

**Before the Committee on Commerce, Science, and Transportation
Subcommittee on Aviation Operations, Safety, and Security
United States Senate**

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Further Steps Are Needed To Address Challenges With the Management and Operations of FAA's Controller Workforce

**Statement of
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Madam Chairman, Ranking Member Thune, and Members of the Subcommittee,

Thank you for inviting me to this important hearing on the Federal Aviation Administration's (FAA) Air Traffic Control (ATC) system. As you know, the U.S. aviation system is one of the safest in the world—due in part to the dedicated professionals in FAA and throughout the aviation industry. However, several recent incidents have raised concerns about the safety of the ATC system. These include reports of on-duty controllers falling asleep as well as several high-profile operational errors, when controllers failed to maintain minimum separation distances between aircraft. These incidents are occurring at a time when veteran controllers are retiring at unprecedented rates and more new controllers are entering the workforce, requiring comprehensive training and placement efforts.

Administrator Babbitt has acted quickly to respond to these concerns, including standing up a task force of external and internal experts to review controller training, qualifications, and placement. The group is tasked with completing their efforts by the fall of 2011. However, further steps are needed to address the challenges of managing and overseeing the performance of FAA's controller workforce.

Over the past decade, we have developed a comprehensive portfolio of work involving ATC operations and addressing critical safety and workforce management issues. My testimony today will focus on four areas involving the ATC workforce that we see as key for effectively transitioning to the next generation of air traffic control: (1) identifying and addressing the causes of operational errors, (2) mitigating controller fatigue risks, (3) adequately staffing the controller workforce, and (4) training new controllers.

In summary, while FAA has acted quickly to address many of the recent incidents involving the ATC system, FAA has yet to fully identify and mitigate risks related to the management and operations of its controller workforce. FAA statistics show a recent significant increase in operational errors; however, FAA has not yet determined whether the increase is a result of better reporting systems or whether there are trends that require mitigating actions. As recent media reports have shown, fatigue is a significant concern for the controller workforce that FAA must address. Our work and that of the National Transportation Safety Board (NTSB) has identified a series of factors that create an inherent risk for controller fatigue, but FAA has not yet fully implemented recommendations for mitigating that risk. FAA is also taking action to hire and train nearly 11,000 new controllers through fiscal year 2020. However, our work shows that FAA's placement process does not adequately consider new controllers' knowledge, skills, and abilities when assigning them to ATC facilities, and expected innovations to improve the quality and timeliness of controller training have not been realized. Ensuring a sufficient, competent, and well trained controller workforce is critical to the safe and efficient operation of the National Airspace System (NAS).

WEAKNESSES IN REPORTING LIMIT FAA’S ABILITY TO IDENTIFY TRENDS IN OPERATIONAL ERRORS

FAA statistics indicate that operational errors have risen significantly over the past year. However, it is not clear whether this reported increase is due to more operational errors being committed or to improved reporting practices that have allowed FAA to capture a more accurate count of those operational errors that have been committed.

According to FAA data, the number of operational errors by air traffic controllers increased by 53 percent—from 1,234 to 1,887—between fiscal years 2009 and 2010. However, FAA officials acknowledge that the increase is likely due to improved reporting practices. Specifically, FAA states that the introduction of voluntary, non-punitive safety reporting programs—such as the Air Traffic Safety Action Program (ATSAP)¹—has encouraged controllers to voluntarily report operational errors. The reported increase could also be the result of FAA’s implementation of the Traffic Analysis and Review Program (TARP), which automatically identifies when operational errors or other losses of separation between aircraft occur at terminal facilities. FAA’s recent implementation of TARP represents substantial progress in addressing reporting weaknesses. If used effectively and consistently at all terminal facilities, TARP could be a significant tool for identifying trends in operational errors and addressing contributing factors.

Historically, FAA’s oversight of operational error self-reporting has been problematic. Since 2000, our work on operational errors has repeatedly raised concerns that nearly 300 FAA terminal facilities relied solely on controllers to self report errors. In some cases, we found that the self-reporting process was subject to intentional manipulation. For example, in both 2005 and again in 2008, our investigations at the Dallas/Fort Worth Terminal Radar Approach Control (DFW TRACON) facility found that air traffic managers at the TRACON intentionally misclassified operational errors as either pilot deviations or “non-events”² to reduce the number of operational errors reported at that location. Our 2008 investigation identified 62 operational errors and deviations that were either incorrectly reported as pilot deviations or misclassified as “non-events.” Further, FAA’s oversight processes failed to uncover this practice despite FAA’s prior assurances that it would not allow operational errors to go unreported. Our recommendations included expediting the deployment of the automated TARP reporting system at DFW TRACON because of the facility’s pervasive problems with self reporting.

