United States General Accounting Office 134437

GAO Testimony

For Release
on Delivery
Expected at
10:00 a.m. EST
Wednesday
November 18, 1987

FAA's Air Traffic Controller Staffing Standards

Statement of
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Before the
Subcommittee on Investigations and
Oversight
House Committee on Public Works
and Transportation

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Mr. Chairman and Members of the Subcommittee,

We appreciate this opportunity to testify on the Federal Aviation Administration's (FAA) staffing standards for the air traffic controller work force. This testimony presents the preliminary results of our work for the Subcommittee. When our review work is completed, we will include the results in a report to the Subcommittee.

Our testimony today focuses on three points. First, staffing standards are critical to the process of determining how many controllers FAA needs. Second, the current standards have not been validated and fall short of accurately reflecting FAA's controller staffing needs, particularly in providing sufficient staff to cover peak traffic periods and establishing an adequate training pipeline. And third, 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. FAA has an opportunity to address these matters now and, in fact, is taking the initial step of reassessing its standard for determining controller staffing needs at airport terminals.

Our findings are based on field work at 15 air traffic facilities and 4 FAA regional offices. We visited a cross-section of airport terminals and air route traffic control centers that were staffed above, below, and at fiscal year 1987 staffing standard levels. At each facility, we talked with facility managers, controllers, and their supervisors and gathered data on

work load, staffing requirements, shifts, attrition, and administrative activities. We reviewed FAA's staffing formulas and methodologies as well as the assumptions used in these methodologies. And, finally, we also convened a panel of consultants representing FAA, the airline industry, the military, and other interests to discuss the staffing standards.

IMPORTANCE OF FAA'S STAFFING STANDARDS

Staffing standards are used to forecast the resources needed to accomplish work. They essentially measure the employee hours needed to perform a function and are used to determine the total number of employees needed to do the work. FAA issued an order in 1983 establishing staffing standards as the basic method of "determining, analyzing, and distributing employee resources" for FAA programs. The current standards were developed in 1984-1985, and are the fifth in a series of formal controller staffing standards. FAA first used controller staffing standards in the 1960s, but they have evolved over the years from relatively simple standards to today's more sophisticated computer models. FAA uses its staffing standards in developing appropriation requests to the Congress.

To project requirements for air traffic controllers, FAA headquarters uses two separate standards--one for airport terminals and another for air route traffic control centers. Based on historical aircraft activity, these standards generate expected

work load which is expressed in employee hours for both controllers and air traffic assistants.

Once historical controller work load is calculated, adjustments are made to account for aviation growth and anticipated future work load; the work time available per employee taking into account leave, training, and other activities; and reduced staffing coverage for weekends when there is less air traffic. In addition to these adjustments, which are made to both standards, others are made to the center standard for the number of shifts and for time spent by supervisors working air traffic. Finally, FAA headquarters adds to a facility's staffing allocation a number for a training pipeline.

Once all adjustments have been made, a final "staffing standard number" is arrived at for each FAA air traffic facility. Headquarters sends these staffing projections to the regions which in turn provide comments to headquarters on the adequacy of the proposed staffing allocations for its facilities. When an appropriation is passed, final allocations are made to each region, based on these comments, although some regions further adjust headquarters' suggested staffing for specific facilities.

SHORTFALLS IN CURRENT STAFFING STANDARDS

Staffing standards must be continuously maintained and periodically validated for accuracy because they can become outdated within a year of their establishment. Although maintenance and revalidation of staffing standards are FAA requirements, we found that FAA has not established a process to

maintain and validate its controller staffing standards. The House Appropriations Committee criticized FAA in 1978 for not validating its staffing standards. If FAA does not maintain its staffing standards, it cannot assure that these standards reflect actual staffing needs.

Our work shows that because of certain assumptions that FAA uses in its current standards, proposed staffing allocations understate actual needs, particularly the assumptions that terminals should not be staffed for peak traffic periods and that centers work eight shifts per day. In addition, the way that FAA estimates its training pipeline needs and forecasts future work load affects the accuracy of the staffing standards.

Key changes to staffing standards

The current staffing standards represent a fundamental change in FAA's controller staffing philosophy since the August 1981 controllers strike. Before the strike, FAA's approach was to provide 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 assumed that overtime would be used to cover traffic peaks, prime annual leave periods, and other special requirements. FAA implemented this policy shift by changing its existing staffing standards for the controller work force. For example, FAA changed the activity day on which terminal staffing is based from the 37th busiest day of the year (90th

percentile day) to the 187th busiest day (average day). We believe that this FAA approach provides only the minimum staffing levels needed to meet the requirements of both the air traffic control system and its personnel.

Other calculations also reflect the change in FAA's staffing philosophy and result in the standards not accurately reflecting field conditions. Headquarters, for example, bases its staffing allocations for centers on an assumption that eight shifts will be worked per day. The centers we visited generally used from three to five shifts per day, rather than the eight assumed by headquarters. This means that these facilities would require more staff or overtime to handle peak traffic since they have fewer overlapping shifts. Multiple shifts allow a manager to tailor controller schedules to meet traffic demand. Managers can use fewer people to cover peak demand with flexible shift scheduling.

