

GAO

Testimony

Before the Subcommittee on Government Activities and
Transportation,
Committee on Government Operations,
House of Representatives

For Release on
Delivery Expected at
1 p.m. EDT
Wednesday
October 16, 1991

FAA STAFFING

Better Strategy Needed to
Ensure Facilities Are
Properly Staffed

Statement of
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Madam Chairwoman and Members of the Subcommittee:

We appreciate the opportunity to testify on the effectiveness of efforts by FAA to rebuild its work force in the 10 years since the air traffic controller strike. The work force issue is important because the safety of the flying public depends, in part, on having a sufficient number of controllers at FAA air traffic facilities. Our testimony is based on past work which has been updated for this hearing. A listing of relevant reports and testimonies is attached to our statement (see attachment V).

Our testimony today addresses several aspects of controller staffing. First, we will compare actual staffing to FAA's updated staffing standards and discuss current FAA efforts to address its staffing situation. These efforts include instituting a pay demonstration project to attract and retain controllers at hard-to-staff facilities; using college training programs to augment its Academy training; and contracting out less busy facilities, which could make more controllers available for reassignment. Second, we will discuss a new plan that FAA is developing to better select and train individuals to be controllers. The plan would allow controllers to become journeymen more quickly and reduce the need for expensive moves between facilities.

In summary, we found the following:

-- FAA has updated its staffing standards. The standards indicate that FAA is about 700 controllers or 4 percent below its overall staffing goal of about 18,300. We have not performed a technical review of the standards and cannot say whether deviations from the standards are the result of shortcomings in the standards, improper staffing levels, or both. FAA has validated its standards and believes they are an indicator of its staffing needs.

-- At selected air traffic control facilities, actual staffing levels differ substantially from the levels the standards prescribe. Some of the busiest facilities in the country have levels that are well below the staffing standards. The House Appropriations Committee has tasked FAA with analyzing the actual staffing and standards at each of its facilities. This study will provide a basis for understanding deviations from the standards.

-- FAA is developing a new plan to improve its hiring, training, and placement of controllers. It remains to be seen how the plan will relate to FAA's current efforts and whether FAA can effectively implement the plan. The agency is still undertaking related corrective actions that were initiated as long ago as 1987.

Before I discuss these issues in more depth, let me briefly provide some information on FAA's staffing levels.

BACKGROUND

FAA's controller staffing levels have been a problem since 1981, when 11,400 controllers went on strike and were fired. Before the strike, on July 31, 1981, FAA's controller work force totaled 16,244. FAA has gradually rebuilt its staffing levels. As of August 31, 1991, FAA's total controller work force was 17,610. (See attachment I.)

Several factors must be considered to understand the scope of the progress FAA has made in increasing its controller staffing levels since the 1981 strike. First, FAA now counts a wider array of staff as controllers, including supervisors. Second, although staffing levels have increased, so has the work load. For example, in 1981, FAA had 37 million instrument operations; for 1991, it

projects 48 million instrument operations.¹ A third factor is the experience level of controllers. Just before the strike, FAA had 13,205 full performance level controllers, or controllers able to handle all the traffic control positions within a defined area of a facility. As of August 31, 1991, FAA had 11,093 full performance level controllers. Therefore, a 30-percent increase in traffic has been accompanied by a 16-percent decrease in full performance controllers.

Responsibility for hiring, training, and placing controllers lies with the nine FAA regional offices and the FAA Academy. The process begins with an aptitude test. Regional offices send applicants with high scores to the FAA Academy for an additional 9 weeks of screening after medical and security checks are conducted. In fiscal year 1990, 2,118 applicants went to the Academy for screening. About 48 percent of them graduated and were placed at air traffic facilities to begin their training. In deciding where to place graduates, FAA considers its organizational needs as well as the graduates' test scores and work location preferences. FAA tries to place higher scoring Academy graduates at the busiest air traffic control facilities and lower scoring graduates at the less busy facilities. FAA also tries to place Academy graduates in the region of their choice.

