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Privatization of Federal Aviation
Administration Functions

Statement of
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Before the
President's Commission on Privatization



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Mr. Chairman and Members of the Commission:

We appreciate this opportunity to appear before the Commission to discuss the results of our work on the Federal Aviation Administration (FAA). We understand the Commission is considering the pros and cons of different approaches to performing functions that are now the responsibility of FAA by, for example, transferring the aviation trust fund and some or all of FAA's air traffic control (ATC) responsibilities to a private sector entity or a public corporation. Proponents of these proposals contend that federal budgetary, personnel, and procurement requirements have handicapped FAA and that shifting FAA's responsibilities to a private sector entity or a public corporation would permit a more effective response to the needs of the ATC system.

Over the past few years, we have completed a considerable body of work on how well FAA is carrying out its responsibilities for ensuring aviation safety and the agency's efforts to operate, maintain, and modernize the ATC system. Our work has not addressed issues of privatization directly, so rather than focus on the specific proposals, I would like to highlight our key findings and then discuss what they may suggest in the context of privatization.

Our testimony today will make two overall points. First, ensuring accountability for aviation safety and protection of the public should be a key criterion by which proposals for change ought to be judged. Second, our work shows that deregulation has combined with other factors, such as the 1981 controllers strike and the need to develop new ATC technology, to present FAA with

formidable challenges, and we believe these challenges cannot be overcome through structural changes alone. While FAA has not always met these challenges as effectively as it could have, we believe that FAA is capable of making many necessary improvements within the framework of the existing system.

In this regard, it is important to recognize that FAA now has initiatives underway that will help meet the challenges it has faced during this decade. Progress has been made in rebuilding the controller workforce in the years following the strike, new technology is coming on line, and a major overhaul of FAA's airline inspection process is underway. All this occurred during a period of enormous growth in air traffic and rapid change in the aviation industry. Numerous problems remain, but, based on our reviews on FAA work forces and ATC modernization, we do not believe that structural deficiencies in the current system prevent their solution.

FAA'S WORK FORCES

FAA employs large work forces possessing critical technical skills, including about 11,400 air traffic controllers, 7,600 maintenance technicians, and 2,000 airline inspectors. Our work shows that FAA needs to improve the ways it determines its work force needs and manages the resources that it has.

Controllers. FAA has made progress in rebuilding the controller work force. The number of fully trained controllers has increased from a 1981 post-strike level of 4,900 to about 9,800 at the end of fiscal year 1987. (Attachment 1) However, our 1985

survey of air traffic controllers found that controllers and their supervisors felt they were being stretched too thin. Additional work has shown that controllers are overloaded in peak periods and that further safeguards may be needed. FAA's current staffing standards fall short of accurately reflecting controller staffing needs, particularly in providing sufficient staff to cover peak traffic periods and maintain an adequate training pipeline. Until valid controller staffing standards are in place, neither the Congress nor FAA will know how many controllers are needed. FAA agrees that more valid staffing standards are needed, and is taking action to address some problems with the standards.

Maintenance Technicians. Maintenance technicians maintain and repair ATC equipment throughout the system. However, attrition of FAA's maintenance staff has resulted in critical technician vacancies across the country. This shortage could become more acute because of many potential retirements and the time needed to train replacements. Although FAA has staffing standards for maintenance personnel, it has not used them in preparing budgets because FAA managers did not believe they would receive support for staffing at that level, and, in any event, the staffing standards had not been fully validated. Our September 1987 report recommended that FAA improve validation of its staffing standards and revise its staffing targets accordingly. We also suggested that options be developed for meeting short term staffing needs.

Airline Inspectors. Starting in 1984, a series of FAA and GAO studies showed the need for a major overhaul of FAA's airline

inspection program. The studies called for adding new inspectors, rewriting inspection guidance, rebuilding training programs, and installing effective management controls. FAA has underway a wide-ranging effort to strengthen its inspection program, including defining staffing needs, hiring more inspectors, and developing better guidance and training programs. It will, however, take several more years of effort to overcome the deep-seated problems in the inspection program.

FAA'S NATIONAL AIRSPACE

SYSTEM (NAS) PLAN

FAA's NAS Plan, which will extend beyond the year 2000 at a total cost of nearly \$20 billion, is one of the largest civil procurements in history. The Plan provides for a technologically complex overhaul of the ATC system, including new surveillance and weather radars, data processing computers, and communications systems. To carry out the plan, FAA must manage over 150 individual projects involving hundreds of contracts.

