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Report to the Chairman, Subcommittee on Transportation and Related Agencies, Committee on Appropriations, House of Representatives

April 1991

AVIATION SAFETY

Limited Success Rebuilding Staff and Finalizing Aging Aircraft Plan

GAO/RCED-91-119

GAO

United States
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Resources, Community, and
Economic Development Division

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April 15, 1991

The Honorable William Lehman
Chairman, Subcommittee on Transportation
and Related Agencies
Committee on Appropriations
House of Representatives

Dear Mr. Chairman:

This report responds to your request that we provide information on the Federal Aviation Administration's (FAA) progress in (1) rebuilding the air traffic controller and aviation safety inspector work forces and (2) developing a plan to address aging aircraft problems.

Results in Brief

FAA has essentially rebuilt the air traffic controller work force since the 1981 strike, but some staffing problems remain. As of September 1990, FAA employed 17,200 controllers—a level comparable to that at the time of the strike. However, the overall number of full performance level controllers (FPL)—FAA's most experienced and qualified controllers—remains about 2,400 below prestrike levels. In addition, most facilities are below FAA's goal that FPLs constitute 75 percent of the controller work force. Although FAA is adding about 500 FPLs each year, it will be several years before FAA achieves prestrike FPL controller capability.

FAA has experienced difficulty in attracting and retaining adequate numbers of experienced controllers at some of its busiest facilities. To address this problem, FAA has initiated a 5-year pay demonstration project to determine whether increased compensation would encourage experienced controllers to relocate to or remain at these locations. After almost 2 years, the project has had limited success.

Resolving the long-standing problem of failures during the 11-week controller screening/training process at the FAA Academy is another important initiative underway. About 45 percent of the 2,000 to 3,000 newly hired controller candidates fail the program annually, at a cost of $9 million to over $13 million. FAA has developed two projects to explore alternatives to the way it screens and trains new controllers.

FAA is also increasing the size of another safety work force—aviation inspectors. As of September 1990, FAA employed 2,577 inspectors, 266

more than in 1989. However, given current governmentwide budget constraints, FAA officials told us they believe it is unlikely that this work force will increase much beyond 3,000. Consequently, these officials acknowledge the need for FAA to use its current inspectors more effectively and provide them with better training.

Since the April 1988 Aloha Airlines accident, FAA has worked closely with the aviation community to address aging aircraft concerns. However, FAA has yet to complete a comprehensive plan to guide industry and government efforts to address this critical aviation issue—an action that we recommended in October 1989.[1] Moreover, the draft plan we reviewed in December 1990 does not address several key issues that are vital to enhancing the safety of aging aircraft.

Background

The Federal Aviation Act of 1958, as amended by the Department of Transportation Act, states that the safe travel of U.S. air passengers (about 493 million in 1989) is FAA's responsibility. In response to this mandate, FAA sets policies for the use of the nation's airspace and provides air traffic control service to promote the safe, orderly, and expeditious flow of air traffic. FAA employs about 17,200 air traffic controllers to ensure that aircraft are properly separated while in flight and that takeoffs and landings are safe.

The act also charges FAA with regulating air commerce in a way that best promotes its development and safety. To carry out this responsibility, FAA issues regulations that air carriers must observe in operating aircraft, and monitors the air carriers' operations and maintenance procedures for compliance with these regulations. FAA's approximately 2,577 aviation safety inspectors spot-check the industry's compliance with safety regulations. Appendix I contains a more detailed discussion of controller and inspector responsibilities.

[1] Meeting the Aging Aircraft Challenge: Status and Opportunities (GAO/T-RCED-90-2, Oct. 10, 1989).

Controller Work Force Rebuilt, but FPL Numbers Remain Below Prestrike Levels

Since the 1981 strike, FAA has essentially rebuilt the size of the controller work force, but the number of FPLs is about 2,400 below prestrike levels.[2] During the same period, however, air carrier operations at airports with FAA towers increased from about 10 million flights in 1981 to almost 13 million flights in 1990. Prior to the strike, FAA had about 16,200 controllers, of whom 13,200 were FPLs. In the aftermath of the strike, the controller work force dropped to about 6,700 and the number of FPLs decreased to 5,000.

