each controller to monitor greater numbers of confliction points and an increased volume of aircraft. One recent internal FAA document reported that so far this fiscal year as many as 56.3 percent of errors in Eastern En Route facilities occur when there are combined sectors, combined Radar/RA positions, or both.[20]

Although levels of fatigue cannot be easily measured, the effects are very real and should not be underestimated. One study showed that the cognitive psychomotor impairment experienced after 17 hours of sustained wakefulness was the equivalent of that experienced by an individual with a blood alcohol concentration of .05 percent, the legal intoxication limit for driving in most western countries.[21] For air traffic controllers in particular, a GAO report on runway and ramp safety[22] cited controller fatigue as one of the main threats to runway safety and asserted that "progress on addressing runway safety will be impeded until the human factors issues involving fatigue are addressed."

The relationship between safety and fatigue is clear. In April 2007, the National Transportation Safety Board (NTSB) placed fatigue on its list of most-wanted transportation safety improvements, calling upon the FAA to take steps to "reduce accidents and incidents caused by human fatigue." Since 1989 the NTSB has issued more than 80 fatigue-related safety recommendations.

When it comes to controller workload, one study explained "unacceptable overload results in performance failure."[23] However, as safety is always the top priority for air traffic controllers, these individuals do everything in their power to avoid performance failure. A study found that most controllers use some form of adaptive strategy to manage their performance vis-à-vis workload and fatigue, "Controllers handled an unexpected increase in traffic load adaptively by decreasing the amount of time they spent processing each aircraft, especially in verbal communication with the pilot. Controllers may also cease less important, peripheral tasks, thus leaving more time for active control, or alternatively they can regulate load by increasing spacing, stacking aircraft, or preventing aircraft from entering their sector."[24] Each of these adaptive strategies result in a decline in service or efficiency; the last three strategies involve slowing the flow of air traffic, contributing to delays.

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[20] Weekly En Route (FY 08) Report May 30, 2008 Eastern Facilities, Federal Aviation Administration.

[21] Dawson, Drew and Katherine Reid, "Fatigue, Alcohol, and Performance Impairment", *Nature* vol. 388 p. 235-237. 17 July 1997

[22] GAO Report to Congressional Requesters *Runway and Ramp Safety: Sustained Efforts to Address Leadership, Technology, and Other Challenges Needed to Reduce Accidents and Incidents* GAO-08-29

[23] Raja Parasuraman, and Peter A. Hancock, "2.4 Adaptive Control of Mental Workload," in *Stress, Workload, and Fatigue* ed. Peter A. Hancock and Paula A. Desmond (Mahwah, NJ: Lawrence Erlbaum Associates, 2001), 306 http://www.questia.com/PM.qst?a=o&d=108667168.

[24] Raja Parasuraman, and Peter A. Hancock, "2.4 Adaptive Control of Mental Workload," in *Stress, Workload, and Fatigue* ed. Peter A. Hancock and Paula A. Desmond (Mahwah, NJ: Lawrence Erlbaum Associates, 2001), 306 http://www.questia.com/PM.qst?a=o&d=108667168.

Casualties of Understaffing: Safety

A survey of more than 230 air traffic control facilities showed an overall eight percent increase in operational errors between FY 2006 and FY 2007. Seventy-eight facilities – including 36 major facilities – reported an increase in errors.[25] It should be noted that these survey results are likely to reflect an underestimate of the actual increase in near-misses. In June of 2007 the Federal Aviation Administration (FAA) redefined the term operational error so as to only include those incidents where less than 90 percent of the separation minimum was maintained, thereby skewing the statistics to give the appearance of improvements to safety.[26]

So far in FY 2008, safety appears to be further compromised. Except for the first two days of the fiscal year, the FAA has exceeded its own benchmarks for allowable numbers of operational errors every day.[27] As of June 2nd, there have been 249 serious operational errors (Category A & B) this fiscal year, 17 percent more than the FAA's own performance limit. Runway incursions are also a serious problem. Identified by the National Transportation Safety Board (NTSB) as an area in serious need of safety improvements, the FAA's record has worsened on runway incursions this fiscal year. As of June 2nd, there have been 16 serious runway incursions (Category A & B), a 45 percent increase over the same time last year.

Although the FAA has frequently stated publicly that we are in the "safest period of aviation history"[28], internal FAA communications paint quite a different picture. In a memo dated May 16, 2008, a District Manager wrote to his local managers, "As you are already aware of, we are experiencing a significant increase in operational errors across the country. The greater concern is the rise in A and B errors and it's starting to look like we might not meet our flight plan goals if we do not get the operational errors under control as soon as possible."[29] Similarly, in an FAA briefing on OE/ODs in March of 2008, the Agency stated that "there has been a dramatic increase in OE/ODs reported in Terminal during January, February and March 2008" (emphasis FAA's).

These documents also suggest causes for the increase in operational errors. The May 16th memo states that, "Overall, the operational errors (from a national perspective) seem to be occurring in light traffic situations and are related to a general lack of attention or situational awareness." The memo goes on to say that "Another area of concern is the rise in operational errors while conducting OJT." The March presentation also lists "OJT in progress" as well as "Non-FPL [full performance level] working position" as factors in operational errors.

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[25] NATCA Government Affairs Department issued this survey on 11 November 2007 and collected responses through 29 January 2008. A total of 238 responses were received.

[26] FAA Air Traffic Organization Policy Notice N JO 7210.663, Subject: Operational Error Reporting, Investigation, and Severity Policies

[27] Source: FAA today 10/1/2007 – 6/2/2008

[28] FAA press release April 2, 2008 "FAA Announces Improvements to Inspection Program"; Remarks by Mary Peters to the Aero Club January 22, 2008 "Aviation Congestion And The Way Forward: No More Delay"; Statement of Hank Krakowski COO of the ATO before House Transportation and Infrastructure on Subcommittee on Aviation February 13, 2008.

[29] Federal Aviation Administration Memorandum from David A Price, District Manager, Kansas City District to All Kansas City District Managers. Subject: Operational Errors. May 16, 2008

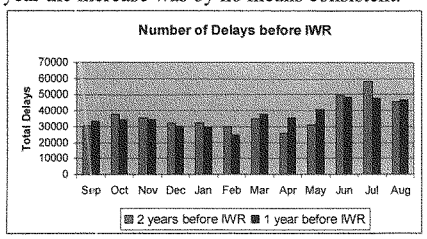
These causes are consistent with NATCA's assertions that understaffing, fatigue, and high trainee ratios are serious liabilities to the safety of the National Airspace System. Lack of situational awareness, particularly during low-traffic situations, is indicative of fatigue. Controllers have frequently reported making errors in the comparative calm following a major push when their tired minds begin to relax. Understaffing limits a controller's ability to take breaks and recuperate after busy times, leaving a fatigued controller behind the scope. The fact that errors are occurring frequently when developmentals are working solo and during OJT indicates that the high ratios of trainees and overreliance upon those without full certification to work traffic is detrimental to the safety of the NAS, as well.

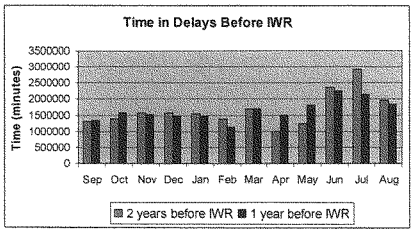
Casualties of Understaffing: Delays

As any air traveler in the United States can tell you, delays have increased significantly throughout the National Airspace System (NAS) over the last several years. 20,378 more aircraft were delayed in FY 2007 than in the previous fiscal year. The average length of the delay also increased by over six minutes, making for a combined increase of nearly 363 weeks over the previous fiscal year.[30]

There are many factors which can contribute to delays including, but not limited to weather, airline scheduling, overcrowded runways, and airport construction. Yet these factors have been relatively stable. A popular misconception attributes this increase in delays to an increase in air travel. However, the increase in delays far out-measures the increase in operations. According to FAA data, total operations in FY 2007 were only 0.2 percent higher than the previous fiscal year. In contrast, total time of delays increased by 18 percent.[31]

The variable that has changed in the past few years has been the staffing levels at air traffic control facilities. The steep increase in delays can be largely traced back to the work rules imposed on the air traffic controllers. Observe the following pairs of graphs. The first pair shows delays by month from September 2004 to August 2006 – the two years immediately preceding the imposition of the imposed work rules. While overall errors increased in the latter year the increase was by no means consistent.[32]

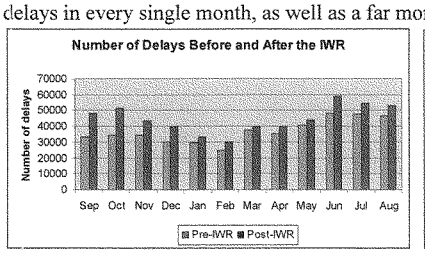


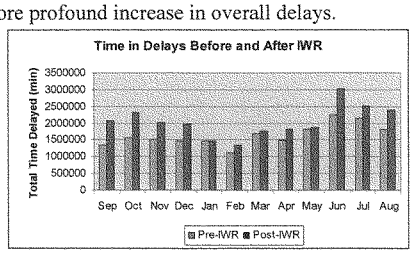


This stands in stark contrast to the second pair, which looks at delays from September 2005 to August 2007 – the years immediately preceding and immediately following the imposed work

[30] Source: OPSNET delays database
[31] Source: OPSNET operations database
[32] Source: OPSNET delays database

rules. During the first year under the imposed work rules, there has been a consistent increase in delays in every single month, as well as a far more profound increase in overall delays.





It comes as no surprise that the facilities suffering from some of the most dire staffing shortages are also experiencing severe increases in delays. Philadelphia Airport, for example, is operating with 42 fewer controllers than it was authorized in 1998 (61 percent), and is ranked 29th of 32 in departure on-time performance with only 69 percent of flights leaving on time. This is a three-point decrease since the previous year and a 13-point decrease since 2002.[33]

In fact, the five worst-ranked airports for arrival delays are each operating with no more than 76 percent of its approved work force. LaGuardia, the airport with the largest percentage of arrival delays, has 64 percent of its approved number of controllers; Newark has 65 percent; JFK has 73 percent, Philadelphia, as noted above, has 61 percent, and O'Hare has 76 percent of the approved workforce.[34]

Even those facilities with comparatively few delays are beginning to feel the effects of the imposed work rules. Orlando Airport has fallen from fifth in on-time performance (arrivals) to 15th between November 2006 and November 2007. During that same time frame, 34 individuals –nearly 50 percent of those employed there – left the workforce at Orlando Tower.[35]

Realigning of Facilities and Services Impacts Staffing

Another factor that will further aggravate the staffing crisis is the Federal Aviation Administration's (FAA) recent insistence on moving forward with ill-conceived facility and service realignments. Consolidations, co-locations and decombinings actually require more controllers, not less.

When controllers at such facilities are certified in both the tower and the radar room, management has the flexibility to pull from each to fill gaps when a controller calls in sick or takes leave. If the tower is down a man, the ATM can call on a controller working in the TRACON to go upstairs, and vice-versa. When the facilities are split and controllers are only trained to work radar or tower, management loses that flexibility and therefore staffing must be increased to compensate.

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[33] RITA Bureau of Transportation Statistics
[34] RITA Bureau of Transportation Statistics
[35] RITA Bureau of Transportation Statistics

In the past, National Air Traffic Controllers Association (NATCA) has endorsed realignments when the restructuring not only sought to save money but also to increase efficiency and provide operational benefits, and made sense from a workforce and airspace perspective. In such situations, NATCA and the FAA, working collaboratively, mutually agreed that additional controllers would be needed to accommodate the moves safely and efficiently.

In Chicago, New York, Atlanta, Northern California, Dallas, Southern California and Washington, DC, (where the radar functions of BWI, National, Andrews, Richmond and Dulles airports were combined into one single facility - Potomac TRACON), the Agency and the union worked together to ensure that positions were filled and scopes were manned when the radar functions were removed from the towers in combined, or up/down, Tower-TRACON facilities. In stark contrast, the FAA's most recent round of realignments is being conducted without controller involvement or input, and NATCA's concerns about the lack of controllers to adequately and safely fill positions are being ignored.

Southern California TRACON (SCT), one of the most woefully understaffed facilities in the country with 100 less controllers today (160) than it had in 2004, was forced last year to reconfigure its operations to absorb the radar functions and air traffic operations of the Palm Springs International Airport (PSP). The transfer of PSP radar has been anything but smooth, with numerous radar and communication outages taking place since the move last year, and it has been further complicated by the dreadfully low staffing levels, leading to a backlog in controllers waiting to certify on airspace despite the Agency cutting back on training requirements.

The FAA has since moved the radar functions from Beaumont to Houston, is in the midst of moving Pueblo to Denver and will soon begin similar moves in Charlotte, Philadelphia, Miami, Memphis and Palm Beach. Before these major realignments can be allowed to move forward, significant concerns, such as insufficient staffing, must be addressed.

Recommendations

1. The first and most important step in controlling the air traffic controller staffing shortage is stemming the flow of experienced controllers from the workforce. In order to do stabilize the workforce, we must remove the push factors created by the imposed work rules. These include, but are not limited to, a reduction in pay resulting in many controllers having already worked their highest three salary years, reduction of time and availability of rest periods, unpopular changes to leave policy, and an unfriendly work environment. The only way to effectively and comprehensively, mend this situation is for **the imposed work rules to be removed and for the FAA to return to the bargaining table with NATCA in order to reach a mutually-acceptable contract.**

2. In its 2007 workforce plan, the FAA established a new set of staffing ranges which replaced those established in 1998 based on a scientific formula which took into account time and motion studies, sector complexity and workload, number of operations on the

90th percentile day, and relevant non-operational activities (i.e. training, leave). The new ranges appear to be based more on available staffing than actual air traffic control needs. **The FAA must work with NATCA and the National Academy of Sciences, or other independent third party, to re-establish scientifically-based staffing ranges for each facility.**

3. Poor planning and unprecedented attrition have combined to create an unmanageably high ratio of trainees to total workforce that has proven harmful to the safety and efficiency of the NAS and to the effectiveness of the training program. The FAA must not be permitted to continually re-baseline acceptable trainee ratios nor conceal from stakeholders the reality of the training situation. **The FAA must work with NATCA and the National Academy of Sciences, or another independent third party to establish concrete limits on trainee ratios on the facility level. These ratios along with the current Trainee/Certified Professional Controller breakdown of the workforce by facility, must be published in the FAA's annual workforce report.**

4. High level terminal facilities are being forced to train developmentals with no previous air traffic control experience, despite lacking training infrastructure or curricula to handle their educational requirements. The FAA must remove the imposed pay rules, and return to the bargaining table with NATCA to **reach a contract that would re-institute a career ladder,** encouraging experienced controllers to transfer to more demanding facilities.

