STATEMENT OF FRANK L. FRISBIE, ACTING ASSOCIATE ADMINISTRATOR FOR DEVELOPMENT AND LOGISTICS, FEDERAL AVIATION ADMINISTRATION, BEFORE THE HOUSE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION, SUBCOMMITTEE ON AVIATION, CONCERNING THE FAA'S FLIGHT SERVICE STATION AND SYSTEMS MAINTENANCE PROGRAMS, JUNE 5, 1986

Mr. Chairman and Members of the Subcommittee:

I am Frank Frisbie, FAA Acting Associate Administrator for Development and Logistics. Mr. Norbert Owens, Deputy Associate Administrator for Air Traffic, is with me today to respond to questions you might have about the FAA's flight service station program.

We are pleased to appear before the Subcommittee today to discuss the FAA's flight service station (FSS) modernization and systems maintenance programs. Both of these programs provide important services which affect the safety and efficiency of the National Airspace System and the people who use it, and both are undergoing significant technological change.

The FAA's systems maintenance activities are currently in a transitional phase. Today, more equipment is being delivered to the field than ever before, and that equipment is, in many respects, far different than what our workforce has dealt with in the past. Overall traffic levels are higher than ever before, and they will increase, requiring a continuing effort on our part to assure the efficient flow of that traffic. The mix of skills that

will be required of FAA maintenance personnel to operate in the future environment is changing, calling for a greater systems orientation and for more expertise in computer applications. Our efforts to attain greater productivity and efficiencies in our systems maintenance functions will continue to require changes in the traditional ways we have done business. We recognize that all of these factors present a major challenge to us in overseeing the maintenance of the National Airspace System, and we have taken measures to manage this program in a way that we are confident will meet that challenge.

One major benefit being derived from the NAS Plan is the increased productivity in our maintenance workforce. NAS Plan estimates call for a one-third reduction in the size of the field workforce needed to perform future maintenance activities compared to the 1980 level. That means in the year 2000 there will be a need for approximately 7,735 maintenance positions versus 11,602 in 1980. We have already made substantial progress toward achieving that ultimate goal. Authorized field maintenance positions for FY 1986 are 9,277, with 8,918 requested in the President's Budget for FY 1987. I should also point out that, as appropriate, when we buy new equipment, we contract for its maintenance for a period of years. In addition, we are embarked on a pilot project to assess the economics and feasibility of contracting out some maintenance activities. Thus, our systems maintenance staffing levels and future plans reflect the carrying out of the commitment for enhanced productivity we made to you 5 years ago when we sought

approval of the NAS Plan. Achieving these productivity improvements has not been easy, but we have been able to make this progress while maintaining the high level of system availability we need for the finest air traffic control system in the world.

I would like to briefly mention how we achieved the existing degree of productivity improvements, and then describe our future plans. Most of the productivity increases we have attained were possible through changes in NAS equipment, moving away from equipment that needs heavy preventive and on-going maintenance to equipment with fewer requirements for maintenance and greater reliability. For example, since 1980 it has been possible to save approximately 315 employee years of work through the replacement of various tube-type equipments with solid state equipment. I am sure that those of you who remember the maintenance and repair requirements we all faced with the earlier tube model televisions will understand the productivity gain we have achieved from the introduction of solid state equipment. Over the same period, our VORTAC replacement program has made it possible to achieve nearly 800 employee years worth of productivity as well. Additional position savings were possible through other equipment changes, contracting out maintenance of structures and grounds, consolidating field sectors, and through a variety of management initiatives we have taken such as delineating those facilities which most need a quick turnaround in repair time versus those which are not critical to the efficiency of the system.

Importantly, the productivity increases we have made have been accomplished while maintaining high levels of service to the traveling public. In general, overall system performance has improved over the past seven fiscal years (1979 through 1985). For example, one performance indicator we measure is Mean Time Between Outages (MTBO). This indicator measures the time between interruptions of service at a facility. In terms of MTBO, we have realized dramatic improvements over this period for major facilities such as our long range and terminal radar facilities as well as our en route and terminal automation equipment. In the en route environment, Air Route Surveillance Radar (ARSR) and Air Traffic Control Radar Beacon MTBO has essentially tripled over this period, and en route Composite Radar Data Processing Service (CRAD) MTBO has nearly doubled. In the terminal environment, the Airport Surveillance Radar (ASR) MTBO has improved gradually, while the Terminal Automated Radar Service (TARS) MTBO improved dramatically over the same period.