Controllers who are successful at lower level facilities may compete for positions at higher level, busier facilities that pay more. FAA uses permanent-change-of-station funds to accommodate such transfers. In fiscal year 1991, FAA planned to spend about \$31 million to move 931 controllers--about \$33,000 per controller.

¹In instrument operation, an aircraft operates with a flight plan according to instrument flight rules, or separation between aircraft based on instrument flight rules is provided by a terminal or center control facility.

FAA headquarters makes staffing standards available to regional offices as tools to determine the need for controllers at each facility. Staffing standards are formulas or mathematical models for determining the number of employees that are needed at each facility based on the work load. In 1988, we recommended that FAA revise its staffing standards because they were outdated and did not accurately reflect the number of controllers needed to ensure the safety of the air traffic system. In 1989 and 1991, FAA updated the staffing standards for terminal and center air traffic control facilities.²

DISPARITIES EXIST BETWEEN ACTUAL
STAFFING AND STAFFING STANDARDS

FAA's updated staffing standards are the result of extensive studies conducted by an FAA contractor. The studies included developing a data collection methodology, visiting air traffic control facilities to conduct time-motion studies, and obtaining traffic counts. The resulting data were analyzed to develop equations specifying when an additional controller is required for a control position. Traffic activity figures are factored into the equations to help determine staffing standards for facilities. FAA validated the standards and considers them a management tool for allocating resources equitably and effectively. The standards are an indicator of needs but not a substitute for professional judgement. Special circumstances could provide legitimate reasons for facilities to deviate from the standards. For example, anticipated attrition or changes in traffic levels could necessitate more controllers than the standards indicate. We have

²A network of 20 air traffic control centers in the contiguous United States and 4 outside the United States provides for control and separation of aircraft between destinations and over oceanic routes. Terminal facilities control aircraft within the area of one or more airports. Terminal facilities consist of Terminal Radar Approach Control (TRACONS) and towers.

not performed a technical review of the standards. Large deviations from the standards may be the result of shortcomings in the standards, improper staffing levels, or both.

We compared FAA's updated staffing standards with actual staffing levels for all facilities as of August 31, 1991. Our comparison shows that, relative to the staffing standards, FAA has 704 controllers fewer than the current staffing goal of 18,314 controllers. To keep pace with expected air traffic levels, the standards indicate that FAA will need to increase the size of its controller work force until at least fiscal year 1997, when it will need about 20,300 controllers.

Of the 20 centers in the contiguous United States, 5 centers have a total of 151 fewer controllers and 15 have a total of 454 more controllers than the standards prescribe. Regarding specific facilities, our review indicates that the Indianapolis, Oakland, and Memphis centers had the lowest staffing levels relative to the standards. Staffing levels at these centers are 58, 41, and 22 controllers, respectively, below what the standards prescribe. (See attachment II.)

On a regional basis, eight of the nine regions have 1,001 fewer controllers than the standards prescribe for their terminals. The Western-Pacific and Great Lakes regions had the largest disparities. (See attachment III.) Specifically, the busiest terminals where staffing levels are most below the standards are Atlanta, Sacramento, Philadelphia, Washington National, Dallas/Fort Worth, and Phoenix. Staffing levels at these terminals are between 10 and 21 controllers below what the standards prescribe. (See attachment IV.)

We found, at both centers and terminals, that some placements of Academy graduates were inconsistent with the needs shown by the staffing standards. FAA placed controllers from the Academy at

facilities that had more staff than called for by the standards rather than at equivalent facilities in the same region that had less staff than called for by the standard. For example, FAA placed Academy graduates at six centers that already had more controllers than the standards prescribed. Similarly, FAA placed too few controllers at two centers that had fewer controllers than the standards indicated were needed. At the 12 remaining centers, FAA decreased staffing at centers that were staffed at higher levels than the standards indicated and increased staffing at centers that were staffed at levels below the standards.

FAA could also have narrowed the disparities between its staffing levels and its standards at terminals through better placement of graduates. Before FAA placed graduates, 271 terminals had fewer controllers and 114 terminals had more controllers than the standards prescribe. We found that 171 graduates from the Academy were placed at terminal facilities that had more staff than the standards indicated. Furthermore, of these graduates, 120 could have been placed in terminals in the same region that did not have the number of staff called for by the standards.

