**Before the Committee on Transportation and Infrastructure
Subcommittee on Aviation
United States House of Representatives**

Addressing Controller Attrition: Opportunities and Challenges Facing the Federal Aviation Administration

**Statement of
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Mr. Chairman and Members of the Subcommittee,

We appreciate the opportunity to testify today. Two weeks ago we issued an audit report on placing and training air traffic controllers in light of the expected increase in attrition. This is a significant issue for the Federal Aviation Administration (FAA)─one that will continue to be a "front-burner" challenge over the next decade. Our testimony this morning will focus on several key areas where FAA has opportunities to better prepare today for the expected increases in controller hiring and training.

Attrition in FAA's air traffic controller workforce is expected to rise sharply in upcoming years as controllers hired after the 1981 Professional Air Traffic Controllers Organization controllers' strike become eligible for retirement. FAA currently estimates that nearly 7,100 controllers could leave the Agency over the next 9 years (Fiscal Years (FY) 2004-2012). In contrast, FAA has only experienced total attrition of about 2,100 controllers over the past 8 years (FYs 1996-2003).

FAA Air Traffic Controller Attrition Compared to Retirement Eligibility*
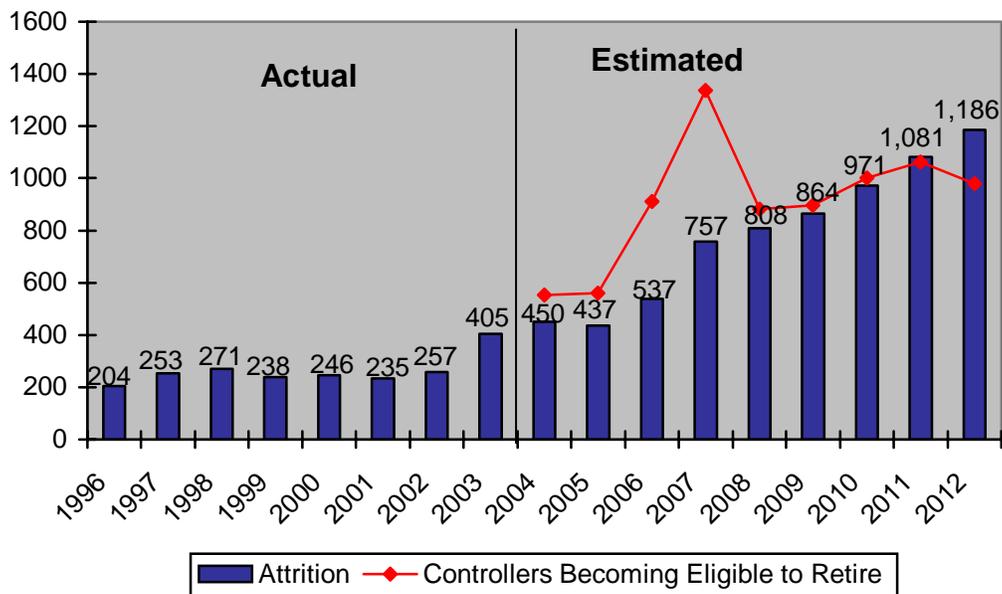
* Attrition data are as of May 2004. The number of controllers becoming eligible includes only those controllers reaching retirement eligibility in that year and does not include prior years. Retirement eligibility estimates are as of December 31, 2003.

Whether FAA will have to replace all of these controllers on a one-to-one basis depends on many factors, including future air traffic levels, new technologies, and initiatives that FAA undertakes in its hiring and training process. However, it is

clear that as a result of the anticipated increases in attrition, FAA will have to begin hiring and training controllers at levels the Agency has not experienced since the early 1980s.

A substantial challenge for FAA will be to hire and train new controllers within a tightly constrained operating budget. FAA has recently made progress in this area by renegotiating several pay rules with the National Air Traffic Controllers Association (NATCA) that previously allowed some newly hired controllers to earn base salaries in excess of $79,000 while in training. The renegotiated rules now allow FAA to set newly hired controllers' salaries at levels that are more commensurate with an entry-level position ($25,000 to $52,000), which should help FAA avoid higher costs as it begins hiring and training greater numbers of new controllers.