We also measure Mean Time to Repair (MTTR). Over the same seven-year period, we have experienced a modest increase overall in MTTR, which measures our efficiency in restoring services to users, although we have seen improvements for some systems such as the ASR and TARS. This overall increase in MTTR may be attributable to a variety of factors. For one thing, it parallels the decision we made several years ago, which I have alluded to, that provides greater regional and local flexibility in determining when to respond to facility outages. Tailoring local

practices to respond to facility outages was based on a recognition that different facilities have different criticalities to the operation of the air traffic control system, and that for some equipments there are significant redundancies. Further, such a decision enabled us to employ reasonable cost reduction techniques and to impose fewer restrictions on the off-duty activities of our employees. Thus, we have authorized local management decisions concerning when to respond to facility outages. These decisions, however, are made taking into account such factors as weather, equipment redundancy, traffic flow, the relationship of one facility to another, and the like.

There are probably other reasons as well for the slight increase in MTTR such as delays in obtaining parts for some of the older equipment, and increased technician response time due to distance from some facilities. We have not surfaced any particular trend at this point resulting from these actions. We will continue to analyze the MTTR data at headquarters both to determine ways in which to attain further improvement in facility availability and to continue to assure that our resources are devoted to the most important kinds of facilities on a nationwide basis. The system is and will continue to be safe.

Looking ahead to the future, we will continue our programmatic effort to enhance systems maintenance productivity and to effect additional cost control in keeping with the objectives of the NAS Plan. The continued introduction of new technology equipment will

afford additional position savings through systems that will operate longer without the need for repairs, that do not need the intense preventive maintenance of our older systems, and which can be restored to service through the replacement of plug in modules rather than through a comprehensive teardown of the equipment itself. And we will continue to achieve savings through the selective consolidation of Airways Facilities field sectors and through concentrating those resources where they are most valuable and productive.

Another major change which will bring about substantial productivity improvements is an essential change in maintenance philosophy which has been evolving within the agency and industry, too, for that matter. It involves a system level focus on the operation and maintenance of systems, and the integration of maintenance activities into a national command structure, relying heavily on computer technology. One facet of this will be the use of remote maintenance monitoring (RMM) throughout the air traffic control system. This technique, already routine throughout most of the telephone industry, relies on a communications network of linking computer systems which monitor the status of equipment. Engineers and technicians will be stationed at central locations to care for the on-site equipment and to ensure that there is a high level of service and performance throughout the system. RMM will provide continuous, real-time, on-line remote sensing of air traffic control equipment, to a degree that far exceeds our current capabilities to monitor today's less sophisticated

equipment, and will result in tangible improvements in equipment monitoring, reliability, and performance.

I mentioned that we would reduce the number of sectors where our engineers and technicians are employed through maintenance centralization efforts. We also will be establishing Maintenance Control Centers (MCC) to support the real time monitoring, control, and quality assurance of operational facilities. The MCC will provide other automation support to sector management. New technology systems with remote monitoring and control capability, and built-in reconfiguration capability will allow service restoration to occur more rapidly through the MCC's. For the most part, older technology, labor-intensive systems will be retrofitted with remote monitoring and control capability.
We now have available to us a detailed, demographic analysis of our Airways Facilities workforce that has formed the basis for our recent projections in this area. The average age of this workforce in nearly 46. Over 11% could elect to retire now, with 38% eligible to retire in five years. The aging nature of this workforce is a concern. The importance of closely monitoring this situation is essential and planning for appropriate corrective action is what we are doing. We will ask for the personnel resources we need to assure that proper maintenance and a safe system continue. We are prepared to maintain our workforce levels as an interim measure to preclude the potential for disruptions in service due to the aging nature of that workforce.

We do have options and plans to assure safety based on proper maintenance. One area is contract maintenance. For example, we are planning for the maintenance of the Host computer systems to be assumed by the manufacturer upon commissioning. The Subcommittee is also aware that our FY 1987 budget request contains intitial funds for a three-year pilot program to examine a supplement to the internal FAA workforce by using private sector organizations to perform routine FAA maintenance activities for some facilities. Initial funding for this test program, which will be implemented in three regions, encompasses 500 employee years of effort per year.