5. Standardized training has produced the safest air traffic control system in the world. Unfortunately, the imposed work rules have so significantly impeded the FAA's ability to provide that training that the Agency's has resorted to issuing waivers to bypass certain training requirements in facilities across the country, including such busy facilities as Chicago, New York, Miami, Houston and Indianapolis. NATCA opposes the blanket issuance of such training waivers and strongly recommends that **standardized training continue to be the foundation for the development of skilled and capable air traffic controllers.**

6. There are many multifaceted challenges facing the FAA, including staffing, training, and new technologies and policies. Many of the difficulties we are now experiencing with staffing and training could have been reduced in severity or avoided entirely if the FAA had been willing to work meaningfully with NATCA. **In order to avoid such crises in the future, the FAA must work collaboratively and cooperatively with NATCA on all issues affecting air traffic controllers or their operations.**

STATEMENT OF HANK KRAKOWSKI, CHIEF OPERATING OFFICER, AIR TRAFFIC ORGANIZATION, FEDERAL AVIATION ADMINISTRATION, BEFORE THE HOUSE OF REPRESENTATIVES COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE, SUBCOMMITTEE ON AVIATION, HEARING ON AIR TRAFFIC CONTROL FACILITY STAFFING. JUNE 11, 2008.

Chairman Costello, Congressman Petri, Members of the Subcommittee:

Thank you for inviting me here to testify today on air traffic controller staffing issues. The Federal Aviation Administration (FAA) ***is*** its workforce, and we consider these issues to be of the utmost importance to maintaining the safest aviation system in the world. In my testimony today, I would like to give you both an historical, as well as current, overview of the national airspace system (NAS) and the staffing issues facing us today. As part of that, I would also like to discuss some of our efforts to recruit, retain, and train controllers, and note some of our other safety initiatives to ensure that our air traffic system remains as safe as possible for the traveling public.

Historical Overview

Let me first begin by taking you back to 1981, when President Reagan fired over 10,000 members of the Professional Air Traffic Control Organization (PATCO) for an illegal strike. In the wake of that event, our controller workforce was reduced to less than 4,700. The FAA began a large-scale recruitment and selection process to rebuild the controller workforce. By 1992, when our controller workforce was once again fully staffed, almost 28,000 people had entered the FAA Academy screening program. Of that number, 16,000 individuals or 57 percent successfully completed the program, 33 percent did not pass, and 10 percent left the program for other reasons.

Of the remaining 16,000 individuals, approximately 72 percent of those assigned to Air Route Traffic Control Centers (ARTCC) achieved the Certified Professional Controller (CPC) status, while 84 percent assigned to terminal facilities achieved CPC status. Many of those not successful in the facility-training program were reassigned to less demanding

facilities and ultimately achieved CPC status, while others secured jobs elsewhere within the FAA. The remainder resigned or were dismissed from the agency.

Recruitment and Retention

Even though the controller workforce was once again fully staffed, the realities were that, because of the concentrated, post-strike period of hiring, the FAA would have to once again begin a major recruitment effort as these controllers began to age out of the system. The vast numbers of controllers hired in the 1980s were long-predicted to retire once they reached retirement eligibility after 25 years of service.

As you know, the FAA initially developed a 10-year controller workforce staffing plan in 2004. We refine this plan each year. Last year, for example, we developed staffing ranges for each facility. The long-term focus of these ranges is on the CPC, who provides the maximum scheduling flexibility for a facility. As we update and refine our ranges, we will continue to make adjustments based on facility traffic performance. In the interim, many facilities will be in a state of transition as the agency manages through the ongoing retirements and concurrently certifies newly hired controllers.

However, the ranges also take into account the fact that developmental controllers, especially those in the later stages of training, can and do staff positions for which they are fully certified.[1] This is not a new practice. For example, Philadelphia International Airport is a Combination Radar Approach Control and Tower with Radar facility, in which controllers work in the tower cab portion and in the radar room (also known as a "TRACON "). In order to be a CPC in these types of facilities, the controllers must be "checked out" or qualified on all of the positions in both the tower and the TRACON . Thus, a developmental controller who has completed 50 percent of the required training to achieve CPC status, is fully certified to work all positions in the tower independently, while continuing to qualify for the radar positions.

[1] The agency has historically used developmental controllers to meet staffing requirements. In fact, the staffing agreement between the FAA and NATCA from 1998-2003 required only a specific number of "bargaining unit employees," with no differentiation between CPCs and developmentals.

In 2007, the anticipated retirement wave began, and we project that retirements will continue to hit record numbers in 2008 and 2009. While our historical hiring goal was a "one-for-one" model (one new hire for every one retirement), beginning in 2004, we increased our hiring requests to prepare for the anticipated retirements in the next decade. Our strategic hiring plan took into account both projected retirements as well as expected attrition in new hires. From 2008-2017, we plan to hire approximately 17,000 new air traffic controllers.

To achieve these ambitious goals, the FAA has been recruiting aggressively. In addition to our more traditional vacancy announcements to recruit from the general public, retired military controllers, eligible veterans, and current and former civilian air traffic controllers, we have been using major Internet outlets such as Careerbuilder.com, Monster.com, and CraigsList, as well as the social/professional networking site, LinkedIn. We have participated in military job fairs across the country, as well as advertised in *USA Today* and *Aviation Week & Space Technology*.

In an effort to recruit more women and minorities, we have also advertised in special interest newspapers and magazines, such as *Native American Times, Asian Week, Latina*, and *Minority Careers*. The FAA has also participated in the NAACP Diversity Job Fair, the Congressional Black Caucus Diversity Job Fair, and the League of United Latin American Citizens Job Fair in FY 2007. Additionally, our joint effort with the Department of Veterans Affairs enables veterans with disabilities to take advantage of on-the-job training opportunities through FAA's new Veterans' Employment Program. This initiative allows veterans with disabilities to train for air traffic control and airway transportation systems specialist positions.

In October 2007, the FAA chose an additional nine colleges and universities to be part of the Air Traffic Collegiate Training Initiative (AT-CTI) program, which brings the number of schools currently in the program to 23. We plan to continue to offer the opportunity to other schools to apply to the program. This partnership between the FAA and the colleges and universities in the AT-CTI program will contribute to meeting air

traffic controller hiring goals in the coming years. This is a hiring source of growing significance for the controller workforce.

One of our more effective recruitment tools is the offer of a recruitment bonus of up to $20,000 for terminal and en route new hires who have at least 52 consecutive weeks of experience within the last two years as a certified air traffic controller with control tower operator or radar certification. New hires with no experience do not qualify for a bonus and are sent to the FAA Academy in Oklahoma City for one to three months (depending on the type of facility they will staff), where they are paid a base salary of $19,300 per year for the short time they are there. Upon successful graduation from the Academy and assignment to a facility, their starting salaries almost double to at least $37,500 per year (including locality pay). The average controller is making about $50,000 at the end of his/her first year.

New hires at the Academy receive additional benefits beyond their base salary. Academy tuition is funded by the FAA, and the FAA pays for travel to and from the Academy based on the student's official address. While at the Academy, FAA provides transportation between central locations throughout the city and the Academy. Controllers at the Academy are also entitled to room and board, which is reimbursed at $79.20 per day. This covers meals, lodging and incidentals. Thus, student controllers earn $2,376 in per diem every 30 days at the Academy. Controllers at the Academy also begin earning annual and sick leave and are eligible for other federal benefits such as health and life insurance. Those controllers who are hired under a Veterans Recruitment Appointment, or who are retired military, or current or former Federal controllers, receive a starting base salary of $33,100, and in addition receive locality pay, tuition, travel costs, room, board, and benefits. As you might surmise, with such salaries, training opportunities, and benefit packages, we have found that we have had no problems attracting applicants.

The FAA has also streamlined and centralized the controller hiring process. Individual facilities can identify vacancies and select prospective new controllers as much as one

year in advance. Our security and medical clearance process has been improved by implementing Pre-Employment Processing Centers (PEPCs) to reduce the time it takes to complete pre-hire screenings, such as medical examinations, psychological and drug testing, and security clearance applications.

These initiatives have yielded a deep applicant pool of quality candidates. As noted above, we have discovered that with our salary and benefits packages, we have had no problems attracting qualified candidates. Since March 2008, we have had over 5,500 qualified applications available for selection and placement from our various applicant sources (former FAA controllers, veteran military controllers, CTI students, and public sector announcements). Our largest applicant source is our public sector announcements, which are published monthly. The last two such announcements combined yielded 2,500 qualified candidates.

In addition to our aggressive recruiting efforts, the FAA has been offering retention incentives to retirement-eligible controllers on a case-by-case basis. Retention bonuses are typically 25 percent of an individual's salary with a cap of $25,000. Controllers may also be eligible for relocation and reassignment bonuses for certain key facilities. Thus far, 44 retention bonuses have been accepted, and another 26 are pending consideration.

Training

We recognize that there is a great deal of interest over the high number of developmental controllers (controllers still in training) and the high ratio of developmentals to controllers in some of our facilities. Let me first say that training is something on which the FAA places a very high priority. Our controller workforce plan is projected to keep trainee to controller ratios below 35 percent. Currently, the ratio is about 25 percent. While we currently do have a higher percentage of developmentals in our facilities than we have had in recent years, our training programs are set up to maximize quality training, both in the classroom and on-the-job, while continuing to ensure we are keeping the air traffic control system as safe as possible. In order to address this concern further, allow me to take you through the training process.

First, recruits begin training at the FAA Academy in Oklahoma City. There, they learn the fundamentals of air traffic control for their particular job path: en route, tower, or terminal radar. The FAA Academy trains developmental controllers using classroom lectures, computer based-instruction, and simulation systems. The Academy lays the foundation for developmental controllers by teaching fundamental air traffic control procedures that are used across the country. When developmental controllers graduate from the Academy, they are prepared to adapt to their assigned facility and successfully complete the training required to reach CPC status.

Upon successful completion of their Academy training, developmental controllers then report to their assigned field facility to continue with their on-the-job training. Facility training begins with developmental controllers learning facility-specific rules and procedures. A developmental then will begin on-the-job training on an operational position. This training is conducted by a CPC who observes and instructs a developmental controller as they work the control position.

During their on-the-job training, developmentals are assigned to different positions within their facility. Once they have mastered those positions, they are then certified for those positions. I want to emphasize that no developmental may control live traffic independently until he or she has been certified to work that traffic position. Each control position has a minimum and maximum number of on-the-job training hours allotted. Based upon the recommendation of the training team, a developmental can be certified by the supervisor on a control position anywhere between the minimum and maximum number of hours. The final result at the end of training is achieving certification on all positions, or CPC for that facility. If a developmental controller fails to certify, they can be removed from service, or reassigned to a less complex facility in accordance with agency procedures. The on-the-job training process is designed to provide developmental controllers sufficient seasoning time and opportunity to develop their skills as they progress towards becoming CPCs.

The FAA has been leveraging the use of more advanced technologies to improve training while reducing the time needed to fully train our controllers. Our latest data indicates that where it used to take three to five years to train an air traffic controller, controllers can now be trained in one to three years, depending on the complexity of the facility they staff. The most recent data shows that average training time to achieve CPC status is 1.4 years for terminal controllers, and 2.6 years for en route controllers. We have achieved this reduction, not by cutting training time or quality, but by improving the training and scheduling processes, and by the increased use of training technologies such as simulators.

With simulators, training no longer depends on the density or complexity of actual air traffic operations. Simulating the real-time traffic environment provides a uniform training format for trainees to develop the necessary skills and experience that would take much longer solely through on the job training. Through the use of simulation systems students will benefit from consistent delivery of simulated traffic, weather, and unusual situations.

The simulation system provides significant improvements to existing training operations. It eliminates the need for preemptive intervention on the part of an instructor to avoid a possible hazardous situation, allowing the student to "work through" the scenario until they can consistently generate a successful outcome. The simulator system does not interact with actual air traffic control operational systems and poses no threat to service. It realistically replicates operations that enable training in an absolutely safe environment. In addition to initial training, the simulator system provides for refresher training to heighten awareness of controllers by generating seldom seen operations and airport conditions. Controllers who have recently been assigned to a new facility can also use the system to train in their new operational environment, reducing their training time.

We have also asked retired FAA air traffic controllers to return as contractors to train the new workforce. More than 100 retired controllers became contract training instructors in FY 2007. They joined an existing 200 contract instructors from previous years. This

allowed the FAA to retain their valuable expertise and train the next generation of controllers. These experts focus solely on training the next generation of controllers, rather than moving back and forth between working traffic and on-the-job training.

The Office of the Inspector General has made recommendations to us about improving our training processes, including centralizing oversight of our training programs at headquarters. To that end, we recently created and filled a new senior position in the Air Traffic Organization that is responsible for training, both controllers and technicians. Our goal is to focus and enhance the high priority we place on training, and to centralize our training policies to ensure accountability and oversight.

Facilities Staffing

The FAA has learned many lessons over the years following the PATCO strike. Among these lessons are that we recognize that we have a committed and dedicated controller workforce. Immediately following the PATCO strike, more than half of our controllers were trainees. Our controller workforce plan avoids such future disparities. As mentioned above, the plan projects an average trainee to controller ratio below 35 percent, while the current average is about 25 percent. And, while we have a higher percentage of developmentals (≥35 percent) in some of our facilities now, that will decline as trainees gain their certifications. We aim to staff every facility according to its current and future needs. Each facility is unique and each facility requires its own unique staffing solution.