Concerns remain about whether FAA is accurately counting the number of operational errors and sufficiently identifying the trends that contribute to them. For example, it is unclear how ATSAP reports are factored into FAA’s current counts of operational errors.

¹ ATSAP is intended to better capture the actual number of operational errors and identify and address their root causes.

² Non-events are those incidents that facility personnel reviewed but determined there was no loss of separation.

Furthermore, NTSB has raised concerns about the reliability of FAA's process for assessing and reporting incidents involving the loss of separation between aircraft and is currently reviewing airline reports of Traffic Collision and Avoidance Systems (TCAS) advisories.³ Since NTSB issued its final rule requiring aircraft operators to report certain TCAS advisories in January 2010, the Board has received nearly 950 reports of these collision advisories and has initiated investigations into 9 of the more serious incidents.⁴

Further concerns relate to FAA's recent implementation of the new System Loss of Standard Separation (LoSS) Index, which is designed to capture each incident where aircraft fly closer than separation standards permit.⁵ It is unclear how FAA will use LoSS to assess operational error risks or improve its error statistics. At the request of this Committee and others, we recently initiated two audits to assess FAA's implementation and oversight of ATSAP and evaluate FAA's process for tracking and reporting loss of separation events and its subsequent efforts to analyze and mitigate identified risks through the LoSS process.

Clearly, there are a number of questions regarding what is and is not reported in FAA's operational error statistics, and we plan to answer these questions in our upcoming audits. However, the fact that operational errors pose real safety risks is undisputed. FAA needs good systems and processes that accurately capture operational errors so that the true magnitude of these incidents is known. FAA needs this data so it can trend operational errors, identify their root causes, and develop actions to effectively address and mitigate them. As we progress in our audits into ATSAP and LoSS, we will keep this Committee apprised of our findings regarding this critical issue.

FAA HAS NOT FULLY IMPLEMENTED RECOMMENDATIONS TO IDENTIFY AND MITIGATE FATIGUE RISKS

Recent reports of controllers falling asleep while on duty underscore the need for FAA to take actions to mitigate controller fatigue. At the request of Congress, in 2009 we evaluated controller fatigue issues at three busy and complex ATC facilities in the Chicago area and identified a number of factors that could create potential fatigue conditions for controllers. These factors included minimal hours between shifts for rest and counter-rotational shifts with progressively earlier start times, on-the-job training (OJT), and scheduled overtime. We also found that FAA does not consistently include fatigue issues as part of its normal operational error investigatory process, even though

³ An onboard TCAS issues advisories for pilots to take evasive actions when the system detects a potential collision with other aircraft.

⁴ After review by NTSB, many of these reports were considered "nuisance alerts" (i.e., situations in which there was no collision risk but TCAS generated a resolution advisory). However, about 260 reports required additional data in order for NTSB to understand and evaluate the circumstances that caused the apparent conflict and to determine whether further action was warranted.

⁵ The new tool calls for the investigation and analysis of all separation losses, not just operational errors. Pilot deviations or miscellaneous losses such as emergency descent for pressurization are also included. Instances of non-compliance with separation standards will be designated as LoSS events.

NTSB has identified fatigue as a potential contributing factor in several operational errors. While our review focused on only the three Chicago facilities, it is likely that the fatigue factors that we identified exist at other large air traffic control facilities throughout the Nation. We have made a number of recommendations to address these concerns, but FAA has not yet implemented all of them.

Scheduling Practices and OJT May Create Risks for Controller Fatigue

Our statistical analyses of schedule information and time and attendance data identified factors that could create fatigue conditions at all three of the Chicago air traffic control facilities we reviewed (Chicago O’Hare, Chicago TRACON, and Chicago En Route Center). For example, we found that most controllers at two of the three locations were scheduled to work at least one shift each week in which their rest period between shifts was less than 10 hours.⁶ Controllers typically worked a type of schedule commonly referred to as a “2-2-1 rotation.” While the configuration of the 2-2-1 rotation may vary, this particular scheduling practice usually consists of a work week with two consecutive evening shifts, followed by two consecutive day shifts, followed by one midnight shift (see table 1).