This is clearly a good first step in managing the costs of hiring and training a substantial number of new controllers. However, given the number of retirements facing the Agency, it would be prudent for FAA to develop a detailed cost plan to determine exactly how much increased hiring and training requirements will impact the Agency financially over the next 10 years. More importantly, FAA will need to continue identifying ways to make every stage of its process for hiring, placing, and training new controllers more efficient and cost effective. Administrator Blakey and her staff are well aware of this need and have committed to exploring new avenues for accomplishing this task.

While addressing the expected surge in controller attrition represents a significant challenge, there are opportunities as well. An important point worth noting is that new controllers will generally have lower base salaries than the retiring controllers they replace (the average base salary of a fully certified controller today is about $113,000). Over time, this could help reduce FAA's average base salary and, in turn, help reduce FAA's operating cost growth. However, if FAA does not place new controllers where and when they are needed, the potential reductions in base salaries will be offset by lower productivity from placing too many or too few controllers at individual facilities.

Today, Mr. Chairman, I would like to discuss three issues that we see as key for FAA to address the expected increase in controller attrition. They are:

- Developing better attrition estimates by location,
- Assessing newly hired controllers' abilities before they are placed at facilities, and
- Determining ways to reduce the time and costs associated with on-the-job training (OJT) while still achieving results.

First, Mr. Chairman, let me briefly explain the process for becoming an FAA controller. FAA air traffic controllers are hired from multiple sources. These include the Department of Defense (DOD), FAA's Contract Tower Program, and graduates from several FAA-approved colleges, as well as controller reinstatements and some hiring off the street.

Once hired, new controllers undergo an extensive training process. Training to become a fully certified controller usually consists of training at both the FAA Academy and OJT at their assigned facility. The time required at the FAA Academy varies depending on whether the new recruit has completed courses at an FAA-approved college and their previous experience. The time required also varies depending on whether the new recruit will be assigned to a terminal or enroute facility.[1]

Once newly hired controllers complete Academy training, they are sent to an air traffic facility to begin the OJT process. New controllers are considered developmental controllers or "developmentals" until they have certified as an air traffic controller (proven they can control air traffic in all sectors of their assigned area). In general, during OJT developmentals receive classroom and simulation training on the airspace of their assigned facility (usually through contract instructors) before training on live traffic with a certified FAA controller designated as an OJT instructor. After certifying on all sectors within his or her assigned areas (usually between five and seven sectors), the developmental becomes fully certified or a certified professional controller. One point worth noting, Mr. Chairman, is that as hiring increases, FAA will need to begin keeping statistics on the success rate of candidates from the Agency's various hiring sources to identify those sources that produce the most competent candidates.

Now let me turn to the three key issues we would like to discuss today.

Developing Better Attrition Estimates by Location

FAA has national estimates of expected attrition within the controller workforce that are based on attrition rates for the previous 3 years. According to FAA managers, they used data from the previous 3 years because current data more accurately reflect potential future retirement trends. FAA plans to reassess its attrition estimates each year as it accumulates further data on retirement trends. We considered this methodology to provide a reasonable estimate of future

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[1] Newly hired controllers with coursework at an FAA-approved college attend the Academy for 8 to 11 weeks depending on the type of facility they are assigned to. Newly hired controllers with no prior experience and no coursework from an FAA-approved college must attend the academy for 13 to 16 weeks. Former DOD controllers assigned to a terminal location and graduates from the MARC school in Minnesota bypass the Academy altogether. Former DOD controllers assigned to an enroute location must attend the Academy for 11 weeks.

retirements at the national level. However, those estimates do not take into account where vacancies will occur and it is almost certain that many will be at some of the busiest and most critical facilities within the National Airspace System.