The FAA staffs facilities to the traffic volume and controller workload. And, since traffic volume is dynamic, so are staffing needs at any given facility. Our "staff to traffic" model exercises the flexibility to match the number of controllers at various facilities with traffic volume and workload. Staffing to traffic requires the FAA to consider many facility-specific factors. They include traffic volumes based on FAA forecasts and hours of operation, as well as individualized forecasts of controller retirements and other attrition losses. Proper staffing levels also depend on the efficient scheduling of employees, so the FAA tracks a number of indicators as the agency reviews staffing

levels. Some of these indicators are overtime, time on position, leave usage, and the number of trainees. In addition, staffing at each location can be affected by unique facility requirements such as temporary airport runway construction, seasonal activity and the number of controllers currently in training. Staffing numbers will vary as the requirements of the location dictate.

The State of the System

I would like to turn now to an overview of what is happening in the NAS; the state of the system is the major determinant in our staffing needs. Currently, we are seeing a downturn in air traffic in most of the country. Due to the rising cost of fuel and other financial pressures, airlines are being forced to make changes. Major carriers have announced substantial reductions in their flight schedules and five airlines have gone bankrupt. These events have resulted in a reduction of over 42,000 operations from the air traffic control system. General aviation operations are also down, due to fuel and insurance costs, further de-stressing the system. With a few notable exceptions -- JFK, Denver and San Francisco, for example -- air traffic is down approximately 2% nationally year over year.

In most cases, this downturn in traffic has translated into fewer operations that a given controller needs to oversee. In 2000, the average annual number of operations per controller was 10,028. For the 12 month period ending April 2008, the average number of operations per controller is 9,260. "Time on position," the time that a controller actually spends controlling traffic, is averaging 4:45 hours per eight hour shift. And, average overtime for the past 12 months is 2.2 percent; in 2001, average overtime was 1.5 percent. We do recognize that there are some facilities with greater staffing needs, and we are adjusting our planning to address these facilities.

While the short-term pressure is easing, we still forecast long-term growth. Thus, we increased our controller workforce by a net gain of 256 in FY 2007, and we are on target to increase it an additional 256, to an end of year target of 15,130 for FY 2008. The President's budget for FY 2009 calls for a further net increase of over 300 controllers.

Given the current airline reductions and current staffing statistics, we believe our staffing goals and plans are on target.

Other Initiatives

In addition to our recruitment, training, and retention efforts, as well as our management of staffing at our facilities, we are moving forward with other initiatives that we believe will improve safety and better engage our workforce.

The first of these is the Air Traffic Safety Action Program (ATSAP), a joint pilot program between the FAA and the National Air Traffic Controllers Association (NATCA), in which controllers can voluntarily self-report safety hazards and incidents to the agency for review and risk assessment, without fear of retribution. ATSAP comes after several years of negotiation and is a logical extension of the FAA's aviation safety action program in which air carriers voluntarily participate. The pilot program is scheduled to last 18 months, during which time either side may terminate the agreement. It will be implemented at several targeted facilities.

Another major FAA initiative is scheduled for next week. We will conduct our first Annual Symposium on Fatigue in Aviation from June 17-19, 2008. The symposium will offer the United States and world aviation communities the opportunity to focus on fatigue, its management, and risks. The agenda will offer content from 21 expert presenters from around the world and will be moderated by industry leaders, labor, and medical experts.

There will be three flight operations working groups that will be led by a panel of three management, union, science or government representatives, and facilitated by fatigue science experts. These groups will consist of pilots and flight attendants and will break down into one "long-haul operations" group and two "domestic operations." The long haul group will consist of representatives from major and cargo airlines. Both domestic groups (one with a transcontinental focus; the other with multi-leg/short haul focus) will represent pilots and flight attendants from major and regional airlines. These three

groups will also include a variety of participants including those from labor unions, the scientific community, the international aviation community, the National Transportation Safety Board, and other federal agencies. We will also be having "shift work" groups which will all be jointly comprised of participants from air traffic control, maintenance, ramp operations, dispatch, and technical operations. Each of these will be led by a panel of three industry or union decision makers. Leadership structure and identity, as well as meeting processes for all, are in final development.

Our goal for these workgroups centers on the understanding that the fatigue issue demands a balanced, collaborative and earnest effort to reduce fatigue risk in aviation. The symposium builds upon the potential for industry and government (both labor and management), and science to propose fatigue mitigation strategies that could develop into industry-wide policy, non-prescriptive approaches, regulatory initiatives, potential propagation of best practices, and other initiatives that may originate from the symposium workgroups.

Conclusion

I hope that my statement has helped illuminate the FAA's plans and goals for our controller workforce. As I said at the beginning, the FAA is its workforce, and we are proud to have one with dedicated individuals who are committed to our mission: to ensure the safety and efficiency of our aviation system.

Chairman Costello, Congressman Petri, Members of the Subcommittee, this concludes my prepared remarks, and I look forward to answering any of your questions.

U.S. House of Representatives
Committee on Transportation and Infrastructure
Washington, DC 20515

James L. Oberstar
Chairman

David Heymsfeld, Chief of Staff
Ward W. McCarragher, Chief Counsel

John L. Mica
Ranking Republican Member

James W. Coon II, Republican Chief of Staff

August 14, 2008

Mr. Hank Krakowski
Chief Operating Officer
Air Traffic Organization
Federal Aviation Administration
800 Independence Avenue, SW
Washington, D.C. 20591

Dear Mr. Krakowski:

On June 11, 2008, the Subcommittee on Aviation held a hearing on the **"Air Traffic Control Facility Staffing."**

Attached is a question to answer for the record. I would appreciate receiving your written response to this question within 14 days so that it may be made a part of the hearing record.

Sincerely,

Jerry F. Costello
Chairman
Subcommittee on Aviation

JFC:pk
Attachment

JUNE 11, 2008
SUBCOMMITTEE ON AVIATION
HEARING ON

AIR TRAFFIC CONTROL FACILITY STAFFING

QUESTION FOR THE RECORD
TO:

MR. HANK KRAKOWSKI
CHIEF OPERATING OFFICER
AIR TRAFFIC ORGANIZATION
FEDERAL AVIATION ADMINISTRATION

On March 27, 2008, the Federal Aviation Administration (FAA) Acting Administrator Robert Sturgell and the National Air Traffic Controllers Association (NATCA) signed the Air Traffic Safety Action Program (ATSAP) that created a voluntary, cooperative, non-punitive reporting program designed to improve safety. There has been disagreement between the FAA and NATCA concerning whether the ATSAP program is non-punitive. Please clarify FAA's position on this program.

June 11, 2008
Subcommittee on Aviation
Hearing on
"Air Traffic Control Facility Staffing"

Question for the Record
From Chairman Jerry F. Costello

To

Mr. Hank Krakowski
Chief Operating Officer
Air Traffic Organization
Federal Aviation Administration

Question: On March 27, 2008, Federal Aviation Administration (FAA) Acting Administrator Sturgell and the National Air Traffic Controllers Association (NATCA) signed the Air Traffic Safety Action Program (ATSAP) that created a voluntary, cooperative, non-punitive reporting program designed to improve safety. There has been disagreement between the FAA and NATCA concerning whether the ATSAP program is non-punitive. Please clarify FAA's position on this program.

Answer: The agreement that the FAA and NATCA signed on March 27, 2008, covers an 18 month demonstration between the Air Traffic Organization (ATO), NATCA and the FAA's Office of Air Traffic Oversight (AOV). As part of the agreement, in exchange for voluntary reporting of safety events, the ATO agrees not to decertify or take disciplinary action for events covered by accepted ATSAP reports. In addition, AOV agrees to take lesser, or no, credentialing action as part of this agreement. The MOU includes limits on the conduct of managers following an ATSAP report, and the emphasis is on non-punitive responses, such as skill enhancement training, when training is deemed appropriate. The core of a safety action program is the Event Review Committee (ERC). The ERC operates on consensus and determines whether an event will be accepted as an ATSAP report. The three member board -- ATO, AOV and NATCA -- directs the fact-finding, reviews all ATSAP reports, and makes corrective action recommendations through consensus.

U.S. House of Representatives
Committee on Transportation and Infrastructure

James L. Oberstar
Chairman

David Heymsfeld, Chief of Staff
Ward W. McCarragher, Chief Counsel

Washington, DC 20515

John L. Mica
Ranking Republican Member

James W. Coon II, Republican Chief of Staff

June 25, 2008

Mr. Hank Krakowski
Chief Operating Officer
Air Traffic Organization
Federal Aviation Administration
800 Independence Avenue, SW
Washington, D.C. 20591

Dear Mr. Krakowski:

On June 11, 2008, the Subcommittee on Aviation held a hearing on "Air Traffic Control Facility Staffing."

Attached is a question to answer for the record submitted by Rep. John R. "Randy" Kuhl, Jr. I would appreciate receiving your written response to this question within 14 days so that it may be made a part of the hearing record.

Sincerely,

Jerry F. Costello
Chairman
Subcommittee on Aviation

JFC:pk
Attachment

JUNE 11, 2008
SUBCOMMITTEE ON AVIATION
HEARING ON
"AIR TRAFFIC CONTROL FACILITY STAFFING"

QUESTIONS FOR THE RECORD
FROM: REP. JOHN R. "RANDY" KUHL, JR.

TO:

Mr. Hank Krakowski
Chief Operating Officer
Air Traffic Organization
Federal Aviation Administration

Mr. Krakowski,

Today, we face a shortage of air traffic controllers across the country. The Department of Transportation Inspector General has testified that we have an influx of trainees that the Federal Aviation Administration is having difficulty properly training.

From every indication, Nick Gigliobianco was qualified to be an air traffic controller. He received good test scores, his instructors gave him good reviews, and he was progressing well through his training at the busy New York Air Route Traffic Control Center. However, he was terminated on March 1, 2008, for being unable to get to work during a snowstorm on February 22.

I know that you were asked to review this and then turned it over to the same managers who made the original decision to terminate, and it yielded the same result. However, the termination is reverberating throughout the FAA, at least at the controller ranks. I know that my controllers in Rochester are concerned, as they view this as an unjust termination.

As the Chief Operating Officer of the Air Traffic Organization, are you empowered to reinstate Mr. Gigliobianco? If so, I respectfully request that you consider personally reviewing the matter, as the termination appears to be controversial.

June 11, 2008
Subcommittee on Aviation
Hearing on
"Air Traffic Control Facility Staffing"

Question for the Record
From Rep. John R. "Randy" Kuhl, Jr.

To

Mr. Hank Krakowski
Chief Operating Officer
Air Traffic Organization
Federal Aviation Administration

Question: Today we face a shortage of air traffic controllers across the country. The Department of Transportation Inspector General has testified that we have an influx of trainees that the Federal Aviation Administration is having difficulty properly training.

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I know that you were asked to review this and then turned it over to the same managers who made the original decision to terminate, and it yielded the same result. However, the termination is reverberating throughout the FAA, at least at the controller ranks. I know that my controllers in Rochester are concerned, as they view this as an unjust termination.

As the Chief Operating Officer of the Air Traffic Organization, are you empowered to reinstate Mr. Gigliobianco? If so, I respectfully request that you consider personally reviewing the matter, as the termination appears to be controversial.

Answer: I have reviewed Mr. Gigliobanco's termination to consider his reinstatement.

My assessment is that FAA management took appropriate action with regard to the termination of Mr. Gigliobianco. As a new employee with the FAA, Mr. Gigliobianco was serving a one year probationary period. During the probationary period, termination action may be taken at any time, based on performance deficiencies, lack of aptitude for the job, misconduct and/or cooperativeness, or undesirable characteristics evidenced by the employee's activities either during or outside official during hours.

Employees bear a large responsibility to know and adhere to the rules and regulations that pertain to their profession. The most fundamental of these is to come to work on time and

adequately prepared to perform their duties. In this case, the employee demonstrated an unwillingness to do either.

Mr. Gigiobianco's attendance was unreliable during his probationary period. He had been counseled on several occasions regarding attendance problems prior to the February 22, 2008 incident in which he called in and stated he was not coming in to work. FAA management determined that the agency should not retain an employee who demonstrates such unreliability. Air Traffic Controllers are critical to the safety of the flying public and management must be able to rely on them to report for duty.

Mr. Gigliobianco was initially notified on February 28, 2008 regarding a termination during probation; a corrected and superseded letter was issued on March 27, 2008. Mr. Gigliobianco was on notice for 30 days prior to the effective date of his termination.

June 11, 2008
Subcommittee on Aviation
Hearing on
"Air Traffic Control Facility Staffing"

Question for the Record
From Rep. John L. Mica

To

Mr. Hank Krakowski
Chief Operating Officer
Air Traffic Organization
Federal Aviation Administration

Question: It is my understanding that it is your intention to split the Tower/TRACON air traffic control functions at Miami, Orlando, Philadelphia and Memphis into separate facilities. Is that true? And if so, what data have you relied on to make the decision and what is the number of Controllers you will require to staff the two separate facilities at Miami International? Orlando?

Answer: Yes, the FAA is planning to split the Tower and TRACON functions at the Miami, Orlando, Philadelphia, and Memphis facilities.

The FAA conducted several staff studies at facilities across the country. The studies from Miami, Orlando, Philadelphia, and Memphis showed that those facilities would benefit from splitting due to the large number of positions and the amount of training required to maintain certification.

As the FAA trains and transitions a new workforce, splitting these facilities provides the opportunity for these new controllers to reach full certification faster, since the number of positions are required to be certified on is reduced.

The benefits of splitting the TRACON and tower:

- Reduction in the number of positions a controller must certify on to work under "general supervision" by a minimum of 30% for TRACON controllers and 70% for tower controllers.

- A new controller can become facility rated for the ATCT in 166.3 training hours, and facility rated for the TRACON in 365.7 training hours, compared to 532 training hours currently required for just one individual to reach full certification status.