As of September 1990, the work force stood at 17,200, but only 10,800 controllers were FPLs. Moreover, almost all facilities are below FAA's goal that FPLs make up 75 percent of the controller work force. For example, 26 out of 31 of FAA's most active terminal facilities and 23 out of 25 enroute centers[3] are below the 75 percent goal. In addition, controller capability—in terms of the percentage of FPLs—varies among facilities. As of January 1991, 94 percent of the Baltimore TRACON[4] controllers were FPLs compared with only 49 percent of controllers at the Chicago TRACON. (App. II contains additional information on staffing at selected FAA facilities.) FAA continues to add about 500 FPLs per year and expects to meet its fiscal year 1991 goal of 17,495 controllers. Table 1 shows FAA's progress in rebuilding the controller work force.

[2]FAA uses three terms to describe the operational proficiency of controllers: "developmentals" are certified on fewer than two operational positions, "operational controllers" are certified on two or more operational positions, and "full performance level controllers" are certified on all operational positions for which they are responsible.

[3]Enroute centers control aircraft flying between destinations.

[4]TRACONS (terminal radar approach control) and towers are part of the air traffic control system. TRACONS use radar to control aircraft approaching or departing airports. Towers control aircraft movement on the ground and during takeoff and landing.

Table 1: Controller Work Force

	Prestrike July 31, 1981	Fiscal years 1988	1989	1990
Controllers				
FPLs[a]	13,205	9,858	10,232	10,824
Others[b]	[c]	2,594	2,628	2,607
First-line supervisors	[d]	1,999	2,156	2,204
Total operational controllers	**13,205**	**14,451**	**15,016**	**15,635**
Developmental pipeline	3,039[e]	1,985	1,816	1,591
Total	**16,244**	**16,436**	**16,832**	**17,226**

[a]Includes traffic management coordinators.

[b]Other controllers, also referred to as operational controllers, include (1) controllers who were FPLs at their previous facility but are not yet fully certified on all positions at their current facility (761 in FY 1990) and (2) developmental controllers who are certified to control traffic on two or more positions.

[c]Data not available.

[d]Prior to FY 1988, supervisors were excluded from the definition.

[e]Includes all controllers in training.

Source: Federal Aviation Administration.

FAA uses staffing standards to determine total controller work force needs at each facility. FAA has revised its staffing standards for TRACONs and enroute centers as we recommended in 1988[5] and is in the process of updating its staffing standards for air traffic control towers. These standards are important to determine funding levels for staffing needs and to ensure the safety of the air traffic system by providing adequate numbers of controllers.

Results of FAA's Pay Demonstration Project

FAA continues to encounter staffing problems at some of its busiest air traffic facilities. To increase staffing at these facilities, in June 1989 FAA initiated a 5-year pay demonstration project that pays controllers a quarterly incentive allowance of up to 20 percent of their base salary. As of September 1990, the project included 1,646 controllers, supervisors, and managers at seven terminal facilities and two air route traffic control centers (enroute centers) in four areas—Los Angeles and Oakland, California; Chicago, Illinois; and New York, New York.

Preliminary project results indicate that FAA is not attracting as many experienced controllers as expected. For example, although overall staffing levels at eight of the nine facilities have increased slightly, 45

[5]FAA Staffing: Improvements Needed in Estimating Air Traffic Controller Requirements (GAO/RCED-88-106, June 21, 1988).

percent of the staff added were new hires rather than the experienced controllers who were the project's intended target group. In addition, only two TRACONs have gained experienced controllers—13 at Chicago's O'Hare and 4 at the southern California facility. According to FAA officials, project results vary among the demonstration sites, and FAA is evaluating the program. The agency anticipates completing its assessment by May 1991.

Managers of facilities located near demonstration sites but not included in the project have expressed concern about the project's impact on their facilities. For example, experienced controllers at New York's Kennedy and La Guardia towers, which are not included in the project, can obtain a promotion and an incentive allowance by transferring to the nearby New York TRACON, which is a demonstration site. Since implementation of the pay demonstration project, 8 of 14 experienced controllers who transferred to the TRACON came from Kennedy and La Guardia.