FAA headquarters officials believe that many deviations from the staffing standards are based on the regions' special knowledge of operational needs. For example, regions might explain placing more staff than the standards indicate by a higher than anticipated attrition rate, a higher work load level, or a special ability to train controllers. These officials also believe that since the overall difference between standard and actual controller staffing levels is about 4 percent and FAA's goal is to maintain staffing levels to within 5 percent of the standard, actual staffing in the aggregate is about on target with the standards.

However, FAA has not yet analyzed its staffing situation relative to the staffing standards at specific facilities, so it does not know the extent to which it is deviating from the

standards or whether such deviations are appropriate. FAA has been tasked by the House Committee on Appropriations to analyze its present and future controller requirements for each facility. FAA is to report by December 31, 1991, on the controller staffing requirements for the next 3 fiscal years, the number of controller candidates needed to meet these requirements, and the actions it has taken on existing disparities between on-board staff and facility requirements. FAA has contracted for a facility-by-facility analysis of its actual staffing relative to the updated staffing standards, but the study will probably not be completed before late 1992. Until then, FAA will not know whether differences in actual staffing and the standards are justified or not. Regarding FAA's statement that actual staffing is within 5 percent of the standards, our review shows that actual staffing at 12 centers and the terminals overall in 7 of the 9 regions deviate from the staffing standards by more than 5 percent.

STAFFING AT PAY DEMONSTRATION SITES

In June 1989, FAA instituted a pay demonstration project to enhance the ability of FAA to recruit and retain experienced, qualified personnel in certain hard-to-staff facilities. The project provides for payment of a quarterly retention allowance of up to 20 percent of an employee's rate of base pay. The project covers approximately 1,700 air traffic employees at nine participating facilities. The project could continue for 5 years. We reported earlier this year that 45 percent of the staff added were new hires rather than the experienced controllers who were the project's intended target group.³ FAA is now evaluating a contractor's draft report on the results of the project.

³Aviation Safety: Limited Success Rebuilding Staff and Finalizing Aging Aircraft Plan (GAO/RCED-91-119, Apr. 15, 1991).

We reviewed staffing at the pay demonstration sites and found that other, comparable facilities generally had less controllers relative to the standards than did the demonstration sites. This indicates that the program succeeded in increasing staff at the demonstration sites, but in doing so, often caused the pay demonstration sites to exceed prescribed staffing levels. For example, the New York and Chicago centers are pay demonstration sites and had controller work force levels that were, respectively, 74 and 57 above the standard as of August 31, 1991. In contrast, 4 centers that were not demonstration sites had controller work force levels below the standards. (See attachment II.) Similarly, 5 of the 7 terminals that are demonstration sites had staffing levels above the standards while 14 similar terminals that were not pay demonstration sites had levels below the standards. (See attachment IV.) This indicates that FAA did not use its staffing standards to guide decisions for pay demonstration efforts.

COLLEGE TRAINING PROGRAMS ARE UNDERWAY

College training programs provide another source of FAA controllers. Students attend these programs at their own expense and, upon graduation, are considered competitively for employment at FAA. Before being hired by FAA, graduates must meet the minimum qualification, achieve a certain test score, and satisfactorily complete all preemployment processing. FAA intends college graduates hired under this program to bypass screening and be placed directly into the air traffic facilities.

In 1990, FAA instituted controller training programs at three colleges. These colleges are the Mid-America Resource Consortium in Minnesota, Hampton University in Virginia, and Community College of Beaver County in Pennsylvania. FAA is considering expanding its effort to four additional colleges.

The first graduates are now being hired by FAA. FAA is developing a set of measurements by which to evaluate the college training program. When an adequate sample size of college graduates is available, the evaluation will compare them with FAA Academy graduates. However, the program will be a relatively small source of controllers for FAA. For fiscal year 1992, less than 1 percent of the total controller work force will be supplied by the college training program.