In response to your question about the number of controllers needed to staff the two separate facilities at Miami International and Orlando, the FAA has not yet finalized these determinations. We will follow up with your office once these decisions are made.

The FAA will use two internal sources to make each decision: the District/Facility manager's judgment as to their staffing needs, and a staffing validation model specifically designed to determine staffing needs in our terminal facilities.

June 11, 2008
Subcommittee on Aviation
Hearing on
"Air Traffic Control Facility Staffing"

Question for the Record
From Rep. John L. Mica

To

Mr. Hank Krakowski
Chief Operating Officer
Air Traffic Organization
Federal Aviation Administration

Question: In the last 18 months Miami International Airport has received 24 new controllers who have all been assigned to the Tower. Miami is slated to receive 16 more controllers in the next 3 months and all but 1 is scheduled to go to the tower. If your staff study calls for 30 tower controllers, is it your intention to staff the "split" towers with mostly inexperienced? If so, are there any safety implications to this decision? How will training be conducted?

Answer: All of the controllers at the Miami facility are required to fully certify in the option they are assigned. Currently, there are two options for controllers – one is the Tower-TRACON area and the other is a TRACON-only area. When Miami does reorganize, the assignment of controllers will be done in accordance with the current contract with NATCA. The reassignment qualifications will ensure a mix of experience in both facilities. The process for assigning controllers during a reorganization has been virtually the same since 1998, and since that time there have been many reorganizations and one large TRACON consolidation with no adverse impact on safety. The implication for training is that training times should be reduced since developmental controllers will be required to train and certify on fewer positions.

June 11, 2008
Subcommittee on Aviation
Hearing on
"Air Traffic Control Facility Staffing"

Question for the Record
From Rep. John L. Mica

To

Mr. Hank Krakowski
Chief Operating Officer
Air Traffic Organization
Federal Aviation Administration

Question: At a public hearing in West Palm Beach, an FAA Representative stated, "the optimum number of positions for controllers to remain current/proficient on is 10-12." Would you concur with that number? And if so why did the FAA recently combine two sectors in the Southern California TRACON that each had 8 sectors into one area that requires the controllers to remain current/proficient on 16 positions?

Answer:
The statement made at the public hearing in Palm Beach was in answer to a question asking the FAA representative's opinion on optimum staffing. There is no definitive data to support this specific number. The optimum number of positions on which a controller should remain certified/proficient varies from facility to facility based on operational complexity, the amount of traffic and other variables.

Southern California TRACON (SCT) recently completed an effort to optimize the amount of traffic and complexity among operational areas. As a result, each operational area has roughly the same number of radar positions. This arrangement works well for SCT's mix of traffic and their operational complexity. However, this same number of radar positions may not work well in other facilities. The number of positions is handled on a facility by facility basis.

U.S. House of Representatives
Committee on Transportation and Infrastructure
Washington, DC 20515

James L. Oberstar
Chairman

David Heymsfeld, Chief of Staff
Ward W. McCarragher, Chief Counsel

John L. Mica
Ranking Republican Member

James W. Coon II, Republican Chief of Staff

July 7, 2008

Mr. Hank Krakowski
Chief Operating Officer
Air Traffic Organization
Federal Aviation Administration
800 Independence Avenue, SW
Washington, D.C. 20591

Dear Mr. Krakowski:

On June 11, 2008, the Subcommittee on Aviation held a hearing on "Air Traffic Control Facility Staffing."

Attached is a question to answer for the record submitted by Rep. Laura Richardson. I would appreciate receiving your written response to this question within 14 days so that it may be made a part of the hearing record.

Sincerely,

Jerry F. Costello
Chairman
Subcommittee on Aviation

JFC:pk
Attachment

JUNE 11, 2008
SUBCOMMITTEE ON AVIATION
HEARING ON
"AIR TRAFFIC CONTROL FACILITY STAFFING"

QUESTIONS FOR THE RECORD
FROM: REP. LAURA RICHARDSON

TO:

Mr. Hank Krakowski
Chief Operating Officer
Air Traffic Organization
Federal Aviation Administration

ISSUE: POTENTIAL CANCELLATION OF PREAPPROVED LEAVE

QUESTION:

I have heard from Air Traffic Controllers from my district and facilities across the nation that the FAA is planning on canceling preapproved or scheduled vacations and other leave for air traffic controllers because of the staffing problem the Agency is facing.

If this is the case, I believe that such a move by the FAA would have a chilling effect throughout the controller workforce and the NAS, and would result in increased controller fatigue, demoralization of the controller workforce, increased retirements, and decreased recruiting abilities. This action of canceling preapproved leave would demonstrate an absolute disregard for the dwindling controller workforce that is actually keeping the system working. I think there is a discrepancy between telling an employee they cannot have a week off versus telling an employee that "I told you months ago you could take time off and now I no longer stand by that promise."

In order to prevent further abuse and demoralization of a diminishing controller workforce, I need clarification on this issue. Does the agency intend to cancel "previously approved" vacation leave for air traffic controllers?

June 11, 2008
Subcommittee on Aviation
Hearing on
"Air Traffic Control Facility Staffing"

Question for the Record
From Rep. Laura Richardson

To

Mr. Hank Krakowski
Chief Operating Officer
Air Traffic Organization
Federal Aviation Administration

Question: I have heard from controllers in my district and facilities across the nation that the FAA is planning on cancelling pre-approved or scheduled vacations and other leave for air traffic controllers because of the staffing problem the Agency is facing.

If this is the case, I believe that such a move by the FAA would have a chilling effect throughout the controller workforce and the NAS, and would result in increased controller fatigue, demoralization of the controller workforce, increased retirements, and decreased recruiting abilities. This action of cancelling pre-approved leave would demonstrate an absolute disregard for the dwindling controller workforce that is actually keeping the system working. I think there is a discrepancy between telling an employee that cannot have a week off versus telling an employee that "I told you months ago you could take time off and now I no longer stand by that promise."

In order to prevent further abuse and demoralization of a diminishing controller workforce, I need clarification on this issue. Does the agency intend to cancel "previously approved" vacation leave for air traffic controllers?

Answer:
No, the Agency does not intend to cancel "previously approved" vacation leave for air traffic controllers.

In fact, we reviewed leave information from facilities in and around the 37th district and found that no controller has had his or her pre-approved annual leave cancelled. In particular, at one of the busiest facilities in the country, Los Angeles International, we found that in a single pay period, the average amount of leave that is approved – and taken – is nearly 700 hours. We also found that on average controllers work less than 71 hours in an 80-hour pay period, which means that no controllers at LAX are working traffic 6 days a week.

We examined some of the other major facilities across the country and found that the vast majority of controllers will be able to use all of their annual leave this year; and that no leave exigency plans are in place.

FAA facility managers are instructed that should an event occur requiring management to cancel leave that it must be for such an obvious reason that the employee would not have to ask why – e.g., an emergency similar to September 11, 2001.

That said, there might be some instances when pre-approved leave must be cancelled. This is not about the Agency being unwilling to stand by its commitments; it is about having the right personnel on the job to operate the National Airspace System in the safest, most efficient way possible.

Before the Transportation and Infrastructure Committee
Subcommittee on Aviation
United States House of Representatives

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Key Issues Facing the Federal Aviation Administration's Controller Workforce

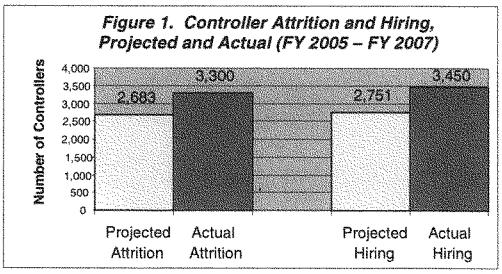
Statement of
The Honorable Calvin L. Scovel III
Inspector General
U.S. Department of Transportation

Mr. Chairman and Members of the Subcommittee:

We appreciate the opportunity to testify today on key issues facing the Federal Aviation Administration's (FAA) controller workforce. With FAA's plans to hire and train nearly 17,000 controllers to offset retirements over the next decade, ensuring there are enough certified controllers at FAA's more than 300 air traffic control facilities will remain a significant watch item for this Subcommittee

This "surge" in controller retirements stemmed from the air traffic controller strike in 1981. When 10,438 striking controllers did not return to work, then-President Reagan fired them. Between 1982 and 1983, FAA hired over 8,700 new controllers; it subsequently hired an average of 2,655 controllers per year until 1991. By the end of 1992, the controller strike recovery period had ended and controller hiring stabilized to the level of "one retirement—one hire." However, the hiring wave between 1982 and 1991 created a large pool of controllers who have reached or will reach retirement eligibility at roughly the same time.

As a result, a surge in controller retirements has begun. Since 2005, 3,300 controllers have left the workforce;[1] while 1,876 were retirees, only 37 of those controllers retired because they had reached the mandatory retirement age of 56. Further, the total rate of attrition was 23 percent higher than FAA had projected, and FAA accelerated its hiring efforts to keep pace. Since 2005, FAA has hired 3,450 new controllers—25 percent more than projected (see figure 1).



FAA is now facing a fundamental transformation in the composition of its controller workforce, as the overall percentage of controllers in training has grown substantially over the past 4 years. From April 2004 to April 2008, the overall size of the controller workforce remained relatively constant. During that period, however, the number of controllers in training increased by 1,407, or nearly 64 percent, while the number of fully certified professional controllers (CPC) decreased by 1,364, or 11 percent (see table below).

FAA expects the percentage of controllers in training to continue to increase to as much as 30 percent of the workforce over the next 4 years.

[1] Attrition includes retirements, resignations, and promotions to supervisory or non-controller positions, training failures, and deaths.

Table. Controller Workforce Composition			
Date	CPCs	Controllers in Training*	Total
April 2004	12,328	2,209	14,537
April 2008	10,964	3,616	14,580
Difference	(-1,364)	+1,407	+43

*Includes newly hired or developmental controllers and transferred CPCs in training at new locations.
Source: FAA

New controllers now represent 25 percent of the workforce (up from 15 percent in 2004).[2] However, that percentage can vary extensively by location—from as little as zero percent (e.g., Pittsburgh air traffic control tower) to as much as 67 percent (e.g., Rochester air traffic control tower).

Addressing controller attrition will be a major challenge for FAA for at least the next 10 years. Our testimony today is based on our audits and investigations of FAA controller workforce issues over the past decade. We have identified three key areas where FAA should focus its efforts to successfully hire and train 17,000 new controllers through 2017: (1) improving facility training, (2) addressing controller human factors, and (3) ensuring accuracy and consistency in reporting and addressing operational errors.

Improving Controller Facility Training

A major challenge in addressing the surge in controller attrition will be training new controllers to the CPC level at their assigned locations. Facility training can take up to 3 years and is the most expensive part of new controller training. Training new controllers to the CPC level is important for two reasons: (1) only CPCs are qualified to control traffic at all positions of their assigned area, and (2) only CPCs certified for at least 6 months (at their assigned location) can become on-the-job training (OJT) instructors for other new controllers. Having enough OJT instructors at all locations is a vital part of FAA's long-term hiring plans.

It is important to note that new controllers who have completed portions of training and certified on a position are partially qualified and can independently staff that position. However, controllers are not qualified CPCs until they have certified on all positions within their assigned area. In addition, using partially qualified controllers extensively to staff positions can increase the time required for them to become CPCs because they are not training on other new positions.

[2] We used 2004 as a benchmark for comparison purposes because (1) 2004 was the last year we audited this program, which created a natural benchmark for all our comparisons, and (2) 2004 was the year FAA first published its Controller Workforce Plan.

Last week, we issued our report on FAA's controller facility training program[3]—our second review of this program since 2004. FAA is taking actions at the national level to get this important program on track. For example, FAA is increasing the use of contractor training support—from 53 facilities in 2004 to 190 facilities in 2007—and training simulators at towers. We found, however, that many of FAA's efforts are still in the early stages. Our report identified problems that we also reported in 2004—that the facility training program continues to be extremely decentralized and the efficiency and quality of the training varies from one location to another. We identified the following actions needed to improve this important program:

Establishing realistic standards for the level of developmental controllers that facilities can accommodate. Given the various size and complexities of FAA's more than 300 facilities, FAA needs to identify (by facility) how many developmental controllers facilities can realistically accommodate. We recommended that FAA's new standards consider several factors, such as the availability of OJT instructors, classroom space, and simulators as well as training requirements and the number of recently placed new personnel already in training. FAA agreed to convene a working group to identify a percentage range target for developmental controllers based on facility type. FAA expects the workgroup to hold its first meeting this month.

Clarifying responsibility for oversight and direction of the facility training program at the national level. Facility training is primarily the responsibility of the Air Traffic Organization's (ATO) Vice President for Terminal Services and Vice President for En Route and Oceanic Services. However, the Vice President for Acquisition and Business Services oversees new controller hiring and the FAA Academy training program, and the Senior Vice President for Finance oversees the development of the Controller Workforce Plan. All four offices have key roles in the controller training process.

As a result of these overlapping responsibilities, we found there is significant confusion at the facility level. Facility managers, training managers, and even Headquarters officials were unable to tell us who or what office was responsible for facility training. We recommended that FAA clarify responsibility for oversight and direction of the facility training program at the national level and communicate those roles to facility managers. FAA agreed to clarify those roles and responsibilities in the next update to its training order.

Implementing key initiatives proposed in its 2004 Controller Workforce Plan. FAA has not implemented key initiatives to improve facility training that it proposed in the 2004 Controller Workforce Plan. These include, "developing, implementing, and enforcing a policy that assigns facility training as a priority second only to

[3] OIG Report Number AV-2008-055, "Review of the Air Traffic Controller Facility Training Program," June 5, 2008. OIG reports and testimonies are available on our website: www.oig.dot.gov.

operations." This was to be accomplished by (1) placing developmental controllers only at facilities that had available training capacity, (2) requiring facility managers to suspend training only for critical operational necessities, and (3) establishing nominal "time-to-certify" metrics and holding managers accountable for achieving those targets. However, FAA never issued this policy. In its response to our draft report, FAA agreed with our recommendation to issue this guidance and stated its En Route and Terminal service units would coordinate and issue the guidance.