About half of the NAS Plan budget is for 12 projects designated as major systems--projects that will cost more than \$150 million or are critical components of the plan. The 12 major systems have experienced schedule delays ranging from 1 to 8 years. FAA underestimated the complexity of these systems, the time needed to develop software, and the interdependency among the systems. Some technologies, thought to be available from the private sector "off the shelf", required further development and testing to meet operational requirements. FAA had not defined the operational

requirements of other systems well enough to permit development of adequate systems specifications. (Attachment 2)

Our work shows that NAS Plan delays resulted from FAA's original acquisition strategy, not funding shortages. Our work on major acquisitions has often shown that FAA's original approach of using a fast-track, concurrent development and acquisition strategy lead to increased technical, operational, and economic risks.

NAS Plan delays are having a variety of effects. FAA expects to provide better air traffic control with fewer people because of NAS Plan improvements, but the delays are making it difficult for FAA to provide the level of air traffic control needed in the meantime. Secondly, the NAS Plan is supposed to save the airline industry considerable expense by reducing delays and permitting more effective routing, but these benefits are now being pushed further into the future. A third effect is that the Aviation Trust Fund, which was set at a level which would have paid for the NAS plan if it had proceeded on schedule, now has a substantial unused balance.

Despite initial delays, a new ATC computer and several other NAS Plan systems are now entering the deployment phase and FAA is taking some steps to correct acquisition deficiencies. In addition to issuing its first standard operating procedures to be followed in acquiring major systems, the agency has established test and evaluation procedures, and is also rethinking its approach to acquiring individual systems.

GENERAL OBSERVATIONS

ON PRIVATIZATION

We would like to share with the Commission several issues that we believe should be considered in the deliberations on FAA privatization.

Ensuring Accountability for Safety

Public interest and attention continues to focus on aviation safety, yet our ATC system is among the safest in the world. As Chairman Mineta of the House Subcommittee on Aviation has stated, the American public imposes a far more demanding safety standard on aviation than on most other activities in our society. We believe that this emphasis is appropriate, and that it is a fundamental reason for the Nation's safety record.

We believe that any shifts in responsibility for ATC functions should make explicit provision for retaining adequate accountability for safety to the executive branch, the Congress, and the public. Safeguards will need to be put in place to assure the necessary emphasis is placed on the need to maintain a margin of safety in the face of demands to accommodate growth in air traffic and reduce delays. We see this as a significant issue in view of the fact that FAA predicts system-wide air traffic to grow 5-6 percent over the next year and as airlines face heavy pressure to reduce delays and control costs to remain competitive.

Key Problems Will Exist

Regardless of Organizational Structure

Based on our work, we believe that privatizing FAA, or shifting to other forms of organization will not, of itself, be sufficient to alleviate fundamental problems. For example, modernization of the ATC system has been delayed because sophisticated technologies need to be developed and shown to work reliably, not because of funding shortages or procurement rules. In our view, a systematic approach to technology development will be required whether or not privatization occurs.

Better management controls over FAA work forces will also be required whether or not the functions remain within FAA, and much remains to be done to rebuild the controller and maintenance work forces. Considerable time is required to fully train new staff for these work forces, and we believe this would be a factor for any new ATC corporation, as it is now for FAA. Similarly, any corporation would have to cope with the same limited airport capacity and runway restrictions now faced by FAA, as well as with the resulting congestion and delays.

Defining the Scope

of Privatization

In its broadest sense, the air traffic control system consists of mutually dependent relationships among airport staff, FAA headquarters and field operations, maintenance technicians, controllers, and flight crews, all governed by regulations and operating procedures. To ensure a common understanding of the

issues involved in privatization as well as the policy ramifications, we believe it is important to establish which functions are to be privatized.

We understand, for example, that under some proposals, FAA would remain responsible for safety regulation, but a new entity would be responsible for the ATC system. We have several questions about what this division of responsibility implies and how it would operate. For example, who would make the critical, often day-to-day judgments about how much traffic could be safely handled by controllers, enroute separation minimums, how much traffic an air sector should accommodate, whether aircraft should be delayed on the ground or in the air, and a host of other considerations, including monitoring airline compliance with safety procedures and responsibility for enforcement action. Depending on the specific privatization proposal under consideration, similar questions might be raised in other areas, such as airport security, approval of aircraft design, and pilot qualifications and training.

Alternatives to

Privatization

The reasons some have advanced as a justification for privatization suggest that the choices are not simply between the status quo and privatization.