CONTRACTING OUT LOW-LEVEL FACILITIES
COULD FREE CONTROLLERS FOR REASSIGNMENT

FAA started contracting out low-level facilities in 1982, but the effort has made available only a minimal number of controllers for reassignment. In a January 1991 report, the Department of Transportation's Inspector General estimated that FAA could save \$10.8 million annually by contracting out 98 towers. The Inspector General also said that contracting out these towers would make 885 controllers available for transfer to understaffed facilities. In general, FAA agreed with the findings of the report. FAA indicated, however, that it was making slow progress in contracting out facilities because of insufficient funds to cover the high initial cost associated with converting FAA-staffed towers to contract operations.

Currently, FAA is contracting out 27 facilities. However, FAA program staff indicate that the goal of its contracting plan has not been attained because most of these 27 facilities were contracted at the direction of Congress and do not meet the contracting out criteria. FAA still plans to contract out the remaining low-level towers, but does not know when this task will be completed.

FAA IS DEVELOPING A PLAN TO BETTER
MANAGE CONTROLLER RESOURCES

FAA officials told us that they have plans for improving their controller screening and training process but said they could not share their detailed, written plans with us until the plans are approved internally. We were told that, under the new plan, candidates will be screened for up to 5 days to determine their aptitude for controlling air traffic, instead of the 9 weeks that it currently takes. Training would then take place at the FAA Academy for 4 or 5 months to minimize on-the-job training at the facilities themselves. Academy graduates would be placed at mid-to-high level facilities rather than lower level facilities. Placement will be based on needs in accordance with the staffing standards, as determined by FAA headquarters. Full implementation of the plan is scheduled for fiscal year 1994.

By implementing its plan, FAA intends to reduce the Academy wash-out rate, which, through June 1991, was 44 percent for the classes in fiscal year 1991. FAA also hopes its plan will reduce or eliminate the relocation costs associated with moving controllers from lower to higher level facilities as they become more experienced. FAA has used a career progression system to advance controllers from lower level, less busy facilities to higher level, more complex facilities. Such a system can result in high relocation costs for FAA because controllers can move as many as four times in progressing through FAA's five levels of air traffic control facilities.

Conceptually, FAA's new plan seems reasonable. However, it remains to be seen whether it will be a better way to screen, train, and place controller candidates. On the basis of what we were told about the new plan, we are concerned about several aspects.

First, because the new plan replaces the 9-week screen at the FAA Academy with a 5-day screen, it places greater reliance on FAA's ability to accurately determine candidates' aptitude to be controllers. Only about half of the controller candidates pass the current 9-week screen. With the new 5-day screen, FAA will have to identify candidate aptitudes in a much shorter time. Also, because FAA's new philosophy is "Train to Succeed," FAA intends to train those who pass the screen until they pass a "performance verification" test. If the 5-day screen does not accurately indicate aptitude, FAA could be wasting training resources on candidates who may never become controllers. We have not been provided with the preliminary results on tests of the screen's accuracy. FAA officials told us that the new 5-day screen appears to be as accurate in predicting success as the 9-week screen.

Second, the new plan is based on some questionable assumptions. The new plan will place new controllers at higher level facilities once they complete their Academy training, move existing controllers at lower level facilities to higher level facilities, and place retired military controllers at the lower level facilities. It assumes that controllers at the lower level facilities will be willing to move, that funds will be available to pay for their moves, and that the controllers will be capable of handling the traffic at higher level facilities. It also assumes that enough retired military controllers would be willing to work and to stay at less busy facilities.

Third, without knowing the details of FAA's new plan, we are not sure how the new plan will affect several ongoing FAA projects. These include the pay demonstration project, the Flight Plan for Training,⁴ the facility contracting out initiative, and the Capital Investment Plan to modernize FAA's facilities and equipment. The

⁴The Flight Plan for Training was begun in 1989 as a \$406 million, 6-year, agencywide effort to improve FAA's hiring and training.

pay demonstration project and the Flight Plan for Training have goals similar to those in the new plan. Furthermore, FAA intends to contract out the lowest level facilities, yet its new plan envisions placing retired military controllers in lower level facilities. FAA's \$31 billion Capital Investment Plan, which includes over 200 individual projects, is to consolidate air traffic control facilities and replace much of FAA's existing control equipment during the late 1990s. These changes, along with the changes proposed in FAA's new plan, would provide a very turbulent environment for the controllers.