The pay discrepancy between demonstration sites and other sites has been reduced somewhat by the recently enacted Federal Employees Pay Comparability Act of 1990 (P.L. 101-509). This legislation granted geographic pay adjustments of up to 8 percent for federal employees in designated high-cost-of-living areas, including New York. Consequently, all controllers in the New York area received the special 8-percent salary increase, leaving a pay differential of 12 percent between demonstration and other sites.

FAA Is Exploring Alternatives to Its Process for Screening and Training Controllers

FAA is also trying to resolve another long-standing problem: a lengthy and costly screening/training process with a 45 percent failure rate at the FAA Academy. The Academy screening/training program was implemented in 1976 to provide early identification of candidates with the potential to become controllers. To decrease the current 45 percent failure rate and its associated costs of $9 million to over $13 million annually, two FAA projects are exploring alternatives for screening and hiring controllers.

FAA is developing a 3- to 5-day program to screen controller candidates before they are hired to replace FAA's current practice of screening after hiring. The goal of this program is to ensure that FAA hire only those applicants who demonstrate the skills necessary to successfully complete training at the Academy. If early screening is successful, the failure rate at the Academy and the costs associated with it could be reduced because only highly qualified candidates would be hired. FAA

hopes to have this program in place by 1995. According to FAA officials, it will take several years before enough controllers can be hired using this approach to assess its effectiveness.

Currently, all controller candidates attend the FAA Academy for initial training. FAA is also assessing whether some training can be accomplished at accredited post-secondary educational institutions. As of January 1991, three colleges were participating in the program, and FAA expects to add other academic institutions in the future. According to FAA officials, these programs will offer graduates the equivalent of the FAA Academy's developmental training, allowing them to go directly to an air traffic control facility for advanced training. So far, graduates from one institution have been placed in air traffic control facilities, but it is too soon to assess their progress. When fully implemented, these programs are designed to provide FAA with approximately 230 controller candidates annually. However, this is well below the annual need of 1,500 controllers. FAA will evaluate this project by comparing the progress of program graduates.

Inspector Work Force Is Increasing, but New Inspection Demands Are Emerging

Although the inspector work force has grown from 1,500 in 1983 to 2,577 in September 1990, new responsibilities are placing greater demands on inspectors. For example, inspectors must be able to perform aging aircraft inspections that include, among other things, assessing airline corrosion control programs and evaluating major structural repairs. At the same time, inspectors must also develop skills to properly inspect aircraft that use new technology such as composite materials and advanced avionic systems.

FAA is updating its inspector staffing standards to determine the number of inspectors it needs to meet these demands but, according to FAA inspection officials, given current budgetary constraints it is unlikely that the work force will continue to grow substantially over the next few years. We are currently evaluating FAA's management of the inspection program to identify ways this work force can be used more effectively.

FAA is beginning to address inspector training problems we previously reported on. In September 1988 we reported that FAA had a backlog of aviation safety inspectors who had not yet received training in required

courses.[6] We also noted that these backlogs would continue because the FAA Academy could train only a limited number of inspectors each year. Moreover, we later reported that inspectors in six of FAA's nine regions described the extent of FAA's training in new aircraft technologies as "little" or "none."[7] FAA acknowledges that a shortage of instructors at the Academy has limited FAA's ability to (1) provide newly hired inspectors with the timely training needed to perform the full range of inspector responsibilities and (2) develop new courses in advanced aircraft technologies.

FAA is taking steps to alleviate these problems. For example, attracting qualified inspectors to teach at the Academy has been difficult in the past because experienced field inspectors were graded higher and paid more than Academy instructors. In early 1990 FAA increased instructor grade levels at the Academy. However, it will take time for corrective actions to be fully implemented and for inspectors to receive the needed training. FAA is also revising inspector training in accordance with its Flight Plan for Training, a plan for providing training to essential work forces. FAA has made an effort to revamp inspector training to include, among other things, advanced avionic systems, but this effort has fallen behind schedule because of a lack of funds. FAA's Associate Administrator for Regulation and Certification said that he recognizes these limitations and expects training difficulties to continue until 1994 or 1995. In his view, FAA must invest heavily in new training curricula to keep experienced safety inspectors current with new inspection techniques and technological developments.