Table 1. Example of a 2-2-1 Schedule Rotation Before FAA's Recent Changes

Day	Shift	Start Time	End Time
1	Evening	4:00 p.m.	Midnight
2	Evening	2:00 p.m.	10:00 p.m.*
3	Day	7:00 a.m.	3:00 p.m.
4	Day	6:00 a.m.	2:00 p.m.*
5	Midnight	10:00 p.m.	6:00 a.m.

*Rest periods between shifts close to FAA minimum requirements

Most controllers had at least one “quickturn” during the week, a schedule characterized by shifts with minimum rest periods between them. In addition, we found that none of the three locations had established procedures for rotating controllers through more complex facility positions during scheduled shifts, even though the complexity of these positions can vary extensively.

We also found that certified controllers at all three facilities conducted OJT on a regular basis, which requires a high level of concentration and focus on the part of the veteran controller. The time spent conducting OJT in our samples ranged from 1 to 5 days per week. ATC managers at all three facilities cautioned that OJT is expected to increase significantly over the next several years as more trainees are added to the workforce.

⁶ FAA Order 7210.3 requires at least 8 hours between shifts for rest. For the purpose of our review, we considered a quickturn to be less than 10 hours between shifts because FAA was planning on amending FAA Order 7210.3 to increase the time available for rest from 8 hours to 10 hours.

We made a series of recommendations for mitigating potential fatigue, including amending FAA ATC orders to (1) increase rest time between shifts from 8 hours to 10 hours, (2) increase the time available for rest after working a midnight shift, and (3) allow controllers to rest when not controlling traffic. FAA agreed with our recommendations but subsequently formed a workgroup with the National Air Traffic Controllers Association (NATCA) to further review controller fatigue issues. The workgroup completed its study and presented its findings to the Administrator and union president in January 2011 along with 12 recommendations. To date none of the recommendations have been implemented, but FAA and NATCA expect to finalize their proposed actions later this year.

NTSB has also made numerous controller safety recommendations related to fatigue issues, such as rest periods between shifts, scheduling practices, and fatigue awareness training. For example, following the 2006 fatal crash of Comair flight 5191, in which NTSB examined controller fatigue, NTSB specifically recommended that FAA work with NATCA to revise controller work-scheduling policies and practices and modify shift rotations to minimize sleep debt and decreased cognitive performance. NTSB's recommendations also remain open.

FAA Does Not Know the Extent to Which Fatigue Contributes to Operational Errors

NTSB has identified fatigue as a potential contributing factor in several operational errors.⁷ Yet FAA's investigations into the causes of operational errors do not consistently address human factors, such as fatigue and situational awareness. In our evaluation of controller fatigue issues at the three Chicago facilities, we found that their operational error investigations did not consistently include a review of factors that could cause fatigue. For example, final operational error reports that we reviewed at the Chicago En Route Center indicated that a controller's work schedule was a "rotation," but there was no further information provided to determine the days or the shifts the controller actually worked.

Accordingly, in our June 2009 report we recommended that FAA include potential fatigue factors, such as time off between shifts, as a standard part of its operational error investigation process to determine the extent that fatigue could be causing these incidents and identify actions to address the root cause.⁸ While FAA agreed with our recommendation, action has been slow. Last month, in a letter to the Chairman of the House Committee on Government Oversight and Reform, we identified this

⁷ In its April 10, 2007, recommendation letter to FAA and NATCA following the crash of Comair flight 5191, NTSB discussed four previous air carrier incidents in which fatigue contributed to controller errors. Three of these incidents involved runway incursions in Chicago, IL, on March 23, 2006; Los Angeles, CA, on August 19, 2004; and Seattle, WA, on July 8, 2001. The fourth incident involved a departure from a closed runway in Denver, CO, on September 25, 2001.

⁸ OIG Report Number AV-2009-065, "Air Traffic Control: Potential Fatigue Factors," June 29, 2009. OIG reports are available on our Web site at <http://www.oig.dot.gov>.

recommendation as our most important safety recommendation that remains open.⁹ FAA expects to fully address the issue next month.