Finally, we are also concerned about FAA's ability to implement its plans effectively. Previous FAA initiatives to revise its screening, training, and placement of controller candidates have yet to resolve many shortcomings that have been identified in past agency and GAO studies. For example, the Flight Plan for Training was highlighted in FAA's management reform program, "IMPACT '88", which recognized the need to overhaul and modernize the training system. Yet FAA is now developing another plan to address similar issues.

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In conclusion, although FAA has made progress by developing staffing standards and increasing its overall controller work force, we are concerned that some of the busiest air traffic control facilities have staffing levels below what the standards prescribe. FAA needs to act quickly to determine if staffing levels are proper. Previous initiatives have not resolved shortcomings in FAA's hiring, training, and placement of controllers, so FAA is developing a new plan. Despite the potential of this plan to resolve FAA's staffing problems, its benefits will not be realized unless FAA coordinates it with on-going efforts and fully follows through on its implementation.

This concludes my prepared statement. We will be happy to respond to any questions at this time.

CONTROLLER WORK FORCE

	Prestrike July 31, 1981	Fiscal years			
		1988	1989	1990	1991 ^a
Controllers					
FPLs ^b	13,205	9,858	10,232	10,824	11,093
Others ^c	^d	2,594	2,628	2,607	2,875
First-line supervisors	^e	1,999	2,156	2,204	2,297
Total Operational Controllers	13,205	14,451	15,016	15,635	16,265
Developmental pipeline	3,309 ^f	1,985	1,816	1,591	1,345
Total	16,244	16,436	16,832	17,226	17,610

^aAs of August 31, 1991.

^bIncludes traffic management coordinators.

^cOther controllers, also referred to as operational controllers, include (1) controllers who were FPLs at their previous facility but are not yet full certified on all positions at their current facility and (2) developmental controllers who are certified to control traffic on two or more positions.

^dData not available.

^ePrior to fiscal year 1988, supervisors were excluded from the definition.

^fIncludes all controllers in training.

Source: FAA.

CONTROLLER WORK FORCE STAFFING AT 20 CENTERS
AS OF AUGUST 31, 1991

<u>Facility</u>	<u>Onboard work force</u>	<u>Staffing standard</u>	<u>Difference from the standard</u>	<u>Percentage difference from the standard</u>
Albuquerque	342	317	+ 25	7.9
Atlanta	526	519	+ 7	1.3
Boston	337	326	+ 11	3.4
Chicago*	514	457	+ 57	12.5
Cleveland	471	489	- 18	3.7
Dallas/Ft. Worth	411	407	+ 4	1.0
Denver	383	359	+ 24	6.7
Houston	398	370	+ 28	7.6
Indianapolis	367	425	- 58	13.6
Jacksonville	371	355	+ 16	4.5
Kansas City	413	425	- 12	2.8
Los Angeles	404	371	+ 33	8.9
Memphis	369	391	- 22	5.6
Miami	350	254	+ 96	37.8
Minneapolis	340	312	+ 28	9.0
New York*	365	291	+ 74	25.4
Oakland	322	363	- 41	11.3
Salt Lake City	247	243	+ 4	1.6
Seattle	290	246	+ 44	17.9
Washington	469	462	+ 7	1.5

* Indicates pay demonstration sites.

Source: GAO analysis of FAA data.

TERMINAL CONTROLLER WORK FORCE STAFFING IN FAA REGIONS
AS OF AUGUST 31, 1991

<u>Region</u>	<u>Onboard work force</u>	<u>Staffing standard</u>	<u>Difference from the standard</u>	<u>Percentage difference from the standard</u>
Alaskan	141	153	- 12	7.8
Central	456	455	+ 1	.2
Eastern	1,521	1,595	- 74	4.6
Great Lakes	1,517	1,731	- 214	12.4
New England	507	561	- 54	9.6
Northwest Mountain	718	827	- 109	13.2
Southern	1,966	2,116	- 150	7.1
Southwest	1,192	1,278	- 86	6.7
Western-Pacific	1,582	1,884	- 302	16.0

Source: GAO analysis of FAA data.

