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GAO

Report to the Chairman, Subcommittee on Investigations and Oversight, Committee on Public Works and Transportation, House of Representatives

October 1987

FAA STAFFING

FAA's Definition of Its Controller Work Force Should Be Revised





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GAO

United States
General Accounting Office
Washington, D.C. 20548

Resources, Community, and
Economic Development Division

B-222217

October 23, 1987

The Honorable James L. Oberstar
Chairman, Subcommittee on
Investigations and Oversight
Committee on Public Works and
Transportation
House of Representatives

Dear Mr. Chairman:

In August 14, 1986, testimony before your Subcommittee, we identified problems with the way the Federal Aviation Administration (FAA) defines its air traffic controller work force and reports this work force's staffing progress to the Congress. These problems stem primarily from including persons who do not control air traffic in the controller work force and excluding others who do. At the August 1986 hearing, we concluded and the Subcommittee concurred that changes are needed to the way FAA defines the controller work force and reports on its staffing progress.

Our work for you also shows that using the current controller work force definition for budgetary purposes is creating staffing difficulties for FAA that could adversely affect air traffic control efficiency. We are, therefore, officially transmitting to you our findings and recommendations for revising the definition of the controller work force and measuring controller staffing progress. The Department of Transportation has advised us that it believes these changes will result in accurate and more useful reporting.

FAA's Definition of the Controller Work Force Should Be Revised

FAA defines the controller work force as a subset of the category called air traffic service personnel. The air traffic service personnel category includes full performance level (FPL) and developmental controllers as well as first-line supervisors, facility managers, flight service station specialists, traffic management coordinators, training specialists, personnel management specialists, air traffic assistants (ATAS), and secretaries.

The controller work force subset of air traffic service personnel, as defined by FAA, is comprised of the FPL and developmental controllers and the ATAS. As such, this definition includes some air traffic service personnel who do not control air traffic and excludes others who do. As

discussed below, ATAs and some developmental controllers will never control air traffic but are counted in FAA's definition. On the other hand, first-line supervisors and traffic management coordinators do control air traffic at least part of the time, but they are not counted in FAA's controller work force definition.

ATAs and Trainees Should Not Be Counted in the Controller Work Force

FPL controllers are fully certified to operate all positions within a defined area. Developmental controllers include not only all persons being trained at FAA field facilities, but also all persons undergoing initial screening and training at the FAA academy and other persons in special programs, such as upward mobility. While most developmental controllers at field facilities spend a portion of their time controlling air traffic, persons in the latter two categories not only do not perform traffic control duties, but about 40 percent of them do not complete the initial training. ATAs are employed solely for clerical duties at field facilities. They do not separate or control air traffic. The vast majority of ATAs are employed at FAA's enroute centers, which control air traffic between airports, and at the busier terminal facilities.

At the August 1986 hearing, FAA said that it includes ATAs and persons undergoing initial training at the academy in the controller work force to allow comparisons of the work force before and after the 1981 strike and subsequent firing of 11,400 controllers. Before the strike, persons undergoing initial training were included in the work force count and, although there were no ATAs, the clerical duties now being performed by ATAs were performed by controllers when they were not working at control positions, such as radar scopes. FAA's justification for including trainees and ATAs, however, seems inconsistent with its position that comparisons of pre- and post-strike controller staffing levels are inappropriate because the air traffic control system is managed much differently today than it was before the strike.

First-Line Supervisors and Traffic Management Coordinators Should Be Counted in the Controller Work Force

While including staff who do not control air traffic in the definition of the controller work force, FAA excludes other staff who do, at least part of the time. First-line supervisors and traffic management coordinators at FAA field facilities are selected from the ranks of the FPL controllers. First-line supervisors are responsible for monitoring individual sectors of airspace and adjusting traffic flows. Traffic management coordinators are responsible for monitoring traffic flow and ensuring that safe levels of air traffic are not exceeded.

FAA policy requires first-line supervisors and traffic management coordinators to rotate through all positions on which they are certified each month and to spend at least 10 percent of their time actually controlling traffic. According to FAA, this is so they retain currency and a full appreciation of the controller's work environment.

Because both first-line supervisors and traffic management coordinators monitor and adjust traffic flows, FAA has testified that they are important to enhancing air traffic safety and reducing delays. They are not counted, however, as part of FAA's controller work force.

The net effect of FAA's controller work force definition is illustrated in appendix I. The controller work force at the end of fiscal year 1986 was about 14,800 under the current definition, but would have been 14,400 if limited to only those who actually separate and control air traffic.

Using the Current Controller Work Force Definition for Budgetary Purposes Is Creating Staffing Difficulties

According to FAA, the term "controller work force" was never intended to be used as a measure of staffing adequacy. FAA has stated, however, that since the Congress has specified minimum levels for this work force, the current definition of the controller work force is presenting operational problems. First-line supervisors and traffic management coordinators, like controllers, facility managers, flight service station specialists, secretaries, and others are counted toward FAA's air traffic service personnel ceiling. But, since first-line supervisors and traffic management coordinators are not included in the controller work force subset, increases in the controller work force within the existing air traffic service personnel ceiling require corresponding decreases in other categories of employees. According to FAA, excluding first-line supervisors and traffic management coordinators from the controller work force has resulted in unstaffed traffic management coordinator positions, supervisors performing traffic management functions on a time-permitting basis over and above their normal duties and responsibilities, and controllers filling first-line supervisory positions at key field facilities on a temporary basis.

We found FAA's fiscal year 1987 authorized traffic management coordinator staffing to be below the levels called for by FAA's staffing goals in all 16 enroute centers we checked (FAA has 20 enroute centers in the continental United States) and full-time traffic management coordinator staffing as of February 28, 1987, was below the FAA-authorized levels in 11. We also found full-time traffic management coordinator staffing to be below FAA-authorized levels in 8 of the 11 terminal facilities having

authorized traffic management coordinator levels in fiscal year 1987. For example, the Chicago enroute center was staffed with only 4 full-time coordinators, instead of the 20 called for by FAA's staffing goals.[1]

For fiscal year 1988, the Department of Transportation has requested an additional 955 air traffic service personnel, including 185 traffic management coordinators and 200 first-line supervisors and technical support personnel. According to the Department, they are needed to help improve the flow of air traffic and reduce delays. We agree, and believe that counting first-line supervisors and traffic management coordinators as part of the controller work force will provide FAA with increased flexibility to handle air traffic as safely and efficiently as possible by permitting FAA to move controllers to where they are most needed while still complying with congressionally specified minimum controller work force levels.

FAA Should Establish Staffing Targets for Full Performance Level Controllers

Our work for you also has shown that the term FAA used as the key indicator of staffing progress before the 1981 strike—FPL controller—should be reported and used in addition to the one FAA has used since the strike—operational controller. The term "operational controller" represents the sum of the number of FPL controllers, who are certified to operate all positions in a defined area, and those developmental controllers who are certified on at least two nonradar or radar positions. Thus, the term operational controller combines controllers who have significantly different responsibilities, levels of experience, and training.

Developmental controllers are limited in their work assignments, and increasing the number of FPL controllers can increase both productivity and a facility manager's staffing flexibility. Reporting on the number of FPLs as well as developmental controllers, therefore, would provide the Congress with an improved picture of FAA's staffing progress.

FAA agreed with this view at the August 1986 hearing, and its fiscal year 1988 budget justification shows the number of FPL controllers for fiscal years 1981 through 1986 as a subset of operational controllers. (See app. II.) But, FAA's fiscal year 1988 budget justification does not include staffing targets for the number of FPL controllers needed in fiscal years 1987 and 1988. FAA, however, subsequently provided a fiscal year 1988 FPL controller staffing target for the record at an April 21, 1987, fiscal

[1]See FAA Staffing: Air Traffic Controllers' Work Load and Operational Performance (GAO/RCED-87-138FS, May 6, 1987).

year 1988 appropriation's hearing by the Subcommittee on Transportation and Related Agencies, House Committee on Appropriations. The FPL controller staffing target was 10,258 or about 85 percent of the 12,155 operational controllers targeted for fiscal year 1988.

We believe that including FPL staffing targets in the fiscal year budget justifications along with the information FAA is already reporting will provide the Congress a more precise and meaningful way of measuring FAA's staffing progress and assessing its staffing needs.

Conclusions and Recommendations to the Secretary of Transportation

FAA's definition of the controller work force would be more accurate if it were changed to include only those who are responsible for separating and controlling air traffic. This would require adding first-line supervisors and traffic management coordinators who spend part of their time controlling traffic. Persons who do not control air traffic, including ATAS, those undergoing initial screening and training at the FAA academy, and those in special programs such as upward mobility, would no longer be counted as part of the controller work force. Furthermore, while reporting the number of FPL controllers is a step in the right direction, FAA should establish annual staffing targets for this important controller work force subset.

Therefore, we recommend that the Secretary of Transportation require the FAA Administrator to

- Revise the definition of the controller work force to include only those who are responsible for separating and controlling air traffic, including first-line supervisors and traffic management coordinators. The revised definition should be used in reporting the controller work force count to the Congress.
- Include in FAA's fiscal year budget justifications and other reports to the Congress staffing targets for FPL controllers.

Views of Agency Officials

We discussed the findings and recommendations in this report with officials of the Office of the Secretary of Transportation. They said that both the Department and FAA will implement these recommendations and believe their implementation will enhance the usefulness of FAA reports on controller staffing. They pointed out the importance of explaining why the changes are being made and the nature of the changes so as to avoid confusion among those accustomed to the current reporting practices.

To perform our review, we collected and analyzed information from two principal sources: (1) staffing data from FAA's payroll, personnel, and other systems and (2) an extensive 1985 questionnaire survey of controllers, first-line supervisors, and the managers of the 74 busiest FAA facilities in the continental United States. Our March 1986 report,[2] which included the results of our 1985 survey, made several recommendations to FAA to improve the clarity of its reports to the Congress on meeting its controller staffing goals. Our August 1986 testimony outlined our findings on this issue and expanded upon our recommendations on the basis of additional work we had done at FAA headquarters and field facilities. Since that time, we have monitored FAA's controller staffing progress and have been keeping the Congress informed of who comprises the controller work force.[3]

We are sending copies of this report to the Chairmen of the Subcommittees on Transportation and Related Agencies, Senate and House Committees on Appropriations; the Chairman of the Subcommittee on Aviation, House Committee on Public Works and Transportation; and the Chairman of the Subcommittee on Aviation, Senate Committee on Commerce, Science, and Transportation. We will also send copies of the report to the Secretary of Transportation; Administrator, FAA; and Director, Office of Management and Budget; and will make copies available to other interested parties upon request.

This report was prepared under the direction of Kenneth M. Mead, Associate Director. Major contributors to this report are listed in appendix III.

Sincerely yours,

J. Dexter Peach

J. Dexter Peach
Assistant Comptroller General

[2]Aviation Safety: Serious Problems Concerning the Air Traffic Control Work Force (GAO/RCED-86-121, Mar. 6, 1986).

[3]FAA Air Traffic Controller Staffing and Related Issues (GAO/T-RCED-87-42, July 29, 1987).

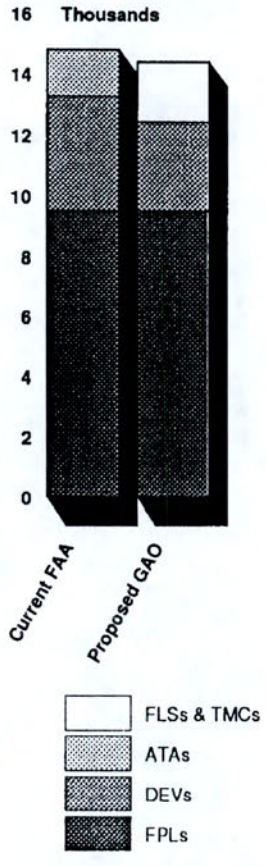
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Abbreviations

ATA	air traffic assistant
FAA	Federal Aviation Administration
FPL	full performance level (controller)
GAO	General Accounting Office

The Controller Work Force Under FAA and GAO Definitions



Source: FAA centralized personnel management information system.

Table I.1: The Controller Work Force as of 9/30/86:

	FAA	GAO
Full Performance Level Controllers (FPLs)	9,528	9,528
Developmental Controllers (DEVs)	3,761	2,901
Air Traffic Assistants (ATAs)	1,514	0
First-Line Supervisors (FLSs)	0	1,751
Traffic Management Coordinators (TMCs)	0	220
Total	**14,803**	**14,400**

Source: FAA's centralized personnel management information system.

FAA's Fiscal Year 1988 Air Traffic Service Employment Summary

Air Traffic Total Program	FY 1981	FY 1982	FY 1983	FY 1984	FY 1985	FY 1986	Estimated FY 1987	Estimated FY 1988
Centers and Towers								
FPL Controllers	4,904	5,612	6,724	7,580	8,315	9,528	[c]	[c]
Developmentals (GS-11/12/13)	1,830[a]	5,815[a]	5,256[a]	2,712	2,071	1,714	[c]	[c]
Operational Controllers	[b]	[b]	[b]	10,292	10,386	11,242	11,944	12,155
Developmental Pipeline (GS-5/7/9)	[a]	[a]	[a]	1,921	2,146	2,047	1,503	1,523
Total Controllers	[b]	[b]	[b]	12,213	12,532	13,289	13,447	13,678
Air Traffic Assistants	0	1,190	1,273	1,501	1,466	1,514	1,553	1,547
Total Controller Work Force	[b]	[b]	[b]	13,714	13,998	14,803	15,000	15,225
Area Supervisors/Managers/Chiefs	3,056	2,907	2,867	2,894	2,910	2,640	[c]	[c]
Training/Automation Spec./ and Other Support Personnel	2,551	1,414	1,886	1,843	1,984	1,479	4,087	4,138
Total Center/Tower Employment (9/30)	**12,341**	**16,938**	**18,006**	**18,451**	**18,892**	**18,932**	**19,087**	**19,363**
Flight Service Stations	4,610	4,421	4,438	4,421	4,423	4,354	4,190	4,014
Planning, Direction and Evaluation	**783**	**917**	**969**	**961**	**964**	**891**	**923**	**923**
Total Air Traffic Employment (9/30)	**17,734**	**22,276**	**23,413**	**23,833**	**24,279**	**24,167**	**24,200**	**24,300**
FTP Positions	29,405	29,211	26,050	25,818	25,004	25,130	25,222	25,097

[a]For fiscal years 1981 through 1983, developmentals include both developmentals and developmental pipeline. Breakout is not available.

[b]Controller work force was not reported prior to fiscal year 1984.

[c]Breakout not available.

Source: FAA's fiscal year 1988 Budget Justification.

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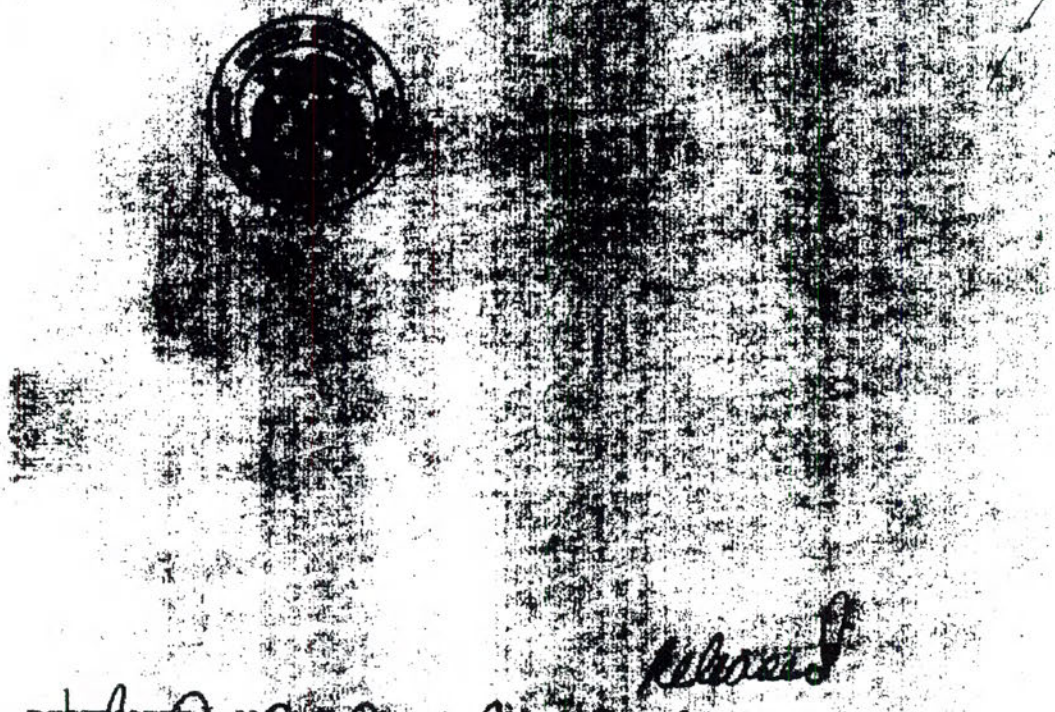
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Report to the Chairman and Ranking Minority Member, Subcommittee on Investigations and Oversight, Committee on Public Works and Transportation, House of Representatives

June 1988

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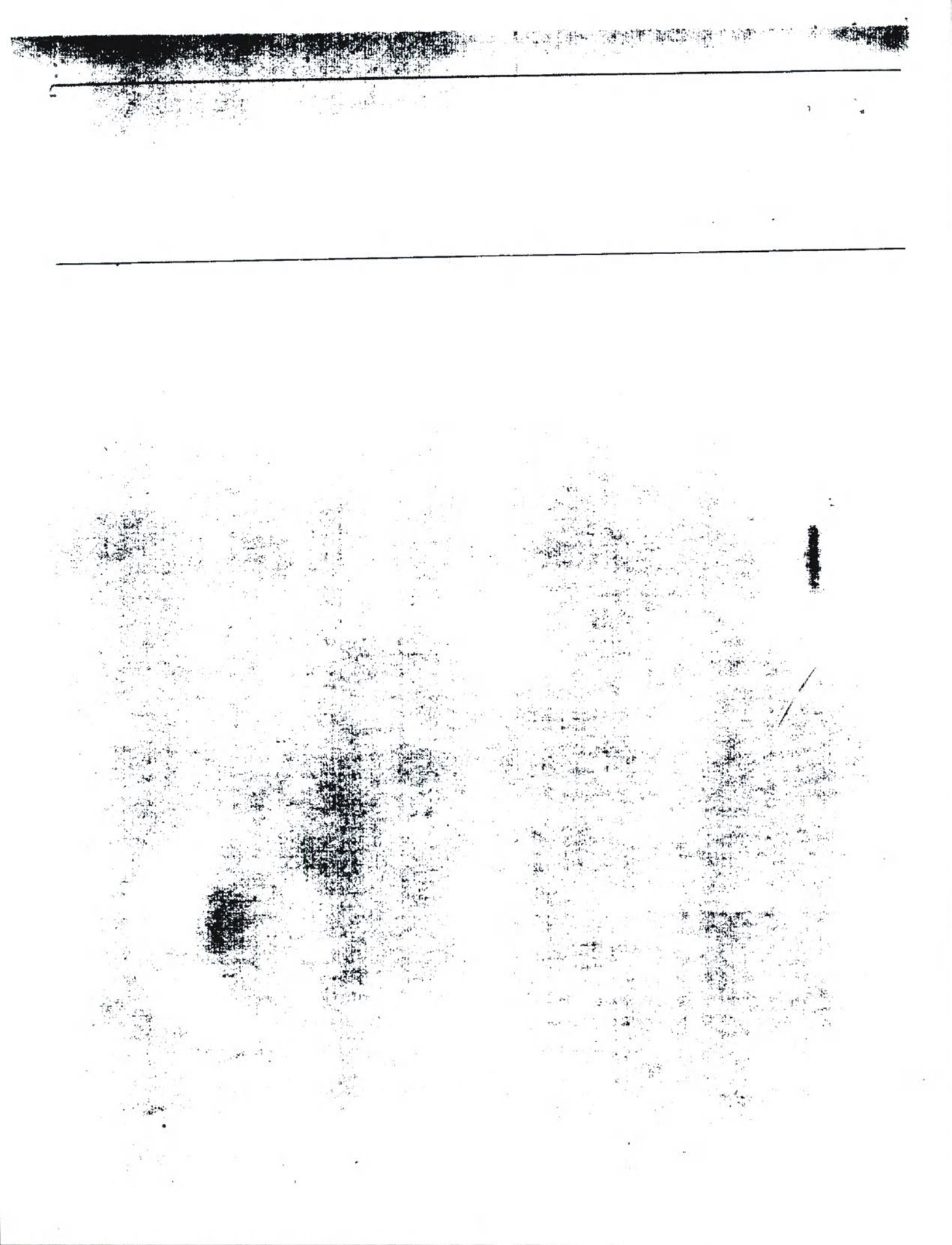
Improvements Needed in Estimating Air Traffic Controller Requirements



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GAO/RCED-88-106



GAO

United States
General Accounting Office
Washington, D.C. 20548

Resources, Community, and
Economic Development Division

B-222217

June 21, 1988

The Honorable James L. Oberstar, Chairman
The Honorable William F. Clinger, Jr.
Ranking Minority Member
Subcommittee on Investigations and Oversight
Committee on Public Works and
Transportation
House of Representatives

At your request we have evaluated the Federal Aviation Administration's standards for staffing the nation's air traffic control system. This report presents our findings, conclusions, and recommendations regarding the adequacy of current air traffic controller staffing standards.

Unless you publicly announce its contents earlier, we plan no further distribution of this report until 15 days from the date of this letter. At that time, we will send copies to interested congressional committees, the Secretary of Transportation, and the Administrator, Federal Aviation Administration. We will also make copies available to others upon request.

This work was performed under the direction of Kenneth M. Mead, Senior Associate Director. Major contributors are listed in appendix VI.

J. Dexter Peach

J. Dexter Peach
Assistant Comptroller General

Executive Summary

Purpose

Air traffic controllers provide a vital service to the nation's flying public by providing for the safe and expeditious flow of air traffic. At the request of the Chairman and Ranking Minority Member, Subcommittee on Investigations and Oversight, House Committee on Public Works and Transportation, GAO examined the standards that the Federal Aviation Administration (FAA) uses to determine the number of controllers needed to staff the nation's air traffic control terminals and enroute centers. Specifically, GAO examined

- whether the standards reasonably project staffing requirements and
- how the standards are used.

Background

Staffing standards are formulas or mathematical models used to determine the number of employees that are needed to perform a task. As such, FAA has established them as the basic method for determining and distributing employee resources. FAA has used staffing standards since 1961 to estimate its controller staffing requirements.

After the 1981 controllers strike, FAA adopted a staffing approach based on meeting average system requirements. This approach was a departure from previous staffing which was based on meeting peak work load. Under FAA's new approach, overtime is used to cover traffic peaks, popular annual leave periods, and other special needs. This approach is reflected in the current controller staffing standards which were developed in 1984 and 1985. Two separate standards have been developed—one for terminals and another for centers. These standards measure the historical work load of controllers at a facility and then project future staffing based on forecasted aviation growth, taking into account factors such as annual leave, breaks, and training time. In addition to calculating the staffing that is required to meet existing work load, FAA makes additional staffing allowances for controller trainees.

GAO's findings are based on work at 15 air traffic control facilities in 6 FAA regions.

Results in Brief

Staffing standards are critical for FAA to determine how many controllers it needs. Current standards have not been validated and fall short of accurately reflecting FAA's controller staffing needs, particularly for peak traffic periods and assuring an adequate training pipeline. Moreover, FAA's current standards are generally not used outside of FAA headquarters. Field managers have developed their own methods for

estimating staffing requirements because in some cases they are not aware that headquarters has developed new standards.

Validated staffing standards that accurately reflect needs would provide FAA with an effective management tool and help restore congressional, controller, and facility manager confidence in FAA judgments about its staffing needs. Recognizing the importance of these standards, FAA is now reassessing its standard for determining controller staffing needs at airport terminals.

Principal Findings

FAA headquarters uses staffing standards in developing its budget requests for controller staffing. In recent years, however, the Congress has funded more controllers than were called for in the standards and requested by FAA, in part, because of concern that FAA had underestimated its staffing requirements.

Shortfalls in the Current Standards

FAA's current staffing standards do not accurately reflect field conditions because of incorrect assumptions. For example, FAA has based its center staffing on the assumption that centers are operating with up to eight separate starting times or shifts a day. Using eight shifts increases the number of instances where groups of controllers will overlap. Headquarters believes this allows managers greater flexibility to meet peak traffic periods using fewer total controllers by the end of a given day. Using eight shifts reduces FAA's overall staffing requirements by 4 percent when compared with a traditional three shift operation. However, centers that GAO visited were generally operating with three to five shifts per day. These centers would require more staff than provided by the standard or more overtime to handle peak traffic.

Lag times in FAA's budget and aviation forecast processes also affect the accuracy of the staffing standards but are difficult to remedy. For example, FAA underestimated aviation growth in fiscal year 1987 and had to amend its fiscal year 1988 funding request to increase its controller staffing. The standards cannot adjust quickly to changes in work load, such as an airline's decision to start a new base of operations at an airport.

FAA has also underestimated its requirements for controller trainees to replace controllers who leave and meet future work load. In fiscal year 1987, headquarters provided a 6-percent controller staffing allowance to terminals and 9 percent to centers for a pipeline of trainees. These

allowances were not sufficient to cover actual attrition at the facilities GAO sampled: attrition was 15 percent for terminals and 13 percent for centers. Additionally, FAA's trainee allowance does not consider the time needed to train a full performance level controller or potential future losses such as retirements.

Standards Not Widely Used

FAA headquarters stopped using its officially published staffing standards and process at the time of the 1981 controllers strike. It has implemented a new process and standards that were neither well communicated to the field nor officially published. As a result, neither regions nor facility managers are using the current staffing standards to determine their staffing requirements. Of the 15 facilities that GAO visited, only 1 was using a portion of the current staffing standard to estimate its staffing needs; the other 14 used different methods. Several facilities were not aware that FAA had revised the staffing standards because FAA's air traffic staffing standard order has not been updated since 1980. Most facility managers did not view the standards' projections as adequate to meet their staffing needs.

In addition, periodic revalidation and updating of the standards has not been done as FAA policy requires. Rather, FAA has redone the standards each time that problems with its projections have been identified. FAA's inability to adopt and revise a single methodology has contributed to field managers' lack of understanding of, and confidence in, the standards.

Recommendations

To restore congressional confidence in its judgments about controller staffing, GAO recommends that FAA:

- Revise its staffing standards to more accurately reflect controller work load and field conditions. As part of this revision, FAA should refine the way it calculates its training pipeline to anticipate future losses from retirements and career progression.
- Develop a validation process, to ensure that its standards are accurate and current, and a formal feedback process that would provide a method for field needs and perspectives to be better incorporated into the staffing process.

GAO proposes several options through which FAA could revise its controller staffing standards and process and makes other recommendations in chapters 2 and 3.

Agency Comments

The Department of Transportation said that FAA has recognized the need for accurate staffing standards for critical safety functions such as controllers. FAA also has recognized the shortfalls in existing standards and has requested increased controller staffing to meet immediate needs until new standards can be documented. While the Department generally agreed with GAO's recommendations, it indicated disagreement with information supporting these recommendations that, according to the Department, unduly casts a negative light on the standards' technical merits. It did not, however, provide any specific information about its disagreement. The text of the Department's letter to GAO appears in appendix V. A discussion of the Department's comments and GAO's detailed responses appear at the end of chapters 2 and 3.

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Abbreviations

APS-5	Airway Planning Standard Number Five
ATA	air traffic assistant
CAMI	Civil Aeromedical Institute
CWF	controller work force
FAA	Federal Aviation Administration
FPL	full performance level controller
GAO	General Accounting Office
MUMCS	Manpower Utilization Management and Control System
NAS	national airspace system
OMB	Office of Management and Budget
PMIS	Personnel Management Information System
RCED	Resources, Community, and Economic Development Division
TCA	terminal control areas
TRACON	terminal radar approach control

Introduction

One of the Federal Aviation Administration's (FAA) primary missions is to provide a national aviation system that ensures the safe and efficient use of the nation's airspace. FAA establishes policies for the use of this airspace and provides a service—air traffic control—to promote the safe, orderly, and expeditious flow of air traffic.