We are also seeking a technical support services contract to assist in the introduction of new equipment. The bulk of this installation work is not done by FAA maintenance personnel, but systems maintenance technicians are called upon to provide some assistance in receiving and accepting equipment on site, arranging storage, monitoring test and installation, and participating in joint acceptance and inspection. Thus, the technical support service contract would provide some relief to our technician workforce.

In short, we have already made significant progress in achieving productivity gains in our maintenance workforce, and have done so in a way that protects the operation and efficiency of the system. We have a variety of measures underway that will assist in attaining further productivity in a reasoned and prudent

manner. In addition, natural attrition will enable continued progress toward important projected savings.

I would like to turn now to a discussion of the FAA's flight service station program. The FAA's network of slightly more than 300 flight service stations (FSS's) provides weather, flight information, and communication services directly to pilots. These FSS's offer a broad range of preflight and in-flight services especially aimed at general aviation pilots, although the system is also used to some extent by the military and air carriers. These services include processing flight plans, briefing pilots on weather and aeronautical matters important to the safety of flight, and assisting pilots in distress.

The present FSS network, however, is not as efficient as we would like. It is highly labor intensive and costly to operate. Therefore, we have been engaged in a modernization program to increase flight service station specialist productivity, contain costs, and efficiently meet the future demands on the system with improved technology.

By automating this network and consolidating today's facilities into 61 automated hubs or automated flight service stations (AFSS's), the FSS network will be able to handle the projected 1995 demand with substantially fewer flight service station specialist personnel and at significantly less cost. Even further though, the quality of the service we can offer to pilots will be

vastly improved, particularly in the vital area of weather reporting where our provision of information will be more complete and timely.

The first phase of our program entails the introduction of Model 1 Flight Service Automation Systems. After some delays, Model I processors have now been delivered to 9 locations, and 14 AFSS's have received Model 1 systems. The initial Model 1 commissioning occurred in February 1986 at the Cleveland family of facilities. We have experienced some minor "bugs" with the new automated systems we have introduced, since it is simply not possible to detect all conceivable malfunctions during laboratory testing. However, none of these glitches has proven to be significant in nature. In fact, our current experience with the new automated systems is that they are offering a high level of service, through such features as the Integrated Communications Switching System which improves pilot access to FSS specialists and allows a pilot direct routing to prerecorded weather messages and flight plan recorders.

The next planned stage goal for our AFSS's is the introduction of the capability for direct user access to flight services. We have looked carefully at alternatives for providing direct user access terminal services (DUATS) to enhance user accessibility to the system. As a result, we anticipate using existing private sector technology and firms to satisfy direct access requirements for weather briefings and filing flight plans. Activities are

presently underway to develop the necessary requirements documentation and procurement strategies. We anticipate that the DUATS system could be fully implemented within about 30 months after approval of the acquisition strategy, while the capability to directly file flight plans may be available within a year.

We are reaching the stage where the installation of automation equipment will allow consolidation of stations into AFSS's. We are, however, having to defer some consolidations because pressure on the FY 1986 budget has reduced our ability to move people, thus, affecting our planned consolidations. I want to make it clear, however, that this does not reflect any lessened commitment toward modernizing our FSS system, nor any significant slippage in obtaining that objective.

We earlier had intended completion of our consolidation and automation program in FY 1992. Our plans called for 61 AFSS's at that time which would serve the entire country. We plan to have commissioned 30 AFSS's by the end of FY 1987. This number will jump dramatically to 51 AFSS's scheduled to be in place by the end of FY 1988. We plan for completion of commissioning of the 61 AFSS's in FY 1990. Consolidations will take longer, probably until FY 1993. With the 61 fully active, automated stations in operation, we will determine if any of the other facilities should remain longer in the inventory. At this time, it is too early to tell what will be needed to assure the proper level of service in all instances.

On the whole, our program is reasonably on target with our earlier approach. One continuing problem we will face, though, is the need to part-time or close on an emergency basis low activity FSS's that experience personnel turnover, but service will continue to be available to pilots from other operating FSS's. As we progress with facility consolidations, this problem will be ameliorated since the AFSS's will be staffed to levels which should not be impacted adversely by modest personnel turnover.

The AFSS program remains a high priority with us. We are committed to its completion in an orderly and timely fashion, and have taken steps to assist in attaining that goal.

Mr. Chairman, that completes my prepared statement. Mr. Owens and I would be pleased to respond to questions you might have at this time.