CONTROLLER WORK FORCE STAFFING AT FAA'S BUSIEST TERMINALS
BEFORE CANDIDATE PLACEMENT AS OF AUGUST 31, 1991

	<u>Onboard</u> <u>staffing</u>	<u>Staffing</u> <u>standard^a</u>	<u>Difference</u> <u>from the</u> <u>standard</u>	<u>Percentage</u> <u>difference</u> <u>from the</u> <u>standard</u>
Atlanta Hartsfield	96	117	- 21	17.9
Sacramento	40	57	- 17	29.8
Philadelphia	76	88	- 12	13.6
Washington National	65	77	- 12	15.6
Dallas/Ft. Worth tower	38	48	- 10	20.8
Phoenix TRACON	53	63	- 10	15.9
San Diego	45	53	- 8	15.1
Boston TRACON	46	52	- 6	11.5
Denver Stapleton	30	35	- 5	14.3
Denver TRACON	43	47	- 4	8.5
Los Angeles tower*	41	45	- 4	8.9
Minneapolis TRACON	42	46	- 4	8.7
Detroit TRACON	55	58	- 3	5.2
Baltimore/Washington	71	73	- 2	2.7
Pensacola TRACON	42	43	- 1	2.3
Chicago O'Hare tower*	50	50	0	0
Minneapolis/St. Paul	30	30	0	0
Ontario, California TRACON	44	44	0	0
Chicago O'Hare TRACON*	85	84	+ 1	1.2
Oakland TRACON*	87	86	+ 1	1.2
Miami	100	97	+ 3	3.0
Los Angeles TRACON*	61	57	+ 4	7.0
Pittsburgh	67	62	+ 5	8.1
Seattle/Tacoma TRACON	57	48	+ 9	18.8
Tampa	71	61	+ 10	16.4
New York TRACON*	203	191	+ 12	6.3
St. Louis TRACON	58	45	+ 13	28.9
Dallas/Ft. Worth TRACON	106	91	+ 15	16.5
Santa Ana*	78	61	+ 17	27.9
Houston	86	65	+ 21	32.3

* Indicates pay demonstration sites.

^aThe staffing standard numbers do not include developmental candidates. A separate standard exists for these candidates, but does not identify the developmental needs to specific facilities.

Note: Five additional facilities—(1) New York Kennedy, (2) New York LaGuardia, (3) Newark, (4) San Francisco, and (5) Andrews Air Force Base—are not included because they only recently were upgraded to the highest level facility and their standards are being reexamined.

Source: GAO analysis of FAA data.

RECENT GAO REPORTS AND TESTIMONIES
RELATED TO CONTROLLER STAFFING

Key Issues in Facilities & Equipment and Operations Accounts Need Resolution (GAO/T-RCED-91-58, June 5, 1991).

AVIATION SAFETY: Limited Success Rebuilding Staff and Finalizing Aging Aircraft Plan (GAO/RCED-91-119, Apr. 15, 1991).

FAA STAFFING: New Pay Act Offers Options to Bolster Maintenance Work Force (GAO/RCED-91-92, Apr. 2, 1991).

Serious Shortcomings in FAA's Training Program Must Be Remedied (GAO/T-RCED-90-86, June 6, 1990).

Issues Related to FAA's Fiscal Year 1991 Budget Request (GAO/T-RCED-90-66, Apr. 18, 1990).

Staffing, Training, and Funding Issues for FAA's Major Work Forces (GAO/T-RCED-90-42, Mar. 14, 1990).

Issues Related to FAA's Modernization of the Air Traffic Control System (GAO/T-RCED-90-32, Feb. 27, 1990).

AVIATION SAFETY: Serious Problems Continue to Trouble the Air Traffic Control Work Force (GAO/RCED-89-112, Apr. 21, 1989).

FAA STAFFING: Recruiting, Hiring, and Initial Training of Safety-Related Personnel (GAO/RCED-88-189, Sept. 2, 1988).

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

Ordering Information

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