We found that FAA's estimates are not developed from the bottom up. Most locations we visited during our audit had estimates of attrition over the next 2 years, but each location used different information to develop those estimates. For example, one facility only projected mandatory retirements, another projected attrition for transfers but not retirements, and another projected all types of attrition (i.e., retirements, transfers, hardships, resignations, and removals). Because of these differences in the way estimates were made, there were wide variances in projected attrition rates from facility to facility. To illustrate, as shown in the following table, the Chicago Center projected 115 controllers would leave in the next 2 years because all attrition was considered in its estimates, whereas the Jacksonville Center projected 10 retirements because only mandatory retirements were included in its estimate.

Facility Attrition Projections at 17 Locations Visited
(FYs 2004 and 2005)

Facility	Projected Attrition	Data Used for Projections
Atlanta Center	87	All controllers eligible to retire
Chicago Center	115	All controllers eligible to retire and all other categories of attrition (e.g., transfers, worker's compensation)
Cleveland Center	49	Detailed information on all categories of attrition
Jacksonville Center	10	Mandatory retirements
Los Angeles Center	32	Mandatory retirements and projected transfers
Minneapolis Center	27	Estimated attrition based on previous years
New York Center	29	Detailed information on all categories of attrition
Oakland Center	41	All controllers eligible to retire
Washington Center	65	Estimated attrition based on previous years
Atlanta TRACON	8	Retirements and estimated training failures
Chicago TRACON	34	Estimated attrition based on previous years
Minneapolis TRACON	4	Mandatory retirements
New York TRACON	16	Mandatory retirements and projected transfers
Southern California TRACON	106	Confirmed retirements for FY 2004 and eligible retirements through FY 2005
LaGuardia Tower	8	Estimated attrition based on previous years
Los Angeles Tower	5	FY 2004 projected losses, no estimates are available for FY 2005
Minneapolis Tower	4	Mandatory retirements

We recommended that FAA establish a system to uniformly estimate controller attrition by location and adjust national attrition and hiring estimates as needed. FAA agreed with our recommendation and stated that it is examining ways to refine its current process for estimating attrition by location, but has not yet established a timeframe for implementation.

Developing accurate estimates of attrition by location is a critical first step to manage the expected surge of attrition, but if FAA simply replaces retiring controllers one-for-one at each location, it will only maintain existing staffing imbalances. Various groups have repeatedly expressed concerns that some FAA air traffic facilities are either under- or over-staffed. However, determining the extent of those imbalances is problematic because the facility staffing standards used by FAA are not precise.

At the direction of Congress, the National Academy of Sciences reviewed FAA's staffing standards in 1997 and found that they cannot be used to provide highly accurate estimates of staffing requirements for individual facilities. According to the National Academy of Sciences, this is because the initial design, data collection, and models used by FAA to develop the standards were designed to generate national estimates not facility estimates.

More accurate staffing standards are absolutely critical if FAA is to turn the challenge of replacing retiring controllers into an opportunity to alleviate staffing imbalances within the controller workforce. However, the single most important tool that would help FAA develop better standards is an accurate labor distribution system. A labor distribution system is the keystone to measuring workforce productivity and more accurately determining staffing needs by location.

CRU-X is the labor distribution system FAA chose to track hours worked by air traffic employees. As designed, CRU-X could have provided credible workforce data for addressing concerns about controller staffing, related overtime expenditures, and determining how many controllers are needed and where. However, CRU-X has not been deployed as designed because of a September 2002 agreement between FAA and NATCA that limited the system's capability to gather data regarding workforce productivity. Specifically, the agreement eliminated (1) requirements for controllers to sign in and out of the system when arriving or leaving work, and (2) tracking time spent by controllers performing collateral duties (time when they are not controlling aircraft).

In February 2004, FAA provided NATCA with substantive changes planned for the system and began negotiations with the union in March. However, CRU-X's deployment has now been on hold for almost 2 years while FAA and NATCA continue negotiations over its implementation. NATCA has raised valid concerns

about the pending retirements and an accurate labor distribution system is an area where the union needs to work with the Agency to address the expected increase in attrition. Accordingly, FAA and NATCA need to implement the system as quickly as possible so both the Agency and the union have objective data to determine how many controllers are needed and where.