Air traffic control specialists—controllers—are directly responsible for ensuring that aircraft are properly separated and that takeoffs and landings are as safe as possible. As of September 30, 1987, FAA employed 13,224 controllers,[1] about 47 percent of whom were involved in en route control and 53 percent in airport terminal control. This report examines how FAA determines the number of controllers it needs to operate the air traffic control system at centers and airport terminals.

The Environment of Air Traffic Control

The air traffic control system includes air route traffic control centers, control towers at airports, and flight service stations. Air route traffic control centers provide for control and separation of aircraft flying en route between destinations and over certain oceanic routes. A network of 20 centers is located in the contiguous United States with 2 smaller centers in Alaska and Hawaii. The principal function of control towers is to control aircraft within the area of one or more airports. Depending on the density and type of air traffic involved, a control tower may handle operations either for the airport at which it is located or for adjacent airports as well. Flight service stations provide pilots with pre-flight and in-flight information on weather and routes.[2]

Role of the Air Traffic Control Specialist

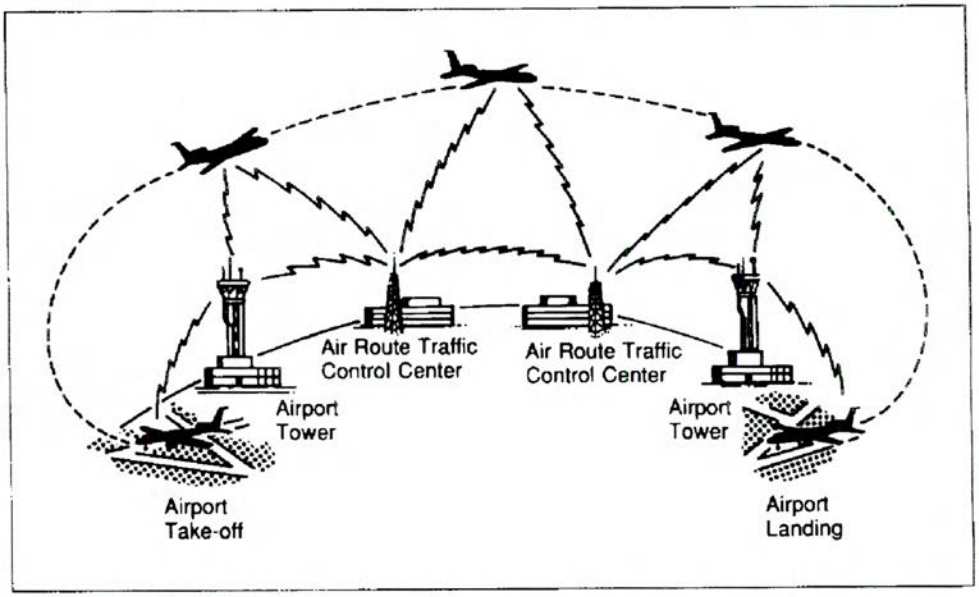
Air traffic controllers are the eyes and ears of the national airspace system. At both centers and airports, controllers use radar and computer surveillance to monitor air space. Controllers at airports also visually guide aircraft, as they depart and land and while they are on the ground, from the control tower cab—the glass-enclosed area at the top of the tower. Figure 1.1 shows how aircraft during flight can be controlled by a series of facilities and controllers within these facilities.

Several different operating positions exist within an air traffic control center and a tower. In a center, each sector (section of airspace) has

[1]This number excludes students undergoing initial screening to be air traffic controllers at the FAA Academy in Oklahoma City

[2]Flight service stations, staffed by flight service station specialists, are not included in the scope of this report.

Figure 1.1: Aircraft During Flight



three positions—a radar controller, a manual or data controller, and a coordinator or handoff controller. (See fig. 1.2.) An airport tower has two environments: the radar room and the tower cab. The radar room, or TRACON (terminal radar approach control), has a radar position and coordinator position for specific segments of airspace, similar to a center's configuration. The tower cab has a flight data/clearance delivery position and one or more ground controller and local controller positions.[3] (See fig. 1.3.)

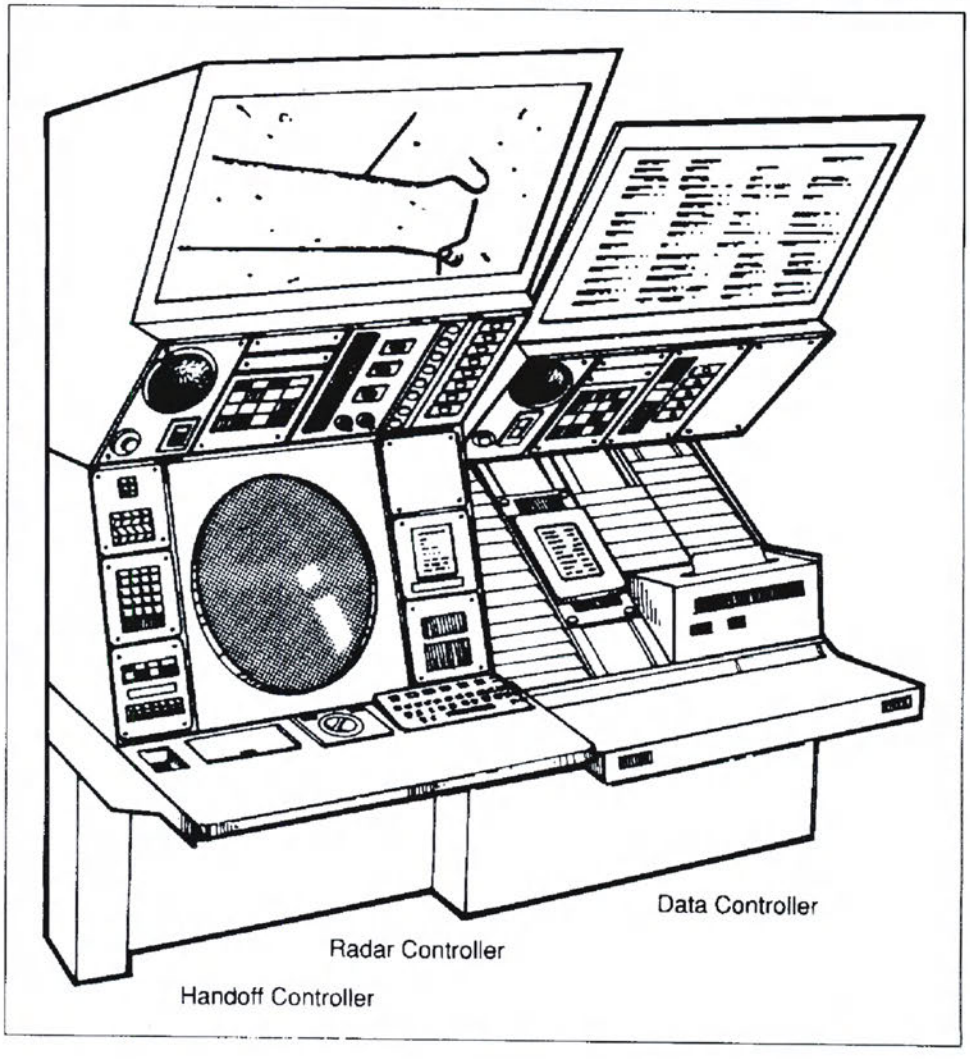
Controllers at the full performance level (FPL) are required to be certified on several operating positions within a center or control tower. For example, an FPL controller is required to be certified on all positions—both radar and data—within a given area in a center. Depending on the size and type of terminal facility, controllers may be required to be certified on either the cab or radar room positions or both.

Other Facility Staff

Other staff besides controllers are essential to the orderly flow of air traffic:

[3]Flight data/clearance delivery controllers are responsible for issuing instructions on approved departure procedures and route of flight. Ground controllers give approval for aircraft to taxi from the gate and control aircraft while approaching or leaving the runway. Local controllers are responsible during an aircraft's takeoff or landing.

Figure 1.2: Center Control Positions



- Large air traffic facilities are staffed with air traffic assistants (ATAS) who assist controllers by handling flight progress strips.[4]
- First-line or area supervisors are responsible for supervising both controllers and ATAS.
- Traffic management coordinators staff the units responsible for monitoring the volume and flow of air traffic to a facility.

[4]Flight progress strips are paper strips with flight plan data which must be moved to appropriate operating positions as an aircraft progresses in its flight. Prior to the August 1981 controller strike, these duties were performed by controllers.

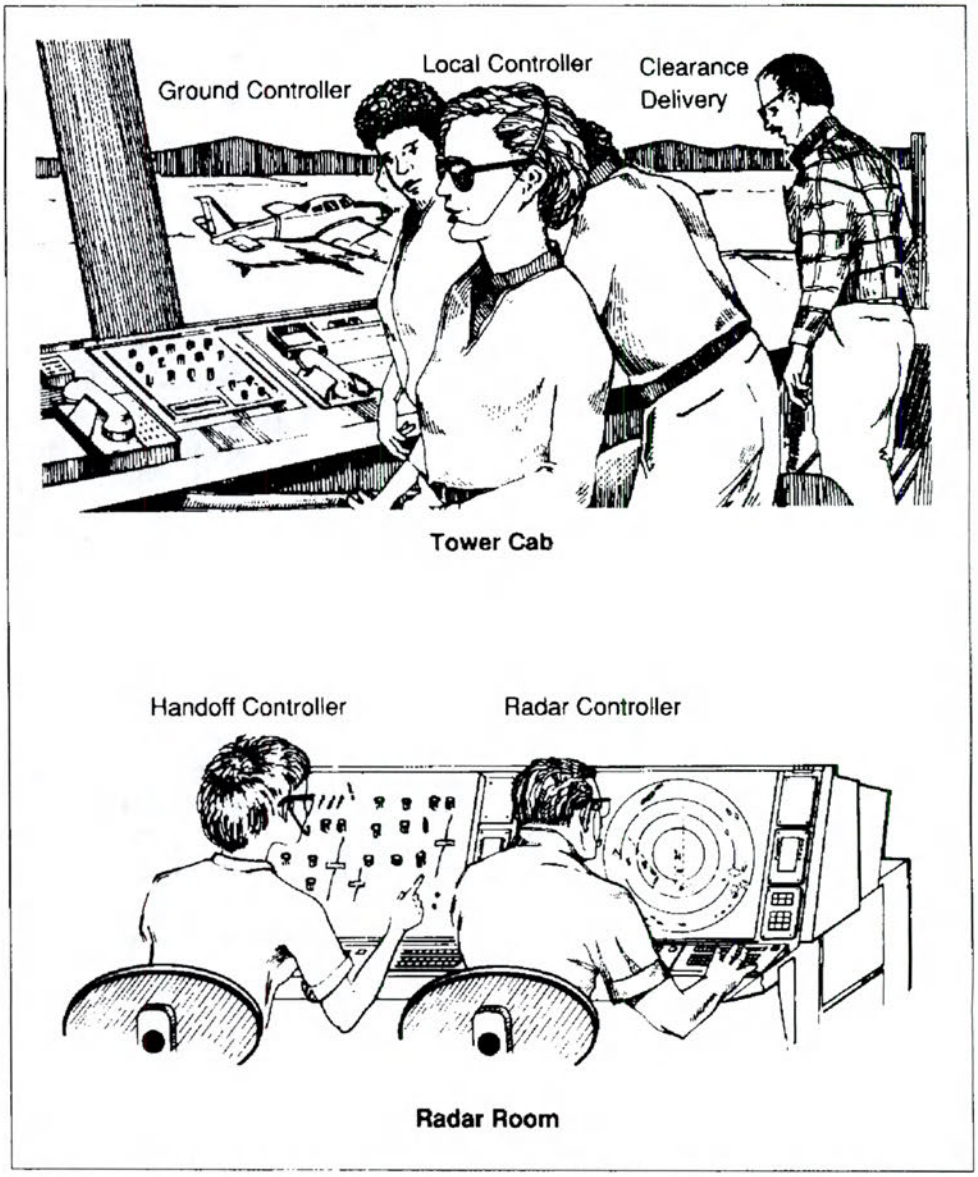


Figure 1.3: Airport Terminal Control Positions

Both supervisors and coordinators are selected from the ranks of FPL controllers.

Until October 1987, FAA defined the controller work force (CWF) as comprised of controllers and ATAs. In November, FAA adopted a GAO recommendation[5] to revise the definition of the controller work force to include only those personnel who actually control air traffic. As a result, first-line supervisors and traffic management coordinators, who are required to spend 10 percent of their time controlling air traffic, are now included in the definition of the CWF, while ATAs and students at the FAA Academy are excluded.

Background and History of FAA's Controller Staffing Standards

Since the 1960s, FAA has used formal standards to determine its staffing requirements for air traffic control facilities in response to executive branch and agency directives. These staffing standards have evolved over the years from relatively simple formulas to today's more sophisticated computer models.

The Role of Staffing Standards in Federal Programs

Staffing standards are mathematical models that measure the employee hours needed to perform a function and are used to determine the number of employees needed to perform a specific task. Although the term "standard" commonly connotes the idea of a rule or something uniform to be adhered to, staffing standards can be a series of formulas used as guidance. They express the time required by qualified personnel to perform a specific job, taking into account collateral activities and duties. Engineered staffing standards, which are developed by using accepted industrial engineering techniques, are considered to be the best type of staffing standards.

Both executive and FAA orders require the use of work measurement systems in maintaining a quality level of service. Executive Order 12552, dated February 25, 1986, established a governmentwide program ". . . to improve the quality, timeliness, and efficiency of services provided by the Federal government." To achieve productivity improvements, this order advocates the use of measurement systems and performance standards by government agencies. In addition, the Office of Management and Budget (OMB) has provided guidelines for the continued development and implementation of agency productivity improvement programs. The guidelines call for productivity measures that are ". . . straightforward, easy for managers and employees to understand, and

[5]FAA Staffing: FAA's Definition of Its Controller Work Force Should Be Revised (GAO/RCED-88-14, October 23, 1987).

of maximum utility in targeting areas for improvement in all program functions."

FAA has established staffing standards as ". . . the basic method for determining, analyzing, and distributing employee resources . . ." for FAA programs. According to a 1983 order (FAA Order 1380.34A), staffing standards should be of the highest quality, accurate, and current. This order also requires FAA to officially publish staffing standards as orders and to maintain and review its standards at least once every 2 years. FAA's order supports the use of staffing standards for a variety of purposes such as identifying outstanding performance and determining impacts on staffing from changes in methods and equipment. Within FAA, the Office of Management Systems, under the Associate Administrator for Administration, has primary responsibility for the staffing standards program.

Evolution of FAA's Controller Staffing Standards

Since 1961, FAA has used several different formal standards to develop its budget requests for controllers. The current controller staffing standards are the fifth in this series (see table I.1). Historically, staffing standards have used various methods to determine the number of controllers needed to staff FAA facilities, based either on the control positions that are operating on a specific busy day (such as the 90th percentile or 37th busiest day of the year) or on annual aircraft operations. The standards included adjustments for (1) controllers' leave and days off and (2) time spent on noncontrol activities, such as lunch and breaks. (Additional information on FAA's previous standards is provided in app. I.)

Elements of FAA's previous standards have been criticized both externally, in a 1978 staff report to the House Appropriations Committee, and internally, in FAA's 1982 Manpower Utilization Management and Control System Study (MUMCS). Both reports raised similar points, including the following: (1) FAA's standards were complicated and difficult to understand and, therefore, had little credibility with managers and the field, (2) FAA had not paid sufficient attention to refining and revalidating the standards; and (3) basing staffing on the 90th percentile or 37th busiest day provided excessive levels of staffing for nonpeak traffic periods.

Current Controller Staffing Standards

The current controller staffing standards have resulted from changes to FAA's staffing approach since the 1981 controllers strike. Before the strike, FAA provided a staffing cushion to protect against "hard times." With the strike, FAA management decided that staffing before the strike was too high. In 1982, FAA shifted to providing a staffing level that would cover average system requirements. FAA accomplished this shift by reducing the number of sectors and terminal radar positions on which staffing was based. FAA then assumed that overtime would be used to cover traffic peaks, prime annual leave periods, and other special requirements.

In 1983, FAA's Administrator, responding to criticism from OMB and the Department of Transportation, requested that the terminal staffing standard be validated. This effort resulted in developing the current standards for centers and terminals (described in greater detail in ch. 2). A group of controllers and FAA's Office of Management Systems completed revising the terminal standard in July 1984. FAA published an initial version in fiscal year 1985 and a second in fiscal year 1986. The terminal standard is still in draft form.

During the spring of 1984, FAA contracted with a consulting firm to revalidate the center standard. A working group of controllers assisted in refining some of the standard's assumptions, particularly increasing the allowance for time spent on noncontrol duties. A new center standard was developed and published in September 1985 and is considered final.[6]

Certain key assumptions in these staffing standards have changed over time. Two significant changes have occurred. First, FAA no longer bases its controller staffing on operating positions. Rather, it has tied the standards to facility work load. Second, FAA changed the adjustment factor for these standards to better reflect nonposition time, such as training and meetings. (See app. II.)

Overhead Staffing at Air Traffic Facilities

FAA does not have a formal staffing standard to determine the number of overhead—staff and supervisory—positions needed at FAA air traffic control facilities. FAA uses two orders, one for centers (Order 1100.123C) and another for terminals (Order 1100.126E) to determine this staffing.

[6]A 1986 standard that deals with lower activity centers is not covered in our report. This standard covers approximately 300 controllers and ATAs in level 1 centers (Alaska and Hawaii) as well as staffing for oceanic sectors.

These orders specify the maximum authorized positions for jobs such as quality assurance specialists, automation specialists, training specialists, and others in addition to supervisors and traffic management coordinators.

Objectives, Scope, and Methodology

At an August 14, 1986, hearing, the Chairman, Subcommittee on Investigations and Oversight, House Committee on Public Works and Transportation, asked us to examine the standards that FAA uses to estimate its controller staffing requirements. We were asked to determine

- whether FAA's controller staffing standards reasonably project staffing requirements and, if not, what the problems are with these standards;
- how FAA's staffing standards are used; and
- what needs to be done to improve the standards and their use.

Chapter 2 of this report describes the current FAA standards and problems with them. Chapter 3 discusses what the standards are used for and the extent to which the standards are used by FAA headquarters and the field. Chapter 4 presents several options for FAA to consider in improving both its controller staffing standards and their use.

This report is based on work at FAA headquarters as well as field work in six FAA regions. Our field work was done at 14 locations (representing 15 FAA facilities, as shown in table 1.1). To select these sample locations, we used data from FAA's Personnel Management and Information System (PMIS) and compared the mid-year (March 31, 1987) on-board staffing at each of the busiest air traffic facilities[7] with the fiscal year 1987 staffing standard for each facility. We then selected 12 locations—6 centers and 6 terminals—staffed at various levels: 4 locations were staffed at 100 percent of the standard, 4 below the standard, and 4 above the standard. Two additional locations were selected because of unique circumstances affecting their staffing standard allocations (New York TRACON and Boston Center[8]).

[7]All level 2 and 3 centers and level 4 and 5 terminals.

[8]Because of the complexity and size of its operations, the New York TRACON has a special staffing standard regression calculation, which applies only to this facility. Boston Center received seven sectors of airspace from the New York Center in July 1986, which required adjustments to its staffing.

Table 1.1: Facilities Visited by GAO

Criteria	Center	Terminal
Staffing above standard	Chicago Miami	Chicago O'Hare Miami
Staffing at standard	Minneapolis New York	Phoenix[a] Philadelphia
Staffing below standard	Atlanta Washington	Salt Lake City Minneapolis
Other	Boston	New York TRACON

[a]Phoenix is a split terminal facility under different managers. We visited both the Phoenix TRACON and the Phoenix Tower.

We also visited FAA's regional headquarters in the Eastern, Great Lakes, New England, and Southern Regions to obtain regional officials' perspectives on the controller staffing process.

To help us identify problems with FAA's staffing standards, we examined the evolution of these standards and past criticisms of them raised by FAA, OMB, and staff of the House Appropriations Committee. We determined what aspects of and assumptions in the standards have changed over time and examined FAA's rationale for these changes. We reviewed available documentation on FAA's current standards. However, identification of the specific sectors that FAA's contractor studied in developing the current center standard and the results of the controller working groups who assisted in developing the current standards were no longer available from FAA.

To evaluate whether staffing projections from these standards are reasonable, we reviewed correspondence between headquarters and the regions on staffing requirements and discussed regional staffing needs with officials in all six regions. We also reviewed internal FAA evaluations of each facility we visited. At each field facility, we tried to determine (1) the basis for the facility's on-board and requested staffing and (2) what impacts staffing at the level of FAA's standard would have on operations. We analyzed data on each facility's work load and operations, planned changes to this work load, and, where data were available, evaluated operational errors. We collected data related to factors in the standards such as annual and sick leave usage as well as estimates of the time controllers spend away from the control floor on other duties. We reviewed a sample of training records for FPL controllers to determine how much refresher training is being received. We gathered 2 years of data on FPL controller attrition from such things as retirements, promotions, and relocations, as well as intrafacility transfers to staff positions. In addition, we obtained data on trainees who failed training

at each facility. We interviewed facility management on all of these issues and interviewed members of the controller work force (controllers, first-line supervisors, and traffic management coordinators) to confirm their opinions.

We determined how FAA uses the standards from discussions with FAA headquarters officials as well as managers in the field. We also reviewed FAA's orders on its staffing standards program and compared these with staffing policies that the Department of Defense uses to staff military control towers. Our work included a review of Transportation's 1986 and 1987 internal control reports prepared in response to the Federal Managers' Financial Integrity Act of 1982, and an examination of internal controls affecting FAA's models.

Finally, to help us develop recommendations on corrective actions that FAA should take, we convened a panel of consultants in July 1987—midway through the completion of our field work. The panel, representing various backgrounds in the areas of aviation and work measurement, was convened to ensure that our analysis was not overlooking any important points. The fact that we carefully considered the panel's input does not necessarily mean that the members endorse our conclusions. (See app. III for a list of participating panelists.) In response to FAA's Office of Management Systems' informal comments, we have added a summary of the panel's views as appendix IV.

In conducting our field work, we examined data covering fiscal years 1986 and 1987. Our review was conducted from April to October 1987. We testified on the results of our work before the Subcommittee on Investigations and Oversight on November 18, 1987. At this hearing, FAA was asked to officially respond to our findings, and we have incorporated these views where appropriate in this report. In addition to the official agency comments contained in appendix V, FAA also provided informal comments on our report which have been incorporated where appropriate. This audit was conducted in accordance with generally accepted government auditing standards.

Problems With FAA's Controller Staffing Standards and Overhead Staffing

FAA has developed models that produce controller estimates in two parts for each facility—a staffing standard allowance and a trainee allowance, or pipeline. These models may understate controller requirements for the following reasons:

- First, the staffing standard allowance does not fully capture the complexity of a controller's work load or changes to that work load. Lag times in the budget and aviation forecast processes also affect the accuracy of FAA's staffing estimates. In developing new standards, FAA needs to recognize problem areas in its current methodologies.
- Second, certain assumptions in the models do not reflect current operating conditions in the field. FAA has assumed that staffing can be reduced because centers operate with eight shift schedules and supervisors work as controllers at least 8 hours per month. We found that this is not always the case.
- Third, FAA has also underestimated the staffing needed to provide a training pipeline of controllers. We found that the allowances provided do not adequately factor in either actual attrition or potential future losses from retirements or career progression.

Finally, FAA uses orders rather than computer models to determine the number of personnel other than controllers and ATAs (overhead) that facilities need. These orders do not adequately account for differences in facility work load, which can affect staffing requirements. In addition, reduced funding for these positions has limited field managers' flexibility to provide services.

How FAA's Current Staffing Standards Were Developed

FAA's terminal and center staffing models produce requirements for FPL controllers and ATAs. In fiscal year 1987, FAA's standards projected the need for 7,392 controllers and ATAs at terminals and 6,754 at centers, for total controller and ATA staffing of 14,146. These estimates were projected in two parts—a staffing standard allowance and a pipeline allowance—for each facility.

Terminal Standard

The current terminal staffing standard was developed by FAA personnel using a form of work sampling adapted to the air traffic environment. Observations of controllers' work pace were taken at randomly selected times by controllers trained in the data collection process. Correlation analysis was used to establish five regression formulas relating employee-hours to air traffic operations for each of the five levels of

airport terminals. Each terminal's staffing is based on air traffic operations for the 183rd busiest traffic day (average day). FAA headquarters computes the average hourly staff needed based on the applicable regression formula for that terminal.

Center Standard

FAA's center staffing standard was developed by a contractor using an automated time and motion study approach. Controller and ATA tasks were identified, and then controllers performing these tasks were timed during different periods of the day using hand-held "event recorders." Certain activities deemed to be most significant to work load were used in developing the model's formulas. Annually, each center submits aircraft activity tapes for the 37th busiest day (90th percentile day) to FAA headquarters for use in generating staffing requirements. The computer model calculates staffing requirements (in 15-minute increments) for each center's sectors on the 90th percentile day. These sector requirements are then combined to reach total staffing for each center.

As with past FAA staffing standards, adjustments are made to the formulas in both standards to provide for noncontrol duties such as leave and training and reduced staffing coverage for weekends when there is less air traffic. In addition, other adjustments are made to the center standard for the number of shifts and for time spent by supervisors working as controllers. Finally, a separate allowance for a training pipeline is added to a facility's final staffing allocation. Table 2.1 shows the basic assumptions in FAA's terminal and center standards.

Table 2.1: Assumptions in Current Staffing Standards

Assumption	Center standard	Terminal standard
Work load	Total number of aircraft entering, leaving, and passing through a sector and aircraft minutes per sector	Average hourly operations
Day measured	37th busiest day (90th percentile day)	183rd busiest day (Average day)
Growth	Facility specific air traffic forecast	Facility specific air traffic forecast
Available time	1,690 hours available for position less lunch + breaks = 1,373 hours productive time per controller	1,680 hours available for position less lunch + breaks = 1,365 hours productive time per controller
Workday	Up to a maximum of 8 shift start times per day	Up to 16 hours of operation with midnight shift staffing for 24 hour facilities
Training pipeline	9 percent	6 percent

Staffing Standards Do Not Accurately Reflect Work Load

FAA's staffing standards estimate the number of controllers required to meet projected work load or air traffic. However, FAA's standards do not adequately account for the complexity of work load, especially for terminals, or planned changes to work load.

In addition, while staffing projections can never be exact, limitations to the current standards' methodologies may cause the standards to inaccurately reflect needs. As a result, FAA's standards understate actual staffing needs.

Complexity Has Not Been Adequately Captured in Standards

A controller's work load is based on three factors—the volume, density (number of aircraft handled at one time), and complexity of air traffic operations. We found that FAA's staffing standards may not adequately reflect complexity—what the aircraft being controlled are actually doing. For example, aircraft that are both climbing and descending in a controller's airspace create a more complex situation than if aircraft are maintaining a constant altitude.

FAA has not incorporated a specific complexity factor into either the terminal or center standard. FAA headquarters officials said that while the center standard does not have a specific complexity factor, complexity is captured in the standard's work measurements of different sectors and, therefore, is adequately reflected in the center standard. We could not verify this point, however, because headquarters was unable to identify which specific sectors were measured in developing the standard.

Field officials are not as confident as headquarters that complexity has been adequately addressed. Four of the six regions we contacted (Great Lakes, Northwest Mountain, Southern, and Western Pacific) believe that current staffing projections do not adequately reflect complexity. For example, in its comments on headquarters proposed fiscal year 1988 staffing, the Southern Region pointed out that the terminal standard does not consider the complexity of satellite airport operations or the heavy military activity that affects the Miami Terminal operation. Similarly, the Western Pacific Region pointed out that the biggest problem with FAA's current staffing standards is that they are based solely on the number of air traffic operations and thus cannot capture complexity of operations. According to the manager of Chicago's O'Hare Terminal, complexity caused by the high number of crossing runways at O'Hare airport was a major determinant of controller work load and needed to be factored into the standards.

Both headquarters and the field may be correct on the complexity issue. Standards developed by compiling work measurement data from many different locations, as was done for the center standard, tend to capture complexity but average it out. As a consequence, locations with very complex work loads can receive too little staff based on the standard.