FAA's Aging Aircraft Plan Needs Greater Level of Commitment

The April 1988 Aloha Airlines accident, in which a 19-year-old airliner lost an 18-foot section of its fuselage while in flight, focused international attention on the safety of older aircraft. Older aircraft, like the Boeing 727 and McDonnell Douglas DC-9, make up about 35 percent of the 4,100 planes in the U.S. transport fleet. As a result of the Aloha Airlines accident, FAA has worked closely with the aviation community to improve the safety of the aging commercial transport fleet. The centerpiece of FAA and industry efforts is the Airworthiness Assurance Task Force (AATF), which is composed of over 150 aviation experts from around the world. On the basis of task force recommendations, FAA has

[6]Aviation Training: FAA Aviation Inspectors Are Not Receiving Needed Training (GAO/RCED-90-168, Sept. 14, 1989).

[7]FAA Staffing: Recruitment, Hiring, and Initial Training of Safety-Related Personnel (GAO/RCED-88-189, Sept. 2, 1988).

mandated that major structural modifications be completed for about 1,400 aircraft before the end of calendar year 1994.

In October 1989 GAO recommended that FAA develop a comprehensive plan to coordinate the wide range of industry and government actions being taken to address the aging aircraft issue. We stated that such a plan would ensure proper linkage, accountability, and follow-through of FAA and industry efforts. We also recommended that the plan include overall goals, objectives, and schedules for completing important projects, as well as the general level of resources needed to carry out the plan. As an adjunct to the overall plan, we suggested that FAA periodically report progress in meeting the aging aircraft challenge to the Congress.

In April 1990 FAA agreed to develop an aging aircraft plan and publish it in October 1990. When finalized, the plan is intended to guide FAA and industry decisions on aging aircraft for the next 5 years. Agency officials recently told us, however, that the plan has fallen behind schedule because FAA underestimated the time and staff resources needed to develop such a formal planning document. The task was too time-consuming for the one staff member assigned to develop the plan. Moreover, FAA staff said that they underestimated the complexity of the issues involved and the degree of coordination needed among in-house and industry organizations to complete the plan. FAA hopes to complete and issue the plan in June 1991—over 3 years after the Aloha Airlines incident. With only one staff person assigned to this effort, coupled with the complexity of the task, this is an optimistic goal.

A December 1990 draft of FAA's plan provides a comprehensive statement of objectives to address aging aircraft concerns. However, it does not include provisions such as the following that are critical for managing the plan and important for maintaining the momentum of current FAA and industry efforts to enhance the safety of the nation's aging transport fleet:

- The draft plan does not address the staffing levels that FAA, other federal agencies, or industry groups are expected to provide to accomplish the plan's objectives. Stating expected staff resources at the outset provides participants with an understanding of the level of effort needed and allows them to negotiate, commit to, and plan for providing those resources.
- The draft plan does not address the overall impact of regulatory actions on the airline industry resulting from required repairs to older aircraft

or potential effects on flight operations. This is important because FAA underestimated the time and cost needed to repair 1,400 older aircraft.[8] Airline officials said that, in their initial experiences, completing aging aircraft modifications on specific aircraft models required much more time than expected and cost twice as much. According to FAA officials, if airlines cannot make the modifications by the 1994 deadline, FAA will have to either (1) review and approve alternate means of compliance or (2) ground aircraft until repairs are made.

- Finally, the draft plan makes no provision for reviewing airline progress in making required modifications and repairs to the commercial transport fleet. Currently, FAA does not know the level of airline compliance with aging aircraft requirements, but the agency is planning to gather data from airlines within the next year. More active FAA monitoring of airline compliance with aging aircraft rules could alert the agency and the Congress to the severity of problems they face. With this knowledge, FAA could better facilitate problem-solving and decide on possible requests by carriers to defer maintenance. This could help ensure safety while also helping to avoid the disruptive impact of massive last-minute aircraft grounding.