In addition, FAA has not comprehensively evaluated its facility training program. In its 2004 Controller Workforce Plan, FAA stated it would "conduct a thorough review of facility training to ensure it begins where the Academy ends." FAA intended for this effort to help reduce the time it takes new controllers to become CPCs. However, FAA never conducted the evaluation. We recommended that FAA follow through with this evaluation and its Controller Workforce Plan initiatives. FAA agreed to require the selected contractor for its next training support procurement to perform an initial analysis of facility training.

Including detail on the composition of the controller workforce in reports to stakeholders. While the number of controllers in training has increased significantly since 2004, FAA's reports to its stakeholders do not reflect this change. This is because FAA's Controller Workforce Plan does not differentiate between CPCs and controllers in training ("in training" includes both developmental controllers and CPC-ITs[4]). Instead, FAA only reports the total number of controllers at each location. We recommended that FAA report the number of CPCs *and* the number of controllers in training separately for each location. Differentiating those figures by location could provide Congress and the Secretary with critical data on the controller workforce and provide a benchmark for year-to-year comparisons.

FAA did not agree with our recommendation. In its response to our draft report, FAA stated that an annual snapshot of this information does not accurately portray the changing controller workforce and that the information would be of little use to readers of its Controller Workforce Plan.

We strongly believe that periodic comparisons of the controller workforce provide critical data points for Congress, the Secretary, and other stakeholders who must help ensure FAA has enough certified controllers to safely operate the National Airspace System. This is particularly important given the length of time required for new controllers to become CPCs.

[4] CPCs in training (CPC-IT) are veteran controllers who transferred from another facility and are in training to learn the procedures and airspace of their new locations.

Addressing Controller Human Factors

Addressing controller human factors issues, such as fatigue and situational awareness, is important for maintaining safe operations of the National Airspace System. In its investigation of Comair flight 5191, the National Transportation Safety Board (NTSB) expressed concerns that the lone controller on duty at the time of the accident had only slept about 2 hours before his shift (although he had 8 hours off between shifts). As a result of its investigation, the NTSB added controller fatigue to its "Most Wanted List" in 2007.

Training new controllers on human factor issues as well as technical aspects of air traffic control (such as airspace, phraseology, and procedures) will become increasingly important as FAA begins to address the large influx of new controllers.

In April 2003,[5] we reported that almost 90 percent of controller operational errors (when a controller allows two aircraft to get too close together either on the runway or in the air) were due to human factors issues rather than procedural or equipment deficiencies. Therefore, it was important that FAA develop initiatives to prevent these types of errors. In May 2007,[6] we again reported that FAA needed to focus on controller human factors issues and training to reduce the risk of runway incursions caused by controller operational errors. Our report found, however, that FAA had made little progress in this area. Since then, FAA has made some progress toward human factors initiatives, particularly with the National Air Traffic Professionalism Program (NATPRO).

We reviewed NATPRO in 2003. NATPRO training is designed to sharpen and maintain controllers' mental skills most closely associated with visual attention and scanning. Participants thus gain insight into how performance can be influenced by certain factors (e.g., by distraction, fatigue, and boredom) and how those factors increase the opportunity for operational errors.

FAA tested the program in FY 2003 and began providing this training at its en route centers; it will begin using NATPRO at Terminal Radar Approach Control (TRACON) facilities this year. Since we issued our report last May, FAA has provided NATPRO cadre training to representatives from 42 facilities so they can use NATPRO at their facilities. While FAA has not yet implemented NATPRO at tower facilities, where visual attention and scanning are key factors in preventing runway incursions, it plans to do so in FY 2009.

To its credit, FAA has successfully implemented an extremely important training initiative—increasing the use of training simulators at towers. Tower simulators can

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[5] OIG Report Number AV-2003-040, "Report on Operational Errors and Runway Incursions," April 3, 2003.

[6] OIG Report Number AV-2007-050, "Progress Has Been Made in Reducing Runway Incursions, but Recent Incidents Underscore the Need for Further Proactive Efforts," May 24, 2007.

improve overall facility performance by reducing runway incursions caused by controllers through enhanced initial and proficiency training. They provide controllers with a virtual replica of the tower environment, which can be used to train controllers using real-life scenarios such as day-versus-night operations, varying weather conditions, different runway configurations, or emergency situations. Results at four towers thus far indicate that simulators are valuable tools for enhancing controllers' skills and addressing human factors issues.

Simulators can also be used to model changes in airport configurations and procedures. For example, Boston Logan used a tower simulator to help establish necessary safety procedures for a newly constructed runway. FAA plans to install 12 additional simulators this year (6 at large airports and 6 at the FAA Academy) and 12 next year (at other airports). FAA needs to ensure that this important initiative remains on track to capitalize on the significant success this training has demonstrated.

Ensuring Consistency and Accuracy in Reporting and Addressing Controller Operational Errors

As FAA transitions to a new and relatively inexperienced controller workforce, it must investigate, mitigate, and accurately report operational errors. In FY 2007, there were 1,393 operational errors, up slightly from 1,338 in FY 2006. Forty-three of these were categorized as serious,[7] which is the equivalent of about 1 serious operational error every 8 days.

In 2004,[8] we reported that FAA relied on an inaccurate self-reporting system to track operational errors. FAA must obtain accurate reports of operational errors to identify trends and prevent recurrences. Yet, we found that only 20 of FAA's more than 300 air traffic control facilities had an automated system to identify operational errors. We made a series of recommendations to FAA to ensure that operational errors were accurately reported and investigated.

In response, FAA is developing an automated system—the Traffic Analysis and Review Program, or TARP—to identify when operational errors occur at TRACON facilities. FAA started deploying this system in FY 2008 with an estimated completion date for operational capabilities at all locations by the end of calendar year 2009.

Keeping this technology on track must remain a priority for FAA as it hires and trains 17,000 new controllers. We continue to receive allegations that operational errors are going unreported or in some cases intentionally misclassified. For example, in two

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[7] Serious operational errors are those incidents that FAA rates as Category A (or high risk of a collision).

[8] OIG Report Number AV-2004-085, "Report on FAA Controls Over the Reporting of Operational Errors," September 20, 2004.

separate investigations requested by the Office of Special Counsel, we found that operational errors were intentionally under-reported at the Dallas/Fort Worth TRACON.

In 2004, we found that operational errors were being systematically ignored (i.e., suspected events were not investigated) as a result of local management policies that appeared to be designed to deflate their numbers. In 2007, we initiated a second investigation at the Dallas TRACON and found 62 operational errors and deviations that had been intentionally misclassified as pilot errors or "non-events."

In April 2008, we issued our investigative report to FAA and made eight recommendations, which included (1) taking appropriate administrative actions against employees involved in the misclassification of operational errors; (2) conducting on-site, no-notice reviews of the facility by an entity outside of the ATO; and (3) expediting the early deployment of TARP at the facility. FAA agreed with our recommendations and began appropriate actions to address them.

FAA has also recently announced plans to create an Air Traffic Safety Action Program (ATSAP), designed to foster a voluntary, cooperative, non-punitive environment for the open reporting of safety concerns. ATSAP is modeled after similar programs used by FAA and airlines. Under ATSAP, controllers can report previously unreported events involving the loss of separation between aircraft without fear of reprisal. In theory, this provides safety information that might otherwise be unobtainable, which could help in developing corrective actions.

FAA must carefully ensure, however, that these programs are used to enhance safety and protect them from potential misuse. Our work on a similar program, which grants immunity to pilots who report runway incursions, found that safety information was either inaccessible or not used to resolve the cause of the reported safety issue. We also found serious lapses in FAA's and Southwest Airlines' use of a partnership program that permitted voluntary disclosure of maintenance issues. Specifically, when the carrier disclosed maintenance shortfalls, FAA did not require appropriate corrective actions. In this instance, FAA allowed aircraft that had missed critical fuselage inspection dates to continue flying without requiring them to undergo immediate inspections. FAA must ensure that similar issues do not occur with ATSAP.

I would now like to discuss these matters in further detail.

A KEY ISSUE FOR ADDRESING ATTRITION WILL BE TRAINING NEW CONTROLLERS AT THE FACILITY LEVEL

A major challenge in addressing the surge in controller attrition will be to train transferring and new (or developmental) controllers to the CPC level at their assigned locations. Facility training can take up to 3 years and is the most expensive part of new controller training. Developmental controllers and transferring veteran controllers face a demanding training process at their assigned locations. The training is conducted in stages and consists of a combination of classroom, simulation, and OJT.

After controllers complete classroom and simulation training, they begin OJT; this is conducted by a CPC who observes and instructs trainee controllers individually as they work the control position. Controllers in training achieve certification on each position as they move through the various stages. After they have certified on all positions within their assigned area, they are commissioned as a CPC at that facility.

Training new controllers to the CPC level is important for two reasons: (1) only CPCs are qualified to control traffic at *all* positions of their assigned area, and (2) only CPCs certified for at least 6 months (at their assigned location) can become OJT instructors for other new controllers. Having enough OJT instructors at all locations is a vital part of FAA's plan to hire and train 17,000 new controllers through 2017.

It is important to note that new controllers who have completed portions of training and certified on a position are partially qualified and can independently staff that position. However, controllers are not qualified CPCs until they have certified on all positions within their assigned area. In addition, using partially qualified controllers extensively to staff positions can increase the time required for them to become CPCs because, when used to staff a position, they are not training on other new positions.

FAA is taking actions at the national level to get this important program on track. For example, FAA increased the use of contractor training support from 53 facilities in 2004 to 190 facilities in 2007. Last week, we issued our report on FAA's controller facility training program—our second review of this program since 2004. We found that while FAA is making progress, many of its efforts are still in the early stages. Our report identified problems that we also reported in 2004—that the program continues to be extremely decentralized and the efficiency and quality of the training varies from one location to another. We made 12 recommendations to FAA, which include taking the following actions to achieve its goals for the controller workforce:

Clarify responsibilities for oversight and direction of the facility training program at the national level. After FAA created the ATO, it assigned national oversight responsibility for facility training to the ATO Vice President for Terminal Services and the Vice President for En Route Services. However, the Vice President for Acquisition and Business Services oversees new controller hiring and the FAA Academy training program, and the Senior Vice President for Finance oversees the development of the Controller Workforce Plan. All four offices play key roles in the controller training process.

As a result of these overlapping responsibilities, we found that there is significant confusion at the facility level. During our review, facility managers, training managers, and even Headquarters officials were unable to tell us who or what office was responsible for facility training. We recommended that FAA clarify responsibility for oversight and direction of the facility training program at the national level and communicate those roles to facility managers. FAA agreed to clarify those roles and responsibilities in the next update to its training order.

Establish realistic standards for the level of developmental controllers that facilities can accommodate. FAA plans to increase the number of developmental controllers to over 30 percent of the total controller workforce. This would be the highest percentage of developmental controllers in 15 years. In its Controller Workforce Plan, FAA estimates that the controller workforce at each facility can comprise up to 35 percent in developmental controllers and still maintain operations and training.

FAA also estimates that if facilities exceed that amount, training times would significantly increase because the number of developmental controllers would surpass training capacity. We found, however, that many facilities already meet or exceed the 35-percent level. As of April 2008, 67 facilities nationwide (over 21 percent of all FAA air traffic control facilities) exceeded that level, compared to just 22 in April 2004. This represents a 205-percent increase in just 4 years. For example, as of April 2008:

- Miami Center had 191 CPCs and 88 developmental controllers (32 percent developmental).
- Oakland Center had 168 CPCs and 83 developmental controllers (33 percent developmental).
- Las Vegas TRACON had 26 CPCs and 18 developmental controllers (41 percent developmental).

Most facility managers, training officers, and union officials we spoke with disagreed with FAA's estimate of an acceptable level of developmental controllers. They stated that, in order to achieve effective controller training while maintaining daily

operations, the *maximum* percentage of developmental controllers should be limited to between 20 percent and 25 percent of a facility's total controller workforce.

The difference between these estimates and FAA's maximum percentage is disconcerting, particularly since 67 facilities already exceed the FAA limit. A significant issue is that FAA's 35-percent estimate was originally intended to determine how many developmental controllers could be processed through the FAA Academy—not how many new controllers that could be trained at individual facilities. It appears, however, that FAA is using that percentage as a benchmark for all facilities.

FAA Headquarters officials we spoke with agreed that "no one size fits all" when determining how many trainees a facility can accommodate. We agree, given the various size and complexities of FAA's more than 300 facilities. We recommended that FAA re-examine its estimate and identify (by facility) how many developmental controllers facilities can realistically accommodate.

In determining this amount, we recommended that FAA consider several factors at each location, such as the availability of OJT instructors, classroom space, and simulators as well as training requirements and the number of recently placed new personnel already in training. FAA agreed to convene a working group to identify a percentage range target for developmental controllers based on facility type. FAA expects the workgroup to hold its first meeting this month.

Implement key initiatives proposed in its 2004 Controller Workforce Plan. FAA has not implemented several key initiatives relating to facility training that it first proposed in its December 2004 Controller Workforce Plan. Those included "developing, implementing and enforcing a policy that assigns facility training as a priority second only to operations." This was to be accomplished by (1) placing developmental controllers only at facilities that had available training capacity, (2) requiring facility managers to suspend training *only* for critical operational necessities, and (3) establishing nominal "time-to-certify" metrics and holding managers accountable for achieving those targets. However, FAA never issued this policy. In its response to our draft report, FAA agreed with our recommendation to issue this guidance and stated its En Route and Terminal service units would coordinate and issue the guidance.

In addition, FAA has not comprehensively evaluated its facility training program. In its 2004 Controller Workforce Plan, FAA stated it would "conduct a thorough review of facility training to ensure it begins where the Academy ends. This review will take into consideration other efficiency gains identified in this plan and will result in facility training programs tailored to meet the needs of developmental controllers of the future."

FAA intended for this effort to help reduce the time it takes new controllers to become CPCs. However, FAA never conducted the evaluation. We recommended that FAA follow through with this evaluation and its Controller Workforce Plan initiatives. FAA agreed to require the selected contractor for its next training support procurement to perform an initial analysis of facility training within 90 days of contract award.