Standards Do Not Adequately Reflect Changes to Work Load

Once FAA calculates historical controller work load, it factors into the standards estimated aviation traffic growth and anticipated future changes to work load. Using these estimates, it projects the work load, and hence the number of controllers needed, for each fiscal year. However, we found two problems with these projections: (1) FAA's recent aviation growth forecasts have been less accurate than past forecasts and (2) because, for budget purposes, work load estimates must be made months in advance, the resulting time lag can affect the estimates' accuracy. As a result, the standards do not adequately anticipate additional staffing needs resulting from growth and changes in work load.

- Aviation Growth Forecasts. In June 1987, the Secretary of Transportation announced that because of higher than projected traffic growth, FAA required additional controllers. FAA underestimated aviation growth in fiscal year 1987 by 3 percent and had to amend its 1988 budget request to reflect increased staffing needs of 400 controllers. Such inaccurate growth forecasts concern regional and facility officials, who fear that increasing air traffic at selected terminals will require more controllers than the standards' projections provide. For example, officials at the Phoenix TRACON, where growth was particularly rapid, were concerned that the need for controllers would outstrip the staffing standard's projections in less than a year.
- Budget Process Time Lag. FAA does not adjust its staffing projections to account for lag time in the budget process. Air traffic growth forecasts published in February are used in April to make staffing projections for the next budget year (current budget year plus one)—i.e., forecasts issued in February 1988 result in projected controller levels for fiscal year 1990 (Oct. 1, 1989, through Sept. 30, 1990). No provisions are made in the process for changes in work load during that time. For example, although nine new terminal control areas[1] were being planned in spring 1987, FAA's amended 1988 budget requested no additional controllers to handle the work load these new control areas created when they were approved in August 1987. Regional officials contend that because FAA's

[1] A terminal control area is controlled airspace from the surface upward within which all aircraft are subject to operating rules, pilot rules, or equipment rules.

staffing standards do not anticipate changes to work load, they produce inadequate staffing levels. According to a Northwest Mountain Region official, since the standards do not capture changes in the air traffic environment, the region must negotiate with headquarters to obtain needed resources in a timely manner.

Problems With Methodologies Used in FAA's Standards

While staffing standards cannot be exact work measurements, we have identified problem areas in FAA's current methodologies that FAA needs to recognize in revising its standards. These areas involve (1) the choice of traffic day to measure, (2) time and motion studies, and (3) use of combined sector data.

- Traffic Day Measured. Reacting to assessments that it was overstaffed for nonpeak periods, in 1985 FAA changed the activity day on which terminal staffing is based from the 37th busiest day of the year (90th percentile day) to the 183rd busiest day (average day). As shown in table 2.2, this change can represent a large difference in work load for some facilities. We found that using an average day understates staffing needs at most terminals because it (1) does not allow for staffing of coordinator positions[2] and (2) increases overtime usage. According to TRACON managers, although controllers generally work radar positions without a coordinator, coordinators are needed in order to reduce operational errors and handle increased levels of air traffic. Moreover, three of the seven terminal facilities we visited more than doubled their overtime usage in fiscal year 1987. Recognizing a problem with overtime expenditures nationwide, FAA plans to change its basis for terminal staffing from the average day of the year to the 90th percentile day when it revises the terminal standard.

[2]These positions are important during peak traffic operations because these controllers handle the coordination that is required between controllers when control of an aircraft is transferred to adjoining airspace.

Table 2.2: Comparison of Average and Busy Day Air Traffic—1986

Facility	Average day	90th percentile day
Chicago O'Hare	3,038	3,363
Miami	1,804	2,006
Minneapolis	1,093	1,340
New York TRACON	4,497	5,396
Philadelphia	1,566	1,789
Phoenix TRACON	2,001	2,227
Salt Lake City	719	892

Note: Fiscal year 1986 traffic was used as the basis for fiscal year 1988 staffing projections.

- Limitations to Time and Motion Study. FAA used a time and motion study to develop its current center standard and plans to revise the terminal standard using the same methodology. Controller actions measured on a given day may not adequately reflect work load aberrations caused by weather, flow control, or other restrictions such as runway construction. Another air traffic branch in FAA headquarters attempted to use time and motion studies to help define work load in the past, but it discarded the results because of the difficulty of adequately accounting for factors such as weather conditions. It will be especially important that FAA field test the results of its new terminal standard to determine whether work load aberrations can be accommodated within projected staffing levels. (The issue of validating the staffing standards is discussed in more detail in ch. 3.)
- Combined Sectors at Centers. The center standard generates staffing requirements based on tapes of air traffic activity for a 90th percentile day. We found that because of staffing, some centers were unable to open all of their approved sectors on the 90th percentile day and had to combine adjacent sectors into a larger piece of airspace. According to headquarters officials, the model would generate additional staffing—six or seven controllers—for a combined sector to capture this work load. It is important that FAA's standards generate staffing that will allow facilities to operate as configured. If combining sectors limit the air traffic handled by a center, however, the model may not generate sufficient staffing. According to a Chicago Center official, the facility combined 4 of its 42 sectors because of inadequate staffing; as a result the standard generated 58 fewer people (350 versus 408) than would have been generated had the center been able to open all of its sectors.

Staffing Standards Do Not Comport With Actual Field Conditions

Once controller and ATA staffing are calculated, FAA makes adjustments to staffing based on assumptions about field operating conditions. Our work shows that some assumptions in FAA's current models do not accurately reflect actual field conditions, particularly the assumptions that (1) centers work eight shifts per day and (2) less staffing is needed since center supervisors work control positions. This inconsistency between the models and the field's actual operating environment could be corrected by changing either the models' assumptions or the field's operations.

Assumption on Shifts Does Not Reflect Facilities' Schedules

To reduce the number of controllers needed to cover peak work load, FAA headquarters allocates center staffing according to an "optimal shift schedule" by assuming that centers use up to eight shift starting times per day. FAA believes that the use of such a shift schedule allows managers greater flexibility to tailor shifts to meet peak traffic periods using fewer controllers. Staffing spread over eight shifts generates the need for about 4 percent fewer controllers than staffing based on traditional three shifts. Because of shift overlap, fewer total controllers are needed to cover work load by the end of a day.

Most of the centers we visited worked less than eight shifts and therefore would require either more staff than provided by headquarters or increased overtime to handle peak traffic. For example, of the seven centers we visited, four generally operated with three shifts (Chicago, Minneapolis, New York, and Washington), one operated with four shifts (Boston), one with five shifts (Miami), and one with eight shifts (Atlanta).

Eight shifts may not be practical for all facilities. According to New York Center officials, three shifts matches staffing with the center's peak traffic periods. Because of commuting problems in the New York area, multiple shifts are more difficult to manage and have a "human resource" impact. According to the manager of the Washington Center, multiple shifts created problems in getting appropriate supervision and communication with controllers. Washington Center is planning to return to three or four standard shifts after experimenting with more shifts in some areas.

FAA headquarters has not explained to center managers that staffing allocations are based up to eight shifts. According to headquarters officials, only regional directors received a general briefing on the staffing standards. It was assumed that these data would be passed on to facility

managers who would, in turn, contact regional management if staffing-related problems arose.

Some Supervisors Are Not Working Control Positions as Required

After FAA's center standard generates staffing requirements, these figures are reduced to account for time spent by first-line supervisors working as controllers. However, we found evidence that first-line supervisors were not working as controllers as often as required and centers have not set up tracking systems to verify the extent to which supervisors spend time controlling air traffic. Moreover, while terminal supervisors are also required to spend time controlling air traffic, FAA has not reduced terminal staffing to account for this time.

FAA policy requires first-line supervisors to rotate through all positions on which they are certified each month and to spend at least 16 hours monthly, or 10 percent of their time, actually controlling traffic. According to FAA, this is done so that supervisors retain currency and a full appreciation of the controller's work environment. According to FAA headquarters officials, half of the 16 hours, or 8 hours per month, is factored into the center staffing standard. This adjustment results in a decrease of about two controllers for most centers.

Facility spot-checks and FAA headquarters evaluations have shown that not all first-line supervisors are spending the required time controlling air traffic. According to Minneapolis Center officials, a recent check of time spent by first-line supervisors working control positions showed a range from a low of 1.7 hours to a high of 28 hours in a 30-day period. A recent headquarters evaluation of Boston Center also reported that four of the six supervisors checked had not worked the required time.

We found that most centers had not established a tracking system to verify that first-line supervisors are actually controlling air traffic. Of the seven centers we visited, only one had established a tracking system for verifying when supervisors control air traffic. Miami Center stresses these requirements and has established a monthly tracking system to verify that supervisors and controllers detailed to staff positions are controlling air traffic at least 16 hours per month. In January 1988, Atlanta Center instituted a similar system.

Pipeline Allowance Inadequate to Meet Staffing Requirements

After the staffing standard numbers are generated, FAA adds in an allowance for new or developmental controllers[3] at each facility; the allowance is called the training pipeline. The purposes of a pipeline are, first, to ensure that trained controllers are available when FPL controllers leave, and second, to provide additional FPL staffing to meet increasing work loads.

We found that FAA has underestimated its training pipeline needs because (1) actual facility attrition has been higher than the allowance, (2) the pipeline is not future-oriented and does not anticipate future losses from retirements or career progression, and (3) the pipeline does not take into account the fact that facilities need additional controllers to make up for FPL shortages. As a result, facilities are operating in a "high training, catch up" mode and have lost flexibility because experienced FPL controllers are being replaced by developmental controllers.

Actual Attrition Has Been Higher Than FAA's Pipeline Allowance

In order to fulfill the pipeline's purposes, sufficient controllers must be in training to replace attrition and handle growth. Moreover, because of the long training period to become an FPL controller and failures during training, FAA needs to ensure that it is hiring more than a one-to-one replacement ratio for attrition. FAA calculates its controller pipeline allowance based on past national attrition rates for FPL controllers plus attrition of trainees in the field. In fiscal year 1987, FAA added to each facility's allocation a controller staffing allowance of 6 percent for terminals and 9 percent for centers for a pipeline.

Recent attrition rates have been significantly higher than these allowances. At the facilities we visited, we found that the average fiscal year 1986 attrition rate for FPL controllers was 15 percent at terminals and 13 percent at centers. In 1987 this attrition rate averaged 17.5 percent for terminals and 13.1 percent for centers. Facilities then experienced additional losses of trainees. For example, in addition to losing 22 percent of its FPL controllers, Boston Center lost 9 of its 85 developmental controllers (10.6 percent) in fiscal year 1986. Table 2.3 shows FPL attrition for each of the facilities included in our review.

[3]Developmental controllers include all persons undergoing initial screening and training at the FAA Academy as well as persons being trained at field facilities.

Table 2.3: FPL Attrition at Sample Facilities

Figures in percent

Facility	Fiscal years	
	FY 1986	FY 1987
Center		
Atlanta	9.9	8.4
Boston	21.6	13.4
Chicago	5.2	6.5
Miami	18.4	21.5
Minneapolis	6	11.6
New York	22.4	21.9
Washington	9.6	10.2
Terminal		
Chicago O'Hare	11.1	21.3
Miami	5.6	22.7
Minneapolis	20	14.7
New York TRACON	14.5	10
Philadelphia	18.2	18.9
Phoenix Tower	21.4	42.9
Phoenix TRACON	12.9	11.4
Salt Lake City	36.8	22.7

FAA's pipeline also does not take into account the fact that facilities need additional developmental controllers to make up for FPL shortages. Field officials complained of this problem during the 1978 investigation by staff of the House Appropriations Committee. The current standards assume that work load is performed by fully qualified personnel and do not add staffing for facilities staffed below this FPL level.

Pipeline Does Not Adequately Reflect Anticipated Losses

FAA's pipeline is not future-oriented because it does not consider potential future losses from retirements or career progression. Several centers we visited had a large number of FPL controllers eligible for retirement at the end of 1987. Compounding this problem at the facilities we visited, we found that nationwide about one-third of area supervisors are eligible to retire. Vacancies in the supervisory ranks will be filled from FPL controllers, leaving new controller vacancies and a 2- to 3-year process before a trainee can become an FPL controller. Several regional and terminal managers told us that FAA does not adequately anticipate losses as controllers progress in their careers. According to Southern Region officials, the region prefers to send trainees to low activity terminals to

gain experience. However, these officials believe that the terminal standard does not recognize the need to maintain pipeline positions in low activity terminals to allow for merit promotion and retraining when controllers move from lower complexity to more difficult facilities. According to the Salt Lake City terminal manager, staffing allowances do not reflect the fact that Level IV terminals are stepping stones for controllers aspiring to move on to Level V terminals. This manager explained that the facility has a high, steady turnover rate and therefore relies heavily on the pipeline to keep its staffing levels high. The magnitude of current field training places significant demands on facilities. As of December 31, 1987, about 4,400 controllers were in some stage of field training. Some facility managers told us that managing training has become more difficult because of the large number of developmental controllers currently in the system. On-the-job training of these developmentals is labor-intensive because it requires either an FPL or, in some cases, a qualified developmental instructor to work with and monitor each trainee being checked out on a position.

FAA headquarters officials acknowledged that there are problems with the controller training pipeline and they plan to reexamine this formula. While little has been done to change FAA's pipeline calculation since 1980, FAA is currently working on a program that will enable it to look at historical gains and losses, using personnel system data.

Authorized Overhead Staffing Does Not Meet Operational Needs

FAA orders establish maximum limits for overhead positions, such as supervisors and quality assurance specialists, at terminals and centers. We found that these limits are not adequately linked to a facility's work load and thus may understate or overstate a facility's needs. Budget reductions have also caused a shortage of overhead staffing at field facilities. As a result, limited overhead staffing has affected facility managers' flexibility in effectively managing operations and providing services.

Facility Needs Differ From Staffing in FAA's Orders

Overhead staffing allowances established in FAA's orders exceed some facilities' needs and understate others because they do not provide resources linked to work load. For example, officials at two centers said that their traffic management operations would require less staff than the 20 traffic management coordinators called for in FAA's orders. On the other hand, a recent headquarters evaluation of the Atlanta Center pointed out the need for increased quality assurance staffing because of the center's heavy work load. The evaluation report also noted that

FAA's overhead order authorizes staffing without regard to a facility's traffic volume.

Little relationship exists between a facility's work load and its overhead staffing. Centers handling about 1 million operations per year (level II) receive approximately the same overhead staffing as those handling over 2 million operations (level III). FAA considers the figures provided in its orders as maximum staffing allocations, but it allows a facility to apply for an exemption for special needs. Table 2.4 is an example of the staffing limits for selected overhead positions at centers.

Table 2.4: Examples of Overhead Staffing Allowances for Centers

Position	Number of positions		
	Level I	Level II	Level III
Quality assurance specialist	2	3	3
Military operations specialist	2	2	3

FAA Plans to Revise Overhead Staffing Orders

FAA officials told us that the orders defining overhead staffing are being revised. According to a headquarters official, the current orders are simply a staffing guide based on "what someone, at some time, thought was reasonable." However, FAA's planned revisions to these orders address organizational changes at centers and terminals and will not address our concerns that facility overhead staffing should be better linked to relative work load.

Headquarters officials acknowledged that it may be necessary to review the orders to see what areas have changed and adjust staffing allowances accordingly. FAA has also adopted a recent GAO recommendation that FAA revise the definition of the controller work force to include those who are responsible for separating and controlling air traffic, including first-line supervisors and traffic management coordinators.[4] FAA should consider developing staffing requirements for these positions that are better linked to facility size and work load. In November 1987 testimony before the House Subcommittee on Investigations and Oversight, FAA's Administrator stated that FAA is developing staffing standards for supervisory and traffic management coordinators.

Headquarters officials also stated another problem—that FAA cannot obtain sufficient funding to cover all needed overhead positions. FAA had been reducing its overhead air traffic staffing until the fiscal year 1988

[4]GAO/RCED-88-14, October 23, 1987.

budget request in which the Secretary of Transportation requested 175 additional overhead positions. The Secretary stated that the key to successful operation of the air traffic control system is not just the addition of more controllers, but also the addition of on-site support staff such as supervisors and traffic management coordinators to manage the system.

Regions and field facilities we contacted believe that there is a shortage of overhead staffing. For instance, in fiscal year 1987, the Western Pacific Region requested 785 overhead positions but was allocated only 695 positions by FAA headquarters, 90 positions fewer than requested. According to a regional official, the situation is not expected to improve in fiscal year 1988. Facility managers were filling some positions on a temporary basis with controllers. For example, Miami Center had taken three controllers from the control floor and detailed them to unauthorized positions on its military operations staff, in order to provide adequate service to the military and not affect other users.

Conclusions

Current and accurate staffing standards are critical for estimating controller staffing needs. While they will never be precise measurements of staffing, FAA needs estimates that managers and controllers agree reasonably reflect needs. Reliable standards would also assist the Congress in determining the appropriate levels of funding for FAA to receive.

FAA's current staffing standards do not accurately reflect work load or actual field conditions. As a result, they often understate the staffing required for terminals and centers. FAA needs to reconcile the inconsistency between its standards and field conditions either by changing the standards' assumptions or changing the way that the field operates. Further, if FAA continues to assume that supervisors are working as controllers 8 hours per month and therefore reduces the number of controllers authorized to a facility, then (1) tracking systems should be in place to verify that supervisors are meeting this requirement and (2) this reduction should be applied equally to both terminals and centers. In our opinion, ensuring that supervisors can control air traffic also has implications beyond the staffing standards for air safety since supervisors would be expected to step in to assist in emergency situations. (Ch. 4 discusses a number of options FAA could consider in revising its staffing standards.)

FAA's controller pipeline does not fulfill its objective of having trained controllers available when FPL controllers leave. Rather, FAA replaces FPL controllers with developmental controllers because it has not provided

enough trainees to cover attrition. Actual attrition at terminals and centers has been significantly higher than FAA's pipeline allowance. To help correct this situation, we believe that FAA's pipeline formula should anticipate potential future losses from retirements and career progression.

Finally, FAA's overhead staffing allowances are not adequately linked to differences in facilities' work loads. While FAA plans to revise its orders on overhead staffing, more consideration should be given to the relative needs of facilities. In addition, reduced funding for overhead staffing has limited facility managers' flexibility to effectively manage operations and provide services.

Recommendations

We recommend that the Secretary of Transportation direct the Administrator, FAA, to:

- Revise the terminal and center staffing standards to better reflect actual field operations. (Specific options to capture complexity and work load are discussed in ch. 4.)
- Require field facilities to establish tracking systems to verify how frequently supervisors and other staff are working as controllers.
- Refine the controller pipeline formula to reflect both historical attrition and anticipated losses. For example, the pipeline allowance could (1) cover a percentage of either the budget year's or a future year's retirement-eligible controllers and (2) include additional positions for lower level terminals, which serve as training grounds for controllers who progress to higher level terminals.
- Base its overhead staffing requirements on operational needs and facility work load.

Agency Comments

The Department of Transportation said that FAA has recognized the need for accurate staffing standards and has expended a great deal of effort in this area. The Department said that FAA has an ongoing process of reviewing and revising standards as needed. FAA has recognized the shortfalls in existing standards and, anticipating needed changes in these standards, has requested authority to hire more controllers than the standards projected.

Transportation generally agreed with our recommendations and said it has intiated actions in most of these areas. However, it took exception to

our casting "a negative light on the technical merits of the standards, which is undeserved."

We believe, however, that our report reflects a number of technical problems with FAA's controller staffing standards. FAA's standards are made up of several elements which are interdependent. These elements are (1) measurements of existing work load, (2) projections of future work load, (3) shift coverage, and (4) allowances for noncontrol time. Because these factors are interdependent, a deficiency in any one element can have a corresponding effect on the accuracy of the other elements and the final results of the standards. For example, when FAA underestimated aviation growth in 1987 by only 3 percent, it affected work load projections in the standards. FAA needed a budget increase of 400 additional controller positions to meet its revised work load. Headquarters has not paid sufficient attention to all the elements in the standards and has not been as active as it should be in ensuring that the standards reflect changing work loads and in obtaining feedback on the accuracy of the standards. According to Transportation, FAA is making a $5-million investment in industrial engineering support for staffing standards development and revision. As stated in chapter 4, initially this considerable investment will be used to redo the terminal standard and will not address weaknesses in the center standard. FAA's center standard cannot readily capture the changes to a controller's functions that will occur because of FAA's modernization efforts. FAA's methodology will require new data collection (on-site measurements of controller actions) at a number of facilities and modifications each time that a new air traffic system is introduced.

In response to our specific recommendation that FAA revise the staffing standards to reflect actual field operations, Transportation states that FAA is revising the terminal standard and plans to initiate periodic updates of both standards beginning in fiscal year 1989. We believe such periodic updates are essential to maintain the credibility of FAA's standards. Transportation said that on the issue of complexity, we have not identified what FAA should do to improve the standards. We disagree. Chapter 4 identifies three ways that FAA could directly reflect or credit a facility's complexity by applying weights in the staffing standard formula for factors such as number of instrument landing approaches or existence of a terminal control area. We offer these options in chapter 4 for FAA's consideration and do not view it as our role to prescribe specifically which option FAA should pursue.

Transportation agrees with our recommendation that field facilities should track how frequently supervisors and other staff work as controllers and will discuss this at the next meeting of regional air traffic managers.

According to Transportation, FAA has revised the training pipeline to reflect potential losses from retirements. We have reviewed FAA's new formula and believe that it still is not future-oriented and does not accurately capture attrition. Rather than calculate an attrition factor and then add an allowance for retirement eligibles, FAA only factored past retirees into its overall attrition.

What we are recommending is that FAA look ahead to the budget year or beyond. For example, FAA could determine from PMIS how many controllers and supervisors are eligible to retire in 1992; if about 25 percent of those eligible have historically retired, then FAA's allowance should provide sufficient trainees in earlier years to replace this 25 percent by 1992. Second, FAA has measured its attrition as a percentage of operational controllers rather than FPLs. In very few cases would a controller below the FPL level retire from FAA. Losses should be compared with the applicable work force from which they came. Third, FAA's formula assumes that 60 percent of GS-7 controllers and 70 percent of GS-9 controllers pass their training within 6 months. On an annual basis, FAA should monitor whether these assumptions vary from the percent and timing of actual attrition of GS-7's and GS-9's in the field. In the past, when FAA's pipeline formula was established, it was maintained unchanged for long periods without reexamination.

According to the Department, regions have the authority to assign training pipeline positions to lower level facilities if these facilities are viewed as steps in career progression. While regions have this authority, we believe they are unlikely to assign positions in this manner unless (1) sufficient pipeline positions are available that such distribution would not penalize other facilities in the region and (2) headquarters supports this concept of career progression or "seasoning" by also funding needed relocations as controllers move to other facilities.

Finally, Transportation states that FAA is reviewing staffing requirements for supervisors and traffic management coordinators. However, FAA believes that these staffing requirements have been based on appropriate work load factors, which are not necessarily the same as those for controllers. FAA's overhead staffing allowances do not adequately reflect operational needs because, while work load is initially a consideration,

FAA's orders then set limits on the number of positions a facility can have. For example, FAA is revising its allocation for traffic management coordinator positions to be based on the number of areas in a center plus positions for functions such as departure and arrival sequencing. This is an accurate reflection of work load for a traffic management unit. However, FAA's order states that no more than 20 coordinator positions are allowed. Without this restriction, a center with six areas of specialization would be entitled to 24 coordinators and a center with seven areas, such as Atlanta Center, would be entitled to 27 coordinators. In short, FAA has taken its work load based overhead staffing and imposed limitations which cause these allowances to understate work load.

Process Used to Determine Air Traffic Staffing Needs Revision

FAA headquarters uses the staffing standards to develop budget requests. For the past several years, the Congress has authorized additional staffing over what FAA has requested and what was projected by the standards because it believes FAA has underestimated its staffing requirements. These higher staffing levels have offset the impacts that staffing to the level of FAA's standards could have had in the field.

In addition to the standards understating the staffing needed to support the air traffic control system, other aspects of the process used to determine staffing needs are faulty:

- Standards currently in use have not been officially published in an FAA order, as required, and are not well communicated to officials in the field. Regional and facility managers do not understand the standards and are not using them for staffing or other internal management purposes.
- Regions and facility managers have developed their own formulas and processes for estimating staffing needs. The standards are not credible to the field and energy is being devoted to developing staffing requests that are not consistently based.
- Regular revalidation of the basic data in the staffing standards is needed to keep them current and accurate, but FAA has not updated them nor established a process to do so. Recognizing deficiencies in projections from its current terminal standard, FAA plans to redo this staffing standard over the next 2 years.

Congressional Actions Have Offset Impacts of Staffing Standards

Recent congressional actions have offset some of the problems that could have been created by FAA's controller staffing standards. As shown in table 3.1, in fiscal year 1987 the Congress authorized staffing for about 1,100 more positions than called for in the staffing standards. For fiscal year 1988, the Congress authorized over 1,200 additional positions.

We have reported in the past that the growth in air traffic activity has caused work load to reach a point where controllers are stretched too thin.[1] We believe that FAA would have experienced more serious impacts from reduced controller staffing levels if the Congress had not authorized additional staffing. Even at higher staffing levels, some facilities believe they are understaffed.

[1] Aviation Safety: Serious Problems Concerning the Air Traffic Control Work Force, GAO/RCED-86-121, March 1986.

Table 3.1: Controller and ATA Staffing Levels

	Fiscal years			
	1987	1987	1988	1989
Authorized positions	15,000	15,225	15,900	16,800[a]
Budget request	•	15,000	15,805 15,225	(amended) (original)
Staffing standards	14,200	14,146	14,657	15,030

[a]1989 request is for controllers, supervisors, and traffic management coordinators.

Facility managers at both centers and terminals believed that they could handle existing air traffic even if they had only the number of controllers projected by the staffing standards. However, they could not operate in other respects as they do now without the additional controllers provided by the Congress. Had staffing not been increased, they predicted other impacts, such as the elimination of all controller training and denial of requests for annual leave. Lower staffing levels could also produce an even greater increase in overtime, reduced levels of service, increased flight delays, and deterioration in controller morale.

Staffing levels are having a negative effect in the field and may not be sufficient to meet staffing needs. FAA experienced a nationwide increase in overtime expenditures in fiscal year 1987 as compared with fiscal year 1986, because of increased overtime at terminals. Our field work also shows that FPL controllers are receiving less refresher training at field facilities than is provided for in FAA's staffing standards due, in part, to the need to use FPL controllers on the control floor. Moreover, according to facility managers at locations staffed above the standard, additional resources are still needed because FPL controller staffing is below optimum, overtime expenditures continue at high levels, and new work load is not factored into existing authorizations.

In recommending increased staffing, the Senate Appropriations Committee cited "substantial shortcomings" in FAA's system for determining its controller staffing requirements. In addition to the technical problems with the standards we discussed in chapter 2, the process for determining staffing has created other concerns.

Staffing Process Established in FAA Orders Is Not Being Used

FAA headquarters stopped using its officially published staffing standards and process at the time of the 1981 controllers strike. It has implemented a new process and standards that were neither well communicated to the field nor officially published. This process no longer incorporates input directly from field facilities. Such input was eliminated as the staffing standard methodologies became more sophisticated, requiring mainframe computer applications.

FAA uses the staffing standards for budget planning but has not used them for other management purposes. In particular, FAA has not used the standards to project the impacts of modernization of the national airspace system.

Current Staffing Process Does Not Follow 1980 Order

FAA's 1983 staffing standards order calls for standards that are suitable for use in the agency's budget process and requires their publication in a separate FAA order. The last officially published staffing standards for air traffic personnel are contained in FAA Order 1380.33B, dated March 10, 1980. This order describes the process that is supposed to be used in developing annual budget estimates for air traffic staffing requirements. As detailed in the order, in October of each year, facilities submit prior year staffing and work load data to the regions. These data include work load and position staffing information. The regions review and verify the facility documentation and submit it to headquarters, along with data on regional staffing needs. In November, headquarters makes computer applications of the staffing standards to these work load data and generates staffing requirements for each facility. These requirements are then forwarded to the regions for use in developing annual budget estimates.

The process currently used, however, does not follow the procedures laid out in FAA's order. Instead of requesting data on staff needs at the facility level, headquarters requests that centers submit computer tapes of a 90th percentile day's traffic to be used in running the model. Terminal facilities routinely submit air traffic activity data through their respective regions to headquarters. However, facilities no longer provide assessments of their staffing needs directly to FAA headquarters.