Our work on the ability of the repair station industry to make the extensive modifications required for older aircraft demonstrates the urgent need for the completion of the plan. In the spring of 1991, we expect to report on our survey of airline and independent maintenance facilities. We found that some airlines have been slow to start the aging aircraft modifications and most face resource shortages as they begin modifying their aircraft to meet new FAA regulations for structural airworthiness. We also found that a shortage of key spare parts and qualified mechanics is beginning to hamper progress in making repairs. These factors raise questions as to whether needed repairs will be made to the U.S. fleet by the 1994 deadline.

Conclusions

FAA has made progress in increasing the size of two key safety work forces—air traffic controllers and aviation safety inspectors. However, the number of FPLs is below prestrike levels and disparities in staffing levels exist among FAA facilities. In previous reports and testimonies we recommended improvements in controller staffing standards, training, and controller screening procedures. FAA is taking steps to implement

[8]Aircraft Maintenance: Potential Shortage in National Aircraft Repair Capacity (GAO/RCED-91-14, Oct. 31, 1990).

these recommendations, and we will continue to monitor the agency's progress.

We believe the need for an overall plan to guide industry and government actions to address aging aircraft problems is greater now than when we recommended it 1989. The obstacles to repairing older aircraft identified in our work on aircraft repair stations point to the urgent need for a comprehensive and long-term strategy for meeting the aging aircraft challenge. However, FAA has not yet completed its aging aircraft plan and a recent draft we reviewed lacks key information.

We believe greater management attention is needed to ensure that the plan is completed as soon as possible. Furthermore, to be a useful guide for decisions affecting the nation's aging fleet over the next 5 years, the plan should (1) identify the resources industry and government will contribute to the effort, (2) address the economic implications of FAA's regulatory initiatives, and (3) monitor airline progress in correcting safety problems. Without this plan, government and industry efforts to ensure the safety of older aircraft could lose momentum over the next several years, ultimately delaying the implementation of corrective actions to enhance the safety of the nation's older aircraft.

Recommendation

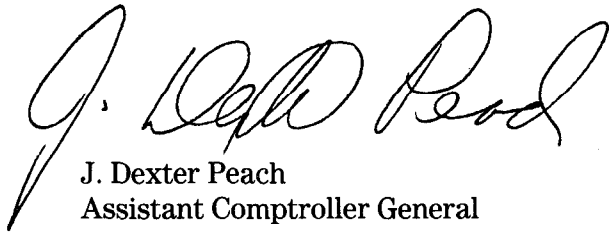
We recommend that the Secretary of Transportation direct the Administrator, FAA, to take the necessary measures to complete the aging aircraft plan as soon as possible. In addition, the plan should (1) identify the resources needed from industry and government, (2) address the economic implications of regulatory initiatives, and (3) measure airline progress in correcting known safety problems.

We discussed the information in this report with cognizant FAA officials who agreed it is accurate. However, as requested by your office, we did not obtain official agency comments. Also, as arranged with your office, unless you publicly announce its contents earlier, we will make no further distribution of the report until 15 days from the date of this letter. At that time, we will send copies to the Secretary of Transportation; the Administrator, FAA; and other interested parties. Copies will also be made available to others upon request.

We performed our work in accordance with generally accepted government auditing standards. Details on our objectives, scope, and methodology are contained in appendix III.

This work was performed under the direction of Kenneth M. Mead, Director, Transportation Issues, who may be reached at (202) 275-1000. Major contributors to this report are included in appendix IV.

Sincerely yours,



J. Dexter Peach
Assistant Comptroller General

Contents

Abbreviations

AATF	Airworthiness Assurance Task Force
ATA	air traffic assistant
ATC	air traffic control
FAA	Federal Aviation Administration
FARS	Federal Aviation Regulations
FPL	full performance level controller
GAO	General Accounting Office
OJT	on-the-job training
TRACON	terminal radar approach control

FAA Work Forces and Safety Responsibilities

The Air Traffic Control System

The air traffic control system includes air route traffic control centers (enroute centers) and control towers at airports.[1] Enroute centers provide control and separation of aircraft flying between destinations and over certain oceanic routes. A network of 20 enroute centers cover the contiguous United States. Airport towers assume control of aircraft within the area of one or more airports and consist of two elements: the terminal radar approach control (TRACON) and the tower cab. A TRACON uses radar to control aircraft approaching or departing from the airport. The tower cab controls aircraft movement on the ground and during takeoff and landing. As of September 30, 1990, 55 percent of FAA's controllers worked in the nation's 423 airport towers, and 45 percent worked at 24 enroute centers in the United States, Guam, and Puerto Rico.