FAA Needs To Continue Encouraging Veteran Controllers To Transfer to Higher-Level, Busier Locations

We also found that fewer veteran controllers are transferring from lower-level, less complicated facilities to higher-level, busier locations. From April 2004 to April 2008, the number of transferring veteran controllers decreased by nearly 51 percent (from 1,217 in 2004 to 597 in April 2008). As a result of the decrease in transferring veteran controllers, we found that many facilities, particularly large terminal facilities, have had to redesign their training programs.

Although en route facilities are generally the largest air traffic control facilities, their training programs have always been designed to include the training needs of the least experienced developmental controllers. This is not the case at large terminal facilities such as the Potomac, Atlanta, or Chicago TRACONs.

In the past, large terminal facilities relied primarily on experienced CPCs transferring from lower-level, less complex facilities to fill their vacancies. Prospective terminal controllers were seldom assigned to large TRACONs and towers without first learning to control air traffic at slower-paced, less complex terminal facilities. CPCs would then transfer to increasingly complex terminal facilities at higher pay scales as part of their career progression. Although CPC-ITs had to certify on each position at the new facility, they normally became certified faster than inexperienced, developmental controllers because of their previous experience in controlling air traffic. This is no longer the case, however, as developmental controllers are now increasingly being assigned *directly* to higher-level terminal facilities.

We found that where facilities are forced to redesign their training programs to accommodate directly placed new hires, it takes longer for controllers to certify as CPCs. For example:

- At the Potomac TRACON, managers historically received very few inexperienced, newly hired developmental controllers. According to those managers, most new controllers transferred to the facility from lower-level facilities and had previous experience controlling traffic. Since most of the TRACON's current new controllers are inexperienced, developmental controllers, the TRACON management is considering adding a 6- to 7-week class to review basic air traffic fundamentals. The facility manager also told us that existing minimum and

maximum training hours assigned to each training stage are determined at her "best guess."

- At the Chicago TRACON, managers had to extend their facility training program by 10 weeks to accommodate the additional training needs of inexperienced, developmental controllers. This facility historically received more experienced controllers.

- At the Atlanta TRACON, managers stated that, prior to 2007, they had never trained any inexperienced, developmental controllers. As a result, managers convened a working group to redesign the facility's training program. The updated facility training order, which was released in August 2007, established new classroom and OJT training hours for developmental controllers with no prior air traffic control experience.

FAA is aware of this concern and announced a new program in January 2008 that offers a retention incentive bonus to veteran controllers at key facilities if they remain with the Agency after becoming eligible to retire. Those actions are a step in the right direction; we recommended that FAA report the preliminary results of this incentive in its next update of the Controller Workforce Plan to ensure its busiest facilities benefit from veteran controllers' valuable experience. Although FAA did not agree to publish the initial results in its Controller Workforce Plan, it did agree to provide us with the results upon request.

FAA Needs To Include Details on the Composition of the Controller Workforce in Its Reports to Stakeholders

While the number of controllers in training has increased significantly since 2004, FAA's reports to its stakeholders do not reflect this change. This is because FAA's Controller Workforce Plan does not differentiate between CPCs and controllers in training ("in training" includes both developmental controllers and CPC-ITs). Instead, FAA only reports the total number of controllers at each location. In our opinion, FAA should report the number of CPCs *and* the number of controllers in training separately for each location. Differentiating those figures by location could provide Congress and the Secretary with critical data on the current composition of the controller workforce and provide a benchmark for year-to-year comparisons.

FAA did not agree with our recommendation. In its response to our draft report, FAA stated that it does not believe that an annual snapshot of this information accurately portrays the changing controller workforce and that the information would be of little use to readers of its Controller Workforce Plan.

We strongly believe that periodic comparisons of the controller workforce provide critical data points for Congress, the Secretary, and other stakeholders who must help ensure FAA has enough certified controllers to safely operate the National Airspace

System. This is particularly important given the length of time required for new controllers to become CPCs. Training new controllers to the CPC level is important because only CPCs are qualified to control traffic at all positions of their assigned area and only CPCs can become OJT instructors for other new controllers. Having enough OJT instructors at all locations is a vital part of FAA's plan to hire and train 17,000 new controllers through 2017. In our report, we requested that FAA reconsider its position on this recommendation.

FAA MUST ADDRESS HUMAN FACTORS ISSUES AS PART OF NEW CONTROLLERS' TRAINING

Addressing controller human factors issues, such as fatigue and situational awareness, is important for maintaining safe operations of the National Airspace System. In its investigation of Comair flight 5191, the NTSB expressed concerns that the lone controller on duty at the time of the accident had only slept about 2 hours before his shift (although he had 8 hours off between shifts). As a result of its investigation, the NTSB added controller fatigue to its "Most Wanted List" in 2007.

Training new controllers on human factor issues as well as technical aspects of air traffic control (such as airspace, phraseology, and procedures) will become increasingly important as FAA begins to address the large influx of new controllers.

In April 2003, we reported that almost 90 percent of controller operational errors (when a controller allows two aircraft to get too close together either on the runway or in the air) were due to human factors issues rather than procedural or equipment deficiencies. Therefore, it was important that FAA develop initiatives to prevent theses types of errors. In May 2007, we reported that FAA still needed to focus on controller human factors issues and training to reduce the risk of runway incursions cause by controller operational errors. We found, however, that FAA had made little progress in this area. Since our report, FAA has made some progress toward human factors initiatives, particularly with NATPRO and tower simulators.

NATPRO: The National Air Traffic Professionalism Program is a human factors initiative that we reviewed in 2003. NATPRO training is designed to sharpen and maintain controllers' mental skills most closely associated with visual attention and scanning. Participants thus gain insight into how performance can be influenced by certain factors (e.g., by distraction, fatigue, and boredom) and how those factors increase the opportunity for operational errors.

FAA tested the program in FY 2003 and began providing this training at its en route centers; it will begin using NATPRO at its large TRACON facilities in FY 2008.

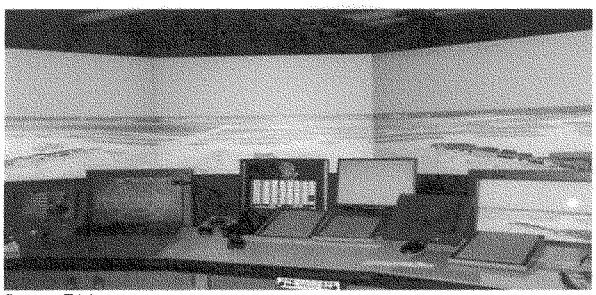
FAA has not, however, implemented NATPRO at towers where visual attention and scanning are key factors in preventing runway incursions. During our 2007 audit,

tower facility managers we spoke with expressed an interest in this training, but FAA had not established milestone dates for implementing NATPRO at those facilities. Since our report, FAA has provided NATPRO cadre training to representatives from 42 facilities so they can use NATPRO at their facilities. Tower facilities are required to start NATPRO training in FY 2009.

Tower Simulators: To its credit, FAA has successfully implemented an important initiative—increasing the use of training simulators at towers. Tower simulators were recently installed at four towers—Chicago O'Hare, Miami, Ontario, and Phoenix. The simulators are programmed with scenarios and occurrences exclusive to those airports, using actual aircraft with their respective call signs.

By using simulators, controllers gain inherent knowledge of a particular airport, its airspace, and application of air traffic procedures for that specific location. The simulators also have a function that writes software for additional airports; this allows controllers from surrounding facilities to utilize the simulators as well.

Figure 2. Picture of a Tower Cab Simulator



Source: FAA

Tower simulators have proven effective in training new controllers and providing proficiency training for experienced controllers. For example, at Philadelphia, we found that 70 percent (14 of the 20) runway incursions caused by controllers over a 4-year period occurred when an infrequently used runway configuration was in use. We found that this particular configuration was used only 30 percent of the time at Philadelphia. Therefore, it was difficult for controllers to maintain their proficiency on that particular configuration. According to Air Traffic officials, proficiency training using a simulator has a high potential for eliminating such errors.

The NASA Ames Research Center conducted an evaluation and found that it took 60 percent fewer days for developmental controllers to complete ground control training at the Miami tower. At Chicago O'Hare, NASA reported that it took developmental controllers 42 percent fewer days to complete ground control training.

Simulators can also be used to model changes in airport configurations and procedures. For example, Boston Logan used a tower simulator to help establish necessary safety procedures in conjunction with the use of a newly constructed runway. Likewise, NASA used a tower simulator to study several alternatives for improving runway safety at Los Angeles International Airport and to evaluate the effectiveness of adding a center-field taxiway between its parallel runways. FAA plans to install 12 additional simulators this year (6 at large airports and 6 at the FAA Academy) and 12 at other airports next year. FAA must ensure that this effort remains on track to capitalize on the significant success that this type of training has demonstrated.

Crew Resource Management (CRM): Another tool with a high potential for improving performance is CRM training. This training focuses on teamwork in the tower with an emphasis on operations. Therefore, it has the potential to reduce runway incursions through improved team performance. This initiative was originally included in FAA's 2000 National Plan for Runway Safety; yet, only three facilities have completed this training through FY 2006.

At Philadelphia, which is one of the three air traffic control towers to complete this training nationwide in FY 2006, CRM training was used to reduce runway incursions. The CRM training at Philadelphia was site-specific and geared toward open discussions that would improve teamwork, improve individual performance, and manage operational errors. According to managers at Philadelphia, CRM was extremely effective at improving overall team performance and a contributing factor in reducing controller errors. FAA needs to keep this valuable training on target. In FY 2007, nine additional tower facilities completed CRM training. FAA plans to complete CRM at 11 towers in FY 2008.

Ongoing Congressionally Requested Work Related to Controller Human Factors Issues

In response to congressional requests, we are conducting several reviews related to controller human factors issues such as controller training failures and controller fatigue factors.

Controller Training Failures: At the request of Chairman Costello, we are reviewing the rate and root causes of controller training failures (developmental controllers who fail training either at the FAA Academy or at their assigned facility). FAA reports that the overall training failure rate for FY 2007 was about 10 percent of all trainees. It is important to recognize, however, that training new controller generally takes between 2 to 3 years, and FAA did not begin increasing its hiring efforts until 2005. As a result, most newly hired controllers would likely still be in the early training phases.

At this early stage of our review, we have concerns regarding the accuracy of the database FAA uses to compile its training failure rate. For example, four of the seven facilities we have visited so far had different failure rates than those included in FAA's database. Further, we found that some facilities had failed to enter data into the national database altogether; as a result, none of their training failures were included in the national rate compiled by FAA.

Our work on this audit is ongoing, and we are reviewing possible common causes of training failures. These could include the complexity of the facility, the stage in training where the new controller failed, and the hiring source of the new controller. We plan to issue our final results later this year.

We have also reported other opportunities for FAA to reduce the time and costs associated with training new controllers. For example, in 2005, we reported[9] that FAA could reduce new controller training time and costs and improve the caliber of candidates by identifying specific coursework conducted at the FAA Academy that could be discontinued as part of Government-provided training and made a prerequisite to employment as an FAA controller.

For example, a portion of initial qualification training at the Academy includes classroom instruction on general aviation topics, such as the dissemination of weather information, traffic separation, and visual operations. Those topics are also provided as part of existing aviation programs at colleges and universities.

If those general courses were a prerequisite to employment as an FAA air traffic controller, the Academy could concentrate its resources on providing training that focuses more on FAA-specific operations and equipment. This change would ensure that new controllers begin work with a solid background in general aviation principles and still receive standardized training on FAA procedures so that they are sufficiently prepared to start OJT at their assigned facility. We estimated FAA could save between $16.8 million and $21.3 million by changing educational prerequisites for new controller prerequisites.

We recommended that FAA identify specific coursework conducted at the FAA Academy and determine if those courses could be made a prerequisite to employment as an air traffic controller. We also recommended that FAA include its results in the next update to FAA's Controller Workforce Plan. FAA has not yet addressed our recommendations.

[9] OIG Report Number AV-2006-021, "FAA Has Opportunities To Reduce Academy Training Time and Costs by Increasing Educational Requirements for Newly Hired Air Traffic Controllers," December 7, 2005.

Controller Fatigue Factors: At the request of Senator Durbin of Illinois, we are reviewing factors that could affect controller fatigue. We are focusing our efforts at Chicago O'Hare Tower, Chicago TRACON, and Chicago Center but may review other locations and FAA's national efforts based on the results of our work at Chicago.

So far, in our discussions with managers, union representatives, and staff, we have identified several factors that could contribute to controller fatigue. These include scheduling practices with minimal time between shifts, conducting OJT, working a 6-day weeks, and working an operational position for extended periods of time. We are working to determine (1) the extent to which these factors are occurring and (2) what efforts FAA is taking to address them. We plan to issue our results later this year.

FAA MUST ENSURE CONSISTENCY AND ACCURACY IN REPORTING AND ADDRESSING CONTROLLER OPERATIONAL ERRORS

As FAA transitions to a new and relatively inexperienced controller workforce, it must investigate, mitigate, and accurately report operational errors. Operational errors occur when controllers fail to maintain adequate separation between aircraft. In FY 2007, there were 1,393 operational errors, up slightly from 1,338 in FY 2006. Forty-three of these were categorized as serious, which is the equivalent of about 1 serious operational error every 8 days.

In 2004, we reported that FAA relied on an inaccurate self-reporting system to track operational errors. FAA must obtain accurate reports of operational errors to identify trends and prevent recurrences. Yet, we found that only 20 of FAA's more than 300 air traffic control facilities had an automated system to identify operational errors. We made a series of recommendations to FAA to ensure that operational errors were accurately reported and investigated.

In response, FAA took action in 2005 and began requiring management at towers and TRACONs to conduct random audits of radar data to identify potential unreported operational errors. More importantly, FAA is developing an automated system—the Traffic Analysis and Review Program, or TARP—to identify when operational errors occur at TRACON facilities. FAA started fielding this system in FY 2008 with an estimated completion date by the end of calendar year 2009.