The air traffic activity data for centers and terminals are fed into the headquarters computer model along with annual aviation forecast data. The resulting computer projection is the controller work force staffing for the budget year. FAA headquarters adds to this base number to provide a pipeline of trainees. These numbers represent the initial facility

staffing allocations that FAA headquarters provides to the regions for comment.

As discussed later in this chapter, the regions comment on headquarters' initial allocations using a variety of methods. Headquarters officials told us that regions suggest small changes to the allocations—"ones and twos"—to meet the special needs of individual facilities. Once an appropriation is passed and after considering regional comments, FAA headquarters provides final staffing allocations, which in many cases are again adjusted by the regions. To make these adjustments, regions must weigh the relative needs of their facilities and, in some cases, redistribute positions from one facility to another. We found that both the suggested and final regional changes were often much larger than headquarters stated. Table 3.2 illustrates the differences between the fiscal year 1987 staffing standard and final regional allocations for our sample facilities.

Table 3.2: Staffing Standard v. Final Fiscal Year 1987 Staffing Allocations for Sample Facilities

Facility	Staffing standard	Final allocation	Increase (decrease)
Centers			
Atlanta	458	410	(48)
Boston	254	307	53
Chicago	328	394	66
Miami	214	233	19
Minneapolis	258	235	(23)
New York	278	288	10
Washington	354	409	55
Terminals			
Chicago O'Hare	91	102	11
Miami	58	75	17
Minneapolis	49	52	3
New York TRACON	125	174	49
Philadelphia	54	56	2
Phoenix	64	65	1
Salt Lake City	39	43	4
Total	**2,624**	**2,843**	**219**

Staffing Standards Underutilized as a Management Tool

We found that FAA headquarters was using the standards for resource allocation and in the budget process, but not for various other functions and activities that are specified in the 1983 order. This order cites several internal management processes for which staffing standards "can and should be used," such as assigning work, developing shift schedules, identifying the need for training or procedural changes, determining staffing impacts for proposed changes in programs, and planning for future staffing requirements.

Most of the FAA managers at the regions and facilities we contacted did not understand the current standards. Therefore, they were not using them for other internal management processes. Headquarters officials acknowledge that facility managers do not have a complete understanding of the staffing standards and process, but they believe only a general understanding of them is needed. However, we found that even this basic understanding was lacking at the facilities we visited, given that several facility managers were not aware that FAA's standards had been revised since the air traffic controllers strike. FAA's Associate Administrator for Administration testified that while FAA has not done as good a job as it should have to let managers know what is in the staffing standards and how to use them, FAA plans to share more with them in the future.

Staffing Standards Not Used to Project Productivity Savings

This underutilization of the standards also applies to FAA's plan to modernize the national airspace system (NAS). FAA has not used its controller staffing standards to project productivity savings from the NAS Plan. According to the FAA contractor responsible for ensuring the integration of NAS Plan projects, given the unknown nature of future air traffic operations, FAA did not believe that its staffing standards could adequately reflect future operations. The NAS Plan assumes that modernization will double controller productivity by the year 2000; therefore, estimated staffing requirements were cut in half. However, delays in the NAS Plan's implementation will offset productivity savings for several years. For example, the next major system expected to produce significant savings is consolidated air traffic control (sector suites) which has been delayed to the late 1990s. Even though projections from FAA's staffing standards understate requirements, they exceed the staffing levels published in the NAS Plan. For example, the NAS Plan estimates total air traffic staffing of 17,850 in 1990 as compared with over 20,000 projected by the staffing standards. Thus, the NAS Plan significantly understates the staffing needed to operate the air traffic control system during its modernization.

Regions and Field Facilities Use Various Methods in Assessing Staffing Requirements

Many facility managers view the staffing numbers generated by the standards as having little credibility or meaning in relation to their actual needs. In some cases, regions have devised their own methods for allocating resources to facilities. We found that none of the six regions we sampled was using the current staffing standards to assess staffing requirements. Moreover, only one region and its facilities were using the same method to estimate staffing needs. The method they used, however, was FAA's 1980 staffing standards.

Current Staffing Standards Lack Credibility in the Field

FAA's regions are responsible for using staffing standards as the basis for evaluating facility staffing requests and distributing available staff to field facilities. Headquarters expects the regions to use their expertise and knowledge of facility operations in conjunction with the staffing standards. However, five of the six regions in our sample are not satisfied with the staffing standards process because, in their view, the standards either lack credibility or do not fully reflect actual conditions.

The Eastern, Southern, and Western Pacific Regions maintain that the current staffing standards do not adequately reflect work load complexity. Great Lakes and Northwest Mountain Regions identified problems in understanding the staffing standards. Great Lakes regional officials stated that there are "no real staffing standards" because the basis for headquarters' staffing allocations could not be determined. A sharp contrast also exists between the views of headquarters and field facility officials on FAA's controller staffing standards, with headquarters officials describing the standards' staffing levels as "roughly right" while field managers we visited described them as inadequate.

Regions Use a Variety of Methods in Commenting on Headquarters Allocations

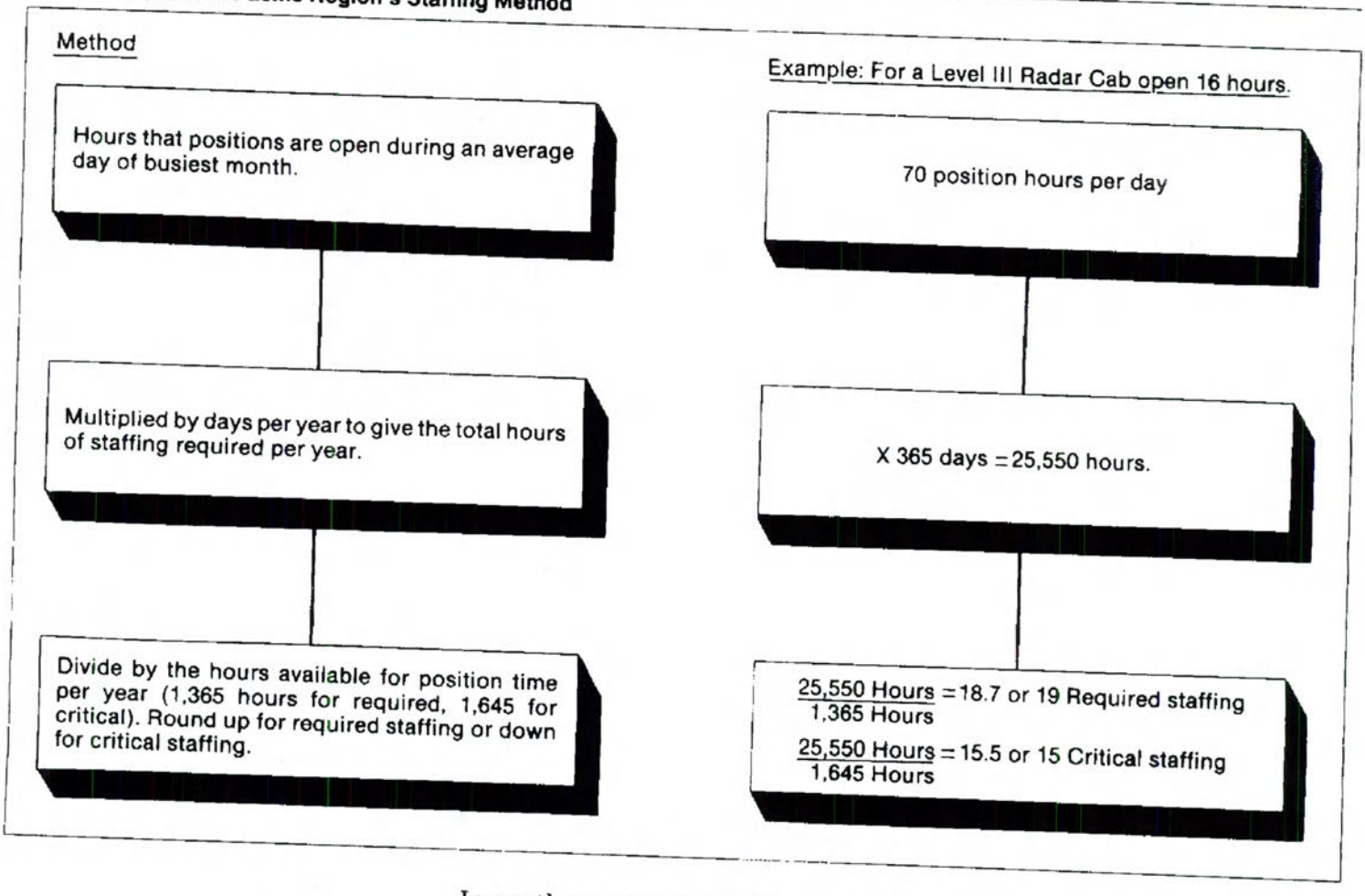
None of the six regions we contacted was using the current standards for staffing. One region was using the 1980 staffing standards and the other five were using their own processes.

The Southern Region and the facilities we visited in this region use the 1980 staffing standards to estimate staffing requirements because the region believes that these standards are credible and reflect actual staffing needs. Regional air traffic staff review and validate the facilities' annual staffing requests, by comparing air traffic activity data with information contained in the facility requests.

The five remaining regions—Eastern, Great Lakes, New England, Northwest Mountain, and Western Pacific—have devised alternative methods

to estimate staffing requirements. For example, the Western Pacific Region developed a staffing methodology combining elements of both the 1980 and 1985 standards. Facilities are required to submit estimated staffing requests which, when totaled, become the basis for the region's staffing request to headquarters. (See fig. 3.1.) The region also uses these results to distribute final staffing allocations to individual facilities. The region developed this process in response to facility managers' complaints that their staffing allocations, based largely on FAA's staffing standards, were inadequate to meet facilities' needs. In fiscal year 1988, using this method, the region's staffing request was 7.5 percent greater than the staffing standards' allocations.

Figure 3.1: Western Pacific Region's Staffing Method



In another example, the Eastern Region initiated a special team validation effort to support its controller staffing requests because the allocations headquarters was providing were not adequate to meet the

region's needs. The region was particularly dissatisfied with the allocations for its terminal facilities. Teams were sent to each terminal in the region to validate managers' staffing requests and determine the region's staffing needs. The teams' work became the basis for both a regionally developed staffing formula and the Eastern Region's fiscal years 1987 and 1988 staffing requests.

Facilities' Input to Regions Based on Different Methods

The 15 facilities we visited use a variety of methods other than the staffing standards to assess their staffing needs. One facility manager uses part of the current FAA staffing standard, namely the adjustment factor, and the other 14 use different methods, including the 1980 standards or their own formulas. Managers use these alternative methods because they view the current staffing standards as unrelated to actual field operations, are not aware that standards exist, or do not know that FAA no longer uses the 1980 staffing standards.

Revalidation and Feedback Mechanisms for Controller Staffing Standards Have Not Been Established

According to FAA's 1983 order, staffing standards must be continuously maintained to ensure that they are current and accurate. A formal feedback process is also required. However, FAA has not revalidated the existing controller staffing standards, nor has it established a formal process to directly solicit facility manager feedback. Thus, the standards do not reflect current operational needs and conditions, as we discussed in chapter 2, and many facility managers view themselves as being left out of the decision-making process.

Review and Validation of the Standards Have Not Been a Priority

FAA's 1983 order requires that the Office of Management Systems review staffing standards at least every 2 years to consider whether changes in such things as procedures, program priorities, technology, or personnel mix have had an impact on the standards. It also requires that a new standard be field tested or validated. Such reviews have not been done. Headquarters officials acknowledge that they have not validated the basic assumptions in the standards, such as the allowances for controller training and leave and the work measurements used in the standards' formulas. The contractor who developed the 1985 center standard for FAA had recommended that it review and validate this standard each year by collecting new timed-motion data from three centers. New data, the contractor stated, would capture changes in the air traffic environment and make it easier to plan for the costs of maintaining the standards on a regular basis.

FAA headquarters officials said that the current standards have not been validated because (1) the air traffic control system has been in a "state of flux" since the 1981 strike with a large number of controllers in training, (2) headquarters is satisfied with the center standard, (3) the terminal standard was never finalized, and (4) of other budgetary priorities. We believe that these explanations do not justify FAA's delay in validating the standards. First, headquarters officials cannot state when for purposes of staffing, the system may stabilize. Second, FAA cannot afford to be complacent regarding any staffing standard since values in the standards can become outdated within a year. Third, although FAA considers the terminal standard to be in draft form, it has been used for budget purposes since fiscal year 1986. Finally, while contract support funding for the Office of Management Systems has declined, resources will always be limited and it is up to FAA management to determine what has priority.

Formal Feedback Seen as Unnecessary

Under FAA's 1983 order, regions are responsible for identifying the need for changes in the staffing standards through "formal feedback processes" or through evaluation of the standards' use and impact. FAA has not established a formal feedback process for these standards. However, headquarters officials told us that they continually receive informal feedback from the field regarding operational conditions. For fiscal year 1988, headquarters also solicited comments from the regions on its proposed staffing standard allocations for consideration in determining the final allocation. We believe that informal, ad hoc feedback on operational conditions is not an adequate substitute for the formal, regular input of facility managers regarding both the currency of the standards and the continuing validity of the assumptions on which the standards are based. Informal feedback does not ensure that all managers have an opportunity to voice their concerns. Moreover, without a formal feedback system headquarters cannot be held accountable for changing the standards to respond to field concerns.

Conclusions

Actions by the Congress to increase controller staffing have compensated for inadequate staffing projections from FAA's standards. Therefore, the field has experienced no direct impacts from the staffing standards.

FAA's current staffing standards are rarely used outside of FAA headquarters. Since the standards and process currently used have not been well communicated to the field, field managers who do not understand

the controller staffing decisions made by headquarters use different methods to estimate their staffing needs. Moreover, the existing air traffic staffing standards order does not reflect the process or formulas actually used to estimate staffing needs.

FAA's controller staffing process is no longer as interactive as in the past because it no longer incorporates direct field facility input. This has contributed to inaccuracy in the standard's staffing projections as well as frustration on the part of field managers who do not feel as though they are participating in the staffing process. We believe that staffing should be justified on a consistent basis. Moreover, the field's use of different methods to estimate staffing needs and the overall credibility problem with the standards do not help to support a "team approach" to managing FAA's programs and activities as advocated by FAA's Administrator.

Finally, although required under FAA policy, FAA has not established a formal method to update and validate its air traffic staffing standards. Periodic review of these standards is needed to better capture changes in facilities' work environments and to ensure that the standards' projections are relevant and accurate. (Ch. 4 discusses several ways FAA could validate and obtain feedback on its staffing standards.)

Recommendations

FAA needs to improve the process that it uses to determine air traffic controller staffing requirements. To do this, we recommend that the Secretary of Transportation direct the Administrator, FAA, to

- establish and use a formal validation process to ensure that the standards are accurate and current,
- establish a formal feedback process for communicating with facility managers to ensure adequate consideration of staff needs for each facility,
- update the 1980 order on air traffic staffing standards to reflect the standards and process actually used by FAA, and
- train facility managers on the staffing standards and process and in ways to use the standards to maximize resource utilization.

Agency Comments

Transportation agrees with all of the recommendations in this chapter. The Department said that the issue of a formal validation and feedback process will be addressed at the next regional air traffic managers conference and incorporated into directives. FAA plans to update its 1980 order on the air traffic staffing standards within the next year.

FAA has also begun discussions on the best approach to provide training on the standards to field managers. The staffing standards development process will be part of a new videotape presentation. In addition, FAA is proposing that staffing standards be included as part of all management training. We commend FAA's efforts in this area and believe that such efforts could go a long way toward improving the field's understanding of the role and utility of staffing standards.

Options to Revise FAA's Controller Staffing Standards and Process

Our work has highlighted a number of problems with FAA's controller staffing standards and staffing process. This report has recommended that FAA (1) revise its staffing standards to make them more reflective of actual conditions in the field and (2) improve the staffing standards process. This chapter presents several options for FAA to consider in correcting deficiencies in its standards and in its current staffing standards process. These options are not mutually exclusive; more than one will need to be implemented to ensure that problems with the existing standards are corrected.

Goals for FAA's Staffing Standards

In considering the following options to revise its controller staffing standards, FAA should use several criteria in addition to its overall national objectives for staffing standards—to be "highest quality . . . accurate and current" standards, commensurate with costs. The options should provide flexibility to regional management; should result in standards that can be easily understood; and should involve a methodology that can be used for future years. Continually redoing staffing standards is a costly process because it costs money and because, in redoing its standards, FAA has not gained the support of the work force that its measures are reliable and credible. Further, FAA's current reassessment of the terminal standard will not produce a long-term standard. FAA officials have testified that modernization of the national airspace system will again require new standards, but we believe that methodologies are available which could capture technological changes with minimum revisions to the standards.

Options to Revise FAA's Controller Staffing Standards

FAA could employ a number of methods to make its controller staffing standards more reflective of actual field conditions. These methods range from adopting new work measurement techniques to returning to the use of the 1980 staffing standard.

Use Different Work Measurement Techniques

FAA plans to revise its terminal staffing standard using the timed-motion study methodology and the contractor who developed the center standard. This work is expected to be completed in 2 years at an estimated cost of $1 million. FAA expects to have a final standard in early spring 1990, to be used in the budget process for fiscal years 1991 and 1992. As discussed in chapter 2, this methodology will take timed measurements of controller performance at various terminals throughout the country. Depending on such variables as weather, traffic, and special needs, this

methodology may not accurately capture a facility's work load. And, as we have discussed, any adjustments headquarters makes after these measurements are taken should reflect field operations.

Rather than adopting this approach, FAA could adopt or begin to plan for other methodologies. One of these is dynamic simulation—computer simulation of the air traffic control environment at particular facilities. This methodology would most closely capture the actual work load and environment at facilities. However, FAA is in only the early stages of modeling the air traffic system. Increasing the use of dynamic simulation for controller training is one of the Administrator's priorities for 1988.

Another approach would be to measure the functions performed by controllers rather than the time spent on these activities. In preparing for modernization of the NAS, FAA has already contracted for such a study to determine national airspace system capacity. The consulting firm's report identifies discreet elements of a controller's job in terms of actions a controller performs. Software is being developed to use this methodology to identify controller performance limitations, that is, the maximum number of aircraft a controller should handle. An advantage of this methodology is that it takes each discreet function and builds staffing values sequentially. It would allow for staffing values to be modified as new equipment takes over functions formerly done by controllers. Although this report was contracted for another reason, its methodology would provide FAA with a vehicle to link both its staffing projections and its planning for modernization.

Incorporate a Complexity Factor Into the Standards

A controller's work load is best captured in the volume, density, and complexity of the aircraft handled. However, FAA's current standards do not specifically factor in the complexity of a facility's operation. Although FAA had discussed ways to approach this issue in 1984, no consensus was reached on how to incorporate complexity into the current standards. FAA believes that when the terminal standard is revised by doing a timed-motion study at TRACONS, complexity will be reflected in the standard.

FAA could specifically provide for complexity by adding a factor into its standards, similar to the adjustments now made for leave and supervisors controlling air traffic. This factor could be based on

- the types of services provided at an individual terminal, such as monitoring approaches to satellite airports;
- training requirements for specific facilities—for example, the number of instrument landing approaches and terminal control area procedures that a controller must master; or
- what functions a controller actually provides for each aircraft that is being handled, to distinguish between more complex traffic patterns, such as flights requiring special handling or the number of radar vectors provided.

A weighting scheme or scale could be developed to reflect these conditions. FAA officials believe that this would add more subjective judgments into the standards. We recognize the difficulty in accounting for complexity but believe that it is a vital component of a controller's job and, therefore, should be incorporated into the staffing standards.

Adopt Position-Based Staffing Formulas

Staffing for needed shift coverage on each operating position was the basis of some prior FAA standards and most closely reflects what a facility manager considers in evaluating staffing needs. In fiscal year 1987, two regions we reviewed had adopted this simpler approach to assessing staffing requirements. Both the Western Pacific and Eastern Regions developed formulas to reflect the number of operating positions at a facility and the shift coverage required to staff those positions.

FAA's 1980 air traffic order is a position-based standard. The Southern Region has been using this order since 1980, and facility managers we spoke with believe that the results of the order accurately depict staffing requirements. This order was used for the budget process for the year of the controller strike. It was an attempt to improve the accuracy and credibility of input data from field facilities. One of the biggest criticisms of this and prior FAA standards was that there was no validation process to ensure that managers were not inflating their staffing requests. As discussed in the next section, we believe that FAA could effectively address this problem.

Ways to Validate and Obtain Feedback on the Staffing Standards

FAA has continually redone its controller staffing standards rather than modifying one methodology or approach. We believe that FAA needs to develop ways to obtain feedback and revalidate one standard without starting over with a new methodology each time that problems with staffing projections are identified. Since the 1981 controllers strike, FAA has initiated several evaluation mechanisms that we believe could be

used to monitor staffing requirements. FAA could also choose to adopt a special review process. At a minimum, FAA needs to adopt options that will provide both a feedback and a maintenance process for its standards.

Use Existing FAA Review Processes

Since the strike, FAA headquarters has been unwilling to accept facility managers' judgments of their staffing needs. In 1982, MUMCS criticized FAA's staffing as excessive, in part, because (1) staffing had been provided for positions that headquarters found were not actually used and (2) there was no process for identifying when to establish a sector. This situation changed in 1984 when FAA issued an order—the sectorization program—with criteria for the establishment of full-time sectors in centers. Centers submit air traffic data for regional and headquarters review to support each request that a new sector be established. This review now provides a method for headquarters to verify that center managers have submitted staffing requests that coincide with their authorized sectors. Although no similar program exists for terminals, regions also review the justifications for new operating positions at terminals.

Another ongoing program is FAA's facility evaluation program whereby headquarters and/or the regions visit each air traffic terminal and center at least every 2 years. These evaluations examine how well a facility is adhering to FAA orders and policies. By incorporating the staffing standards in an official order, these evaluation groups would be able to review a facility's work load and staffing submissions to verify that they have been reported accurately. These reviews could also identify staffing problems at facilities.

FAA also sends "tiger teams" to the field to review the operation of traffic management units. These teams could be requested to identify staffing problems that affect traffic management operations, such as the need for coordinators to work control positions because of leave coverage or other staffing requirements.

Initiate Special Staffing Reviews

FAA could also choose to initiate a special review process solely for the purpose of validating staffing requirements. The Eastern Region undertook such a special review in September 1986 to support its staffing request to headquarters. Teams of managers were sent to each terminal in the region to evaluate staffing needs. In several instances the teams'

recommended staffing differed from the facility manager's request. According to the Eastern Region's Air Traffic Division Manager:

> "The 'Team' process, using field managers as key members, proved to be a comprehensive and extremely creditable way to develop and validate our individual facility staffing needs. We recommend a similar approach be used whenever it is necessary to test the practical application of staffing standards at a field facility."

Another potential vehicle for doing special reviews of staffing is the Civil Aeromedical Institute (CAMI), an independent group within the Department of Transportation, which is already used to validate the air traffic screening program at the FAA Academy. Data on trainee attrition are already tracked, and according to a CAMI official, CAMI could monitor all attrition in order to periodically update training pipeline requirements.

Ensure Accountability Through Managers' Performance Appraisal Process

If headquarters is concerned that facility managers cannot be relied on to accurately portray their staffing requirements, there are checks in place to ensure the accuracy of this assessment. Under the Merit Pay program, FAA must annually review the performance of managers. Managers are to be evaluated on their use of agency standards in planning for future needs, and one of FAA's explicit performance objectives could be how well a manager applies the staffing standards to evaluate staffing requirements. In the words of one facility manager, "Headquarters should make managers show how they are using people for air traffic control. Accountability should be expected of facility managers." If such accountability were enforced, FAA could discipline or, if necessary, remove managers who do not accurately report their staffing needs. Conversely, FAA could reward managers who are accurate. Such a policy would serve as an incentive both to use the staffing standards and make realistic staffing estimates and would reinforce recognition of field managers' judgments. In its informal comments, FAA said that although this is a good concept, we have not described how the accuracy of field managers' assessments could be determined. During field facility evaluations described earlier, FAA could verify facility submissions against logs and traffic records.

Require Periodic Feedback From Facility Managers

FAA headquarters officials believe that they have sufficient informal communication with the field to understand the operational impacts of staffing. Feedback in a work measurement system involves several things: a credible reporting system, independent periodic evaluation,

and follow-through. Informal feedback is not a substitute for such a system because it does not provide FAA with sufficient information to judge the validity of its staffing standards and it does not make headquarters accountable for changing the standards. It also does not give field managers a sense of participation and ownership in staffing decisions. We believe that while informal communication is good, FAA needs to establish formal feedback mechanisms that would operate on a regular, periodic basis.

Formal feedback would also provide FAA with assessments of staffing impacts from changes in facility operations and would help indicate when revalidation of the standards is needed. Since the current staffing standards were developed, several procedural changes have been made that affect a controller's work load. Among these are requirements for debriefings upon leaving a control position, reidentification of aircraft entering a controller's airspace, and the implementation of more sophisticated and centralized monitoring of traffic to prevent sector overload. These procedural changes, as well as the introduction of some new equipment, should be reflected in headquarters' assessment of staffing requirements.

Establish a Regular Maintenance Program for the Staffing Standard

Although FAA's 1983 order requires that staffing standards be maintained and reviewed every 2 years, FAA has not established a review process for its controller standards. FAA's order also requires that standards be validated through field tests after their completion. When the center standard was completed in 1985, the contractor recommended that its time study data be updated annually through visits to at least three centers. These visits have not been made. According to FAA officials, funding for the maintenance of standards has been limited. FAA's contractor estimates that regular maintenance of the center standard would cost about $100,000 a year.

The absence of management attention to refinement and revalidation of the controller staffing standards was a problem first identified in a 1978 staff report to the House Appropriations Committee, and it continues to be a problem. Whatever standards are developed for the controller work force will require updating and review to preclude them from becoming outdated. We believe that as part of its reassessment of the staffing standard, FAA should also commit to regular, periodic reviews of these standards.

Conclusions

FAA needs to revise both its air traffic staffing standards and staffing process, and we have presented a number of ways that FAA could accomplish this. The options discussed in this chapter are not meant to be all-inclusive. They do, however, represent alternatives to FAA's plans to develop a new terminal standard without first revalidating the existing center standard. FAA needs to recognize that in adopting the time and motion methodology for both centers and terminals, it is proceeding with the most complex option—a methodology that will not be easy for the field to work with and will require continuous modifications as FAA moves to a modernized NAS. We believe that FAA has an opportunity now to improve relations with controllers by implementing a staffing process that recognizes the expertise of both field managers and work measurement experts. We believe it is FAA's responsibility to determine which options to implement, anticipating that FAA will work toward its goals of having high quality, accurate, and current standards. In addition, we believe that commitment should be made to standards that will continue to provide flexibility to regional management, be understood by field managers and others who must work with the standards, and be usable for the long term.

Description of FAA's Controller Staffing Standards

Table I.1: Chronology of FAA's Staffing Standards

Year	Title of Staffing Standard
1961	Airway Planning Standard Number Five
1973	Air Traffic Staffing Standards System
1978	Staffing Standards Study of Air Traffic Centers and Terminals
1982	Manpower Utilization Management and Control System
1985	Air Route Traffic Control Center Standards (Final) Terminal Staffing Standards (Draft)

Airway Planning Standard Number Five (APS-5)

APS-5 was the first formal air traffic staffing standard. It was published in November 1961. APS-5 assumed that "... almost all traffic control facilities must operate 24 hours daily throughout the year." Since controllers work a 40-hour work week, it recognized the need for an adjustment factor to staff a facility 7 days per week and still allow for annual and sick leave. To accomplish this, FAA multiplied the staffing from this standard by an adjustment factor of 1.58.

The 90th percentile day, which is the 37th busiest day of the year, was selected to represent a "busy day" of aircraft activity—"a day having a volume of traffic which is equal to or greater than the volume during 90% of the days of the year." APS-5 based the number of controllers needed for a facility and the maximum work load for a controller on the following indicators:

- Centers—aircraft handled.
- Nonradar terminal facilities—total operations.
- Radar terminal facilities—total instrument operations.

Center staffing was based on the expectation that a controller could handle a maximum of 80 aircraft per 8-hour shift and 15 aircraft during a peak hour. Terminal staffing was based on a minimum number of annual operations with additional staffing for higher levels of activity. This standard provided an unspecified time period for controller breaks and provided an additional 10 percent relief factor for radar operators to compensate for "stress and tension."