Air Traffic Controllers

Air traffic controllers are divided into three categories—full performance level (FPL), operational, and developmental. FPLs are certified to operate all positions for which they are responsible within a facility. Operational controllers are certified on two or more positions. Developmental controllers include graduates of the Federal Aviation Administration (FAA) Academy receiving on-the-job training (OJT) at field facilities as well as experienced FPLs who transfer to other facilities and require additional training to be recertified at the new facility. Other essential staff assist controllers in maintaining the orderly flow of air traffic:

- Traffic management coordinators monitor the volume and flow of air traffic into and out of facilities.
- Air traffic assistants (ATA), located at large air traffic facilities, provide flight plan data to controllers as aircraft progress in flight.
- First-line or area supervisors supervise controllers and ATAs.

Air traffic controller (ATC) applicants undergo a two-step selection process. Applicants must first pass an Office of Personnel Management test. Applicants who pass the test, meet other requirements, and are selected from a list of qualified candidates may be offered a job. They then proceed to the second stage, an 11-week screening program at the FAA Academy in Oklahoma City. The program includes classroom training on nonradar air traffic control rules and principles, and training in

[1]The system also includes flight service stations staffed by flight service specialists.

nonradar laboratories, which focuses on applying flight rules and procedures. After 12 to 18 months of OJT at a field facility, controller candidates at radar facilities return to the Academy for 3 weeks of radar training.

Safety Inspections

Scheduled commercial air carriers operate aircraft under 14 C.F.R. part 121 or part 135 of the Federal Aviation Regulations (FARS). Part 121 regulations apply to large passenger and cargo aircraft—those that carry more than 30 passengers or a maximum payload capacity greater than 7,500 pounds. Part 135 regulations apply to smaller aircraft that carry 30 or fewer passengers and have a maximum payload capacity not exceeding 7,500 pounds. FAA is also responsible for inspecting general aviation aircraft—such as corporate, private, and agricultural aircraft—operated under FARS. In addition, FAA inspects ground facilities, such as repair stations and flight schools.

FAA's Office of Flight Standards conducts inspections to ensure that air carriers operate safely, and develops the FARS with which air carriers must comply. The office also prepares guidance on how inspectors in FAA's nine regions should perform routine and special inspections. Flight Standards units in FAA's regional offices interpret headquarters guidance, supervise the operation of district offices, and perform special inspections. Most air carrier inspections are conducted by inspectors in FAA's 90 district offices located throughout the United States.

The Inspector Work Force

FAA inspectors fall into two categories—air carrier and general aviation. Within each category, inspectors specialize in either operations, maintenance, or avionics. Operations inspectors (1) check pilots to determine their capability to operate aircraft safely, (2) evaluate air carrier operations for compliance with safety regulations, and (3) investigate accidents and incidents. Maintenance or airworthiness inspectors (1) evaluate aircraft maintenance programs, (2) inspect aircraft for safety, and (3) evaluate mechanics and repair facilities. Avionics inspectors focus on aviation-related electronic components in the aircraft, such as on-board radios and navigation equipment. As of September 1990, FAA had 1,079 air carrier inspectors and 1,498 general aviation inspectors.

FAA primarily uses preemployment interviews to determine an applicant's suitability for employment because inspectors must possess specific job qualifications. For example, air carrier operation inspectors

must have pilot experience in large multiengine aircraft, and maintenance inspectors must have an FAA mechanic's certificate and work experience in aviation maintenance. To improve these skills, FAA conducts introductory inspector training courses lasting 6 to 10 weeks at the FAA Academy. The program is designed to familiarize inspectors with FAA's policies and to provided training in communication and negotiation skills.