Past FAA Requirements for Staffing Midnight Shifts Were Not Consistently Followed

Recent media coverage of controllers who fell asleep while on duty has drawn attention to the fact that some air traffic control facilities were staffed with only one controller during midnight shifts. Following the 2006 fatal crash of Comair flight 5191, similar concerns were raised regarding single staffed midnight shifts when FAA policies issued in 2005 required that two controllers be present in towers that provide both tower control and radar services. At the request of the then Ranking Member of the House Committee of Transportation and Infrastructure and the then Ranking Member of the House Subcommittee on Aviation, we reviewed FAA policies that prohibited one controller from performing both radar and tower controller duties during midnight shifts and determined the extent to which the towers covered by the policies complied with them. We reported in 2007 that the policies were not being followed consistently.¹⁰ Based on a sample of midnight shifts, we were able to statistically project that approximately 11.1 percent of the total midnight shifts included in our review period were staffed with only one controller.¹¹

More importantly, we found evidence suggesting that the radar and ground control duties were combined for substantial periods of time even when there were at least two controllers on duty. For example, at several facilities, position logs we reviewed showed that all positions on midnight shifts were routinely combined and the two controllers on duty alternated between working the one position and taking breaks. In response to recent events, Administrator Babbitt recently stated that FAA will place two controllers on midnight shifts at 27 control towers not covered by the 2005 policy. As part of these actions, FAA needs to implement corresponding controls identifying when both controllers are expected to be on position.

FAA FACES MANAGEMENT CHALLENGES IN TRAINING ITS CONTROLLER WORKFORCE

FAA is taking action to hire and train nearly 11,000 new controllers through fiscal year 2020 to replace the large numbers of retiring controllers hired after the 1981 ATC strike.

⁹ Correspondence number CC-2011-024. "Letter to Chairman Issa on OIG's Open Audit Recommendations," April 29, 2011.

¹⁰ OIG Report Number AV-2007-038, "Review of Staffing at FAA's Combined Radar Approach Control and Tower With Radar Facilities," March 16, 2007.

¹¹ Our review of 20 randomly selected weeks of staffing data for midnight shifts at 15 of the 62 facilities in our universe (a total of 2,100 shifts) identified 234 shifts where only 1 controller was scheduled on the midnight shift. Based on the results of our sample, we can statistically project (with a 95-percent confidence level) that approximately 2,563 or 11.1 percent of the 23,002 total midnight shifts (at the 62 facilities in our universe) were staffed with only 1 controller between August 28, 2005, and September 2, 2006.

However, training and certifying new controllers have been a challenge, in large part because FAA's initial controller training requirements in its training contract were not well defined and the contract costs far exceeded the first 2 years' estimates. Because costs for basic training needs were so far above estimates, current training methods have remained essentially unchanged and FAA has not been able to implement new approaches and pilot programs expected to improve the quality and timeliness of controller training. In addition, FAA's metrics for managing its controller training program do not provide a true picture of the effectiveness of its training efforts.

Expected Innovations in Facility Controller Training Have Not Been Realized

Training new controllers to the Certified Professional Controller (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. Total training can take up to 3 years, and facility training is the lengthiest and most expensive part of new controller training. In 2008, FAA awarded a contract to Raytheon to administer the Air Traffic Controller Optimum Training Solution Program (ATCOTS), a critical component of FAA's plans to hire and train 11,000 new controllers by 2020. In designing and executing the ATCOTS program, however, FAA did not fully consider the number of controllers that needed training under the contract. For example, the contract solicitation stated that bidders were expected to train approximately 4,000 developmental controllers. However, Raytheon estimated that about 5,620 controllers needed training—41 percent more than FAA originally estimated. As a result, FAA now faces significant challenges in training a new generation of controllers to replace those who are retiring.

As we reported last September,¹² ATCOTS contract costs and fees to date exceeded baseline estimates by 35 percent during the first year of the contract (from \$81 million to \$109 million) and increased by 20 percent during the second year (from \$91 million to \$109 million). The impact of these cost overruns is that funds have only been sufficient to support existing training methods and procedures, not innovative training programs.