Under this standard, terminal radar facilities received a minimum staffing of 8 to 10 positions to handle 50,000 annual aircraft operations and additional staffing for levels in excess of 50,000. Tower cabs received a base level staffing of five positions per day to handle 25,000 annual operations with additional staffing for levels above 25,000 operations.

In 1970, FAA began using interim regression formulas pending the development of an engineered standard.

Air Traffic Staffing Standards System (FAA Order 1380.33)

Published in 1973, this was FAA's first engineered staffing standard for controllers. A sampling technique was used to measure controller work load on the 90th percentile day and the adjustment factor was increased from 1.58 to 1.6.

Center staffing was based on the following work load factors for the 90th percentile day:

- The type of sector—high or low altitude.
- The aircraft handled—the number of planes entering a sector during an hour period.
- The sector flight time—the average number of minutes an aircraft spent crossing a sector.

The standard's formulas resulted in sector staffing of between one and four controllers. A sector with four controllers became a candidate for resectoring. The center relief allowance factor was 20 percent.

Staffing for terminal radar facilities was based on a formula similar to centers—the number of arrivals and departures per hour and, in the more complex facilities, a calculation for average flight times per position. A 20-percent relief factor was included. The standard was revised in 1976 to include productivity gains from the introduction of new radar systems (ARTS III) at higher activity facilities.

Tower cabs were divided into eight categories, each with a specific formula that translated annual aircraft operations into staffing requirements. This standard did not provide a special relief factor.

1978 House Appropriations Committee Staff Report

The House Appropriations Committee's Surveys and Investigations Staff issued a March 3, 1978, report on FAA's air traffic staffing standard and determined there were significant deficiencies. The report stated that while the staffing standard methodology was conceptually sound, the standard lost credibility because it had not been revalidated in a timely manner. This report questioned the reasonableness of using the 37th busiest day to measure work load because of excess unused shift capacity for centers, which might be reduced by measuring a second peak hour of traffic.

Staffing Standards Study of Air Traffic Centers and Terminals

The Staffing Standards Study of Air Traffic Centers and Terminals was published in December 1978, approved by the FAA Administrator in March 1979, and incorporated into FAA Order 1380.33B in 1980. Its intent was to correct some of the deficiencies reported by the Appropriations Committee staff and to include productivity gains resulting from automation. After studying other busy days, FAA decided to retain the 90th percentile day, but it initiated the use of the average of 2 peak hours in determining shift work load. The standard continued to use the 1.6 adjustment factor and used a relief allowance of 20 percent.

Under this modified engineered standard, center work load factors remained the same as the previous standard—type of sector, aircraft handled, and sector flight time. However, it was determined that controllers could handle a greater work load due to automation; therefore, the maximum staffing for a sector was reduced to three controllers.

The standard eliminated the use of flight times from the terminal standard. Instead, staffing was based on the type of radar position and hourly aircraft volume. Annual operations were converted into cab work load units for tower cabs. The results were applied against a table that indicated positions for different types and levels of terminal facilities.

Manpower Utilization Management and Control System

Published in July 1982, this study was used as an interim staffing standard following the August 1981 controller strike. Designed as a quick fix for FAA's loss of over 11,000 controllers, it included a review and critique of prior FAA standards. The standard provided staffing for average system requirements and assumed that overtime would be used to cover traffic peaks, prime annual leave periods, and other special conditions.

Under MUMCS, the number of center sectors was reduced from 721 to 559 and staffed with two controllers each for the day and evening shifts. (Three controllers per center area were allowed for the midnight shift.) An additional half-person was added to cover the relief factor of 90 minutes allowed for each controller's lunch and breaks. (This 90 minutes approximately equalled the 20-percent relief factor allowed in earlier standards.) Staffing adjustments were made to reduce staffing at centers that experienced lower weekend traffic.

At TRACONs the number of radar positions was also reduced, with one controller provided per position during the day and evening shifts. (The midnight shift was staffed based on one radar position for every five

radar positions on the day shift.) An additional half-person allowance was added as a support position and a 10-percent relief factor was established. Although this standard continued to use the 1.6 weekend and leave adjustment factor, staffing requirements were position based. No adjustment was made for facilities with lower weekend traffic.

Terminal cab staffing was based on a minimum number of "given" positions for different types and levels of facilities. Additional staffing was based on predetermined work load levels. No relief factor was applied for terminal cabs nor was a weekend adjustment factor used.

MUMCS criticized prior standards as attempts to justify existing staffing without considering the appropriateness of that staffing level. MUMCS asserted that staffing levels under previous standards were excessive due to political considerations and that the previous standards did not accurately reflect actual work load or manpower requirements. It also stated that previous standards were very complicated and not well understood by management and therefore had little credibility with managers. MUMCS also stated that previous standards could not be used to evaluate facilities, to develop reliable management information, or to make management decisions.

In spring 1983, the Office of the Secretary of Transportation, with input from OMB, criticized MUMCS for being based on operating positions instead of work load as earlier standards had been. In August 1983, FAA's Administrator approved the MUMCS center standard but requested that the terminal sections of the report be validated.

Changes in Key Assumptions in the Standards

Assumption	1978	1982	1985
Center standard			
Activity day (90th percentile day)	Avg. 2 peak hours		Entire day
Number of sectors	721	559	N/A
People per sector	3	2.5	N/A
Adjustment factor	1.6	1.6	1.73
Shifts	3	3	8
Terminal standard			
Activity day	90th percentile day		Average day
Radar positions	696	579	N/A
People per position	2.5 Up to 6 cab positions	1.5 "Given" cab positions	N/A
Adjustment factor	1.6	1.6	1.74

Consultant Panel Members

Name	Specialty
Raymond Belanger, former FAA Director, Air Traffic Service	Prior staffing
Commander Jimmy Calhoun, U.S. Navy	Military staffing
Gary Church, Aviation Management Associates	
Dr. William Collins, Manager, Human Resources Research Branch, Civil Aeromedical Institute, FAA	Controller stress
Dr. Irwin Lazarus, Senior Vice-President, Metter, Marks and Associates, Inc.	Work measurement
Donald Markwell, Assistant Manager for Airspace and Procedures, Chicago Center, FAA	Enroute centers
Russell Shedd, Manager, Syracuse Tower, FAA	Terminals
Earl Wolfe, Director, Air Traffic Control, American Airlines	Industry needs

Consultant Panel Views on Selected Staffing Standard Issues

Current Standards

- FAA needs to define what level of service or operations it wishes to provide and staff facilities accordingly. Until FAA has determined this, standards are meaningless because they are measuring work load in an artificially constrained environment.
- FAA should return to position-based staffing. Knowledge of the traffic patterns in a sector is what dictates staffing requirements.
- The 90th percentile day may not provide sufficient staffing and should be examined relative to other days to determine where traffic patterns are and whether, because of less "peaks and valleys" during the day, more staffing is needed to accommodate both necessary and noncontrol work.
- Complexity of different facilities' operations would be difficult to capture in the standards.

Pipeline

- FAA should "front-end load" staffing allocations—make a onetime adjustment to correct current staffing deficiencies, that is, take the numbers produced by the staffing standards and increase the allocation by some amount—10 to 15 percent. Increased staffing was seen as needed in the face of increased training and dual operations during air traffic system modernization.
- FAA needs to ensure that staffing cuts are not taken until productivity gains from new systems have been realized. Pipeline allowance can be reduced and attrition can be used to reduce staffing when this occurs.
- The Congress needs to be made more aware of the effects of the budget process on the controller pipeline.

Staffing Standards Process

- FAA's staffing allocations are a product of internal politics since no matter how accurately work load is estimated, how the standards are utilized is a policy decision.
- FAA should return to a simpler, bottoms-up staffing standard. Facility managers and regions should have input to the budget process and update staffing forecasts.
- FAA should project staffing for 3 to 6 years ahead.

Comments From the Department of Transportation

U.S. Department of Transportation

Assistant Secretary for Administration

400 Seventh St., S.W. Washington, D.C. 20590

APR - 1 1988

Mr. Kenneth M. Mead
Associate Director
Resources, Community, and Economic
Development Division
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Mead:

Enclosed are two copies of the Department of Transportation's comments concerning the U.S. General Accounting Office draft report entitled, "FAA Staffing: Improvements Needed in Estimating Air Traffic Controller Requirements."

Thank you for the opportunity to review this report. If you have any questions concerning our reply, please call Bill Wood on 366-5145.

Sincerely,

Jon H. Seymour

Enclosures

Enclosure

Department of Transportation Reply to

General Accounting Office Draft Report

Entitled: "FAA Staffing: Improvements Needed

in Estimating Air Traffic Controller Requirements"

The General Accounting Office (GAO) draft report states that staffing standards are critical for the Federal Aviation Administration (FAA) to determine how many controllers it needs. According to GAO, current standards have not been validated and fall short of accurately reflecting FAA's controller staffing needs, particularly for peak traffic periods and for assuring an adequate training pipeline.

FAA has recognized the need for accurate staffing standards for critical safety areas and has expended a great deal of effort in this area for the past 20 years. This is an ongoing process whereby standards are continually reviewed and revised as needed. FAA recognized the need for updating the standards in the terminal environment, along with the need to validate workload measurements for centers and other field organizations. For that reason, a contract has recently been awarded for $5 million for a 5-year period to provide industrial engineering support for staffing standards development and revision.

FAA has also recognized the shortfalls in existing standards which have been cited by GAO. As it takes an extensive time period to complete a review of a major work force and document new standards, FAA has anticipated the needed changes by requesting budget authority to hire additional controllers beyond what was projected by the standards for immediate needs.

GAO recommends that FAA: (1) revise the terminal and center staffing standards to better reflect actual field operations; (2) require field facilities to establish tracking systems to verify how frequently supervisors and other staff are working as controllers; (3) refine the controller pipeline formula to reflect both historical attrition and anticipated losses; (4) base its overhead staffing requirements on operational needs and facility workload; (5) establish and use a formal validation process to ensure that the standards are accurate and current; (6) establish a formal feedback process for communicating with facility managers to ensure adequate consideration of staff needs for each facility; (7) update the 1980 order on air traffic staffing standards to reflect the standards and process actually used by FAA; and (8) train facility managers on the staffing standards and process and in ways to use the standards to maximize resource utilization.

The Department generally agrees with the recommendations. We have already initiated action in most of these areas. We do not agree with the documentation provided by GAO to support these recommendations and believe that they cast a negative light on the technical merits of the standards, which is undeserved. Responses to the recommendations are listed below. Detailed comments with regard to specific statements contained in the body of the report will be informally provided to GAO under separate cover.

Enclosure

Recommendation 1: The FAA is in the process of revising the terminal staffing standard to reflect the workload on the 90th percentile day of the year, making it consistent with the center staffing standard. We plan to initiate periodic updates of both standards beginning in fiscal year 1989, assuming the enactment of sufficient funding to do so.

Capturing complexity of field operations, which is also included in this recommendation, is an issue which the FAA is continually addressing. We are somewhat hampered in responding to this issue as GAO has not made clear what it would have us do in this area which we are not already doing. We have had the participation of air traffic working groups providing technical input on the relevant factors needed to develop standards and participating in the design and development of the standards. These working groups have spent a great deal of time discussing and researching the issue of complexity, including what constitutes complexity, and how it should be factored into the staffing standards. In each case, we have followed their guidance.

Recommendation 2: We agree with GAO that field facilities should be utilizing a tracking system. This subject will be addressed at the next Air Traffic Division Managers' Conference.

Recommendation 3: The FAA has already updated the training pipeline to reflect losses based on retirement eligibility of the work force. We have also included in this update an allowance for projected growth. If, as reported by GAO, regional managers feel that lower level facilities should be used as stepping stones to higher level facilities, they have the authority to assign the training pipeline positions to those locations.

Recommendation 4: FAA is currently reviewing the staffing requirements for supervisors and traffic management coordinators. GAO suggests that FAA has not considered appropriate workload factors in assigning positions for other than the controller work force. The implication is that for incremental traffic increases, the staff positions should be increased along with the controller positions. FAA believes that the staffing requirements in these areas have been based on appropriate workload factors for those positions (which are not necessarily the same as those for controllers).

Recommendations 5 and 6: We agree with GAO and will address the mechanisms of a formal validation and feedback process at the next Air Traffic Division Managers' Conference and will include them in appropriate directives.

Recommendation 7: We agree with GAO that FAA Order 1380.33B, Air Traffic Staffing Standards Systems, dated March 10, 1980, should be updated. We plan to issue a revised directive within the next year.

Recommendation 8: We agree with GAO that training on the staffing standards process would be beneficial. We have begun the process of meeting with regional resource management staffs to assure that they have an understanding of the standards and to discuss the best approach for accomplishing the training for field managers. We have submitted a proposal to the Center for Management Development to have staffing standards included as part of all management training. The subject will also be addressed at the next Air Traffic Division Managers' Conference. Also, we are preparing a videotape for presentation to facility managers on the staffing standards development process.

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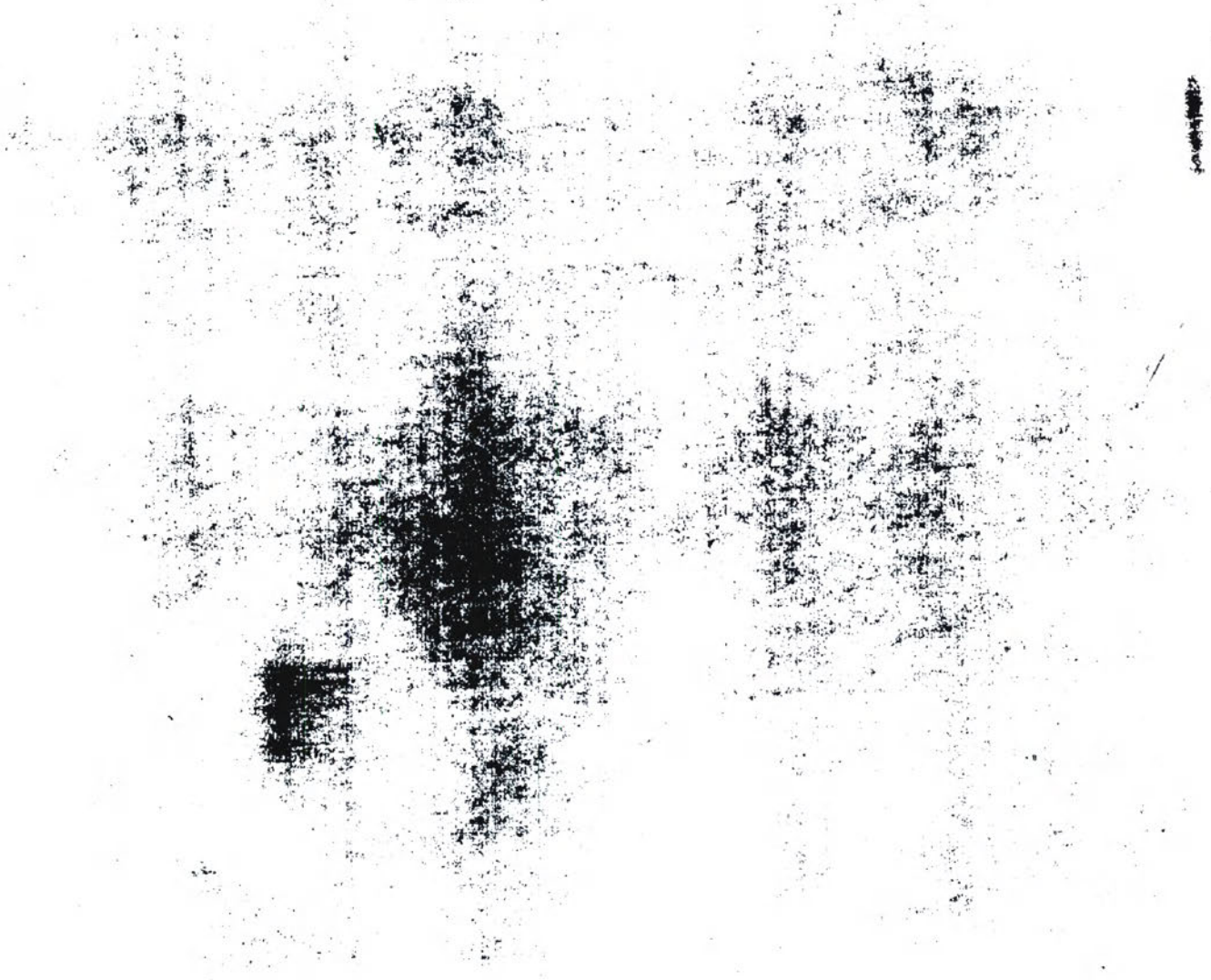
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Fact Sheet for the Chairman, Subcommittee on Transportation and Related Agencies, Committee on Appropriations, United States Senate

May 1987

FAA STAFFING

Air Traffic Controllers' Work Load and Operational Performance





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Resources, Community, and
Economic Development Division

B-222217

May 6, 1987

The Honorable Frank R. Lautenberg
Chairman, Subcommittee on Transportation
and Related Agencies
Committee on Appropriations
United States Senate

Dear Mr. Chairman:

In accordance with your March 12, 1987, letter and subsequent discussions with your office, we obtained information on certain aspects of the air traffic control work force and operational performance within the Federal Aviation Administration (FAA), Department of Transportation. In our February 27, 1987, testimony on Chicago's Air Route Traffic Control Center and O'Hare Airport before the Subcommittee on Government Activities and Transportation, House Committee on Government Operations, we provided information on, among other things, air traffic activity, controller and traffic management unit staffing, and operational performance.

Our February 27 testimony stated that because of shortages of full performance level (FPL) controllers at the Chicago facilities, controllers and their supervisors were concerned about their ability to maintain system safety. Retirements, training attrition, and increased air traffic had contributed to an increased work load at these facilities. Overtime usage was increasing in fiscal year 1987 to meet the need for more on-the-job training. Operational errors at the O'Hare tower had increased between 1985 and 1986. Furthermore, because of inadequate flow control procedures and minimum staffing of traffic management units at these facilities, Chicago's existing traffic management system relied on controllers' judgments as to how much traffic they could safely handle. Thus, we supported the recommendation of the National Transportation Safety Board that both controller capabilities and airport capacity be considered in determining appropriate levels of air traffic.

This fact sheet provides information on 15 other centers and 25 terminals. Specifically, sections 2 through 8 provide data on air traffic activity; FPL controller staffing; first line supervisor staffing; traffic management unit staffing; overtime; field training attrition; and operational performance.

Generally, the data indicate that while FPL controller staffing is below 1981 pre-strike levels, FAA is making progress in increasing its controller work force at these locations. However, staffing levels at nearly all facilities are below currently authorized levels. Including Chicago O'Hare, FAA projects that fiscal year 1987 overtime use will increase at 13 terminal facilities and 3 centers, and will decrease at 13 terminals and 13 centers, including Chicago center. Also, according to FAA data, 10 percent or more of the on-board controllers and supervisors at many centers are eligible to retire.

As agreed with your office, we did not analyze the effects of these conditions at these locations. These statistics by themselves should not be considered as the only factors that bear on the efficiency and safety of the air traffic system. Other variables can influence a location's efficiency and margin of air safety, such as weather, the amount of air traffic, and the level of expertise of the resident air traffic controller work force. We are currently examining the issue of controller capabilities as part of an evaluation of FAA's air traffic controller staffing standards.

As discussed in greater detail in section 1, we selected facilities using a judgmental sample, and therefore, these facilities may not be representative of all air traffic facilities nationwide. Specifically, we selected facilities primarily on the basis of (1) staffing of traffic management units at centers or (2) at least a 20 percent increase in air traffic activity from June 1981 to June 1986. Personnel data were collected from FAA's Personnel Management Information System and payroll systems, and from individual facilities through telephone interviews. Operational performance data were obtained from FAA's Offices of Air Traffic Evaluation and Analysis and Aviation Safety. The data presented in this fact sheet were provided by FAA. We have not independently verified them. We did our work during March and April 1987.

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We discussed the data in this fact sheet with FAA officials and their comments have been incorporated, as appropriate. As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this fact sheet until 30 days from the date of this letter.

At that time, we will send copies to the Secretary of Transportation, FAA's Administrator, and other interested parties. If you have any questions about this fact sheet, please call Herbert R. McLure, Associate Director, on (202) 275-7783 or me at (202) 366-1743.

Major contributors to this fact sheet are listed in appendix I.

Sincerely yours,

Kenneth M. Mead
Associate Director

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ABBREVIATIONS

FAA	Federal Aviation Administration
FPL	full performance level (controller)
GAO	General Accounting Office
N/A	not applicable
PMIS	Personnel Management Information System
TRACON	Terminal Radar Approach Control facility

SECTION 1
OBJECTIVES, SCOPE, AND METHODOLOGY

On March, 12, 1987, the Chairman, Subcommittee on Transportation and Related Agencies, Senate Committee on Appropriations, requested that we survey major air traffic control facilities for information on controller staffing, retirements, work load, training, and other safety indicators. This request followed our February 27, 1987, testimony on the Chicago Air Route Traffic Control Center and the Chicago O'Hare airport before the Subcommittee on Government Activities and Transportation, House Committee on Government Operations. This fact sheet provides similar information with some additional data for other major facilities as we provided on these Chicago facilities. Specifically,

-- Section 2 presents data on the growth in air traffic activity,

-- Section 3 presents data on Full Performance Level (FPL) controller staffing,

-- Section 4 presents data on first line supervisor staffing,

-- Section 5 presents data on traffic management unit staffing,

-- Section 6 presents data on overtime,

-- Section 7 presents data on attrition of new Federal Aviation Administration (FAA) Academy graduates received at each field facility, and

-- Section 8 presents operational performance data.

As requested by the Chairman's office, information from the Chicago testimony is included in this fact sheet. With some exceptions, we have updated the Chicago data and added information for Chicago that was not presented in our February 27, 1987, testimony.

We selected facilities on the basis of a judgmental sample, and, therefore, these facilities may not be representative of all facilities nationwide. Specifically, we used three criteria related to traffic management unit staffing and increased air traffic activity. First, we selected all air route traffic control

centers with 10 or less traffic management unit staff,[1] given that 10 was the average staffing for these units as of February 1987. Second, we selected all high activity (level 4 and 5)[2] terminal facilities and (level 3)[3] centers that have experienced at least a 20 percent increase in air traffic activity between the pre-controller strike period (January to June 1981)[4] and the comparable period January to June 1986. Third, we selected all high activity terminals and centers which were in the same metropolitan area as the facilities selected under the first two criteria. Facilities in New Jersey, New York, and Philadelphia were included at the Chairman's request.

For each facility we collected data on staffing levels for FPL controllers (fully certified to work all positions of traffic control in a defined area), first line supervisors, and traffic management units, including data on overtime, training of developmental controllers, and actual retirements (1986 and 1987) as well as the number of on-board staff who were eligible to retire. We also collected information on the percent of actual time currently being spent by supervisory and traffic management unit personnel directly controlling air traffic at each facility.[5] We also gathered information on safety indicators--operational

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[1]Traffic management unit staffing was used as a selection criteria because FAA has identified these local units as a safeguard to preclude controllers from being overloaded. Traffic management units are responsible for monitoring traffic flow and ensuring that safe levels of air traffic are not exceeded. These coordinators are selected from the ranks of FPL controllers. Our data reflects staffing for coordinators and unit supervisors only.

[2]Terminal levels are determined based on a facility's hourly traffic density factor. A level 4 terminal has an hourly density factor of 60 or more limited radar approaches and 60 to 99.9 radar approaches. A level 5 terminal has an hourly density factor of 100 or more radar approaches.

[3]Level 3 centers are defined as those with an hourly density factor of 275 or more.

[4]The 6-month period January to June has been used as a basis for comparison because it reflects the last two complete quarters of FAA data prior to the August 1981 controllers' strike.

[5]FAA policy requires both traffic management coordinators and first line supervisors to spend at least 10 percent of their time working air traffic in order to retain currency and a full appreciation of the controllers' work environment.

errors[6] and runway (surface) incursions,[7] operational deviations,[8] and near mid-air collisions. We compiled this information during March and early April 1987.

Personnel data were collected from FAA's Personnel Management Information System (PMIS), payroll, and other systems, and from individual facilities through telephone interviews. Specifically, table 3.1 has been taken from FAA's PMIS data. All other tables have been constructed from telephone information or a combination of telephone data and official FAA data, and sources have been noted where appropriate. In table 3.2, we contrasted the data we received by telephone for FPL controller staffing with FAA's PMIS data. We specifically asked facilities how many controllers were fully certified to work all positions of traffic control in a defined area as of February 28, 1987. The PMIS data on the number of FPLs differs from our responses. The data also show an improvement in FPL staffing levels from June 1986 through February 1987.

The operational performance data in section 8 were obtained from FAA's Offices of Air Traffic Evaluation and Analysis and of Aviation Safety as of February 28, 1987. Near mid-air collision data are essentially voluntarily reported by a pilot or flight crew member. For reporting purposes, FAA allocates (codes) near mid-air collisions to the closest FAA airport facility regardless of whether the facility was involved in the incident. Table 8.3, therefore, presents these data by FAA facility. However it is important to note that these incidents may not (1) be the responsibility of that particular facility, (2) be the responsibility of any FAA facility, and (3) include all incidents within each facility's airspace. Only those near mid-air collisions classified as "critical" or "potential"[9] have been

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[6]An operational error is defined as an occurence attributable to an element of the air traffic control system which results in less than the applicable separation minima between two or more aircraft or between an aircraft and terrain or other obstructions.

[7]Runway or surface incursions are errors occurring on the ground.

[8]An operational deviation is defined as an occurence where applicable separation minima was maintained but less than the applicable separation minima exists or when an aircraft or controlled vehicle penetrates airspace or a landing area that is delegated to another aircraft without prior approval.

[9]Critical: A situation where collision avoidance was due to chance rather than an act on the part of the pilot. Less than 100 feet separation would be considered critical. Potential: An incident that would probably have resulted in a collision if no action had been taken by either pilot. Proximity of less than 500 feet would usually be required in this case.

presented. FAA officials noted that this data should not be considered a reflection of the safety of the air traffic control system because non-controlled aircraft can be involved in these incidents.

We discussed the data in this fact sheet with FAA headquarters officials. These officials were concerned that data provided by telephone from the field facilities may not be comparable either because questions were asked differently or individual managers could interpret our questions differently. To control and standardize the data collection effort, all telephone discussions were done by two GAO staff. In addition, FAA headquarters provided the questions in writing to the field prior to our telephone interviews. We believe these procedures minimized problems in interpreting our requests. We recognize, however, that the data presented in this fact sheet have not been verified.

SECTION 2
AIR TRAFFIC ACTIVITY

Table 2.1: Growth in Air Traffic Activity
(January to June 1981 to January to June 1986)

Centers	Percent change
Albuquerque	15
Atlanta	28
Boston	16
Chicago	7
Cleveland	17
Fort Worth	-11
Houston	- 8
Indianapolis	10
Jacksonville	11
Kansas City	21
Los Angeles	14
Miami	12
Minneapolis	23
New York	20
Oakland	12
Washington	24
Terminal facilities	
Atlanta	19
Baltimore-Washington	46
Boston	9
Burbank TRACON	40
Charlotte	39
Chicago	50
Cleveland	1
Dallas-Fort Worth	22
Detroit Tower	31
Edwards Air Force Base	16
Houston	-10
Indianapolis	1
Jacksonville	11
Kennedy	3
Kansas City	7
La Guardia	8
Los Angeles Tower	7
Los Angeles TRACON	7
Miami	1
Minneapolis	37
Newark	58
New York TRACON	44
Oakland TRACON	21
Philadelphia	2
San Francisco	25
St. Louis	30
Washington National	- 4

SECTION 3
FPL CONTROLLER STAFFING

Table 3.1: Pre- and Post-Strike FPL Controller Staffing[a]

Centers	Staffing levels 7/31/81	6/30/86	Percent change
Albuquerque	215	173	-20
Atlanta	340	263	-23
Boston	260	132	-49
Chicago	337	169	-50
Cleveland	422	210	-50
Fort Worth	317	205	-35
Houston	281	195	-31
Indianapolis	282	128	-55
Jacksonville	287	194	-32
Kansas City	273	187	-32
Los Angeles	217	167	-23
Miami	194	120	-38
Minneapolis	230	132	-43
New York	344	176	-49
Oakland	195	121	-38
Washington	352	233	-34
Terminal facilities			
Atlanta	104	77	-26
Baltimore-Washington	44	27	-39
Boston	64	27	-58
Burbank TRACON	41	20	-51
Charlotte	45	42	- 7
Chicago	81	74	- 9
Cleveland	49	22	-55
Dallas-Fort Worth	93	77	-17
Detroit	63	49	-22
Edwards Air Force Base	28	17	-39
Houston	67	52	-22
Indianapolis	51	26	-49
Jacksonville	53	23	-57
Kansas City	49	28	-43
Kennedy	29	20	-31
La Guardia	30	14	-53
Los Angeles Tower	31	21	-32
Los Angeles TRACON	48	32	-33
Miami	82	50	-39
Minneapolis	57	38	-33
Newark	21	19	-10
New York TRACON	124	91	-27
Oakland TRACON	65	44	-32
Philadelphia	66	38	-42
San Francisco	26	20	-23
St. Louis	51	28	-45
Washington National	70	33	-53

[a]Period selected to compare change in air traffic activity (table 2.1) to staffing levels for the same time frame.

