

STATEMENT OF THE HONORABLE DAVID R. HINSON, FEDERAL AVIATION ADMINISTRATOR, BEFORE THE HOUSE COMMITTEE ON SCIENCE, SUBCOMMITTEE ON TECHNOLOGY, CONCERNING THE FAA'S 1997 R,E&D AUTHORIZATION AND MANAGEMENT REFORM. APRIL 18, 1996

Chairwoman Morella and Members of the Subcommittee:

I appreciate the opportunity to appear before the Subcommittee today. With me is Dr. George L. Donohue, Associate Administrator for Research and Acquisitions.

I would like to start by addressing the subcommittee's interest in management and acquisition reform at the FAA. We have carefully reviewed the subcommittee's proposed bill that addresses these issues, and we believe that the management and organizational changes we have made over the past year, in conjunction with the new acquisition management system that went into effect April 1, fully address all of your concerns.

We started the process of streamlining the FAA's acquisition system over a year ago. We took this initiative because we realized we must change the way we do business to keep pace with the needs of aviation and the rapidly changing world of technology.

We realized that to achieve any real meaningful acquisition reform, we would need relief from stifling procurement statutes and regulations. In the meantime, we wanted to take whatever action we could internally to get our own house in order.

We began by putting in place a new organization under Dr. Donohue's leadership that pulls together research, prototyping, system development and acquisition activities into a seamless process. It provides integration across functional lines and replaces a hierarchical, stovepipe organization with a flatter, horizontal structure. This new structure emphasizes empowering employees and placing decision-making and accountability at the lowest levels.

Key to this new organization are integrated product teams (IPT) which bring together representatives from the various disciplines: research specialists, air traffic and airway facilities specialists; logistics, testing and contract personnel; system and specialty engineers; lawyers, and others, to focus exclusively on delivering products. IPT's have life-cycle responsibility for their products.

Also critical to the process is early and sustained involvement on the part of our customers--representatives of general aviation, business flying and the airlines. We must have them at the table from the beginning to help us define requirements and then work hand in glove with us throughout the development and implementation phase to make sure we stay on track.

We also have introduced additional oversight mechanisms at the corporate level. One of the major changes in the restructured Office of Research and Acquisitions is to provide on-going independent reviews and evaluations of all major acquisition programs. These reviews have been restructured so that each IPT program is reviewed every six months in a rigorous process that frequently lasts a full day, sometimes longer. Only by demonstrating conclusively that their programs are ready for the next stage in the acquisitions process are IPT team leaders given the green light to proceed.

Another feature of our new way of doing business is that we are getting away from the costly and time-consuming systems development approach of the past. Instead, we are moving towards COTS/NDI acquisitions--shorthand for "commercial off-the-shelf, non-developmental items"-- whenever possible, and adapting equipment and systems to meet unique FAA operational requirements, as needed.

Since beginning the acquisition streamlining effort more than a year ago, we have reduced by 50 percent the number of internal regulations and directives governing acquisition. Now, with the statutory relief provided by the Congress, we can streamline that process even further.

With the new acquisition system that went into effect on April 1, we replaced acquisition policy documents that stood more than 7 feet high with a single document of about 100 pages. Our immediate goal over the next three years is to cut acquisition costs by 20 percent and the time it takes to acquire new systems by 50 percent. We not only believe we can achieve this goal--we think we can improve on it.

Reform has not come too soon. At a time of shrinking Federal resources and growing customer demand, we must replace aging equipment and systems on a broad scale throughout the entire airspace system in the most economical way possible.

Our fiscal year 1997 request for RE&D is \$195.7 million. This is a 5 percent increase above our FY 1996 appropriation. This funding will enable us to continue limited research and development in a number of critical areas including aircraft and airport safety, security, air traffic control, hazardous weather, and aviation human factors.

I would like to take just a few moments to discuss some of our more critical R&D efforts.