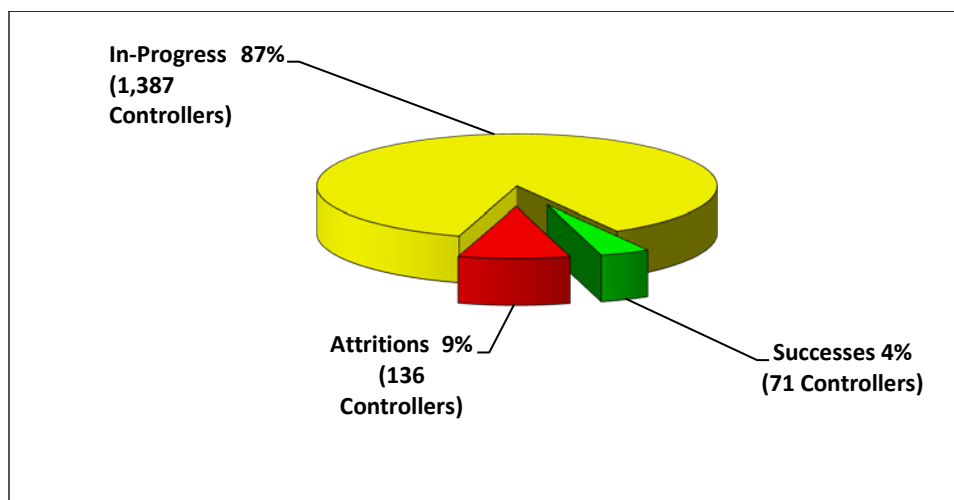
FAA is taking action to address many of the issues identified during our audit. For example, FAA has added a new planning tool for evaluating the level of instructor staffing at air traffic facilities. FAA is also establishing training priorities to ensure that costs remain within baseline estimates. However, it will be difficult for FAA to achieve ATCOTS's original training goals or implement any training innovations without significantly modifying the existing contract.

¹² OIG Report Number AV 2010-126, "FAA's Air Traffic Controller Optimum Training Solution Program: Sound Contract Management Practices Are Needed To Achieve Program Outcomes," September 30, 2010.

FAA Metrics Do Not Provide a Complete Picture of the Effectiveness of Its Training Program

Accurately assessing the controller training program is critical for ensuring a sufficient number of new hires are prepared to replace retiring veteran controllers and are assigned to the appropriate level and type of facility. Such assessments can also alert FAA to weaknesses in its training program that need to be addressed. However, as we recently reported,¹³ FAA's metrics for measuring the effectiveness of the controller training program are inadequate to identify weaknesses and make appropriate and timely adjustments to the program. For example, for fiscal year 2009, FAA reported a program attrition rate of 9 percent. However, as figure 1 shows below, the success rate was only 4 percent while 87 percent of the controllers were still completing their initial training, which can take 2 to 3 years.

Figure 1. FAA's New Controller Training Data for Class Hired in FY 2009



When we assessed the number of controllers who successfully completed training during a given period of time against those who did not, we found a significantly higher attrition rate. For example, we grouped the controllers by the fiscal year they ended training and then identified whether they ended the training successfully or unsuccessfully. Our analysis showed that the attrition rate for the controllers who ended their initial training in fiscal year 2009 was 21 percent and their success rate was 79 percent.

We recommended steps FAA should take to measure and present a more complete picture of the effectiveness of its air traffic controller training program. FAA agreed and is now using more complete metrics for evaluating its training successes.

¹³ OIG Report Number AV-2011-072, "FAA Must Improve Its Controller Training Metrics To Help Identify Program Needs," March 30, 2011.

CONTROLLER STAFFING AND PLACEMENT CAN BE IMPROVED

FAA's placement process does not adequately consider new controllers' knowledge, skills, and abilities when assigning them to FAA's more than 300 ATC facilities, which vary extensively in the number and complexity of operations. In addition, the recent surge of newly hired controllers means there are fewer certified controllers in the workforce to control air traffic and provide OJT for new controllers. At some critical locations, the percentage of new controllers in training is extremely high, which could impact operations not only at that location but potentially throughout the NAS.

FAA Does Not Adequately Consider Aptitude When Placing New Controllers

FAA has streamlined its hiring process, and over the past several years successfully met its hiring goals for new controllers. However, FAA's process for placing new controllers once they are hired does not sufficiently evaluate their aptitude before assigning them to complex facilities. As we reported in April of last year,¹⁴ FAA does not use results of the Air Traffic Selection and Training Test (AT-SAT) to match new controllers' aptitude to the level of facility.¹⁵ Instead, FAA assigns new controllers to locations based primarily on their facility choice and available vacancies. As a result, new controller candidates are being assigned to some of the busiest air traffic control facilities in the Nation with little consideration of whether they have the knowledge, skills, and abilities necessary to become certified controllers at those locations. We recommended that FAA place new controllers based in part on their performance at the FAA Academy. FAA partially agreed with our recommendation and initiated a study, which the Agency expects to complete by December 2012.