Source: PMIS

Table 3.2: 1987 FPL Controller Staffing

Centers	Staffing levels: FY 1987 authorized	As of 2/28/87: PMIS	As of 2/28/87: GAO
Albuquerque	266	183	178
Atlanta	410	298	273
Boston	307	165	134
Chicago	394	185[a]	118[a]
Cleveland	395	221	212
Fort Worth	320	228	220
Houston	289	202	196
Indianapolis	283	139	133
Jacksonville	285	195	201
Kansas City	300	210	199
Los Angeles	287	175	167
Miami	237	140	131
Minneapolis	235	142	138
New York	288	169	174
Oakland	264	137	138
Washington	409	235	232
Terminal facilities			
Atlanta	85	77	66
Baltimore-Washington	55	35	29
Boston	52	33	35
Burbank TRACON	39	23	18
Charlotte	55	43	33
Chicago	102	81[a]	61[a]
Cleveland	38	23	24
Dallas-Fort Worth	94	83	78
Detroit	66	50	48
Edwards Air Force Base	28	20	17
Houston	59	53	49
Indianapolis	36	35	26
Jacksonville	44	30	24
Kansas City	34	30	24
Kennedy	15	15	15
La Guardia	15	15	15
Los Angeles Tower	27	18	14
Los Angeles TRACON	45	33	29
Miami	75	62	45
Minneapolis	52	40	37
Newark	26	23	19
New York TRACON	143	99	91
Oakland	64	49	44
Philadelphia	56	41	34
San Francisco	26	24	20
St. Louis	56	29	27
Washington National	55	39	36

[a]As of January 31, 1987.

Table 3.3: FPL Controller Retirements

Centers	FY 1986	FY 1987[a]	Currently Eligible[b]
Albuquerque	2	0	9
Atlanta	4	6	25
Boston	7	5	19
Chicago	9	3[c]	10
Cleveland	7	5	22
Fort Worth	5	0	18
Houston	2	1	18
Indianapolis	18	0	7
Jacksonville	6	4	18
Kansas City	5	2	15
Los Angeles	1	0	11
Miami	1	2	6
Minneapolis	0	1	4
New York	12	6	12
Oakland	4	1	11
Washington	20	3	15
Terminal Facilities			
Atlanta	2	2	6
Baltimore-Washington	0	0	--[d]
Boston	0	0	3
Burbank TRACON	0	2	--
Charlotte	1	0	--
Chicago	0	0[c]	2
Cleveland	0	0	0
Dallas-Ft. Worth	1	0	5
Detroit	2	0	1
Edwards Air Force Base	0	0	--
Houston	1	0	4
Indianapolis	0	0	--
Jacksonville	1	0	--
Kansas City	1	0	3
Kennedy	0	0	0
La Guardia	0	0	0
Los Angeles Tower	0	0	0
Los Angeles TRACON	0	0	1
Miami	1	0	2
Minneapolis	0	0	0
Newark	1	0	1
New York TRACON	2	0	3
Oakland TRACON	0	0	2
Philadelphia	1	0	2
San Francisco	0	0	1
St. Louis	1	0	3
Washington National	1	0	0

[a] As of February 28, 1987.
[b] Represents the total of those eligible under all FAA retirement programs as of February 28, 1987.
[c] As of January 31, 1987.
[d] Data not available because FAA tracks retirement eligibility data only for major, pacing airports.

SECTION 4
FIRST LINE SUPERVISOR STAFFING

Table 4.1: First Line Supervisor Staffing

Centers	Staffing levels: FY 1987 authorized	Staffing levels: As of 2/28/87
Albuquerque	35	32
Atlanta	49	49
Boston	35	23
Chicago	42	35[a]
Cleveland	42	37
Fort Worth	35	28[a]
Houston	35	35
Indianapolis	28	28
Jacksonville	35	33
Kansas City	35	36
Los Angeles	35	34
Miami	28	22
Minneapolis	30	24
New York	35	34
Oakland	35	36
Washington	42	30[b]
Terminal facilities		
Atlanta	12	11
Baltimore-Washington	9	9
Boston	9	9
Burbank TRACON	7	6
Charlotte	7	7
Chicago	18	11
Cleveland	7	6
Dallas-Fort Worth	13	13
Detroit	11	9
Edwards Air Force Base	5	3
Houston	11	10
Indianapolis	7	6
Jacksonville	8	7
Kansas City	7	7
Kennedy	5	5
La Guardia	5	5
Los Angeles Tower	5	5
Los Angeles TRACON	7	7
Miami	12	12
Minneapolis	10	10
Newark	5	5
New York TRACON	29	22
Oakland TRACON	9	9
Philadelphia	9	8
San Francisco	5	4
St. Louis	9	9
Washington National	9	9

[a]Excludes one supervisor temporarily promoted.
[b]Excludes eight supervisors temporarily promoted.

Table 4.2: First Line Supervisor Retirements

Centers	FY 1986	FY 1987[a]	Currently Eligible[b]
Albuquerque	2	0	11
Atlanta	5	2	13
Boston	2	2	14
Chicago	2	1[c]	22
Cleveland	7	2	21
Fort Worth	8	0	18
Houston	2	1	14
Indianapolis	9	4	8
Jacksonville	2	2	12
Kansas City	0	3	10
Los Angeles	4	0	10
Miami	1	1	13
Minneapolis	0	2	5
New York	5	5	25
Oakland	1	1	10
Washington	14	3	10
Terminal facilities			
Atlanta	0	3	7
Baltimore-Washington	0	0	--
Boston	1	0	0
Burbank TRACON	1	0	--
Charlotte	0	0	--
Chicago	2	0[c]	2
Cleveland	1	0	2
Dallas-Fort Worth	0	0	6
Detroit	1	0	4
Edwards Air Force Base	1	0	--
Houston	0	0	1
Indianapolis	1	1	--
Jacksonville	1	1	--
Kansas City	1	0	1
Kennedy	0	0	1
La Guardia	0	0	0
Los Angeles Tower	0	0	1
Los Angeles TRACON	0	0	0
Miami	0	0	1
Minneapolis	0	0	4
Newark	2	1	1
New York TRACON	3	0	7
Oakland TRACON	1	0	3
Philadelphia	0	0	2
San Francisco	0	0	2
St. Louis	0	0	1
Washington National	1	0	3

[a] As of February 28, 1987.
[b] Represents the total of those eligible under all FAA retirement programs as of February 28, 1987.
[c] As of January 31, 1987.

Table 4.3: First Line Supervisor Control of Air Traffic

Centers	Percent of time (average)	Period and/or traffic level (average)
Albuquerque	18	moderate traffic
Atlanta	10	random basis
Boston	30	light to moderate traffic
Chicago	30	light to heavy traffic
Cleveland	20	all conditions
Fort Worth	10	moderate or less traffic
Houston	10	moderate to heavy traffic
Indianapolis	19	moderate traffic
Jacksonville	10	moderate to light traffic
Kansas City	60	moderate traffic
Los Angeles	60	all conditions
Miami	10	light to moderate traffic
Minneapolis	20	all conditions
New York	40	heavy traffic
Oakland	20	moderate traffic
Washington	10	light to moderate traffic
Terminal Facilities		
Atlanta	20	moderate to heavy traffic
Baltimore-Washington	10	light to moderate traffic
Boston	17	light to moderate traffic
Burbank TRACON	15	moderate traffic
Charlotte	13	light traffic
Chicago	25[a]	all conditions
Cleveland	10	light traffic
Dallas-Fort Worth	20	light to moderate traffic
Detroit	12	light to heavy traffic
Edwards Air Force Base	13	moderate traffic
Houston	20	all conditions
Indianapolis	11	50% light/50% heavy traffic
Jacksonville	13	all conditions
Kansas City	18	all conditions
Kennedy	13	all conditions
La Guardia	12	heavy traffic
Los Angeles Tower	10	all conditions
Los Angeles TRACON	31	heavy traffic
Miami	10	light to moderate traffic
Minneapolis	20	light to moderate traffic
Newark	13	light to moderate traffic
New York TRACON	50	all conditions
Oakland TRACON	25	all conditions
Philadelphia	12	light to moderate traffic
San Francisco	12	moderate traffic
St. Louis	35	all conditions
Washington National	20	all conditions

[a]Range from 10 to 20 percent at O'Hare tower and 30 to 40 percent at O'Hare TRACON.

SECTION 5
TRAFFIC MANAGEMENT UNIT STAFFING

Table 5.1: Traffic Management Unit Staffing--Centers

Centers	Staffing levels		
	As of 2/28/87	FY 1987 authorization	FY 1987 staffing standard
Albuquerque	10	10	21
Atlanta	12	17	21
Boston	9	11	21
Chicago	4[a]	12	21
Cleveland	10	13	21
Fort Worth	11	12	21
Houston	10	11	21
Indianapolis	6	6	21
Jacksonville	9	13	21
Kansas City	9	12	21
Los Angeles	9	15	21
Miami	10	11	21
Minneapolis	11	11	21
New York	17	17	21
Oakland	8	9	21
Washington	17	17	21

[a]Excludes seven temporary details and one part-time reemployed annuitant.

Table 5.2: Traffic Management Unit Staffing--Terminals

Terminal facilities	Staffing levels: As of 2/28/87	Staffing levels: FY 1987 authorized
Atlanta	N/A	
Baltimore-Washington	3	3
Boston	0	3
Burbank	N/A	
Charlotte	N/A	
Chicago	N/A	
Cleveland	N/A	
Dallas-Fort Worth	N/A	
Detroit	N/A	
Edwards Air Force Base	N/A	
Houston	N/A	
Indianapolis	N/A	
Jacksonville	N/A	
Kansas City	N/A	
Kennedy	0	2
La Guardia	0	3
Los Angeles Tower	0	2
Los Angeles Tracon	2	6
Miami	N/A	
Minneapolis	N/A	
Newark	N/A	
New York Tracon	7	11
Oakland TRACON	2	3
Philadelphia[a]	N/A	
San Francisco	2	2
St. Louis	0	3
Washington National	3	3

[a]Three staff have been requested but are not yet authorized.

Table 5.3: Traffic Management Staff Control of Air Traffic

Centers	Percent of time (average)	Period and/or traffic level (average)
Albuquerque	2	moderate or greater traffic
Atlanta	10	random basis
Boston	10	light to moderate traffic
Chicago	1	light to heavy traffic
Cleveland[a]	0	
Fort Worth	10	moderate or less traffic
Houston	10	various times
Indianapolis	5	moderate traffic
Jacksonville	10	moderate to light traffic
Kansas City	8	moderate to heavy traffic
Los Angeles	10	light to moderate traffic
Miami	13	moderate to heavy traffic
Minneapolis	10	various times
New York	10	heavy traffic
Oakland	20	moderate traffic
Washington	9	moderate traffic
Terminal Facilities		
Atlanta	N/A	
Baltimore-Washington	70	all conditions
Boston	N/A	
Burbank TRACON	N/A	
Charlotte	N/A	
Chicago	N/A	
Cleveland	N/A	
Dallas-Fort Worth	N/A	
Detroit	N/A	
Edwards Air Force Base	N/A	
Houston	N/A	
Indianapolis	N/A	
Jacksonville	N/A	
Kansas City	N/A	
Kennedy	N/A	
La Guardia	N/A	
Los Angeles Tower	N/A	
Los Angeles TRACON	0	
Miami	N/A	
Minneapolis	N/A	
Newark	N/A	
New York TRACON	13	light to moderate traffic
Oakland TRACON	25	all conditions
Philadelphia	N/A	
San Francisco	12	moderate traffic
St. Louis	N/A	
Washington National	40	all conditions

[a]Traffic management staff will be assigned to traffic control for 10 percent of their time during moderate activity.

SECTION 6
CONTROLLER AND SUPERVISOR OVERTIME

Table 6.1: Overtime Hours, Fiscal Years 1984-87

Centers	FY 1984	FY 1985	FY 1986	Estimated FY 1987[a]
Albuquerque	15,321	13,851	6,704	1,100
Atlanta	44,136	48,882	33,232	26,653
Boston	4,781	5,162	13,684	41,515
Chicago	48,955	70,274	46,583	31,131[b]
Cleveland	46,955	56,614	40,925	42,500
Fort Worth	38,005	30,072	9,413	913
Houston	24,450	12,491	5,645	1,350
Indianapolis	26,596	36,976	24,728	17,000
Jacksonville	23,193	16,800	12,484	13,797
Kansas City	45,737	34,148	25,682	20,838
Los Angeles	35,528	25,515	25,034	22,500
Miami	12,446	8,994	7,686	4,079
Minneapolis	27,118	26,549	19,947	8,682
New York	60,430	54,202	36,934	27,650
Oakland	33,320	24,949	21,127	9,000
Washington	50,188	41,725	39,889	20,000
Terminal facilities				
Atlanta	5,554	8,444	4,410	11,524
Baltimore-Washington	4,154	2,524	1,816	300
Boston	5,962	5,168	6,245	6,700
Burbank TRACON	4,493	4,060	4,505	8,880
Charlotte	3,878	2,030	1,894	402
Chicago	27,866	21,077	12,795	24,897[b]
Cleveland	1,744	1,413	1,632	750
Dallas-Fort Worth	6,417	6,852	2,164	369
Detroit	6,965	5,400	4,419	5,158
Edwards Air Force Base	455	326	277	276
Houston	4,507	2,641	1,544	348
Indianapolis	2,019	2,019	1,621	415
Jacksonville	7,197	3,398	3,282	3,000
Kansas City	2,663	3,027	1,921	1,047
Kennedy	3,246	2,948	1,469	1,500
La Guardia	4,763	1,916	954	1,271
Los Angeles Tower and TRACON	9,527	7,780	7,694	8,339
Miami	6,185	5,178	3,803	2,300
Minneapolis	3,621	4,015	3,572	2,000
Newark	1,694	1,658	1,025	1,100
New York TRACON	12,524	12,107	11,144	37,281
Oakland TRACON	8,151	3,849	2,197	3,147
Philadelphia	3,090	1,619	1,957	3,500
San Francisco	1,752	1,272	1,340	600
St. Louis	5,504	5,459	5,393	4,612
Washington National	520	271	140	400

[a]FY 1987 data was obtained by telephone rather than from FAA's personnel and payroll systems. 1987 overtime use was estimated based on actual usage as of February 28, 1987.
[b]Estimated as of January 31, 1987.

SECTION 7
FIELD TRAINING ATTRITION

Table 7.1: Attrition of FAA Academy Graduates
(FY 1984 to February 28, 1987)

Centers	Received	Number failed	Number withdrew
Albuquerque	64	19	4
Atlanta	170	42	9
Boston	45	1	1
Chicago[a]	154	19	7
Cleveland	148	8	1
Fort Worth	116	41	0
Houston	148	22[b]	N/A
Indianapolis	154	46[b]	N/A
Jacksonville[c]	111	17	0
Kansas City	217	41[b]	N/A
Los Angeles	187	41	51
Miami	117	13	8
Minneapolis	191	68[b]	N/A
New York	106	28[b]	N/A
Oakland	153	25[b]	N/A
Washington	74	41[b]	N/A
Terminal facilities			
Atlanta	1	0	0
Baltimore-Washington	1	0	7
Boston	0	0	0
Burbank TRACON	0	0	0
Charlotte	0	0	0
Chicago[d]	4	0	4
Cleveland	6	0	4
Dallas-Fort Worth	0	0	0
Detroit	1	0	0
Edwards Air Force Base	0	0	0
Houston	0	0	0
Indianapolis	5	0	2
Jacksonville	0	2	0
Kansas City	4	3	1
Kennedy	6	0	2
La Guardia	2	0	0
Los Angeles Tower	0	0	0
Los Angeles TRACON	3	1	1
Miami	0	0	8
Minneapolis	0	0	0
Newark	0	0	0
New York TRACON	14	2	0
Oakland TRACON	0	0	0
Philadelphia	0	0	0
San Francisco	0	0	0
St. Louis	12	0	4
Washington National	0	0	5

[a]As of January 31, 1987; does not include FY 1984 data.
[b]Facility counts all losses as failures.
[c]FY 1984 data not available.
[d]As of January 31, 1987.

SECTION 8
OPERATIONAL PERFORMANCE DATA

Table 8.1: Operational Performance Indicators--Centers

Centers	Operational errors	Operational deviations
Albuquerque		
1985	20	0
1986	17	3
1987a	3	0
Atlanta		
1985	71	7
1986	62	5
1987a	8	0
Boston		
1985	48	5
1986	56	15
1987a	6	1
Chicago		
1985	104	1
1986	78	2
1987a	13	0
Cleveland		
1985	51	0
1986	47	1
1987a	4	0
Fort Worth		
1985	60	3
1986	24	1
1987a	3	0
Houston		
1985	45	3
1986	24	3
1987a	9	0
Indianapolis		
1985	62	3
1986	70	1
1987a	11	1
Jacksonville		
1985	46	1
1986	31	7
1987a	6	0

22

Table 8.1: Operational Performance Indicators--Centers

Centers	Operational errors	Operational deviations
Kansas City		
1985	44	6
1986	30	0
1987a	4	0
Los Angeles		
1985	45	0
1986	56	7
1987a	21	6
Miami		
1985	15	3
1986	16	1
1987a	6	0
Minneapolis		
1985	18	1
1986	27	5
1987a	1	0
New York		
1985	105	5
1986	53	1
1987a	15	1
Oakland		
1985	37	1
1986	41	0
1987a	8	0
Washington		
1985	124	4
1986	84	5
1987a	12	3

aAs of February 28, 1987.

Table 8.2: Operational Performance Indicators--Terminals

Terminal facilities	Operational errors		Operational deviations
	Total	Surface	
Atlanta			
1985	18	1	1
1986	8	0	1
1987a	3	0	1
Baltimore-Washington			
1985	4	0	0
1986	6	0	0
1987a	1	1	0
Boston			
1985	6	2	0
1986	4	2	3
1987a	2	1	0
Burbank TRACON			
1985	6	3	0
1986	4	2	1
1987a	3	0	0
Charlotte			
1985	8	4	1
1986	7	2	2
1987a	0	0	0
Chicago			
1985	13	3	1
1986	22	5	0
1987a	2	0	0
Cleveland			
1985	5	0	0
1986	5	1	0
1987a	0	0	0
Dallas-Fort Worth			
1985	8	2	2
1986	7	2	1
1987a	1	0	0
Detroit			
1985	8	3	0
1986	6	1	5
1987a	0	0	1

Table 8.2: Operational Performance Indicators--Terminals

Terminal facilities	Operational errors		Operational deviations
	Total	Surface	
Edwards Air Force Base			
1985	2	0	2
1986	2	0	1
1987a	0	0	0
Houston			
1985	2	0	1
1986	2	0	0
1987a	1	0	1
Indianapolis			
1985	2	1	1
1986	3	0	1
1987a	0	0	0
Jacksonville			
1985	2	0	0
1986	1	0	0
1987a	1	0	2
Kansas City			
1985	5	1	0
1986	0	0	0
1987a	1	0	0
Kennedy			
1985	0	0	0
1986	0	0	0
1987a	0	0	0
La Guardia			
1985	0	0	1
1986	2	1	0
1987a	0	0	0
Los Angeles Tower			
1985	10	2	4
1986	7	5	0
1987a	1	1	0
Los Angeles TRACON			
1985	15	0	0
1986	4	0	1
1987a	0	0	0

Table 8.2: Operational Performance Indicators--Terminals

Terminal facilities	Operational errors		Operational deviations
	Total	Surface	
Miami			
1985	3	0	0
1986	8	1	3
1987a	1	0	2
Minneapolis			
1985	9	3	0
1986	6	2	0
1987a	0	0	0
Newark			
1985	1	1	0
1986	2	1	1
1987a	0	0	0
New York TRACON			
1985	12	0	1
1986	9	0	2
1987a	3	0	1
Oakland			
1985	4	0	0
1986	3	0	0
1987a	0	0	0
Philadelphia			
1985	9	2	0
1986	8	2	2
1987a	4	3	0
San Francisco			
1985	2	2	0
1986	3	3	0
1987a	0	0	0
St. Louis			
1985	6	2	0
1986	4	3	0
1987a	0	0	0
Washington National			
1985	3	1	2
1986	1	0	0
1987a	1	0	0

aAs of February 28, 1987.

Table 8.3: Near Mid-Air Collisions[a]

Terminal facilities	1985	1986	1987[b]
Atlanta	7	8	0
Baltimore-Washington	2	0	0
Boston	0	1	0
Burbank TRACON	1	2	0
Charlotte	0	2	0
Chicago	2	5	0
Cleveland	0	0	0
Dallas-Fort Worth	2	3	1
Detroit	0	0	0
Edwards Air Force Base	0	1	0
Houston	0	3	0
Indianapolis	0	1	0
Jacksonville	0	4	0
Kansas City	1	0	0
Kennedy	0	1	0
La Guardia	1	2	0
Los Angeles Tower	9	8	0
Los Angeles TRACON	N/A	N/A	N/A
Miami	0	4	0
Minneapolis	1	0	0
Newark	0	3	2
New York TRACON	N/A	N/A	N/A
Oakland TRACON[c]	6	10	0
Philadelphia	1	0	0
San Francisco	0	1	0
St. Louis	1	2	0
Washington National	0	1	0

[a]Near-mid air collision data is coded by FAA to nearest FAA airport facility. These data are not coded to either centers or TRACONs. FAA officials stated that these data do not necessarily reflect either the safety or performance of the air traffic control system. This table excludes incidents classified as no hazard.

[b]As of February 28, 1987.

[c]Incidents as reported for Oakland tower.

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United States General Accounting Office

GAO

Testimony

Before the Subcommittee on Transportation and Related Agencies, Committee on Appropriations, House of Representatives

For Release on Delivery
Expected at
10:00 a.m. EDT
Tuesday
April 19, 1994

FAA BUDGET

Agency Faces Key Management Challenges on Major Issues

Statement of Kenneth M. Mead,
Director, Transportation Issues,
Resources, Community, and
Economic Development Division

GAO/T-RCED-94-191

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United States General Accounting Office

GAO

Testimony

Before the Subcommittee on Transportation and Related Agencies, Committee on Appropriations House of Representatives

For Release on Delivery
Expected at
1:00 p.m., EST
Monday
March 13, 1995

FAA BUDGET

Issues Related to the Fiscal Year 1996 Request

Statement of Kenneth M. Mead,
Director, Transportation Issues
Resources, Community, and Economic
Development Division



GAO/T-RCED/AIMD-95-131

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United States General Accounting Office

GAO

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

November 1992

AIRSPACE SYSTEM

Emerging Technologies May Offer Alternatives to the Instrument Landing System

GAO/RCED-93-33

WHITE HOUSE BRIEFING

ON THE

FEDERAL AVIATION ADMINISTRATION

SEPTEMBER 19, 1995

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

SEP 18 1995

MEMORANDUM FOR THE CHIEF OF STAFF

FROM: Alice M. Rivlin, Director; Federico Peña, Secretary of Transportation

SUBJECT: Federal Aviation Administration (FAA) Funding and Organizational Reform Issue - INFORMATION

Summary

There have been increasing concerns in the media, with the public, and in parts of the Administration, regarding the safety of the Nation's aviation system. This issue has been dramatized by recent equipment interruptions. Aviation safety is not now a problem. However, there are problems with some outdated equipment that needs replacement. There are also personnel, funding, and security issues that need attention. The FAA has an action plan to address the equipment problem. Proposed 1996 Congressional funding levels could restrict FAA's safety activities. OMB, DOT, and the White House are taking steps to ensure adequate 1996 funding for FAA.

What is needed is a long-term solution to address FAA's underlying problems. The Administration proposed such a solution in its plan to corporatize air traffic control. This proposal highlighted the need for FAA reform. The Congress is now moving on this issue, adopting many of our proposals. A dramatic public event could be built around the issue of FAA reform emphasizing that we were in the vanguard of this effort.

The FAA has the ability and wherewithal to take the appropriate steps to ensure aviation safety. However, given the size and complexity of the system, interruptions and incidents will continue. We can expect to see more press coverage of these incidents fed by controllers' dissatisfied with Congressional proposals to cut pay and pension benefits. **We have opposed cuts to controller pay and are implementing a communications plan to disseminate better the Administration's accomplishments in this area.**

Equipment Interruptions

Issues

On the mid-night shift of Monday, September 11, 1995, the Chicago Air Route Traffic Control Center switched from the primary computer used to display flight information on controllers' screens to a backup computer in order to perform routine scheduled

maintenance. The Center experienced difficulty bringing the primary computer back online. At 9:15 a.m. CDT, when the Center again tried to restore the primary computer, the primary backup was lost. The Center switched to the secondary backup for 25 minutes until the primary backup was restored.

At no time was aviation safety jeopardized. The primary backup provides virtually all the information that the primary computer does, and permits operations to continue without change. The secondary backup is more labor intensive. As a result, the FAA held aircraft on the ground and imposed temporary flight restrictions to manage the workload. One operational error occurred. Two aircraft came within 3.2 miles of each other. FAA separation standards in this case was 5 miles. FAA reports that at no time was there any risk to the aircraft.

Recent FAA equipment outages, such as the one last Tuesday morning in Chicago, and related press reports have heightened public perception that the Nation's aviation system may be becoming unsafe. This perception, however, is incorrect. The FAA maintains backup capability and procedures to ensure air traffic safety during these crises.

Interruption Action Plan

The FAA operates approximately 30,000 pieces of navigational and communications equipment. Overall, this equipment is available 99.4 percent of the time. Reliability has improved over the last five years. Nevertheless, the FAA experiences about 20,000 unscheduled equipment outages annually. Most are minor and have no effect on air travel or safety. On rare occasion, there is a major occurrence as in Oakland. The FAA designs its systems with multiple layers of backup to maximize safety (fail-safe systems).

In response to the recent spate of electrical power and equipment failures, the FAA has implemented an aggressive action plan. The computers in question are 30 years old. Therefore, additional outages will occur. The FAA's strategy is to minimize the number and duration of these outages and improve backup procedures.

- Short-term: The FAA will:
  - conclude hiring 116 new maintenance technicians by the end of this fiscal year,
  - improve the training of technicians who maintain this equipment, and
  - review each air route traffic control center's emergency and backup procedures with both FAA and outside technical experts by the end of November (See attachment A),
  - Also, the FAA is installing state-of-the-art power conditioning systems in each of the Centers to ensure stable electrical power. The new systems are installed and operating in 10 Centers at present.

- Mid-term: The FAA will replace aging computers in five critical air route traffic control centers 16 months earlier than permanent replacement program. This replacement equipment will be operational at the first location in October of 1997, and operational at the fifth and last location in February of 1998.

- Long-term: The FAA has improved the management of the ongoing FAA equipment modernization program to ensure that new advanced equipment is deployed as quickly as possible. Beginning in 1998, the FAA will begin deploying modernized radar display equipment, called Display Channel Replacements (DSR), in all 21 Centers. The DSRs will improve safety and flight routing. Similar safety enhancements are planned for the tower and terminal (airport vicinity) environments, including the Standard Terminal Automation Replacement System (STARS). STARS is being procured under streamlined procedures which will save eight months on the delivery time. (Attachment B provides additional detail regarding these steps.)