On the financing side, for example, the aviation trust fund has a substantial surplus, yet the various FAA work forces must compete for funding from general treasury revenues which are available for other federal programs as well. As our report on the

trust fund shows, this is so for two reasons: (1) the trust fund does not take in enough money to fund all work force salaries; and (2) the trust fund legislation significantly restricts the trust fund's availability to cover these costs. Although the fund now has a surplus due to NAS Plan delays, annual revenue is less than \$4 billion a year, which is not enough over the long term to finance FAA's annual outlays of nearly \$5.4 billion per year. Use of the trust fund, which receives revenue from user taxes to finance a greater portion of ATC salaries, might contribute to more stable funding. While a change of this type would require legislation, it could be accomplished with or without privatization.

We also believe that the pros and cons of alternatives short of full privatization of the work forces could be considered. Our report on facilities maintenance, for example, discusses an FAA proposal to test the use of private contractors to perform safety-sensitive maintenance now done by FAA employees. As sophisticated new computer technologies come on line, FAA is using contractors to maintain the equipment where it has proven cost beneficial. FAA has already begun to use private contractors to perform weather observation functions formerly handled by FAA employees, and the Martin Marietta Corporation is responsible for ensuring the integration of NAS plan projects throughout that program. As experience is acquired with these initiatives, we believe they could provide a valuable foundation for making decisions in the privatization area.

Thank you for this opportunity to appear before you today. We will answer any questions you may have, and will be happy to provide your staff with additional information.

Attachment I - Air Traffic Controller Staffing Levels

Attachment II - Status of Major NAS Plan Projects

Attachment III - Listing of GAO Reports and Testimonies, January 1985 to present.

AIR TRAFFIC CONTROLLER STAFFING

<u>Fiscal Year</u>	<u>Full Performance Level Controllers</u>	<u>Developmental Controllers</u>	<u>Total</u>
1981	4,904	1,830 ^a	6,734
1982	5,612	5,815 ^a	11,427
1983	6,724	5,256 ^a	11,980
1984	7,580	2,712	10,292
1985	8,315	2,071	10,386
1986	9,528	1,714	11,242
1987	9,798	1,564	11,362

^aFigures for 1981 through 1983 are not directly comparable to later data because they included lower graded personnel in the developmental pipeline, while later years do not.

Source: FAA's fiscal year 1988 Budget Justification, updated from FAA's Personnel Management Information System.

STATUS OF MAJOR NAS PLAN PROJECTS

<u>Major System</u>	<u>Current Implementation Date of First System</u>	<u>Reason for Delay from Original Schedule</u>
Flight Service Automation, consolidating/automating 316 manual stations into 60.	1986	Software development problems.
Radio Microwave Link, expanding and replacing FAA's inter-facility communications system.	1986	Implementation started in 1986.
Host Computer, replacing old computer, still using software until new system is available	1987	Contractor delays in software coding and documentation.
Long Range Radar, provides location data on enroute aircraft.	1987	Delay in consummating FAA/USAF agreement on number of systems required and funding.
Microwave Landing, providing more precise, flexible, and time-saving landing system.	1988	Delay in contractor software coding; changes of deployment location/runway; delay in receipt of valid frequency assignments.
Terminal Radar Program, providing six levels of weather detection data.	1988	Delay in completion of critical design review, problems in system integration testing, FAA rejection of inadequate test procedures, contractor problem obtaining critical parts.
Automated Weather Observation, will collect weather data for pilots and forecasters.	1989	Contractor difficulty complying with Critical Design Review requirements and failure to perform required quality assurance procedures.

STATUS OF MAJOR NAS PLAN PROJECTS

<u>Major System</u>	<u>Current Implementation Date of First System</u>	<u>Reason for Delay from Original Schedule</u>
Mode S, provides data on aircraft location; will send data from ground to air.	1990	Prototype added, clarification of specifications, revised test plan, contractor late meeting critical design review.
Voice Switching and Control, automatically routes voice messages between facilities.	1991	Additional requirements (number of operational positions, redundancy) and testing to reduce risk.
Advanced Automation, will allow consolidation of facilities by automating controller tasks.	1993	Additional requirements added (color/AERA) and provision for pre-production testing.
Terminal Doppler Weather Radar, providing ground-based wind-shear detection data to pilots.	1993	Revision of draft project specification; evaluation of impact of various siting options.
Central Weather Processor, computers to store and process weather data from all sources.	1994	Addition of prototype phase, redefinition of statement of work with contractor, less than optimum contractor staffing.

Source: March 5, 1987. Statement by FAA's Acting Deputy Associate Administrator for NAS Programs before the Subcommittee on Aviation, House Committee on Public Works and Transportation and FAA's 1987 NAS plan.