Critical Facilities May Need More Certified Professional Controllers To Maintain Continuity of Operations

The increase in hiring has changed the makeup of the controller workforce. Currently, new controllers comprise up to 25 percent of the ATC workforce compared to 15 percent in 2004. However, this percentage can vary extensively by location. For example, Seattle TRACON has 46 percent of its controller workforce in training, while St. Louis TRACON has no controllers in training. Our work at three facilities in California (LAX, Southern California TRACON (SCT), and Northern California TRACON)¹⁶ showed that FAA needs to take additional measures to ensure that these critical locations have enough certified controllers to ensure continuity of safe operations. For example, SCT had the

¹⁴ OIG Report Number AV-2010-049, "Review of Screening, Placement, and Initial Training of Newly Hired Air Traffic Controllers," April 1, 2010.

¹⁵ Air traffic control facilities are categorized by levels (4 through 12) based on the complexity and number of operations. Level 4 facilities are the least complex, while Level 12 are the most complex.

¹⁶ OIG Report Number AV-2009-047, "Controller Staffing at Key California Air Traffic Control Facilities," April 23, 2009.

highest percentage of existing and planned new controllers of the three facilities and had experienced a sharp decline in CPCs over the past 5 years. A significant issue was that SCT expected to have more than 100 controllers in training— more than 40 percent of its workforce—which could overwhelm the facility training capacity. We identified four specific focus areas that FAA needed to address: (1) making these locations a top priority in FAA’s ongoing efforts to validate staffing ranges, (2) expanding the use of relocation and retention incentives, (3) providing enough instructors and other training resources, and (4) ensuring appropriate use of overtime hours.

Based on our results at Southern California, we initiated a review of staffing at other critical NAS facilities. We identified more than 20 facilities that, if operations had to be curtailed due to a lack of certified controllers, could impact the entire NAS. FAA agreed that these facilities are critical. Some of these facilities currently have a significant percentage of their workforce in training or eligible to retire. For example, the Denver TRACON has 43 percent of its workforce in training, and LaGuardia ATC Tower has 39 percent. We are reviewing FAA’s plans to provide its critical facilities with appropriate controller staffing, training resources, and other support necessary to ensure continuity of facility operations. We expect to report on our results later this year.

CONCLUSION

While FAA’s recent actions to improve ATC operations are steps in the right direction, sustained oversight and commitment are needed to identify the root causes of ATC incidents and address longstanding concerns. Until FAA takes action to develop comprehensive data (such as accurately capturing all operational errors), conduct astute trend analyses, and develop timely action plans to address controller workforce risks and vulnerabilities, FAA cannot ensure it has a sufficient number alert, competent, and certified controllers needed to effectively manage the challenges of the next generation of air traffic control.

Madam Chairman, this concludes my prepared statement. I would be happy to address any questions you or other Members of the Subcommittee may have.

