

STATEMENT OF THE HONORABLE QUENTIN S. C. TAYLOR, DEPUTY ADMINISTRATOR OF THE FEDERAL AVIATION ADMINISTRATION, BEFORE THE HOUSE COMMITTEE ON SCIENCE AND TECHNOLOGY, SUBCOMMITTEE ON TRANSPORTATION, AVIATION AND COMMUNICATIONS, CONCERNING REVIEW OF FAA R&D PROGRAM. SEPTEMBER 25, 1979.

Mr. Chairman and Members of the Subcommittee:

I am pleased to be here to participate in this first stage of your annual program review of the FAA's Research, Engineering and Development programs.

As you have requested, our presentation today will review the plans we outlined to the Subcommittee during the Subcommittee's Fiscal Year 1976 program review, and will note the status of those plans. We will also discuss our plans for Fiscal Years 1981 through 1985.

I have at the witness table with me Mr. Al Albrecht our Associate Administrator for Engineering and Development and Mr. Neal Blake who is acting as Al's deputy. Seated in the audience are Mr. Sieg Poritzky, Director of our Office of Systems Engineering Management; Mr. Bob Wedan, Acting Director of our Systems Research and Development Service; and Mr. Joe Del Balzo, the Acting Director of our National Aviation Facilities Experimental Center who are prepared to add their expertise in responding to your questions.

In light of your interest in the Administration's proposed airport and airway legislation, I would like to focus for a moment on that proposal.

As you know, the current Airport and Airway Development Act expires at the end of Fiscal Year 1980. We have proposed to the Congress new legislation which would establish a comprehensive program that would run from Fiscal Year 1981 through 1985.

Our proposal calls for a restructuring of the airport grant program with greater state involvement and added funding. Further, the legislation calls for an increase in the authorized level of funding for the Facilities and Equipment (F&E) appropriation, which is used for financing the capital costs of the airway system, and provides for a steady increase in the program level for Research, Engineering, and Development (RE&D). The funding levels we have proposed are based upon our estimates of what the system needs and what we can reasonably obligate in the respective fiscal years.

Our bill emphasizes improved airport system planning, as well as the development of critical reliever airports in large metropolitan areas that are experiencing traffic congestion now or are expected to within the next decade.

In addition to structuring our legislation to meet this safety and capacity priority, we have sought to accommodate the environmental needs of the system by broadening the eligible uses of airport grants to encompass certain noise compatibility items and the planning of noise abatement actions. We have also emphasized the provision of adequate navigation aids and airport facilities at points receiving scheduled commercial air service.

Further, the bill provides for greater state involvement through the administration of airport grants to certain smaller airports. To facilitate competition in air transportation, it contains provisions for keeping facilities available for use by air carriers on fair and reasonable terms without unjust discrimination. And, it sets out a taxing structure for continuing the Airport and Airway Trust Fund, while providing for relief of the general taxpayer through greater use of the Trust Fund to pay the costs of operating and maintaining the Nation's airway system.

As I mentioned earlier, our proposal calls for higher funding of the Facilities and Equipment Program. This program finances the capital costs of the airway system and permits the acquisition, establishment, and improvement of

radars, navigation aids, landing systems and air traffic control facilities. The F&E Program is, therefore, instrumental in providing safety and efficiency enhancements to our air transportation system. And, as the Subcommittee recognizes, the F&E Program enables us to apply to the system the end products of our R&D efforts.

We are also proposing a steady increase in the funding authorization for the FAA's Research, Engineering, and Development Program. Current RE&D funding of \$75 million would increase to \$90 million in Fiscal Year 1981 and by an additional \$5 million each year thereafter. This would provide \$500 million from 1981 through 1985, to enable the FAA to pursue RE&D programs that will contribute to future safety and efficiency in the system.

In determining funding requirements for F&E, RE&D, and airport grant programs for the period 1981 through 1985, anticipated aviation activity from the present through 1990 was used as the basis for analysis of the system.

Aviation related forecasts through 1990 predict a substantial increase in aviation activity and supporting FAA services. For example, the commuter airlines are projected

to experience an 89 percent increase in passenger enplanements between Fiscal Years 1978 and 1990. The general aviation fleet and hours flown by general aviation are expected to increase by more than 65 percent during the same period. The air carrier industry is projected to experience a 65 percent increase between Fiscal Years 1979 and 1990.

Instrument operations at airports with FAA traffic control services are forecast to increase 59 percent between Fiscal Years 1979 and 1990, while itinerant and local operations at those airports are expected to increase 50 percent. FAA Air Route Traffic Control Centers are expected to handle 54.6 million Instrument Flight Rules (IFR) Operations during FY 1990, up 56 percent from 1979. Total flight services are forecast to experience an equally high growth, rising 91 percent.

In recognition of this continued aviation growth, our proposed funding levels are intended to deal with the needs of the system for added capacity, new capabilities and equipment, and renewal and replacement of existing facilities and equipment.

Mr. Albrecht and Mr. Blake will discuss our R&D programs in detail so I will limit my further comments to a few brief observations.

Most of the programs we will be reviewing today have had a high degree of visibility in the Congress, the aviation industry, and the media. The Microwave Landing System, Discrete Address Beacon System, Aircraft Separation Assurance, Beacon Collision Avoidance System, Wind Shear, and Wake Vortex come readily to mind.

I would like to think that this high visibility is a sign of the importance of those programs to the aviation community and to those who share the responsibility of providing a safe and efficient air transportation system. I believe it also indicates that our Engineering and Development programs have been directed to the primary areas of concern of the users, the industry, and the public. It is, of course, clear that we cannot claim unanimous support for all of our current or past efforts; nor is it likely that there will be a unanimity of view concerning our future programs given the diverse interests represented in the aviation community. However, we can and do claim a significant level of support for the technical solutions we have proposed.

I would like to be able to report to you that the progress in all of our programs meets our past expectations. But, as the Subcommittee recognizes, we are conducting research and development programs which must interface with a highly complex system composed of humans, aircraft, and automated equipment. Each gain can be achieved only by introducing the R&D products into a real time operating environment; an environment which cannot tolerate any degradation of safety and which, in an era of rapid traffic growth, must be highly sensitive to any undue impact on efficiency. These processes take time. I don't intend to sound defensive, though, because we are, in fact, proud of the advancements we have made through our engineering and development programs.

I am aware of the Subcommittee's interest in the transition of our development products into the implementation and establishment phase of the various programs.

To meet the needs for effective program management, we have established a Systems Acquisition Management (SAM) procedure which documents and schedules all of the activities for the largest systems from Requirements through Implementation. The procedure is a variation on the OMB A-109 requirements

and, in fact, is more comprehensive in several areas. SAM provides the documentation of the key elements in the acquisition process, such as transition plans, from development to implementation. It also prescribes a management system to serve the needs of the decision-making level of management with appropriate indices of progress or problems. This is proving to be an important touchstone for our various R&D programs, and has contributed to the success of other FAA programs.

Before closing, Mr. Chairman, I would like to express my view that our RE&D Plan, which will be described to you in detail in a moment, reflects a comprehensive and sound set of programs that place the highest priority on safety needs, combined with a high degree of concern for increased productivity and performance. We are confident that this plan will provide us with the capability to meet the future needs of our Nation's air transportation system, and look forward to receiving the benefit of your views on our programs.

Mr. Chairman, that completes my prepared statement. I would like to turn now to Al Albrecht who has a brief statement.