Another critical factor for managing costs and allocating resources at the facility level is an effective cost accounting system. Although FAA had implemented a high-level cost accounting system for the old Air Traffic line of business, it has not developed a plan to design and implement system changes to reflect the new Air Traffic Organization, which was established in January 2004. Until this is completed, the new $9 billion organization will not have the cost accounting information it needs to operate efficiently and effectively, and facility managers will not have the cost information they need to effectively manage increased hiring and training requirements.

Assessing Newly Hired Controllers' Abilities Before They Are Placed at Facilities

FAA air traffic facilities are categorized into multiple levels (from 5 to 12)—the higher the level, the greater the demand on a controller's judgment, skill, and decision-making ability. However, FAA places new controllers without assessing if they have the knowledge, skills, and abilities to certify at their assigned facility. Currently, FAA places newly hired controllers based only on where and when vacancies occur, and many of those vacancies occur at some of FAA's busiest and most complex facilities.

At the 17 facilities we visited, we found multiple instances where a developmental controller spent years in training without being able to certify, only to be transferred to a less-complex area or a lower-level facility, where OJT started again. For example, after training for almost 7 years at the Chicago Center and not certifying, a developmental was moved to another area[2] within the same facility where the OJT process started again.

In the 1980s, the FAA Academy was primarily used as a screening program to identify candidates who did not have the necessary skills to be successful as a controller. As a result, approximately 50 percent of new hires failed to pass initial training at the Academy. In the 1990s, the Academy transitioned from screening new hires to teaching skill sets and currently passes around 95 percent of students.

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[2] FAA en route center's air space is divided into areas or segments of airspace that are further divided into sectors or smaller segments of airspace. A group of sectors make up an area. Centers have responsibility for several areas.

This change in direction from a screening process to a training program was the reason FAA developed the Air Traffic Selection and Training (AT-SAT) test. The AT-SAT test is designed to assess an applicant's potential to be a successful air traffic controller before hiring. FAA started administering the AT-SAT test in January 2004 to all applicants who are new to the air traffic controller profession.

We recommended in our report that FAA develop an assessment process for identifying a new controller's potential to certify at a certain facility and use this information in placing newly hired controllers. FAA agreed with our recommendation and is currently evaluating whether AT-SAT scores can be used to better match new controllers with high-aptitude scores with higher-level facilities.

Determining Ways To Reduce the Time and Costs Associated with On-The-Job Training While Achieving Results

Mr. Chairman, let me conclude with the most important and the most challenging issue for FAA. That is reducing the time and costs associated with training new controllers on the job. The OJT process is the longest part of the training process, and thus the most expensive. At the locations we visited, the overall time required for a newly hired controller to become certified averaged 3.1 years but in some cases took as long as 7 years. Although OJT is the longest and most expensive portion of controller training, we found that it is very decentralized, and FAA provides minimal national oversight of this portion of training. For example, FAA does not have national statistics on key performance measurements such as:

- The time it takes controllers to certify,
- Delays in the OJT process,
- Where and when training failures occur, and
- The total cost to provide OJT.

National statistics on the training process were kept after the 1981 strike, but FAA stopped collecting the data in the mid-1990s as hiring declined significantly. Because FAA could not provide national statistics on the OJT process, we collected data at the 17 facilities we visited so we could assess the OJT process. The compiled data showed wide variances in the OJT statistics that could be key indicators of whether the process is being managed in a timely and cost-effective manner. However, since FAA does not capture any national statistics, these variances are not investigated to identify reasons for the differences or to determine if actions are needed to improve the OJT process. For example:

- During FYs 2002 and 2003, New York Center had 15 training failures, while the Washington Center had only 4 training failures. At the time we visited, both these facilities had around 70 developmentals. We also found that the number of training failures may be understated. At some facilities visited, we found developmentals who could not certify in one area were moved to another area, where training started again. However, those individuals were not counted as training failures. FAA officials at those facilities told us that they only consider it a training failure when a developmental is moved to another facility.

- At the New York Center, developmentals took an average of 3.8 years to certify. In comparison, at the Minneapolis Center, developmentals took an average of 1.3 years.