Air traffic management technology research is providing traffic flow managers real-time traffic displays and decision support tools for managing national traffic flows. The tools provide a capability to manage traffic flows in real-time so that static, preventative flow restrictions are not required. R&D contributions in this area have reduced delays by 30% over the past 7 years. Current R&D efforts in this area are concerned with sharing flow management information and decisionmaking with aircraft operators, in particular, the

airlines, as a means for assuring that traffic delays and reroutings necessary to assure safe traffic levels take into account the operational needs of users.

In the oceanic area, we are harnessing satellite-based data link communications capability and computer-based decision support systems to increase the flexibility of traffic management operations. These capabilities will be deployed in four stages coordinated with the airlines and our partner civil aviation authorities in the Pacific Basin beginning in 1997. User operating cost savings are expected to amount to \$8 billion through the year 2015.

FAA approved the global positioning system as a supplemental navigation system for non-precision approaches in 1994. In 1995, it was accepted as a primary system for enroute navigation and by 2002 it will be in use for all phases of flight, including Category I precision approaches. Virtually all segments of the aviation community are heavily involved in this effort. The airlines have estimated that this new capability will reduce their operating costs world-wide by \$5 billion annually.

In the weather arena, we are developing icing forecasts with significantly improved definition of the severity and location of icing conditions. Current forecasts are very general in terms of the hazard's predicted location and may block out an area of 20 thousand square miles when the actual icing hazard occurs over an area of only a few hundred square miles.

The human factors program recently has produced an air carrier training program (the Advanced Qualification Program) that provides substantially improved training without increasing training costs. The foundation of the program is a training methodology that focuses specifically on each carrier's unique operational environment. Eight major air carriers have implemented or are in the process of implementing this new training

methodology. In FY 96 and 97, the RE&D program will extend this capability to the regional air carrier community.

In the general aviation area, the human factors program is investigating low-cost training techniques based on relatively simple simulators as a means both for reducing training costs and for improving the quality of the training received.

I am happy to be able to report that the Safety Performance and Analysis System (SPAS) has been deployed for test and evaluation purposes at our 9 regional headquarters and 45 flight standards district offices. SPAS analyzes aircraft certification, inspection and investigation data to identify trends that may indicate emerging safety issues associated with aircraft or aircraft systems or components. The objective is to better focus the attention of our aviation safety inspector workforce on critical areas as opposed to routine inspections. A second generation SPAS capability will be released in mid 1997 and deployed throughout the FAA aviation safety community in 1998. The capability has been made available to the DOD Air Mobility Command as well.

There are additional accomplishments that I would like to describe in the areas of fire safety, aviation security technology, nondestructive inspection of engine components, and airport safety. In the interest of time, I will mention only one, a new material for protecting passengers from external fires that can occur in accidents. Approximately twenty percent of fatalities occur in impact-survivable accidents involving fire. The fatalities are a consequence of post-crash fires and these fires generally begin as external fuel fires which then penetrate the passenger cabin. This Spring, FAA demonstrated the effectiveness of a new insulation material as a fuselage burnthrough barrier. During tests at the FAA Technical Center's full-scale fire test facility, researchers compared the new material, an oxidized acrylic fiber, to the fiberglass insulation currently used on aircraft. The fiberglass batting held the fire back for approximately 2 minutes. The new material

provided more than 5 minutes protection for the passenger cabin. That difference of 3 minutes can significantly reduce fatalities in impact survivable accidents.

Before closing, I would like to take a moment to discuss the ways FAA intends to maximize its limited RE&D funds in this difficult budget climate. As in the past, FAA will continue to aggressively pursue R&D partnerships with industry, universities and other government agencies. The objective of these partnerships is to leverage the agency's RE&D investment with contributions from these other sectors.

A number of vehicles are employed, including grants to colleges and universities, consortia and cooperative research and development agreements established with industry, and cooperative agreements with other government agencies. Altogether, FAA has established partnerships with more than 300 outside organizations the value of which is estimated to exceed \$25 million annually. We have had wonderful results from these ventures and we will continue to maximize our R&D dollars in this way.

This concludes my prepared statement and I would be pleased to answer any questions you may have at this time.