EXHIBIT A. SIGNIFICANT OIG AIR TRAFFIC CONTROL RECOMMENDATIONS AND FAA ACTIONS TAKEN IN RESPONSE

Date	OIG Recommendation	FAA's Actions Taken in Response
December 2001	Develop a strategy, in conjunction with OASIS deployment, to consolidate the 61 existing Automated Flight Service Stations.	FAA completed an A-76 study and contracted out its Flight Service Stations in 2005 at an estimated savings of \$1.7 billion.
September 2003	Establish milestones for completing a national database on all MOUs	FAA developed the national database for controlling MOUs at the national level.
June 2004	Compile national statistics and establish a baseline to better manage the time and costs associated with the controller OJT process.	FAA established the National Training Database to manage and track controller training at the national level.
June 2004	Establish a system to uniformly estimate controller attrition by location.	FAA published the 4-year attrition estimates by location in the 2006 and 2007 Controller Workforce Plan.
June 2004	Develop an assessment process for identifying a new controller's potential to certify at a certain facility level and use this information in placing newly hired controllers.	FAA concurred and stated it was evaluating data gathered from AT-SAT scores to determine whether this information can improve the controller placement process. FAA has not yet completed this evaluation.
May 2005	Initiate the planned assessment of the current staffing standards for each facility.	FAA completed its efforts to revise the standards for towers and en route facilities in 2007, and completed revised standards for TRACON facilities in 2009.
February 2007	Include in the Controller Workforce Plan (CWP) the staffing ranges for each facility.	FAA included staffing ranges and actual on board numbers for each facility in the CWP.
April 2008	Permanently change DFW TRACON management team responsible for the misclassification of operational errors.	FAA removed the facility manager and assistant manager and assigned acting managers until permanent replacements were selected.
April 2008	Expedite the early deployment of TARP at DFW TRACON from its current date of 2011.	FAA accelerated the implementation of TARP to the end of FY 2008.
June 2008	Include in the CWP the actual number of CPCs, CPC-ITs, and developmental controllers by location.	Beginning in 2009, FAA listed the composition of the controller workforce by location.
June 2008	Designate authority and responsibility for oversight and direction of the facility training program at the national level.	FAA delegated authority for facility training to the Manager for Technical Training and Facilities Oversight through Order 3120.4M.
March 2009	Develop milestones for implementing Traffic Analysis and Review Program (TARP) as a full-time separation conformance tool	FAA plans to completely implement TARP by September 2011.
June 2009	Expand operational error investigatory requirements to include more detailed information on fatigue factors, such as overtime, OJT, and work schedules.	The next version of FAA's Air Traffic Safety Action Program submitter report, scheduled for implementation in summer 2011, will contain the fatigue data capture questions.
September 2010	Ensure that the ATCOTS program office has enough qualified personnel to oversee the contractual, financial, and operational aspects of the program.	FAA estimates that additional personnel will be added by December 31, 2011.

EXHIBIT B. OIG PUBLISHED REPORTS ON ATC ISSUES SINCE 2001

Report Number	Report Title	Date Published
AV-2002-064	Automated Flight Service Stations: Significant Benefits Could be Realized by Consolidating AFSS Sites in Conjunction with Deployment of OASIS	December 2001
AV-2003-040	Operational Errors and Runway Incursions: Progress Made, but the Number of Incidents is Still High and Presents Serious Safety Risks	April 2003
AV-2003-059	FAA's Management of and Control Over Memorandums of Understanding	September 2003
AV-2004-060	Opportunities To Improve FAA's Process For Placing and Training Air Traffic Controllers in Light of Pending Retirements	June 2004
AV-2004-085	Audit of Controls Over the Reporting of Operational Errors	September 2004
AV-2005-060	Controller Staffing: Observations on FAA's 10-Year Strategy For The Air Traffic Controller Workforce	May 2005
AV-2006-021	FAA Has Opportunities to Reduce Academy Training Time and Costs by Increasing Educational Requirements for Newly Hired Air Traffic Controllers	December 2005
AV-2006-050	Report on the Air Traffic Organization's Management Controls Over Credit Hours	June 2006
AV-2007-032	FAA Continues To Make Progress In Implementing Its Controller Workforce Plan, But Further Efforts Are Needed In Several Key Areas	February 2007
AV-2007-038	Review Of Staffing At FAA's Combined Radar Approach Control and Tower With Radar Facilities	March 2007
AV-2007-048	Controls Over the Federal Aviation Administration's Conversion of Flight Service Stations to Contract Operations	May 2007
AV-2007-050	Progress Has Been Made in Reducing Runway Incursions, but Recent Incidents Underscore the Need for Further Proactive Efforts	May 2007
AV-2008-055	Review of the Air Traffic Controller Facility Training Program	June 2008
AV-2009-045	FAA's Process for Reporting and Investigating Operational Errors	March 2009
AV-2009-047	Controller Staffing at Key California Air Traffic Control Facilities	April 2009
AV-2009-059	Training Failures Among Newly Hired Air Traffic Controllers	June 2009
AV-2009-065	Air Traffic Control: Potential Fatigue Factors	June 2009
AV-2010-049	Review of Screening, Placement, and Initial Training of Newly Hired Air Traffic Controllers	April 2010
AV-2010-071	Review of FAA's Call to Action Plan For Runway Safety	July 2010
AV-2010-126	FAA's Air Traffic Controller Optimum Training Solution Program: Sound Contract Management Practices Are Needed To Achieve Program Outcomes	September 2010
AV-2011-072	FAA Must Improve Its Controller Training Metrics To Help Identify Program Needs	March 2011

Note: OIG reports are available on our Web site at <http://www.oig.dot.gov>.