The FAA does not believe that its ability to address these interruptions is constrained by resource limitations as long as the 1996 budgets for the FAA's operational ("Operations") and equipment purchase ("Facilities and equipment") accounts closely approximate the Administration's request. More interruptions will occur in the future, but at the Administration's request level, the margin of safety in the system will increase over Congressionally proposed levels.

Funding

Issues

The House cut FAA Operations by $110 million and the Senate cut it by $150 million from the Administration's request. The FAA believes that these reductions are ill-advised and that it would struggle to provide its existing level of services under either level. To maintain safety levels, the FAA may close Flight Service Stations, which primarily assist general aviation pilots; close low-activity towers at small airports, and not increase safety workforces as planned. The FAA proposed to hire 261 safety inspectors in 1996, Congressionally-proposed levels will only fund 131 inspectors. This reduction will result in fewer safety inspections and surveillance activities in 1996; as well as a slowdown in the certification of new airlines ("new entrants").

The 1996 Senate mark compounds these problems through its 50 percent reduction in air traffic controllers' premium pay. Premium pay (a 5 percent bonus) was instituted in 1981 in the immediate aftermath of the controllers' strike, to reward those controllers who stayed on the job. **Premium pay is the number one issue for the unionized air traffic controllers.**

The FAA is funded through four appropriation accounts: Operations, Facilities and equipment, Research, and Airport Grants. The Operations and Facilities and equipment accounts are the most related to safety in the near term. As shown in the table below, the Administration's 1996 budget request for FAA Operations was cut $111 million by the House and $151 million by the Senate. FAA Facilities and equipment was increased in the House by $23 million, and cut in the Senate by $97 million.

1996 FAA FUNDING
(in millions of dollars)

	1995 Enacted	Pres. Request	House Mark	Senate Mark	House Less Request Dollars	House Less Request Percent	Senate Less Request Dollars	Senate Less Request Percent
Operations	4,572	4,711	4,600	4,560*	-111	-2.4%	-151	-3.2%
Facilities & Equipment	1,960	1,917	1,940	1,820	+23	+1.2%	-97	-5.1%

* Includes $10 million in new user fees.

Funding Action Plan

DOT, OMB and the White House have urged Members to increase the FAA's 1996 budget to the level requested in the President's budget. Senator Hatfield is insisting that the air traffic controller premium pay be reduced before raising the Senate mark. We strongly advise that we not concede to his demand because of the negative reaction that this would cause within the controller workforce. As described below, it will only lead to more negative publicity for the FAA from the controllers. The Transportation Appropriations Committee conferees are scheduled to meet Tuesday, September 19. We have met with both Members and staff to inform them of the Administration's position on this issue.

Personnel

General Issues

FAA staffing is not appropriately distributed throughout its facilities. This is caused by an aviation industry which relocates hubs, maintenance bases, etc., with a resultant need to reassign FAA employees to other facilities. It is also caused by the geographic randomness of where retirements occur, and by employees' reluctance to work in certain locations. Current constraints negotiated by the FAA into the union contract, restrictions in personnel rules which govern employee moves, and the limited funding for personnel relocations, restrict the agency's ability to shift quickly its workforce among its facilities.

As we await new technology to replace our aging systems, workforce training continues

to be a critical issue. As new technologies are introduced, maintenance technicians must learn how to repair and service them while continuing to maintain existing, old equipment until it is replaced. Air traffic controllers need to be trained on the use of the new equipment. For both groups of employees, that training must be choreographed to coincide with delivery of the new equipment. Increased technician retirements would also increase the need for training. Safety inspectors also need training to remain current with evolving developments in the airline industry to ensure they are qualified to perform meaningful safety inspections.

Air Traffic Controllers - Issues

Approximately 60 percent of the FAA workforce is unionized. Several unions represent FAA employees, and partnerships have been forged between the agency and most of its unions. The largest union, National Air Traffic Controllers Association (NATCA), with a bargaining unit of 15,000, has been particularly effective in raising issues to the media.

NATCA joined with the Administration earlier in promoting the air traffic corporation. NATCA effectively identified equipment problems as representative of the need for improvements in personnel, acquisition, and finance for the FAA. Recently, however, NATCA has adjusted its strategy with the media. It has used equipment problems as the vehicle to express concern about the safety of the aviation system, and to underscore the criticality of its membership to that system. NATCA's three fundamental issues are: (1) premium pay, (2) possible negative retirement changes by Congress, and (3) locality/complexity pay.

NATCA leadership is also facing a national election next year (that is creating a number of disagreements within NATCA), and will be required to renegotiate its contract with the FAA in CY 1997. The combination of these factors has resulted in a strained relationship between NATCA and the FAA. It has also led to a continuous stream of negative press stories fed by the union.

Maintenance Technicians/Safety Inspectors - Issues

FAA has 8,200 technicians who maintain air traffic equipment. Approximately 1,500 will be eligible to retire in 1996. Historically, approximately 3.7 percent of the workforce retires each year. Therefore, about 300 maintenance technicians could retire in 1996. However, if proposed government-wide legislative changes are made in how retirement benefits are calculated (e.g., "high five" versus "high three"), the number of actual retirements could increase significantly. Many technicians eligible to retire are those certified to maintain the old equipment that is breaking down.
The FAA proposes to hire additional safety inspectors in 1996 and 1997 to meet workload demands. Funding will be required to bring these new employees onboard and train them appropriately.

Personnel Action Plan

Air Traffic Controllers

- The FAA and DOT are examining strategies to improve future efforts with the union. These include a high level meeting with the union leadership to identify those issues that the FAA and DOT can join NATCA in supporting, and to define future opportunities for cooperation.

- The Administration is continuing to voice strong support for premium pay in conversations with the unions.

- FAA is seeking reform of the personnel system in S. 1239, the FAA Streamlining Act of 1995. This would give us the ability to consider offering geographic or job complex pay.

Maintenance Technicians/ Safety Inspectors

- As described under the funding section, the FAA planned to hire 261 additional safety inspectors in 1996, but proposed funding levels would only support 131. We are working to increase this funding level to permit additional hires.

- The appropriate number of additional safety inspectors and air traffic controllers will be a central issue as the Administration reviews the FAA's 1997 budget request. The DOT budget request for the FAA, which has not been received yet by OMB, proposes to hire an additional 422 employees in the safety workforce and 500 employees in the air traffic controller workforce.

- FAA is proposing that consideration be given to exempting critical safety and maintenance employees from government-wide retirement being considered by Congress. This issue will require further coordination with OPM and others.

Security

Issues

The intelligence community has reported that the threat within the United States from foreign terrorists has increased. Accordingly, FAA has been working on a strategy to increase the security measures required of air carriers and airport operators to ensure the safety of the traveling public. The complexity of the U.S. aviation system makes the implementation of additional measures very costly, because of the additional equipment and people that will be needed, and also from the flight delays associated with the

measures.

Security Action Plan

Secretary Peña is looking closely at the FAA's proposal, and will shortly be presenting the White House staff (NSC, NEC, OMB, etc.) with recommendations, including options and the obstacles to its implementation. This issue is expected to be a major concern to the industry. A critical issue will be whether funding is a government or a private sector responsibility. Questions will also be raised about the extent to which the government as a whole is organized to counter and manage this sort of new threat. In the short term, the FAA must raise the level of aviation security this week to counter the current threat level. These stepped up security measures may be criticized by the airlines and airports.

Legislation

Issues

Central to the FAA's ability to meet current and future challenges is significant reform of the agency, focusing on three key areas: procurement, personnel, and financing. These formed the core of the Administration's United States Air Traffic Services Corporation (USATS) proposal which received little Congressional support. We have worked on a new approach embodied in S. 1239, the FAA Streamlining Act of 1995, introduced in the Senate by Senators McCain, Ford, and Hollings on September 13, and to be introduced in the House by Representative Bob Clement.

Hearings on S. 1239 are scheduled for late September with a Subcommittee markup expected by the end of the month. Separate legislation (H.R. 2276) has been introduced in the House by Aviation Subcommittee Chairman Jimmy Duncan (R-TN) and Ranking Minority Member James Oberstar (D-MN). While the Duncan bill would provide personnel and procurement reform, it would make the FAA a separate independent agency and take the Airport and Airway Trust Fund off-budget. Secretary Peña has stated publicly that he would recommend to the President that this bill be vetoed.

Legislative Action Plan

Active and vocal support should be given to S. 1239 by the Administration, while still seeking improvements. It would begin to ensure that the FAA has a budget that can properly match funds with needs; a purchasing system which can guarantee timely installation of future technology; and hiring practices that can put people where we need them most.

Communications

Issues

The Clinton Administration and the FAA have done an outstanding job of maintaining the world's highest standard of aviation safety and efficiency, and addressing the many problems that were inherited from previous administrations. For example, operations over the past 12 months have increased 3.4 percent while delays are down 13 percent. Since 1992, the FAA has streamlined for greater efficiency and productivity, trimming its annual budget by $600 million and reducing its workforce by 5,000 employees. Among its other accomplishments, this Administration also completely restructured the FAA's long delayed modernization program (AAS) to get it back on track and on budget. Also, the reliability of the national airspace system is up to a record high of 99.4%.

Unfortunately, that message is being overwhelmed in the media by controversies related to aging equipment and other perceived safety threats. To put this in perspective, 40,000 people died on our Nation's highways in 1994 and 264 people died in scheduled commercial airline accidents. While one death is too many, the media, especially the national media, focused an inordinate amount of coverage on aviation fatalities compared to highway deaths. In fact, there has never been an air carrier accident because of an equipment outage.

Communications Action Plan

Our challenge is to correct this public perception with the simple and compelling message that the FAA and the Clinton Administration understand the problems, have a comprehensive plan in place to address them, and we must minimize future equipment failures. Our message should include:

- The FAA operates the safest aviation system in the world. The FAA's equipment is available over 99 percent of the time. Its reliability has increased in recent years.

- FAA reform is vital to meet the challenges of a system facing potentially strong growth -- in ten years there is projected to be more than 300 million additional passengers annually.

- Since the FAA's inception in 1967, many administrations and Congresses have tried and failed to reform the FAA. Real FAA reform is achievable now.

- For 2 ½ years, the Clinton Administration has urged Congress to act on FAA reform, specifically personnel, procurement and financing. The Administration's proposal to corporatize air traffic control, submitted to Congress in April, addressed these issues and drove the reform debate we are hearing today in Congress and the media.

- The McCain/Ford bill is a very important step toward reform and we support its thrust.

- The Clinton Administration welcomes the upcoming debate in Congress and hopes a meaningful reform bill will be sent to the President for his signature this year.

- For 1996 the President has proposed that the FAA has adequate funding to carry out its mission, but we need Congressional support.

- Our FAA reform proposals were supported by air traffic controllers and maintenance people and we have been, and will continue to be, "on their side". In discussions with the unions, we would support the continuation of the 5% pay premium.

We will plan an aggressive schedule of media events with Secretary Pena and Administrator Hinson — at the regional and national levels — to increase the visibility of those events, attract broad media attention and provide an effective vehicle for the Administration's message.

Conclusion

Immediate action is necessary on the part of the Administration if we wish to maintain a safe and efficient national aviation system. In addition to the action plan outlined in this memorandum on the ATC equipment outages, a concerted Administration effort should be mounted in three areas:

Funding: Need to send a strong unequivocal signal of Administration support for full FAA funding in 1996 transportation appropriations bill. Adequate FAA funding should be included in the Administration's 1997 budget.

Legislation: Strong Administration support for three key areas of legislative change--personnel, procurement, and financial security. This includes support for the procurement and personnel reform contained in the Senate version of the 1996 appropriations bill as well as active and visible Administration support for the McCain/Ford/Hollings FAA reform bill, especially its financing provisions.

Communications: Identify and develop opportunities for delivering positive messages about accomplishments and plans to address future challenges.

Attachments

Attachment A

ADDITIONAL INITIATIVES:

In addition to the visits to the Centers we have started or completed the following actions.

A computer based simulation training lesson on transitioning to backup systems is under development.

We have committed to hire up to 50 additional controllers for the Chicago Center. We received over 40 bids from within the Great Lakes Region and we will select at least 14 of the 40. A nationwide bid is still open.

On September 7, Senator Simon issued a press release that said the GAO and NTSB have concluded that we are on the right path with our plans for interim computers (DCCR) to replace the aging computers in Chicago. Senator Simon said both agencies "found that air traffic control in Chicago and elsewhere is safe." GAO and NTSB concerns are focused on staffing, training, funding and old computers.

ATTACHMENT B

ATC OUTAGE ACTION PLAN

Current Actions	Due Date
• Visits to all 21 ARTCC's to:	
– Review emergency procedures	– Site Visit Completion - 9/15
– Review transition planning	– Consolidated Report - 11/15
– Review backup capabilities	
• Emergency operating procedures will be updated per team report	November 15
– New contingency plan drafted and coordinated	August 30
• Outside technical "Blue Ribbon" team will visit 4 ARTCC's and review power systems and backup capabilities with recommendations	– Site Work Completion - 10/4 – Draft Report - 10/23 – Final Report - 11/8
• Air Traffic Controller Refresher training	
– Center procedures and backup capabilities Video tape	– Mailed to ARTCCs 8/25
– Terminal procedures and backup capabilities Video tape	– Coordinated with union 9/7 – Mailed to ATCTs 9/13
• Hiring additional 116 technicians	September 30
– Status to date – 40 hired	
• Begin new training courses for technicians on maintenance of 30-year-old systems (such as DCC)	– Beginning October 95 – Completion June 96

OMB/Transportation ID:202-395-4797 SEP 18'95 19:08 No.006 P.12

CLOSED ACTIONS

	DUE DATE
• Senior Engineer reviewed Oakland outage of August 10 – Report completed	August 11
	August 18
• General Notice to field directing all to review local facility procedures and backup capabilities	August 10
• In addition, the ACEPs program (per attached memo) has been temporarily put on hold for three weeks to evaluate problems associated with that installation.	

OMB/Transportation ID:202-395-4797 SEP 18'95 19:08 No.006 P.13

FAA 9/19 LP, Pena, Hansen, etc.
Targets - decent game plan
Tally re hiring / train more

* at risk $ -

---

① Equipment Interruptions

- 12,000 interruptions / Month
- 20000 canceled outages / yr
- Minor interruptions every day

Short term
hire 160 new maint. tech
imp. hiring of technicians (P2 Memo)

* will install new equip w/events around the country

Midterm - (p3) → 1997 - 5 computers
Long term - new equip

Key = '96 budget target

Funds

Approps

Premium pay

If don't get FY 96 req, Cuts to inspectors

Colvin will make speech at Mark up re safety & mark-up

Likn - ½ chance, will get +50 more

Will have Alice come Hatfield today

Personnel

① distribution

② train for technicians (w old equip) & controllers

③ safety inspectors training

NATCA issues

retirements → 5yr vs 3yr

premium pay

Plan

Controllers

- support premium pay
- try to reform system for geographic or complex pay

Maint/Safety

will have new

* 500 new ATC in FY 97 *

Security

Legislation - Cotton disagreement - Loans - FAA

Common Plan

99.4% detectability → highest level since X?

LP - "from policy view, you're taking right steps"
"time line" re scaring public
But - need to be seen as strong, offensive
to improve it, $, inspectors, etc.

need to lay it out:
we're taking strong actions to deal
w/ these issues

- we're aware, ahead, not reactive

Potus / v Potus?
press conf - we've been working on. Thus,
have a strategy that involves
these steps, etc.

We said "highest priority"
event - the $ issue - to everything else

want public to know we're aware &
are secure their safety

LP - it's done
bailgene
Petra will do a press conf.

this week

VP - next week - WH event

For Fair Treatment of Former ATC's

Controllers United

Bob Harris
Executive Director

Russ Klecka
National Coordinator

Arch Bailey
Great Lakes Region

Bob Yanda, MN
Bob Holocher, IN
Jim Passiales, IL
Alan Thiem, MI
Bob Olson, WI

Jim Clarry
Eastern Region

Al Speth, NJ
John Carr, MD
Ron Artis, VA
Jack Anderson, DE
Bill Cipolla, PA

Nils Moberg
Western-Pacific Region

John Palumbi, CA
Don Poore, CA
John Lichnovsky, HI
Tom Gandolph, NV
Dan Dufresne, AZ

Northwest Region

Mike Dubosa, OR
John Sliwa, WA
Tom Thompson, CO
Larry Hagen,UT

Southern Region

Bob DeVault, FL
Dave Parker, FL
Max Boyet, GA
Roy Slemaker, TN
Chuck Thackery, KY
Doug Laiser, AL
Vic Cordero, NC

Sam Seales
New England Region

Paul Cannon, MA
Carl Kertis, ME

Alaskan Region
Bob Ernst

Southwest Region

Marge & Floyd Pryor, OK
Cal Henry, AR
Shirley Hiett, NM
Sal Catalano Sr., LA

Roger Thomas,
Central Region

Robin Nelson, MO
Norb Smeeter, MO

CONTROLLERS UNITED
FACSIMILE TRANSMISSION COVER SHEET

DATE : September ~~19~~ 20, 1995

TO: Ms. Jennifer O'Connor

FAX NUMBER: 202-456-2464

FROM: Bob Harris

TELEPHONE NUMBER: 516-732-9801

PAGES (INCLUDING COVER): 5

COMMENTS :

For Fair Treatment of Former ATC's
Controllers United
P.O. Box 287
Selden, N.Y. 11784-0287
(516) 732-9801

September 19, 1995

By Facsimile

Mr. Marvin Krislov
Associate Counsel to the President
The White House
1600 Pennsylvania Avenue
Washington, D.C. 20500

Dear Mr. Krislov:

We appreciate your effort in accommodating our group last Thursday and hearing our perspective on the air controller issue.

In response to your suggestion regarding aviation industry support for hiring additional controllers, I will meet with Air Transport Association (ATA) officials next week to discuss the vital role former controllers can play in today's air traffic system. The record of airline criticism of Federal Aviation Administration (FAA) flow control procedures may be accessible by you from the Department of Transportation and we will also raise this issue with the ATA.

The broad term, air safety, is an emotional term that has been viewed somewhat differently by air controllers and agency management for many years. What constitutes air safety depends on perspective, to the agency it may mean that aircraft have not collided after equipment failed, while a controller looking down at a blank scope and not able to transmit instructions because the radio has failed, may view that event as a breach of air safety. Same event with two different outlooks.

The real questions for White House officials to decide is how close to the edge is the agency in terms of failing to meet their mission objectives that call for the safe, orderly and expeditious movement of air traffic and when will the administration take corrective action.

Despite the various perspectives on the issue of air safety, the common ground is that everybody connected with aviation strives to maintain it and the public needs to have confidence that the air traffic system is in fact safe. However, the FAA position that safety is never compromised either by equipment failures or manpower shortages is simply not credible and that denial keeps the agency from a concerted effort to correct problems. In light of frequent equipment failures that have received national media attention, White House officials are rightfully concerned about ensuring safety in the skies.

The inability of the FAA in providing controllers adequate equipment is a matter of public record in recent years but it has been an ongoing problem since the agency was formed. Compounding the equipment problems has been the neglect of human resources and today, the work-force is facing salary cuts while working more traffic with less people than in 1981. **The controllers working traffic today are the thread holding together a system that is at risk.** This fragility will become more obvious over the succeeding months and require a major investment of dollars and human resources to patch it, while technology is developed to rebuild the system to meet increasing traffic demands.

At our meeting, Jennifer mentioned the high priority the president attaches to air safety issues and in that context Jennifer mentioned her two hour meeting with the FAA Deputy Administrator, in which she was told by the deputy that safety equipment in the cockpit (Traffic Alert Collision Avoidance System or TCAS), would prevent a mid-air collision if the air traffic system had failed. While this equipment is credited with preventing several potential mid-air collisions it was never intended to substitute for reliable air traffic control and the equipment has caused a number of pilots to take actions not required and which jeopardized the safety of passengers. To offer TCAS to a White House official trying to balance competing claims is disingenuous at best.

Marvin, every person sitting in your office with knowledge of air traffic control was deeply troubled by the agency representation to Jennifer that TCAS is fail-safe equipment that minimizes the seriousness of system outages. I have requested from the Ames Research Center, a division of the National Aeronautics and Space Administration, a compilation of TCAS caused events that factually support the concerns noted and which we will gladly make available to you, at your discretion. In addition, there is ample Congressional testimony about the efficacy of TCAS that we can provide, if you so desire.

Rather than continue with items covered in my letter to Judge Mikva, I have included with this fax a copy of that letter.

Thank you for offering your thoughts as to what might be helpful to moving the controller issue to a conclusion. We look forward to your participation in future meetings deciding this issue.

Sincerely,

Bob Harris

RTH/jmh
cc: Judge Abner Mikva, White House Counsel
Jennifer O'Connor, Assistant to the President



[redacted]or Fair Treatment of Former[redacted]
Controllers United
P.O. Box 287
Selden, N.Y. 11784-0287
(516) 732-9801

September 15, 1995

By Facsimile

Mr. Abner Mikva
Counsel to the President
The White House
1600 Pennsylvania Avenue
Washington, D.C. 20500

Dear Mr. Mikva:

I want to thank you for having rearranged your schedule to meet with us yesterday. You were probably as surprised, as we were disappointed, in learning of the mix-up that had our group waiting in the reception area at 1pm, while you were waiting for us in your office.

We will be in Washington for upcoming Congressional hearings on reforming the Federal Aviation Administration and wish to meet with you if your schedule permits. Marvin Krislov was sympathetic to the message we offered, and will give you his read on our meeting. However, several issues were not discussed or glossed over, simply because you were not present and we value the unique role of your position as Counsel to the President and the Presidency. Our issue requires striking a careful balance between competing interests, and because of your long distinguished career of public service, both as a legislator and as a judge, we seek your help in deciding the course to take in bringing it to a proper conclusion.

Beyond the overriding public policy question that surround the issue of adequate controller / technician staffing levels and the ever present equipment problems is the consequences of inaction. Last year, air controllers gave the FAA a wake-up call when they warned the agency of a dire need for more controllers that coupled with aging and failing equipment was reducing the margins of safety. There is mounting evidence that the deteriorating conditions continue and that the public interest has been sacrificed on the altar of budgetary constraint. Many of the current problems in the air traffic system have been years in the making and we take no pleasure in warning, that it is the Clinton Administration that will take the wrath of the public because it is on their watch that opportunities have been squandered that could have mitigated some of the problems. Yesterday, in the strongest voice possible, we questioned why the administration continues to accept FAA representations in the face of mounting evidence of an agency that needs immediate help. There are a number of recent occurrences whereby the flying public has been put at risk because of controller shortages and equipment failures. The FAA response to White House staff yesterday is that despite the loss of equipment at

major facilities, safety is never compromised because of equipment in the cockpit that instructs pilots to take evasive action. What was not said to the staffer, was that conflict alert equipment is designed to tell pilots how to avoid a collision after sensing an impending crash and that the equipment itself has caused many near mid-air collisions by instructing pilots into actions that were not required and dangerous. Conflict alert equipment was never intended to substitute for air traffic control and offering it as a palliative to a staffer asking about the safety implications of equipment failures shows, at best, a lack of understanding or, perhaps more troubling, a false sense of security offered in response to legitimate questions of how the White House balances the safety issue before reaching a decision.

The other issue that should not wait for an additional meeting is the point you made regarding allowing former controllers the ability to apply for other positions within the FAA. It is important to note that former fired controllers are currently restricted from bidding for any FAA positions, including controller jobs. Our names are maintained on a list of eligibles, and only referred at the request of FAA. This format permitted the hiring of less qualified CTI individuals without consideration of former controllers, because as the Deputy Administrator acknowledged to us in November of 1994, to do otherwise would result in the hiring of only better qualified former PATCO people and be counter-productive to the intentions of the FAA. The Deputy feared that open competition for controller jobs would become a de facto preferential PATCO hiring and was not desirable, despite the intent of President Clinton that was clearly expressed in the wording of his directive.

Thank you again for your interest in helping to resolve the issues that we have brought to your attention. We look forward to having a further discussion that moves this issue to meaningful conclusion.

Sincerely,

Bob Harris

RTH/jmh

THE WHITE HOUSE

9/21/95

TO: Ab Mikva
Marvin Kristov
Michael Deich

From: Jennifer O'Connor

Subject: PATCO FYI

Last week's meeting made Aviation Daily.

9/20/95
Av. Daily
PAGE 16

TRANSPO[redacted] 1995

FROM PRECEDING PAGE

White House Said To Be Displeased With FAA Over PATCO Issue

A Controllers United official, representing former Professional Air Traffic Controllers Organization (PATCO) controllers, met last week with staff of White House Counsel Abner Mikva on FAA rehiring up to 1,500 of the controllers who were fired by former President Reagan in 1981. There are indications that President Clinton is displeased with FAA's response to his directive of Aug. 12, 1993, to rehire former PATCO controllers, said Bob Harris, executive director of Controllers United. Harris said FAA hired only 37 of the nearly 5,000 controllers who reapplied for jobs. He said a congressional staffer and a flight attendant union representative also attended the session. Another meeting with the White House counsel is tentatively scheduled next week, Harris said. The proposal that the former controllers be rehired was first presented May 2 in a meeting with White House staff, Harris said. At last week's meeting, "we were assured that the President considers safety in the skies his highest priority. That was made very clear." Harris said he was told that safety also was the subject of a meeting last week between a White House aide and a top FAA official.

"The administration is working to restore cuts in the FAA budget," Harris said. "They are concerned about getting back to the original budget request." Harris said that "just restoring the cuts made in the budget will not correct current controller shortages." The White House believes the "issue of deciding to hire more controllers and getting the funding for it would require at least another meeting," Harris said. He said he told the presidential aides that hiring experienced controllers could improve safety during minor equipment outages. "We made a very strong case, citing the frequent equipment outages and the shortage of controllers at several facilities."

FedEx Pilots Association Receives More Than 1,000 Requests For Election

The FedEx Pilots Association, organizing to try to knock out the Air Line Pilots Association as representative of the airline's pilots, says it has reached a milestone — more than 1,000 election authorization cards. The association's steering committee chairman said a Memphis accounting firm certified it has received 1,014 signed authorization cards from pilots calling for an election. The independent union will provide the first draft of a constitution and by-laws in the next two weeks as a framework "to build a unity we need." The draft is said to include specific limits on the role of elected union officials and empower pilots that fly the line. FedEx resumed negotiations Monday with ALPA before the National Mediation Board on an initial contract, and talks are continuing despite this month's request by ALPA for arbitration (DAILY, Sept. 5).

United Continues Effort To Overturn Los Angeles-Guadalajara Route Award

United, continuing efforts to gain Los Angeles-Guadalajara rights, said DOT's final order awarding the route to American "was based almost entirely on the fact that American would operate an extra frequency during the winter," yet less than one month after starting flights, American plans to reduce them. Citing advanced schedules in United's Apollo computer reservations system, "effective Dec. 14, 1995, American will reduce its Dallas/Fort Worth-Guadaljara from double daily to daily," said United, adding that DFW-Guadalajara will continue at that reduced level, according to CRS schedules, until at least March 17, 1996.

DOT "can no longer conclude that there is any net gain to U.S. carrier competition" in the market, said United, noting that "the four daily flights operated by American during the off-peak period now equal the two daily off-peak frequencies United proposed plus the two daily which American was offering from DFW." Citing the schedule changes, United said American turned the route proceeding into "a bidding contest in which it outbid United by proposing an untenable schedule." The carrier concluded: "If the department is to preserve the integrity of the process, it must take forceful action and not continue to hide behind its otherwise embarrassing decision."

Hurricane Damage Forces Carriers To Suspend Service To Caribbean

Airlines have adjusted schedules and suspended operations to the Caribbean because of hurricane damage. Continental is suspending operations to St. Thomas, St. Maarten and Antigua immediately, and will not resume service to St. Maarten or Antigua until mid-December. The carrier said that due to considerable damage on St. Thomas, it will decide later whether to resume operations pending assessment of the damage and the "overall status of the market." USAir canceled service to St. Maarten through mid-October and to St. Thomas through Sept. 30. American said scheduled jet service will not return to St. Thomas until Friday, but American Eagle operated 12 roundtrips to St. Thomas and eight to St. Croix yesterday and was considering extra sections to get passengers back to the mainland.