**REPORTS ISSUED ON AVIATION
JANUARY 1, 1985 THROUGH NOVEMBER 30, 1987**

Number
GAO/RCED

Title and Date

1985

- 85-24 FAA Could Improve Overall Aviation Safety and Reduce Costs Associated with Airport Instrument Landing Systems (4/3/85)
- 85-78 Installation of Automated Weather Observing Systems by FAA at Commercial Airports Is Not Justified (7/29/85)
- 85-153 Information on Airport and Airway Trust Fund Revenues and Outlays by States and Large Airports (9/30/85)
- 85-157 Compilation and Analysis of the Federal Aviation Administration's Inspection of A Sample of Commercial Air Carriers (8/2/85)
- 86-26 **Deregulation:** Increased Competition Is Making Airlines More Efficient and Responsive To Consumers (11/6/85)

1986

- 86-74 **AIRLINE COMPETITION** Impact of Computerized Reservation Systems (5/9/86)
- 86-92 **AIRLINE TAKEOFF AND LANDING SLOTS** Department of Transportation's Slot Allocation Rule (1/31/86)
- 86-105FS **AIR SAFETY** Federal Aviation Administration's Role in Developing Mid-Air Collision Avoidance Back-Up Systems (4/22/86)
- 86-121 **AVIATION SAFETY** Serious Problems Concerning the Air Traffic Control Work Force (3/6/86)
- 86-124BR **AVIATION FUNDING** Options Available for Reducing the Aviation Trust Fund Balance (5/21/86)
- 86-128FS **AVIATION SAFETY** FAA's Surveillance of Two Contract Military Carriers (3/13/86)
- 86-152BR **AVIATION WEATHER HAZARDS** FAA System for Disseminating Severe Weather Warnings to Pilots (4/22/86)

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<u>Number</u> <u>GAO/RCED</u>	<u>Title and Date</u>
86-173	AVIATION WEATHER BRIEFINGS FAA Should Buy Direct User Access Terminal Systems, Not Develop Them (6/6/86)
86-185BR	AIRLINE INSPECTIONS Comparison of Airlines With and Without Military Contracts (6/20/86)
87-18	AIRPORT RADAR ACQUISITION FAA's Procurement of Airport Surface Detection Equipment (12/17/86)
87-19BR	AVIATION SAFETY Federal Regulation of Public Aircraft (12/8/86)
87-32BR	FAA STAFFING The Air Traffic Control Work Force Opposes Rehiring Fired Controllers (10/9/86)
87-8	AVIATION ACQUISITION Improved Process Needs to Be Followed (3/26/87)
87-62	AVIATION SAFETY Needed Improvements in FAA's Airline Inspection Program Are Underway (5/19/87)
87-104BR	AIR TRAFFIC SYSTEM Pilot Program to Contract Out Maintenance at Selected Facilities (4/17/87)
87-115FS	AVIATION SAFETY Procedures for Registering and Certifying Air Carriers (5/5/87)
87-116FS	AVIATION INFORMATION Movement of Personnel and Data Bases (3/27/87)
87-125FS	AVIATION SECURITY FAA Preboard Passenger Screening Test Results (4/30/87)
87-138FS	FAA STAFFING Air Traffic Controllers' Work Load and Operational Performance (5/6/87)
87-182	AVIATION SECURITY FAA Needs Preboard Passenger Screening Performance Standards (7/24/87)
87-208	AVIATION WEATHER Status of FAA's New Hazardous Weather Detection and Dissemination Systems (9/29/87)

**REPORTS ISSUED ON AVIATION
JANUARY 1, 1985 THROUGH NOVEMBER 30, 1987**

<u>Number</u> <u>GAO/RCED</u>	<u>Title and Date</u>
88-14	FAA STAFFING FAA's Definition of Its Controller Work Force Should Be Revised (10/23/87)
88-41	AVIATION SAFETY Commuter Airports Should Participate in the Airport Certification Program (11/18/87)

**TESTIMONY ON AVIATION BY RCED/DOT AUDIT STAFF
JANUARY 1, 1985 THROUGH NOVEMBER 30, 1987**

<u>Date</u>	<u>Description</u>
<u>1985</u>	
07/10/85	Alternative methods for determining a value for National and Dulles Airports for transfer to a local airport authority. Subcommittee on Government Efficiency and the District of Columbia; Senate Committee on Governmental Affairs.
10/01/85	Three safety issues relating to aviation. Subcommittee on Aviation; Senate Committee on Commerce, Science, and Transportation.
10/02/85	FAA's terminal doppler radar efforts. Subcommittee on Aviation; House Committee on Public Works and Transportation.
<u>1986</u>	
03/03/86	Conditions within the air traffic control work force at the six FAA facilities. Subcommittee on Aviation; House Committee on Public Works and Transportation.
03/10/86	Conditions within the air traffic control workforce. Task Force on Air Transportation Safety; Senate Republican Conference.
03/17/86	Conditions within the air traffic control work force. Subcommittee on Investigations and Oversight; House Committee on Public Works and Transportation.