FAA must keep this technology on track as it hires and trains 17,000 new controllers. We continue to receive allegations that operational errors are going unreported or in some cases intentionally misclassified. For example, in two separate investigations requested by the Office of Special Counsel, we found that operational errors were intentionally under-reported at the Dallas/Fort Worth TRACON.

In 2004, we found that operational errors were being systematically ignored (i.e., suspected events were not investigated) as a result of local management policies that appeared to be designed to deflate their numbers. In 2007, we initiated a second investigation at the Dallas TRACON and found 62 operational errors and deviations that had been intentionally misclassified as pilot errors or "non-events."

In April 2008, we issued our investigative report to FAA and made eight recommendations, which included (1) taking appropriate administrative actions against employees involved in the misclassification of operational errors; (2) conducting on-site, no-notice reviews of the facility by an entity outside of the Air Traffic Organization; and (3) expediting the early deployment of TARP at the facility. FAA agreed with our recommendations and began appropriate actions to address them.

In response to the reporting problems identified at the Dallas TRACON, Chairman Oberstar and Chairman Costello requested that we review the accuracy and consistency of operational error reporting at other Air Traffic facilities across the Nation. Our preliminary results indicate that the incidents we found at the Dallas TRACON involving intentionally misclassified operational errors are not systemic. We have, however, identified other ways that operational errors could be intentionally misclassified that FAA will need to prevent by improving its controls over the operational error investigation and classification process. We will report our results later this year.

FAA has recently announced plans to implement ATSAP, a program designed to foster a voluntary, cooperative, non-punitive environment for the open reporting of safety concerns. ATSAP is modeled after similar programs used by FAA and airlines. Under ATSAP, controllers can report previously unreported events involving the loss of separation between aircraft without fear of reprisal. In theory, all parties would then have access to safety information that might otherwise be unobtainable in order to develop corrective actions to resolve safety issues.

FAA must carefully ensure, however, that these programs are used to enhance safety and protect them from potential misuse. Our work on a similar program, which grants immunity to pilots who report runway incursions, found that safety information was either inaccessible or not used to resolve the cause of the reported safety issue.

We also found serious lapses in FAA's and Southwest Airlines' use of a partnership program that permitted voluntary disclosure of maintenance issues. Specifically, when the carrier disclosed maintenance shortfalls, FAA did not require appropriate corrective actions. In this instance, FAA allowed aircraft that had missed critical fuselage inspection dates to continue flying without requiring them to undergo immediate inspections. FAA must ensure that similar issues do not occur with ATSAP.

FAA has also modified its severity rating system for operational errors to make the ratings more reflective of potential collisions. The new rating system is based solely on the proximity of the two aircraft. FAA believes this will provide a better means for measuring the risk of a collision from an operational error so it can focus on the most serious incidents. FAA must remain committed to finding the causes, applying remedies, and taking appropriate action for all operational errors to identify trends and prevent recurrences.

That completes my statement, Mr. Chairman. I would be happy to address any questions you or other Members of the Subcommittee may have.

EXHIBIT. PRIOR OIG REPORTS ON FAA'S CONTROLLER WORKFORCE AND RELATED ISSUES

- "Review of Reported Near Mid-Air Collisions in the New York Metropolitan Airspace," April 24, 2008, OIG Report Number AV-2008-050.
- "Progress Has Been Made in Reducing Runway Incursions, but Recent Incidents Underscore the Need for Further Proactive Efforts," May 24, 2007, OIG Report Number AV-2007-050.
- "Review of Staffing at FAA's Combined Radar Approach Control and Tower with Radar Facilities," March 16, 2007, OIG Report Number AV-2007-038.
- "FAA Continues To Make Progress in Implementing Its Controller Workforce Plan, but Further Efforts Are Needed in Several Key Areas," February 9, 2007, OIG Report Number AV-2007-032.
- "Report on the Air Traffic Organization's Management Controls Over Credit Hours," June 21, 2006, OIG Report Number AV-2006-050.
- "FAA Has Opportunities To Reduce Academy Training Time and Costs by Increasing Educational Requirements for Newly Hired Air Traffic Controllers," December 7, 2005, OIG Report Number AV-2006-021.
- "Controller Staffing: Observations on FAA's 10-Year Strategy for the Air Traffic Controller Workforce," May 26, 2005, OIG Report Number AV-2005-060.
- "Observations on FAA's Controller-Pilot Data Link Communications Program," September 30, 2004, OIG Report Number AV-2004-101.
- "Audit of Controls Over the Reporting of Operational Errors," September 20, 2004, OIG Report Number AV-2004-085.
- "Opportunities To Improve FAA's Process for Placing and Training Air Traffic Controllers in Light of Pending Retirements," June 2, 2004, OIG Report Number AV-2004-060.
- "Operational Errors and Runway Incursions," April 3, 2003, OIG Report Number AV-2003-040.
- "Despite Significant Management Focus, Further Actions Are Needed To Reduce Runway Incursions," June 26, 2001, OIG Report Number AV-2001-066.
- "Actions To Reduce Operational Errors and Deviations Have Not Been Effective," December 15, 2000, OIG Report Number AV-2001-011.
- "Follow-Up Review of FAA's Runway Safety Program," July 21, 1999, OIG Report Number AV-1999-114.
- "Runway Incursion Program," February 9, 1998, OIG Report Number AV-1998-075.

The complete text of the above reports can be found at http://www.oig.dot.gov.

Congressional Testimony of
Don Chapman, Certified Professional Controller
Federal Aviation Administration
Before the House Transportation and Infrastructure Committee
Subcommittee on Aviation
Wednesday, June 11, 2008

My name is Don Chapman. I have been a certified controller for over 18 years. I have been a controller at the Philadelphia Tower and RADAR Approach Control for 15 years. I have served as a Union representative for approximately 11 years. I am a qualified OJTI instructor and qualified as a Controller in Charge.

Understaffing is a serious issue that has affected the entire air traffic system. Some facilities such as Miami Center and Southern California TRACON are what I consider outright dangerous in terms of their low staffing. Others are facing different issues, also as a result of the controller staffing crisis.

Philadelphia Tower and TRACON is one of 138 combined facilities within the FAA inventory. Controllers certify in both the control tower and RADAR operations gaining a complete working knowledge of air traffic operations. Combined facilities like Philadelphia enjoy the lowest operational cost and lowest operational error rates of facilities of its size.

Prior to September 2006, the FAA authorized 109 controllers at Philadelphia. In March of 2007 the FAA implemented a staffing range, with a minimum number of 71 controllers – approximately a 35% reduction in authorized staffing.

Philadelphia Tower and TRACON currently has 69 Certified Professional Controllers (CPCs) and 18 trainees. 11 CPCs are currently eligible to retire and an additional 15 are eligible to retire by the end of the year.

In an FAA staff study dated June 8, 2007, the FAA noted that, "Philadelphia Tower/TRACON is faced with the possibility of a severe staffing shortage of Certified Professional Controllers due to the number of controller retirements." The study went on to say, "The loss of qualified controllers, supervisors and support staff is creating a strain on the required operational staffing and the training of developmental controllers assigned to the facility".

Traditionally, high-density terminal facilities such as Philadelphia have always recruited experienced controllers from lower-density facilities to fill vacancies. Due to the staffing shortage, the FAA has begun introducing newly hired controllers with no experience into these top tier facilities, creating an extreme burden on facility training as well as a drastic reduction in experience level.

At Philadelphia, for example, a typical crew of 7 controllers manning the tower cab had an average combined total of at least 40-50 years experience. Currently, on any given day the tower cab may be staffed with controllers with only 1-2 years of total experience.

In an attempt to cope with this crisis, the FAA announced its intent to split Philadelphia Tower and TRACON into two separate facilities in January 2009. This action will allow the FAA to misleadingly report that they have more certified controllers, when they will have only changed the structure of the facilities – a disingenuous claim at best.

Additionally, this separation will remove the optimal seamless environment and efficiencies that have existed for approximately 40 years and provides the FAA an excuse to further cut the salary levels of new controllers. Such actions will result in a further reduction in incentives for new controllers to come to a facility like Philadelphia, and a degradation of the quality of controllers that the facility recruits.

The FAA has compounded staffing problems rather than easing them. Instead of allowing the controller ranks to become healthier, the FAA has continually reduced the active staffing levels in favor of moving controllers to supervisory or other non-controlling positions.

While controllers staffing levels have remained inadequate, supervisory positions have actually been increased. In the past 4 years, as the staffing shortage loomed, 16 certified controllers were transferred to non-controlling positions.

- In 2004, Philadelphia had 9 supervisors, 4 second- or third-level managers, and approximately 89 controllers—and we worked 475,000 operations.

- In 2007, Philadelphia had 6 second-level managers, 12 supervisors, and as few as 82 controllers - and we worked 516,000 operations.

Additionally, the FAA has made questionable management decisions regarding staffing. Earlier this year, a certified veteran controller, who was also a qualified instructor, was given an incentive bonus of $20,000 to transfer *from* Philadelphia to Chicago. Shortly thereafter, the FAA offered a new incentive bonus of $20,000 to attract controllers to transfer *to* Philadelphia. In other words, the FAA paid $20,000 to *attract* a replacement for the controller the Agency had just paid $20,000 to *leave*.

Other effects of understaffing affect not only the daily operations of air traffic control, but also the overall mission of air traffic control. Certified controllers are frequently the only personnel with an in-depth, up-to-date working knowledge of air traffic operations and our input is essential in developing new important procedures and deploying new equipment. Staffing shortages have created a situation where it is nearly impossible to allow current certified controllers to have meaningful participation in the development of vital procedures and equipment, leading to either the development of unsafe changes or the equipment-deployment delays and cost over-runs.

Due to staffing shortages, controllers are routinely extended to work 10-hour shifts. As a result, the time between shifts that would otherwise be available for rest before the next shift is reduced, resulting in exacerbated fatigue issues that would not otherwise exist or be as acute. Tired controllers work slower, and often when controllers are worn out they tend to slow down in the interest of safety.

Controller training has been detrimentally impacted by the staffing shortage. Training debriefs should take place after each session, but instead trainees are routinely rushed through because instructors simply don't have adequate time as they are needed to staff other positions. This has severely reduced the quality of instruction the next-generation controller is receiving.

The act of providing training requires an instructor to have to try to anticipate what a trainee will say or do. Many times the instructor must slow operations to maintain an adequate safety margin, slowing air traffic operations and adding to delays and reduced safety margins.

The staffing shortage has also caused the FAA to rely on instructors with ever-decreasing levels of experience in order to move new-hires through the training process at a rapid pace. Many times, new instructors have only recently certified themselves and are then asked to train new controllers before they themselves have any substantive level of experience or first-hand knowledge to transfer.

Testimony on the Effects of Understaffing at Air Traffic Control Facilities
Melvin S. Davis
Facility Representative and Certified Professional Controller
Southern California TRACON
House Transportation and Infrastructure Committee
Subcommittee on Aviation
Wednesday, June 11, 2008

My name is Melvin S. Davis; I am an air traffic controller with the FAA. I have been an active air traffic controller for 22 years. I learned my trade in the United States Marine Corps. I worked at the Los Angeles Airport Traffic Control Tower for 10 years. I have worked the in the Los Angeles Arrival Area at the Southern California TRACON for 9 years. I have worked in both the high density tower and high density terminal RADAR approach control environments. I have experienced many different situations that uniquely prepare me for this testimony.

The FAA will tell you that a reduction in staffing does not affect safety. After a certain point that statement is completely false. Air traffic control facilities generally handle the same amount of traffic on a day to day basis. A slight reduction in staffing can be absorbed for short periods of time. However, significant reductions in staffing for prolonged periods of time have had a devastating affect on safety. For example, at Los Angeles International Airport in 1991 there was a horrific accident that took the lives of 34 innocent victims. During the in-depth review of the accident it was noted that the facility had been deeply short staffed for a significant period of time preceding the accident. The night of the accident the controller was working alone. The controller had been certified at the facility for less than one year and had less than three years in the FAA. The controller had documented performance deficiencies that went uncorrected. This is the exact same scenario that has developed at the Southern California TRACON. In the last four years the facility has lost over 2000 years of experience and certified 6 new controllers. The FAA is asking a tired, drained and disenfranchised workforce to pass the baton to the new generation with little to no safety margin.

As our veteran workforce reaches retirement eligibility the effort to pass the baton has begun to late. In the past a new developmental controller would be assigned to a crew of seasoned veterans. The ration would usually be 6 veterans to 1 developmental. Now it is common for the ration to be 3 veterans to 3 or more developmentals. In times of crisis, which occur daily at my facility, there is no one with experience to turn to. The controllers are in survival mode.

In the past four years the facility has experienced a reduction in CPCs from 261 to less than 160. The use of operational overtime has increased from $250,000 to $4 Million an increase of 1600%. The facility has experienced an increase of operational errors of 400%. Although the FAA does not make official reports I can tell you that the number of TCAS-RAs has increased significantly. This is a situation where two aircraft take action

to separate themselves for various reasons. I believe that this is another indication of the deteriorating health of the system.

My facility handles 2.2 Million aircraft operations per year. The controllers continue to move those aircraft through the Southern California airspace regardless of the odds against them. This is what makes or breaks a controller. Get the job done. However, in spite of the fact that most controllers feel invincible sooner or later we make mistakes.

Air traffic controllers are naturally mission oriented. To survive in the ATC environment a controller has to be able to set aside the external factors that impact the day to day operation. As staffing has dwindled at the facility the controllers look at it as one more hurdle to accomplishing the mission. However, there comes a point of no return. Recently, one veteran controller walked into my office after having experienced a traumatic situation. As this controller explained the situation he broke down in tears and said, "I have lost it". This individual is eligible to retire and has several more years left until the mandatory retirement age. Yet due to the increased demands placed on him by the FAA he is done. He may never return to active controlling of aircraft.

The primary responsibility of each air traffic controller is to prevent the collision of an aircraft with another aircraft or terrain. This safety mandate is followed closely by a need to maintain efficiency within the system. Air traffic controllers carefully and constantly balance these two competing demands minute by minute. The competing demands cause each controller to make decisions based on measured risks.