Training pipeline and aviation forecasts underestimate needs

The purposes of a pipeline are to, first, ensure that trained controllers are available when full performance level--or FPL--controllers leave, and second, provide additional FPL staffing to meet increasing work loads. According to our analysis, however, FAA's staffing standards underestimate its training pipeline needs. FAA's fiscal year 1987 pipeline allowance, of 6 percent for terminals and 9 percent for centers, was significantly lower than needed to compensate for actual attrition. The average FPL attrition at the facilities we visited was 15 percent for terminals

and 13 percent for centers, not counting additional losses of developmental controllers during facility training.

This underestimation is a result of FAA using pre-strike attrition rates rather than recent field attrition. The pipeline is not future-oriented because it does not consider potential future attrition from retirements or career progression nor does it take into account the fact that facilities need additional developmental controllers to make up for FPL shortages. FAA recognizes that its pipeline is a problem and plans to reexamine it during its reassessment of the terminal staffing standard.

The accuracy of FAA's aviation forecasts also affects FAA's standards. For example, FAA underestimated fiscal year 1987 aviation activity and had to amend its 1988 budget request to reflect increased staffing needs. The staffing standards process also cannot react quickly to changes in work load--such as an airline's decision to start a new hub or base of operations at an airport.

FAA NEEDS TO ESTABLISH ITS CONTROLLER STAFFING STANDARDS AS A CREDIBLE MANAGEMENT TOOL

FAA's controller staffing standards have not been effective as a management tool and there is little understanding of the staffing standards process outside of FAA headquarters. FAA's actual staffing does not reflect the standards and our discussions with facility managers suggest that the standards do not produce staffing estimates that are accepted as accurate.

We found that the methodologies used in the current standards are not well known or understood in the field--either at the region or facility level. Some center managers we visited, for example, did not understand that the aircraft activity tapes they had submitted to headquarters were being used to generate their staffing. As a result of this limited understanding, regions and facility managers use a variety of methods in responding to headquarters' proposed staffing allocations. For example, only 1 of the 15 facilities we visited was using a portion of the current FAA standard to estimate its staffing needs; the other 14 used different methods. Furthermore, 10 facilities used a method other than their regional offices used to estimate staffing. In only one of the four regions we visited--the Southern Region--did both the region and facility managers use the same method to estimate their staffing requirements. The method they used, however, was FAA's pre-strike staffing standards.

There is a sharp contrast between the views of headquarters and field officials on FAA's controller staffing standards, with headquarters officials describing the staffing levels provided by the standards as "roughly right" while field managers we visited described them as inadequate. According to facility managers at both centers and terminals, they could not operate as they do now if they were limited to the staffing levels resulting from FAA's standards. Although managers believed that they could still handle the air traffic, they predicted other impacts from these lower

staffing levels such as eliminating all controller training and denying requests for annual leave.

Recent congressional actions have offset some of the problems created by FAA's controller staffing standards. As shown in the attached appendix, in fiscal year 1987 the Congress authorized staffing for about 1,100 more positions than called for in the staffing standards. And for fiscal year 1988, both the House and the Senate Appropriations Committees are again proposing staffing levels higher than those called for by the staffing standards.

Even the higher staffing levels authorized by the Congress may not be sufficient to meet the field's needs. Four of the 15 facilities we visited were selected because they were staffed above the standard. According to three of these facility managers, additional resources are still needed because FPL controller staffing is below optimum; overtime expenditures continue at high levels; and new work load has not been factored into existing authorizations. Because of increased overtime at terminals, FAA experienced a nationwide increase in overtime expenditures in fiscal year 1987 as compared to fiscal year 1986. However, we believe that FAA would have experienced more serious impacts from reduced controller staffing levels if the Congress had not authorized more staffing than FAA requested. These impacts would include an even greater increase in overtime, reduced levels of service, increased flight delays, and deterioration in controller morale.

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In summary, we believe that staffing standards are critical for estimating controller staffing needs. FAA needs estimates which managers and controllers agree are reasonably accurate reflections of actual staffing needs. Reliable standards would greatly assist the Congress in determining the appropriate levels of funding and standards of performance for FAA to achieve. Accomplishing this, however, will require standards that meet FAA's stated objectives of being high quality, current, and accurate.

While we are still in the process of formulating our specific recommendations for our forthcoming report, it is clear to us that FAA must improve its standard setting process. We believe that FAA needs to do three things to put itself back in the position where the Congress can rely on its judgments about controller staffing needs. First, FAA needs to revise its standards to better reflect the staffing levels managers need to operate their facilities. Second, FAA needs to inform the field more effectively about its staffing process as well as incorporate field needs and perspectives into that process. This approach would enhance the standards' acceptability and use in the field as well as help ensure that their projections are up-to-date and reflect actual field conditions. Third, FAA needs to develop a formal validation process, to ensure that its standards are accurate and current, and a formal feedback process, to ensure adequate staffing for each facility and its level of activity. FAA has taken several initial steps towards improving its standards by reassessing the terminal

staffing standard and procedures for calculating controller pipeline needs.

Mr. Chairman, this concludes our prepared statement. I will be pleased to answer any questions you may have at this time.