**TESTIMONY ON AVIATION BY RCED/DOT AUDIT STAFF
JANUARY 1, 1985 THROUGH NOVEMBER 30, 1987**

<u>Date</u>	<u>Description</u>
04/16/86	FAA appropriation issues. Subcommittee on Transportation; House Committee on Appropriations.
05/14/86	FAA's airline inspection program. Subcommittee on Aviation; House Committee on Public Works and Transportation.
06/12/86	FAA air traffic controller staffing issues. Subcommittee on Human Resources; House Committee on Post Office and Civil Service.
06/26/86	Department of Defense Oversight of airlines with military contracts. Subcommittee on Investigations; House Committee on Armed Services.
07/17/86	S. 2417 and the status of FAA's controller and inspector work forces. Subcommittee on Aviation; Senate Committee on Commerce, Science, and Transportation.
07/21/86	Aviation safety. Subcommittee on Investment, Jobs and Prices; Joint Economic Committee.
08/14/86	FAA's air traffic controller work force. Subcommittee on Investigations and Oversight; House Committee on Public Works and Transportation.
09/25/86	FAA's role in developing a mid-air collision-avoidance system. Subcommittee on Investigations and Oversight; House Committee on Public Works and Transportation.
87-1	Aviation Safety. Subcommittee on Aviation; Senate Committee on Commerce, Science, and Transportation. January 29, 1987.
87-2	Aviation Safety in Airspace Controlled By Two Major FAA Facilities in the Chicago Area. Subcommittee on Government Activities and Transportation; House Committee on Government Operations. February 27, 1987.
87-16	National Airspace System Plan Delays. Subcommittee on Aviation of the Senate Committee on Commerce, Science, and Transportation. April 8, 1987.

**TESTIMONY ON AVIATION BY RCED/DOT AUDIT STAFF
JANUARY 1, 1985 THROUGH NOVEMBER 30, 1987**

<u>Date</u>	<u>Description</u>
87-20	FAA Appropriation Issues. Subcommittee on Transportation of the House Committee on Appropriations. April 21, 1987.
87-22	The Department of Transportation's Recent Efforts to Strengthen Pipeline Safety. Subcommittee on Investigations and Oversight of the House Committee on Public Works and Transportation. May 5, 1987.
87-25	FAA Work Force Issues. Subcommittee on Transportation of the Senate Committee on Appropriations. May 7, 1987.
87-23	Effects of Delays in FAA's NAS Plan. Subcommittee on Transportation of the Senate Committee on Appropriations. May 8, 1987.
87-28	NTSB Recommendations. Subcommittee on Aviation of the Senate Committee on Commerce, Science and Transportation. May 28, 1987.
87-34	FAA's Preboard Passenger Screening Process. Subcommittee on Government Activities and Transportation; Committee on Government Operations. June 18, 1987.
87-38	Hazardous Weather Detection and Warning Systems. Subcommittee on Investigations and Oversight; House Committee on Public Works and Transportation. June 30, 1987.
87-42	FAA Air Traffic Controller Staffing and Related Issues. Subcommittee on Investigations; House Committee on Post Office and Civil Service. July 29, 1987.
87-43	Hazardous Weather Detection and Dissemination Systems. Subcommittee on Transportation, Aviation, and Materials; House Committee on Science, Space, and Technology. September 30, 1987.
88-3	Aviation Safety: Is Re-regulation Needed to Improve Aviation Safety. Senate Committee on Commerce, Science, and Transportation. October 15, 1987.

**TESTIMONY ON AVIATION BY RCED/DOT AUDIT STAFF
JANUARY 1, 1985 THROUGH NOVEMBER 30, 1987**

<u>Date</u>	<u>Description</u>
88-4	FAA's Implementation of a Performance Standard for Passenger Screening Process. Subcommittee on Government Activities and Transportation. October 22, 1987.
88-8	FAA's Air Traffic Controller Staffing Standards. Subcommittee on Investigations and Oversight. House Committee on Public Works and Transportation. November 18, 1987.