It is widely accepted that the human element is the element most prone to failure within the National Airspace System. Both on the flight deck of any commercial airliner or in the air traffic control facilities nationwide federal regulators have long mandated redundancy of the human element. One person performs that task while another equally qualified person monitors the task and assists when necessary.

In the typical air traffic control facility work is divided between primary control positions and assistant control positions. On any given day an air traffic controller would work a mix of primary and assistants positions during a normal shift.

As staffing decreases the automatic reaction is to reduce the amount of time controllers are assigned to the assistant positions. This eliminates the redundancy provided by an extra set of eyes and ears, which reduces safety. This further eliminates the ability of one person to accomplish all of the tasks assigned to the position, which reduces capacity. Similarly, this increases the amount of time the remaining controllers spend actively controlling air traffic. This leads directly to increased fatigue, which in turn exacerbates the rest/recovery process.

In a normal environment this reduction of the use of assistant control positions would be detected and corrected by the assignment of additional personnel to the facility to re-balance the staffing versus workload. However, as the staffing at the Southern California TRACON began to diminish new assignments did not materialize. In 2004

the facility had 260 fully certified controllers to work 2 million aircraft through 42 RADAR sectors. That year the facility used $250,000 of operational overtime. The facility experienced about 10 operational errors that year.

The FAA is caught in a downward spiral that is irreversible. As the conditions deteriorate the attrition increases. As the attrition increases the conditions deteriorate further, perpetuating the problem. If the FAA acted immediately to reverse this negative trend it would take years to recover. However, with the current attitude displayed by the senior leadership this may take a decade to recover from. Exactly two weeks ago in a face to face meeting the FAA ATO VP for Terminal Operations, Bruce Johnson, told me, "I am afraid that if we reverse course now things will only get worse. Why don't we wait another year and see where we are at then". The problem with statements like these is that these individuals are the people that the appointed leadership looks to for advice. If the advice hasn't worked in the past then it probably won't work in the future.

Every day I sit next to controllers who show the signs of accumulated fatigue. The stress and strain of the extended overtime and increased demand manifests itself in visible physical changes. There are constant bags under our eyes. There is an increase in the use of sick leave due to the fatigue.

The air traffic control environment in and around most major airports is defined as the terminal environment. Staffing ATC facilities within the terminal environment has historically been accomplished through a farm club approach, to use a baseball term. The vast majority of new controllers started at a low level facility and learned the tools of the trade. Quite naturally some progressed through the mid-level facilities and a large group progressed to the high-density facilities. Generally, the high-density facilities are located in high cost of living areas.

A certain amount of the workforce stopped at the mid-level facilities and spent a significant amount of their career there. These controllers did so knowing they would earn mid level pay knowing someday that they would transfer to the highest-level facility to maximize their annuity calculation just in time to retire. This decision was due to a nuance of the traditional government retirement system called the high three-annuity calculation. Unfortunately due to the labor issues associated with the imposed pay bands this incentive no longer exists. Those experienced mid level controllers have no incentive to transfer a high-density facility. Due to a 30% reduction in the air traffic control pay bands a move for one of these veterans to a high density facility is now a lateral move. This action by the FAA leaves a significant positive influence on the system on the sidelines. Without a realistic incentive, veteran controllers will not risk moving up in the system when it is cost/pay neutral. An additional impact of the imposed pay bands means those controllers currently at a high-density facility no longer have an incentive to stay.

The mission of the air traffic control system is loosely defined by two major initiatives:

Safety and Efficiency

The primary responsibility of each air traffic controller is to prevent the collision of an aircraft with another aircraft or terrain. This safety mandate is followed closely by a need to maintain efficiency within the system. Air traffic controllers carefully and constantly balance these two competing demands minute by minute. The competing demands cause each controller to make decisions based on measured risks.

It is widely accepted that the human element is the element most prone to failure within the National Airspace System. Both on the flight deck of any commercial airliner or in the air traffic control facilities nationwide federal regulators have long mandated redundancy of the human element. One person performs that task while another equally qualified person monitors the task and assists when necessary.

In the typical air traffic control facility work is divided between primary control positions and assistant control positions. On any given day an air traffic controller would work a mix of primary and assistants positions during a normal shift.

As staffing decreases the automatic reaction is the reduction or elimination of the time controllers are assigned to the assistant positions. This eliminates the redundancy provided by an extra set of eyes and ears, which reduces safety. This further eliminates the ability of one person to accomplish all of the tasks assigned to the position, which reduces capacity. Similarly, this increases the amount of time the remaining controllers spend actively controlling air traffic. This leads directly to increased fatigue, which in turn exacerbates the rest/recovery process.

In a normal environment this reduction of the use of assistant control positions would be detected and corrected by the assignment of additional personnel to the facility to re-balance the staffing versus workload. However, as the staffing at the Southern California TRACON began to diminish new assignments did not materialize. In 2004 the facility had 260 fully certified controllers to work 2 million aircraft through 42 RADAR sectors. That year the facility used $250,000 of operational overtime. The facility experienced about 10 operational errors that year.

As staffing continued to decrease the next reaction was to increase the use of operational overtime. In 2005 the facility doubled the use of overtime to $500,000. There were still not a significant number of new developmentals assigned to the facility. In 2005 the facility experienced 21 operational errors, a100% increase.

In late 2006 the first group of new developmental controllers began arriving at the Southern California TRACON. I do not have accurate data to determine the amount of overtime used. The facility experienced 19 operational errors in 2006.

In 2007 the facility began to experience the added burden of training the new developmentals. This burden combined with the extended use of overtime and the reduction of the use of assistant controllers. By the end of 2007 the number of fully

certified controllers had dropped to 160, a 45% reduction from 2004. In 2007 the facility used $4 million dollars of overtime, a 1600% increase from 2004. The facility experienced 31 operational errors, a 300% increase from 2004.

The trend for 2008 shows no sign of improvement. The use of overtime is increasing, the operational errors are increasing and the certification of new controller's does not meet the amount of attrition of the current controllers. So far in 2008 the facility has certified 3 new controllers and lost more than 10 veterans. The facility has experienced 27 operational errors this year, a trend that would end the year with over 40. It is worth noting that during this time frame the FAA reduced the bubble of protective airspace around each aircraft that triggers an operational error, yet the number of errors continues to increase.

This insidious creep of the trend data clearly indicates to me that the system is neither safe nor efficient. The facility continues to handle the same 2 million operations per year and has not had a catastrophic accident yet. However, that is no insurance policy against the inevitable.

At the Southern California TRACON the negative impacts of performing more work by less people is further enhanced by the average are of the workforce. The controllers' average age is 50 and average years of experience are 20. The positive factor of experience is offset by the increased impacts of accumulated fatigue and reduced stamina.

Earlier I mentioned the competing demands of safety versus efficiency. A controller has very few options for dealing with these reductions in personnel. To maintain safety the only option is to reduce efficiency. If I cannot keep track of all my planes safely then I need to limit the amount of planes I take responsibility for. Sometimes, this decision leads to delays. A delay is defined by the FAA as lasting more than15 minutes. Far more often aircraft are delayed for short periods of time that are defined as no-notice holding. As a controller at one sector reaches capacity aircraft are told to wait at the previous sector until there is room. I believe the FAA has a system for tracking no-notice holding but does not report the data externally. Another tool available for limiting capacity is the reduction of extra services. While this category of service does not receive the fanfare the rest of the system gets it is still a vital element. To build the skills necessary for piloting jobs students must practice. Yet practice is immediately cut when capacity exceeds demand.

Occasionally a controller overestimates his or her ability and accepts responsibility for more aircraft than they can safely handle. This may result in an operational error. Far more often though this results in a TCAS–RA. TCAS is defined as Traffic Collision Avoidance System and it provides a Resolution Advisory when it detects an iminenet collision between two aircraft. I can state emphatically that the number of TCAS-RAs has increased dramatically. Again, I believe that the FAA has a system for collecting data on TCAS-Rs but does not report it externally.

As I deliver this testimony to you 42 air traffic controllers are eligible for retirement. That would leave the Southern California TRACON with about 100 controllers to accomplish the work of 261 controllers 4 years ago. The FAA has begun introducing incentives in a haphazard manner over the last several months. These incentives are to little and have begun to late. It is near impossible to account for the 2000 years of lost knowledge.

Congressional Testimony of
Steven A. Wallace
Certified Professional Controller, Federal Aviation Administration
Before the House Transportation and Infrastructure Committee
Subcommittee on Aviation
Wednesday, June 11, 2008

My name is Steven A. Wallace. I am an air traffic controller at the Miami Air Route Traffic Control Center located in Miami, Florida.

I started my career with the FAA in November, 1991, at the Air Traffic Control Academy in Oklahoma City. I was permanently assigned to Miami Center in February, 1992. I have been the President of the local chapter of the National Air Traffic Controllers Association since January of 2003. I was the Vice President from 2001 to 2003 and the representative for my work area from 1995 to 2001.

I would consider myself expert to testify as to the changes in staffing and training at Miami Center and the effect of those changes upon the individual air traffic controller.

I began air traffic controller training immediately after arriving at Miami Center and was fully certified as a full performance-level controller in October of 1995.

At that time, there were 196 fully certified controllers and 108 developmental controllers, and Miami Center handled just over 1.5 million aircraft operations a year. While in training, my advancement classes were spaced several months apart. During those gaps in my training, I would season and gain experience using my newly acquired skills and knowledge. My total training time was just over 3 years.

Today, there are 192 fully certified controllers and 84 developmental controllers and Miami Center routinely posts operational numbers exceeding 2.5 million aircraft operations per year.

Fifteen years ago, on a busy day Miami Center would average 5,000 operations. During days when the traffic was high, it was mandated that many of the busiest positions be staffed with 3 controllers. 5 years ago, that mandate was 2 controllers. Now, it is not uncommon to have no one to help you when we work 10,000 operations.

Over the years, the airspace within Miami Center has been sliced up into smaller pieces in an effort to limit the number of airplanes that an air traffic controller has to watch at any given time. This has only meant that more positions must be staffed by the same number of controllers as there were in 1992.

An Operational Error occurs when two airplanes get too close to each other. Such errors are on the rise; and to disguise the fact that I might make more errors while I work more aircraft by myself, the FAA has changed the definition of an error - effectively camouflaging error frequency, but in no way actually decreasing risk.

The last thing that anyone wants is for two aircraft to get too close to one another or an obstacle. It is my job to ensure that never happens, and my coworkers and I meet that challenge everyday with passionate professionalism. Controllers have adopted the mantra, "an error will not occur on my watch," and each of us is dedicated to seeing that passengers get from point A to point B safely - not 99.5 percent of the time, but 100 percent of the time. I would not want my family on the aircraft that is less than 100-percent protected by a competent, seasoned air traffic controller.

However, constantly working in this manner wears on you. And with the number of controllers in Miami and the rest of the system continuing to dwindle, the level of stress and fatigue endured by controllers will continue to escalate.

Miami Center's authorized number for full performance level controllers was 279 for many years. This number was the result of many factors including the number of aircraft and operational positions. Now, that number is 197. This is nothing more than a way to conceal the fact that they cannot attract and keep enough air traffic controllers at Miami Center.

The FAA likes to say that it is managing resources better than they did years ago. The better resource management that the Agency refers to translates to mandatory six-day work weeks comprised of 10-hour days for me.

Ten years ago, it was unacceptable for an En Route controller like myself to work more than two hours on-position without a break. Now, my coworkers and I work 3 hours at a time. I have watched as my fellow coworkers have retired as soon as they were eligible because they want their lives back. The six-day workweeks, ten-hour days on rotating shifts, and the increased stress of working at your highest-performance level without making a mistake has taken its toll on many of my coworkers. I have watched as many of them have become so stressed out, so worn down, so fatigued, and so preoccupied with not making a fatal mistake, that they have quit rather than run the risk of being the person on position when an accident occurs.

The developmental controllers that are being hired are leaving in record numbers because they do not want to make the kind of commitment that is necessary because their pay has been changed and their working conditions are unacceptable. Many of the developmental controllers have left because they see the same thing that many of my coworkers and I see: there is no quick fix to this problem.

Two years ago, Miami Center was designated as a "focus facility" by the FAA due to our staffing shortage. Developmental controllers were poured into the facility and the FAA changed their training plan. Many of those developmental controllers have sat for almost two years without any training.

While it is true that they may still make it to full performance-level within 4 years, it will be at the cost of vital on-the-job-training and first-hand experience. The FAA has changed the training plan and eliminated the seasoning that used to be a prerequisite to advancement. Our newest hires recognize that their careers are being jeopardized by the FAA before they even sit down at the scope for the first time, and each developmental and trainee, just like the seasoned 15- and 20-year veteran, fears being the one on position when an accident occurs.

At Miami Center, 17 developmental controllers have resigned since July of last year. That is 17 more than all of the other years that I have worked as an air traffic controller. Four additional developmental controllers have failed the training program. The FAA has taken many supervisors and moved others to jobs outside of the job of talking to airplanes. This has only exacerbated the staffing problem. I have watched as 12 coworkers have left due to mental or physical illness from stress and fatigue.

In a workforce of 192 fully-certified controllers and 84 developmental controllers, these 33 retirees, training failures and resignations represent 18 percent of the workforce, leaving Miami Center with essentially the same number of controllers that we had in 1992, when we were working more than one-million fewer annual operations. There will be 19 controllers eligible to retire at Miami Center at the end of this year, even more next year, and still more until 2011 and beyond. The problems at Miami Center of understaffing, and the associated fatigue, increased delays, inadequate training, and shrinking safety margins, will only continue to get worse for the foreseeable future unless something is done soon to alleviate the situation.

The current staffing levels at our facility, like many major facilities across the countries, cannot adequately sustain the level of safety that the flying public expects and that air traffic controllers demand. Because the FAA has failed to take the necessary steps to fix the air traffic controller staffing crisis two-and-a-half decades in the making, we are asking Congress to step in and bring the system some much-needed relief.

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