- New controllers at the New York and Cleveland Centers trained on live traffic about the same number of hours (an average of 696 and 677 hours a year, respectively). However, we found that developmentals at the New York Center took, on average, more than a year longer to certify (3.8 years compared to 2.7 years), even though both Centers provided the same average amount of time training on live traffic.

We were unable to determine the specific reasons for the variances among the data collected. However, we found many factors affect OJT, including the hiring source, level of the facility, local training policies, and operational needs of the facility. For example:

- **Hiring Source.** The Minneapolis Center primarily obtains replacements for controllers from other FAA facilities, while the New York Center's primary sources of new controllers are former DOD controllers and graduates from FAA-approved colleges. At the 17 facilities we visited, statistics showed that transferred controllers are usually able to certify faster at a new facility than newly hired controllers.

- **Level of Facility.** The facility level may also affect the time it takes to certify. For example, the New York Center is a level 12 facility (the most complex), whereas the Minneapolis Center is a level 11. At the New York Center, developmentals took an average of 3.8 years to certify, compared to an average of 1.3 years to certify at the Minneapolis Center.

- **Local Policies.** Facility policies may also affect training. For instance, we found cases where developmental training is disrupted by prime time leave periods and operational needs of the facility. Prime time leave periods are negotiated with the union at the facility level so that bargaining unit employees can take up to 2 consecutive weeks of leave. At the New York Center, for

instance, classroom training stops completely during the summer, and contract instructors are furloughed. In contrast, at other facilities we visited, OJT was a continual process and was not stopped during prime time leave periods.

We also found that OJT may be delayed because of facility policies requiring a certain number of students in a training class. For example, a developmental at the Oakland Center completed one phase of OJT and had to wait 6 months before starting the next phase. According to the facility training manager, the delay occurred because a minimum of four students is required before the next phase of classes could begin. In contrast, the Cleveland Center had no gaps in training. The training manager stated that a class will be started even if only one developmental is ready for the next phase of training.

- **Operational Needs.** Once new controllers have certified on a sector, they can independently work that sector for the facility in an operational status. However, new controllers cannot become fully certified until they certify on all sectors within their assigned areas (usually between five and seven sectors). Some facility managers stated that this extends the length of controller training because time working operationally does not count toward OJT. At hard-to-staff facilities, new controllers certified on a particular sector may be used operationally on that sector repeatedly to alleviate short-term staffing shortages. This may be one reason why it takes longer to train at the New York Center than the Cleveland Center, even though both provide almost the same number of hours training on live traffic.

The wide variances in data we reviewed and the multiple factors affecting the OJT process underscore the need for FAA to evaluate, manage, and improve the overall OJT process. Unless FAA accumulates site-specific statistics on a national level, FAA has no means to assess the overall OJT process, determine whether training resources can be more efficiently and effectively used, and identify the best practices. Those actions will be key to reducing the time and costs required for new controllers to become fully certified.

To prepare for hiring and training new controllers over the next 8 years, it is imperative for FAA to determine better ways for reducing the time and costs associated with the OJT process while still achieving results. FAA needs to explore ways to reduce the time and costs of providing OJT training, such as an improved placement process, better prepared candidates through increased educational requirements, and/or enhanced simulation training at large facilities.

To do this, however, FAA first needs the basic data to effectively manage the program. We recommended that FAA begin compiling national statistics and establish a baseline to better manage the OJT process and include that information in developing a tracking system for training.

FAA agreed with our recommendation and is coordinating a study to establish national baseline statistics. FAA is also in the process of developing a tracking system that will be implemented at the completion of the baseline study, which is expected to be done in December 2004. Clearly, these actions are steps in the right direction; the key now will be follow-through.

This concludes my statement[3], Mr. Chairman. I would be pleased to address any questions you or other member of the Subcommittee might have.

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[3] This testimony was conducted in accordance with Government Auditing Standards prescribed by the Comptroller General of the United States. The work supporting this testimony was based on prior and ongoing audits conducted by the Office of the Inspector General.