For Fair Treatment of Former ATC's

Controllers United

Bob Harris
Executive Director

Russ Kleeks
National Coordinator

Arch Bailey
Great Lakes Region

Bob Yanda, MN
Dave Parker, WI
Bob Holocher, IN
Jim Passales, IL
Alan Treem, MI

Jim Clarry
Eastern Region

Al Spaih, NJ
John Carr, MD
Ron Artis, VA
Jack Anderson, DE
Bill Cipolla, PA

Nat Moberg
Western-Pacific Region

John Palmieri, CA
Don Poore, CA
John Liehnovsky, HI
Tom Gandolph, NV
Dan Dufresne, AZ

John Shiwa
Northwest Region

Mike Dubeau, OR
Tom Billings, OR
Tom Thompson, CO
Larry Hagen, UT

Ken Lancaster
Southern Region

Bob DeVault, FL
Mak Boyer, GA
Roy Slamaker, TN
Chuck Thackery, KY
Doug Leiser, AL
Vic Cordero, NC

Sam Scalzi
New England Region

Paul Cannon, MA
Carl Kerns, ME

Bob Ernst
Alaskan Region

Southwest Region

Marge & Floyd Pryor, OK
Carl Henry, AR
Shirley Hiett, NM
Sal Catalono Sr., LA

Roger Thomas,
Central Region

Robin Nelson, MO
Norb Stracker, MO

CONTROLLERS UNITED
FACSIMILE TRANSMISSION COVER SHEET

DATE **: September 19, 1995**

TO: **Mr. Marvin Krislov,**
Associate Counsel to the President

red dot
COPY to
Jennifer
O'Connor
OK? MK

FAX NUMBER: **202-456-1647**

FROM: **Bob Harris**

TELEPHONE NUMBER: **516-732-9801**

PAGES (INCLUDING COVER): **5**

COMMENTS:

For Fair Treatment of Former ATC's
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P.O. Box 287
Selden, N.Y. 11784-0287
(516) 732-9801

September 19, 1995

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Sincerely,

Bob Harris

RTH/jmh
cc: Judge Abner Mikva, White House Counsel
Jennifer O'Connor, Assistant to the President

For Fair Treatment of Former ATC's
Controllers United
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September 15, 1995

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Counsel to the President
The White House
1600 Pennsylvania Avenue
Washington, D.C. 20500

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Thank you again for your interest in helping to resolve the issues that we have brought to your attention. We look forward to having a further discussion that moves this issue to meaningful conclusion.

Sincerely,

Bob Harris

RTH/jmh

Jennifer -

Mtg w/ Harris
+ Mikva Wed. 9/27 -
2 p.m - Mikva's office.
Pls. Come!!

Jen D'

DRAFT

MEMORANDUM FOR THE CHIEF OF STAFF

FROM: Federico Peña
Secretary of Transportation

SUBJECT: Federal Aviation Administration (FAA) Funding and Organizational Reform Issue - INFORMATION

Summary

The FAA operates a national aviation system that is available 24 hours a day, 365 days a year. The availability and reliability of this system is assumed by the 1.5 million passengers, both business and pleasure, who use the system daily and the businesses who ship 21 billion tons of cargo yearly. The system also provides over 8 million U.S. jobs. The FAA mission is to operate this system safely and efficiently. It is within this context that this memorandum addresses the short term and longer term challenges FAA faces in meeting mission requirements during the current debate over the role and size of Federal government.

Funding

The FAA cannot provide its existing level of services under the House mark in FY 96.

As bad as the House scenario is, the Senate mark of $4.55 billion compounds these problems in FY 96.

As shown in the table below, the Administration's budget request for FAA Operations was cut by $110 million by the House and $160 million by the Senate.

1996 FAA Operations
(dollars in millions)

1995 Enacted	President's Request	House Mark	Difference	Senate Mark	Difference
4,583	4,710	4,600	-110	4,550	-160

Note: FY 1996 amounts include funding for the Office of Commercial Space Transportation.

The FAA cannot provide its existing level of services under the House mark.

As bad as the House scenario is, the Senate mark of $4.55 billion compounds these problems, largely through its 50 percent reduction in ATRA premium pay. These are very sensitive times with our hightly unionized workforce.

Personnel

For FY 96, we have planned to increase the safety inspector workforce by 261 in order to address existing workloads, but it appears that in conference the Senate is conceding to the House mark of an increase of only 131.

We are proposing for FY 1997 the hiring of an additional 422 in the safety workforce and 500 in our air traffic controller workforce in FY 97.

Technology Implementation

The FAA operates approximately 30,000 pieces of navigational and communications equipment. Overall, this equipment is available 99.4 percent of the time. Reliability has improved over the last five years. Nevertheless, the FAA experiences about 20,000 unscheduled equipment outages annually. Most are minor and have no effect on air travel or safety. The FAA designs its systems with multiple layers of backup to maximize safety (fail-safe systems).

In response to the recent spate of electrical power and equipment failures, the FAA has implemented an aggressive action plan. The computers in question are 30 years old. Therefore, additional outages will occur. The FAA's strategy is to minimize the number and duration of these outages and improve backup procedures. The FAA does not believe that its ability to address these outages is constrained by resource limitations if the funding requests for FY 96 and FY 97 are met.

Specifically, the FAA will hire 116 new maintenance technicians, improve the training of technicians who maintain this equipment, and review each air route traffic control center's emergency and backup procedures with both FAA and outside technical experts. In the mid-term, FAA will replace aging computers in five critical air route traffic control centers, 16 months earlier than planned. In the longer term, the FAA has improved the management of the ongoing FAA equipment modernization program to ensure that new advanced equipment is deployed as quickly as possible. (Attachment A provides additional detail regarding this Action Plan.)

Security

The intelligence community has reported that the threat within the United States from foreign terrorists has increased. Accordingly, FAA has been working on a strategy to increase the security measures required of air carriers and airport operators to ensure the safety of the traveling public. The complexity of the U.S. aviation system makes the implementation of additional measures very costly, both because of the additional equipment and people that will be needed, but also from the delays associated with the measures. I am looking closely at the FAA's proposal, and will shortly be presenting the White House staff with recommendations, along with the impacts of the proposal, and the obstacles we see in its implementation. We can expect this issue to be a major concern to the industry with serious public policy issues associated with it, such as the proper source of funding for such an effort, and the extent to which the government as a whole is organized to effectively counter and manage this sort of new threat. In the short term, the FAA must raise the level of aviation security to counter increased danger of potential terrorist attacks in retaliation for certain judicial and extradition actions.

Legislation

Central to FAA's ability to meet the challenges of today and tomorrow is significant reform of the agency - focusing on three key areas: procurement, personnel, and financing. These three areas formed the core of the original United States Air Traffic Services Corporation (USATS) proposal and we believe are also embodied in S.1239, the FAA Streamlining Act of 1995, introduced in the Senate by Senators McCain, Ford, and Hollings on September 13, and to be introduced in the House by Representative Bob Clement. We urge active and vocal support by the Administration for this proposal. S.1239 would mark significant progress on ensuring FAA has a budget that can properly match funds with needs; a purchasing system which can guarantee timely installation of future technology; and hiring practices that put people where we need them most.

Communications Plan

The Clinton Administration and the FAA have done an outstanding job of maintaining the world's highest standard of aviation safety and efficiency, and addressing the many problems that were inherited from previous administrations. For example, operations over the past 12 months have increased 3.4 percent while delays are down 13 percent. Since 1992, the FAA has streamlined for greater efficiency and productivity, trimming its annual budget by $600 million and reducing its workforce by 5,000 employees. Among its other accomplishments, this Administration also completely restructured the FAA's long delayed modernization program to get it back on track and on budget, which saved taxpayers
$1.6 billion and breathed new life into plans to upgrade the nation's air traffic control system.

Unfortunately, that message is being overwhelmed in the media by controversies related to aging equipment and other issues that the public incorrectly perceives as safety threats. Inevitably, the media focus on the frenzy instead of the facts — there has never been an air carrier accident because of an equipment outage — a condition exacerbated by the general distrust of government and the intense scrutiny brought to bear on any issue related to aviation safety.

Our challenge is to break through this barrier with the simple and compelling message that the FAA and the Clinton Administration understand the problems of today and the challenges of tomorrow, have a comprehensive plan in place to address them, and have consistently shown themselves to be trustworthy guardians of aviation safety. Our communications strategy should demonstrate that:

- For 2 1/2 years the Clinton Administration has been urging Congress to act on FAA reform. The Administration's USATS proposal addressed these issues.
- The McCain/Ford bill is a very important step in this process and we support its purposes.
- The Clinton Administration welcomes the upcoming debate in Congress and hopes a meaningful reform bill will be sent to the President for his signature as soon as possible.
- For FY 96 the President will ensure that the FAA has adequate funding to carry out its mission.

We will plan an aggressive schedule of media events with myself and Administrator Hinson — at the regional and national levels — to increase the visibility of those events, attract broad media attention and provide an effective vehicle for the Administration's message.

Conclusion

Immediate action is necessary on the part of this Administration if we wish to maintain a safe and efficient national aviation system. In addition to the action plan outlined in this memorandum on the ATC equipment outages, a concerted Administration effort should be mounted in three areas:

Funding: Need to send a strong unequivocal signal of Administration support for full FAA funding in FY 96 transportation appropriations bill and in formulation of the Administration's FY 97 budget.

Legislation: Strong Administration support for three key areas of legislative change--personnel, procurement, and financial security. This includes support for the procurement and personnel reform contained in the Senate version of the FY 96 appropriations bill aswell as active and visable Administration support for the McCain/Ford/Hollings FAA reform bill, a serious legislative effort to address all the

needed areas of reform.

Media: Identify and develop opportunities for articulating Administration accomplishments and future challenges.

U.S. Department
of Transportation

**Federal Aviation
Administration**

Office of the Administrator

800 Independence Ave., S.W
Washington, D.C. 20591

Copy to
Jen O'C

July 28, 1995

An open letter to passengers, air carriers, manufacturers, private pilots and other members of the aviation community:

When I became Administrator of the Federal Aviation Administration (FAA) almost two years ago, we faced a number of major challenges to get the agency ready to serve aviation in the 21st century.

Our projections showed that U.S. air traffic would virtually double to one billion passengers per year by 2010. The state of the aviation industry was precarious: Airlines had lost $10 billion from 1990 through 1992 and several major carriers were in bankruptcy.

The agency had had interim management for some time, and we had too *many* layers of management. Major programs had unacceptable cost increases and delays. Research activities were scattered across the agency and not integrated with acquisitions. The regulatory process was excessively cumbersome.

Over the last two years, we have applied sound business practices and management techniques to reshape the FAA into a leaner, more capable organization better able to respond to the needs of our customers in industry and the traveling public.

I felt it was critical to bring in new faces with new ideas. Linda Daschle, with 20 years experience in aviation, came on as Deputy Administrator and immediately went to work turning around the FAA's air traffic automation program. Her efforts — and those of many others — are expected to save taxpayers $1.6 billion.

We also recruited Dr. George Donohue, an experienced executive from RAND, to head research and acquisitions. In all, 19 of the 28 members of my senior management team — 68 percent — have signed on since September 1993.

Simultaneously, as part of President Clinton's drive to downsize government, we cut more than 5,000 jobs through buyouts and a hiring freeze with no adverse impact on safety.

But a smaller FAA wasn't the total solution. We looked at the organization much as a systems manager would, then made changes that would make the agency run more like a business and make managers more accountable.

Since January 1994, FAA has worked with the aviation community to review and reform the regulatory process. Last December, we released the final report on this project, which asked the public to identify regulations that could be eliminated or amended without affecting public safety or security. We have already taken action on some of the 426 recommendations we received, in areas such as drug testing and airport security.

Revitalizing the important General Aviation segment of U.S. aviation was one of our priorities. In cooperation with the General Aviation community, we developed a proactive Action Plan in 1994 to carry out that goal. We've been very successful in meeting our objectives to date and we were pleased to participate in the groundbreaking for a new Cessna plant in Independence, Kans.

Of course, aviation safety is at the heart of everything we do. Most of our safety actions are pre-emptive. We issue an average of 375 Airworthiness Directives every year to notify the aviation community of problems that need to be addressed immediately. Our safety personnel perform more than 1,000 inspections every single day. And we issued more than 343,000 pilots, flight engineer and mechanics certificates in FY93 and 94.

The five major air carrier accidents in 1994 were unacceptable to the FAA and to me personally. We have redoubled our efforts to adopt an even more proactive strategy on safety. The underlying theme of our strategy is that safety is a shared responsibility. It concerns everyone who operates, maintains and manufactures aircraft.

In January, we held an extraordinary safety summit with more than 1,000 aviation professionals in industry and government. Our goal was to work together toward permanent change of thinking about safety: a goal of "zero accidents."

The conference led to a Safety Action Plan that we released in February. The plan has 173 safety initiatives developed jointly by government, industry and labor. So far, we have met all our 1995 milestones and we're on schedule with those remaining. As promised, we plan to issue a status report on about two-thirds of these initiatives early in October.

In March, we proposed a rule to bring commuter airlines up to the safety standards of major carriers. It was a revolution in rulemaking; we developed it in just 100 days. This "One Level of Safety" concept gives passengers on commercial flights with 10 or more seats equal safety guarantees.

In mid-July, we unveiled "CHALLENGE 2000," a comprehensive review of the FAA's regulation and certification capabilities. Again, we're using sound business practices to help us determine what we need to regulate the aviation industry successfully and certify rapidly changing technologies as America enters the 21st century.

We still face significant challenges, especially the prospect of a severe budgetary shortfall for Fiscal Years 1996-2002. Under the current Joint Budget Resolution in Congress, the FAA would have a cumulative 7-year deficit of $14.2 billion less than it will need to provide essential aviation services. These cuts may jeopardize the safety, efficiency and security of the nation's aviation system.

Even with the most favorable outcome, it is clear that we will have to manage innovatively and do more with less. One important step in that direction would be creation of a U.S. Air Traffic Services (USATS) corporation that would finance itself through user fees. Free from government procurement and personnel rules, it would be able to respond rapidly to financial changes and technology advances in the aviation industry.

Ultimately, I want the legacy of my tenure as FAA Administrator to be an FAA that is a trusted repository for operational data and the central player in making aviation accidents a thing of the past. I strongly feel that we cannot regulate our way to zero accidents. We can only cooperate our way to zero accidents.

This is a tough, long-term challenge. It requires those of us involved in aviation to make several intellectual shifts. I think we can do it — and I'm going to aim toward starting us all on that road for the rest of my term as your FAA Administrator.

Sincerely,

David Hinson

David R. Hinson
Administrator

Business & Commercial Aviation International
September 1995

STATE OF THE FAA

The following is an open letter to passengers, air carriers, manufacturers, private pilots and other members of the aviation community from FAA Administrator David R. Hinson:

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Our projections showed that U.S. air traffic would virtually double to one billion passengers per year by 2010. The state of the aviation industry was precarious: Airlines had lost $10 billion from 1990 through 1992, and several major carriers were in bankruptcy.

The agency had had interim management for some time, and we had too many layers of management. Major programs had unacceptable cost increases and delays. Research activities were scattered across the agency and not integrated with acquisitions. The regulatory process was excessively cumbersome.

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Simultaneously, as part of President Clinton's drive to downsize government, we cut more than 5,000 jobs through buyouts and a hiring freeze—with no adverse impact on safety.

But a smaller FAA wasn't the total solution. We looked at the organization much as a systems manager would, then made changes that would make the agency run more like a business and make managers more accountable. Last November, we restructured along our six key functions: air traffic, research and acquisitions, regulation and certification, airports, security and administration. We now have clear and separate accountability for regulatory and operational areas.

We also applied sound business practices and prudent management to find the causes of delays and overruns in our major ATC modernization programs. Besides bringing in Dr. Donohue, we sought outside opinions from expert consultants. We also studied how all our efforts integrate into the overall ATC system.

The payoff has been a complete turnaround in our acquisition efforts. We are back on schedule, costs are tightly controlled, and new technology is rapidly moving into FAA facilities.

Technology also is the key to boosting the capacity and efficiency of U.S. airspace. One of the FAA's most significant accomplishments for the future has been development of a plan to swiftly implement GPS for supplemental navigation here in the United States and for primary navigation on oceanic and remote routes.

To accomplish that, we resolved some tough issues with the Department of Defense to guarantee GPS availability to civil aviation. We also are ready to start implementing an augmentation system that will enhance GPS signals and permit precision approaches.

Our successes have led the International Civil Aviation Organization (ICAO) to accept satellite navigation as a future replacement for ground-based navigation aids. It is the first step toward a "seamless" worldwide system that will be even safer for passengers, more efficient and economical for airlines, and with greater capacity.

We took another step recently when the FAA and 11 U.S. airlines created an unprecedented government-industry consortium to develop the framework for a worldwide Aeronautical Telecommunication Network (ATN). This state-of-the-art system will enable airlines and other airspace system users to communicate rapidly and reliably worldwide well into the 21st century.

Many of these technology advances are geared to increasing airspace, but we are not waiting for the technology to be in place. For example, we have already completed a comprehensive Airspace Audit to see what unnecessary restrictions could be lifted, saving users millions per year.

Our National Route Program, which lets aircraft flying at 29,000 feet or higher select the most direct flight routes, is an outstanding success. Participation has jumped from 700 flights per day in January to more than 13,000 today. Savings to industry last year were estimated at more than $40 million.

Since January 1994, the FAA has worked with the aviation community to review and reform the regulatory process. Last December, we released the final report on this project, which asked the public to identify regulations that could be eliminated or amended without affecting public safety or security. We have already taken action on some of the 426 recommendations we received, in areas such as drug testing and airport security.

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Continued on next page...

THE WHITE HOUSE

WASHINGTON

PRIVILEGED AND CONFIDENTIAL
FOR DISCUSSION

September 19, 1995

DETERMINED TO BE AN ADMINISTRATIVE
MARKING INITIALS: MM DATE: 4/12/24

2024-0267-S

MEMORANDUM FOR LEON PANETTA
HAROLD ICKES

FROM: JENNIFER O'CONNOR JOC by MK
MICHAEL DEICH MD by MK
JAMES CASTELLO JEC by MK
MARVIN KRISLOV MK

RE: FAA Hiring Practices

In August 1993, the President lifted the ban on federal employment of members of the former air traffic controllers union (PATCO) that had been imposed by President Reagan in 1981. In taking this action, the President stated that "PATCO members should be eligible to apply, without preference, when there are openings with the FAA."

PATCO members have complained that the FAA's hiring system has resulted in few hires of the approximately 4,500 members who have applied for re-employment. They believe two factors have frustrated their goals. First, PATCo members contends that the FAA has failed to respond to a chronic shortage of controllers throughout the air traffic control system. Current controllers agree that their number should be increased, but outside observers (including the GAO, the FAA, major airlines, and, according to the Department of Transportation, most members of the relevant Congressional authorizing committees, dispute PATCO's claim of a shortage in the aggregate number of controllers. Judging from FAA data and the lack of airlines' complaints about controller staffs, it does not appear that others share PATCO's concern regarding a shortage in the total number of controllers. Rather, it appears that certain towers, such as New York, have difficulty attracting transfers from underutilized towers, resulting in these towers having staff shortages while other towers are overstaffed.

PATCO members' also believe that they have been discriminated against the small number of new hires that the FAA has made since the President's announcement. This contention is not so easily dismissed. According to the FAA, 37 PATCO members have been hired since they were reinstated on the eligible list. This number represents approximately 31 per cent of those hired during that time frame. The vast majority of the approximately 120 FAA hires in that same period were placed through the FAA's

Collegiate Training Initiative or the FAA's Cooperative Education Program.[1]

The FAA uses a system of hiring "pools." Most applicants are placed in one of four pools: 1) former PATCO members; 2) Coop students who interned with the FAA; 3) graduates of the Collegiate Training Initiative (CTI) program; and 4) controllers currently employed in the small FAA towers that are being privatized.

Under this system, air traffic management at FAA headquarters decides which pool should supply candidates for a particular vacancy, although the FAA has not been able to describe its method for making the decision. The FAA claims that the pools are not "set asides" and do not restrict competition for jobs. It has offered varied and changing explanations of the purposes served by the pools. These rationales include: the political commitments that were made to training program supporters; the need to test the efficacy of the CTI program; the desirability of having a balanced mix of workers; and the need to keep a lid on number of PATCO workers.[2]

This pooling system has raised several concerns. First, PATCO representatives have threatened a lawsuit. They point out that merit system rules prohibit the granting of "any preference or advantage not authorized by law . . . (including defining the scope or manner of competition . . .) for the purpose of improving or injuring the prospects of any particular person for employment." 5 U.S.C. 2302(h). Although there is very little case law interpreting this provision, language from one D.C. Circuit case suggests that limiting the competition to members of

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[1] The FAA has informed us that it expects 50% of its hires next year to be former PATCO employees; the PATCO representatives are unaware of this plan. In any event, the number of hires expected next year is minimal.

[2] Some of these rationales have not been supported by the facts. First, the FAA admits that its recruitment materials explicitly disavow any promise to hire enrolled students. Second, although the FAA contends that it has required sufficient numbers of CTI graduates to be employed to determine whether colleges could provide training equal to that of the FAA, that the five-year test program ends this year. Finally, only Congressman Sabo of the potentially affected Members of Congress has been intensely and directly involved in supporting the programs (according to DOT). The five schools comprising the Collegiate Training Initiative are the Mid-America Aviation Resource Consortium, Eden Prairie, Minnesota; Hampton University, Virginia; Beaver County Community College, Pennsylvania; University of North Dakota and the University of Alaska.

one particular pool on a basis other than qualifications for the particular job may violate merit system principles. See Department of Treasury v. FLRA, 837 F.2d 1163, 1165 (D.C. Cir. 1988) (approving requirement that union members receive initial consideration, but noting practice did not restrict competition to group). The hiring numbers suggest that Collegiate Training Initiative Program members have been selected for most available positions.

Second, although PATCO representatives have not stated this objection, it is worth noting that the hiring system may have a discriminatory impact on those over 40, in possible violation of the Age Discrimination in Employment Act (ADEA). Plaintiffs in such a lawsuit could argue that the reliance on pools of younger applicants, rather than the pool of more qualified older workers (the ex-PATCO members), discriminates against those over 40.[3] The FAA could defend against the ADEA claim by demonstrating valid business justifications for its practices. Specifically, the FAA might invoke its political commitments as well as its interest in testing the efficacy of the collegiate training program would qualify as business rationales. Arguably, the FAA also could state that its interest in promoting racial and gender diversity justifies the use of the pools system. We have insufficient facts from which to determine whether these defenses would prevail in court, but it appears that a reasonable case could be made against the FAA.[4]

We recommend that the FAA be asked to clarify its hiring policies to eliminate the pooling system and fill vacancies on a competitive basis according to GS level. This "clarification" will allow a rational and equitable method of determining the source of workers. For instance, collegiate training students enter as GS-7, whereas former PATCO members are re-employed at the GS-9 level. The FAA can choose simply which GS level to advertise an available slot, and define degrees of experience or other qualifications necessary for any given position, rather than selecting a pool from which to draw. Frank Kreusi,

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[3] In at least one document, the FAA suggests that the pooling system helps achieve a balance between "long-term" and "short-term" staff needs.

[4] The FAA has also been attacked on other grounds with regard to its hiring and promotion practices. According to a recent article in the Washington Times, the FAA diversity handbook includes a program to promote workers who cannot meet the qualifications for higher grades. Additionally, the article quotes William Jeffers, the FAA's director for air traffic, as stating that the agency's air traffic service is committed to filling "one out of every two vacancies with a diversity selection."

Assistant Secretary of Transportation for Policy, agrees that the current system can be clarified to eliminate the pools.

Kreusi also recommends two other changes that, while designed to help address the understaffing problem, would also have the effect of increasing slightly the number of former PATCO controllers hired. First, he suggests that, at facilities with demonstrated need for controllers where the FAA has failed to recruit qualified controllers from overstaffed towers elsewhere, the FAA will hire experienced controllers who have previously worked at the facility. DOT estimates that this change will result in a modest increase (approximately twenty) in the number of former PATCO controllers hired. Second, Kreusi suggests that the FAA lift the current GS-9 cap for Defense Department controllers who are hired by the FAA.[5] This change likely will benefit some former PATCO controllers, probably twenty to thirty in number. The FAA has not yet agreed to these changes. We recommend that the FAA be urged to consider implementing these DOT suggestions. We caution, however, that these changes will result in far fewer new hires that the former PATCO employees and the current union are demanding. When these changes are announced, it might be helpful for the Administration simultaneously to reaffirm its conclusion that the aggregate number of controllers is adequate.

cc: Abner J. Mikva

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[5] Currently, when any Defense Department controller transfers to the FAA, s/he must enter at a GS-9 level, regardless of his or her GS level at DoD. This FAA policy is designed to accommodate the approximately six-month training period which any new FAA controller--even one with DoD experience--must complete.

THE WHITE HOUSE

WASHINGTON

September 18, 1995

Mr. Bob Harris
Executive Director
Controllers United
P.O. Box 287
Selden, N.Y. 11784-0287

Dear Mr. Harris:

Let me offer my deepest apologies for the logistical problems concerning your visit to the White House. I was very disappointed to have missed the opportunity to speak with you about these important issues. Marvin Krislov has briefed me regarding your conversation with him and Jennifer O'Connor.

Please be assured that your concerns are being considered very carefully. We hope that you will continue to share your information and insights with us as we address these issues. Thank you very much for your interest; please extend my apologies to all those who accompanied you.

Sincerely yours,

Abner J. Mikva
Counsel to the President

cc: Eric Reuther

PHOTOCOPY
PRESERVATION

Copy to Jennifer O'Connor

The Washington Times
FRIDAY, SEPTEMBER 22, 1995

Air traffic controllers practice for breakdown

By David Field
THE WASHINGTON TIMES

Air traffic controllers are getting a crash course in backup systems and other emergency alternatives in case more Federal Aviation Administration towers and centers break down.

These traffic control facilities have failed almost a dozen times since spring as aging computers or unreliable power systems have plunged some of the FAA's key regional centers into darkness or cut off communications with aircraft.

"We are likely to continue to experience some interruptions of our current systems, even at 99.4 percent availability," Transportation Secretary Federico Pena told reporters yesterday.

The availability rate, a measure of the state of readiness of air traffic control computers and radars, is at a 10-year high, having risen steadily since bottoming out at 98.63 percent in 1985, Mr. Pena said.

But he conceded that "30-year-old system equipment" will likely suffer from breakdowns before new computers start to enter service in 1997.

These interruptions have not, Mr. Pena insisted, endangered air safety. He announced, however, that controllers at the FAA, which is part of the Transportation Department, will receive special training on switching quickly from primary to backup computer systems.

This will consist of computer-based video training to be completed by early November and intensive training for the technicians who maintain the aging equipment, according to FAA Associate Administrator Monte Belger.

The president of the union representing the technicians, Jack Johnson of the Professional Airways System Specialists, welcomed the news, although he warned that pending changes in federal retirement rules may lead to shortages of qualified specialists.

The FAA is also installing power-conditioning units for surge control at each of its 21 regional centers, which are in charge of high-altitude flights, to prevent power interruptions, Mr. Belger said.

Some 50 extra controllers will be hired for the Chicago regional center, he said, some of whom were formally selected yesterday.

This facility controls traffic in and out of one of the world's busiest airports, Chicago O'Hare International, as well as Chicago's rapidly growing Midway Airport. The new controllers are all veterans now working at lower-level centers and towers.

At the Chicago center alone, a failure-prone IBM computer, installed in the early 1960s and augmented by equipment in the 1980s, shut down three times in nine days in July alone, forcing controllers to use a less-efficient backup system. It failed again Sept. 12, causing delays of up to 45 minutes in the Midwest and nationwide.

The New York City regional center suffered three major failures between May and July, one of which forced controllers to hold nearly 200 planes on the ground, some for several hours. Washington's center, in Leesburg, Va., suffered at least one failure this summer, according to a National Air Traffic Controllers Association spokesman.

Mr. Pena insisted that the nation's skies are safe. "Flying continues to be the safest way to travel," he said.

Through its main trade group, the Air Transport Association, the industry agreed. "The U.S. aviation system remains the safest in the world," ATA President Carol Hallett said.

"The administration's efforts to speed up and streamline the installation of new equipment and to maintain that high level of safety have not gone unnoticed by the industry, and it is important that the public recognize these efforts as well," she added.