Controller Staffing at Selected FAA Facilities

Table II.1: Controller Staffing at Selected FAA Terminal Facilities

Facility	Authorized work force	Onboard work force	FPLs	Percent FPLs[a]
Atlanta tower	108	101	70	69
Baltimore TRACON	[b]	34	32	94
Boston tower	89	81	56	69
Burbank TRACON	52	46	24	52
Charlotte tower	72	67	47	70
Chicago O'Hare TRACON	95	78	38	49
Chicago O'Hare tower	55	54	31	57
Coast TRACON	92	73	29	40
Dallas/Ft. Worth TRACON	96	103	57	55
Dallas/Ft. Worth tower	35	37	28	76
Denver tower	38	44	24	55
Detroit Metro tower	51	52	34	65
Greater Allegheny tower	72	69	37	54
Houston tower	81	81	53	65
Los Angeles TRACON	69	62	33	53
Los Angeles tower	49	44	33	75
Miami tower	93	95	48	51
Minneapolis TRACON	45	45	30	67
New York TRACON	241	215	129	60
Oakland TRACON	96	82	49	60
Ontario TRACON	44	43	25	58
Orlando tower	72	64	46	72
Pensacola tower	53	51	36	71
Philadelphia tower	74	77	46	60
Phoenix TRACON	57	51	39	76
Sacramento TRACON	42	35	22	63
San Diego TRACON	62	46	46	100
Seattle/Tacoma TRACON	51	55	33	60
St. Louis TRACON	60	59	39	66
Tampa tower	74	64	47	73
Washington National tower	74	65	40	62
Total	**2,192**	**2,073**	**1,301**	63[c]

[a]FAA's goal is to have FPLs make up 75 percent of all controllers at a facility.

[b]Baltimore TRACON staffing authorization is combined with Baltimore tower.

[c]Average at all facilities.

Source: GAO analysis of FAA data.

Table II.2: Controller Staffing at Enroute Centers

Facility	Authorized work force	Onboard work force	FPLs	Percent FPLs[a]
Albuquerque	339	327	209	64
Anchorage	177	169	92	54
Atlanta	525	518	317	61
Boston	349	335	188	56
Central flow[b]	44	28	28	100
Chicago	488	490	233	48
Cleveland	465	458	300	66
Dallas/Ft. Worth	417	401	248	62
Denver	386	382	219	57
Guam	19	12	9	75
Honolulu	68	58	32	55
Houston	383	373	223	60
Indianapolis	368	354	222	63
Jacksonville	362	354	214	60
Kansas City	408	414	242	58
Los Angeles	353	385	198	51
Memphis	378	341	210	62
Miami	331	325	197	61
Minneapolis	287	314	210	67
New York	370	347	190	55
Oakland	345	322	170	53
Salt Lake City	238	239	140	59
San Juan	64	57	33	58
Seattle	294	284	169	60
Washington	513	464	291	63
Total	**7,971**	**7,751**	**4,584**	59[c]

[a]FAA's goal is to have FPLs make up 75 percent of all controllers at a facility.

[b]Central flow is an integral part of the national traffic management system that institutes schedule changes due to weather, traffic, and other special events. Central flow is located at FAA headquarters in Washington, D.C.

[c]Average at all facilities.

Source: GAO analysis of FAA data.

Objectives, Scope, and Methodology

On October 25, 1989, the Chairman of the Subcommittee on Transportation and Related Agencies, House Committee on Appropriations, requested that we evaluate FAA's progress in (1) rebuilding the air traffic controller and aviation safety inspector work forces and (2) developing a plan to address aging aircraft problems.

To determine FAA's progress in rebuilding its safety work forces, we interviewed FAA officials in the Office of Air Traffic Program Management, the Office of Flight Standards Service, the Office of Personnel in Washington, D.C., and the Civil Aeromedical Institute in Oklahoma City. We also analyzed statistical data and reviewed past GAO reports and FAA studies pertaining to the controller and inspector work forces.

To determine FAA's progress in responding to aging aircraft issues, we (1) updated information on FAA's efforts to improve its aircraft inspection program; (2) interviewed FAA officials in the Office of Flight Standards Service and Air Transport Association officials in Washington, D.C.; (3) reviewed documents prepared by the Airworthiness Assurance Task Force (AATF); and (4) visited an airline maintenance facility in Pittsburgh, Pennsylvania.

We conducted our review between January and August 1990 in accordance with generally accepted government auditing standards.

Major Contributors to This Report

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