STATEMENT OF BARRY L. VALENTINE, ASSISTANT ADMINISTRATOR FOR POLICY, PLANNING AND INTERNATIONAL AVIATION, FEDERAL AVIATION ADMINISTRATION, BEFORE THE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY, SUBCOMMITTEE ON TECHNOLOGY, ENVIRONMENT AND AVIATION, CONCERNING COMMUTER AIRCRAFT TECHNOLOGY, APRIL 12, ~~1993.~~ 1994.

Mr. Chairman and Members of the Subcommittee:

It is a pleasure to appear before you to discuss commuter aviation, the potential introduction of new aircraft technology into commuter aviation, and the Federal Aviation Administration's (FAA) efforts to assure efficient use of this new technology in the National Airspace System. Accompanying me today is Richard A. Weiss, Manager of our Vertical Flight Program Office.

The commuter airline industry is an important segment of civil aviation. It provides most of our rural air passenger service and serves a feeder role for major carriers. For the past decade it has also been an industry in transition. It is the fastest growing segment of aviation today while, at the same time, it is undergoing a process of consolidation.

Commuter aircraft are attaining a higher level of sophistication, including the introduction of turbo-jets. Larger size aircraft are becoming dominant within the fleet, while 19 or fewer seat aircraft have shown a consistent decline in percentage of fleet. It is interesting to note that no commuter aircraft larger than 19 seats is manufactured in the United States. Within a decade, the mix of commuter aircraft may be increased to include transport-rated helicopters and new technology such as tiltrotor. The FAA is working cooperatively with the National Aeronautics And Space Administration (NASA) and the Department of Defense (DoD) to position itself to be able to effectively incorporate this new technology into the National Aviation System when it becomes available.

Today air commuters annually log roughly 9.5 billion revenue passenger miles (RPM). By the turn of the century, we expect that figure to double. The average

aircraft will be larger, growing from 23 seats to 30 seats, and average trip length is also forecast to increase, moving from 203 miles today to 234 miles by the turn of the century. The number of commuter aircraft are forecasted to increase by about 28 percent to 2,630. This is expected to result in 12.4 million operations. During the same period of time air carrier operations are forecast to increase by only about 14 percent to 14.3 million. Unless capacity improvements are made, the number of airports that will exceed 20,000 hours of annual delay is projected to grow from 23 to 33 by the year 2002. The FAA is taking action to prevent the projected growth in delays. These actions include: airport development, new air traffic control procedures, airspace development, new technology, and market place solutions. These efforts are critical to not only short-haul transportation, but to all segments of aviation using airport, navigation or air traffic control services.

Of critical importance to future short-haul transportation is ongoing FAA and NASA research into applications of satellite technology for navigation, communications, and automatic dependent surveillance. Use of the DoD's Global Positioning System for non-precision and precision approaches will permit these services in low traffic areas where implementation of conventional technology would be cost prohibitive. Combining precision navigation capability with satellite communication provides the bases for automatic dependent surveillance in areas remote from conventional radar systems. These capabilities will improve the safety and efficiency of all short-haul transportation when fully implemented.

Another innovative technology that we are investigating is the potential use of tiltrotor aircraft for certain commuter and air carrier operations. For Members of the Subcommittee who are not familiar with the tiltrotor, we are talking about an aircraft with the versatility to use on-airport landing areas that operate on a simultaneous yet non-interfering basis with either commuter or jet traffic, or remove some of those passengers from the airport environment entirely -- to urban-center vertiports. The

tiltrotor's strength is in its vertical take-off and landing capability and its high speed capability while in the airplane mode. Its potential value to the national transportation system is as a turboprop airplane that does not need a runway.

We in the FAA remain optimistic about the potential benefits that tiltrotor offers the National Airspace System and the country as a whole, assuming current economic projections hold true. These benefits include the potential to increase the capacity of the aviation system, increase productivity at congested airports, and provide direct urban-area to urban-area air transportation. In addition to increasing capacity, the tiltrotor could improve efficiency in special applications such as off-shore petroleum operations, servicing oil spills, and recovery activities for major disasters, including emergency medical services. Just as importantly however, is the potential for the U.S. to recapture a portion of the market for the manufacture of 20 to 75 seat commuter aircraft.

The FAA has been cooperating with NASA and the DoD since the mid 1980's in exploring the feasibility of expediting development of this technology. In 1988 the FAA established the National Civil Tiltrotor Initiative and we announced our 5-Point strategy for expediting introduction of civil tiltrotor, which included working closely with the Department of Defense and the V-22 program, increasing our R&D activities, and increasing efforts in infrastructure, certification criteria, and standards development.

This strategy has been successful. We are working closely with DoD and have a memorandum of agreement in place that allows the FAA to closely monitor the development of the V-22. Data obtained from this effort will expedite certification of a civil tiltrotor and aircrew requirements. In addition, we have published interim airworthiness criteria for Powered-lift Transport and Normal-Category Aircraft as well as pilot standards. To prepare for the necessary infrastructure, FAA has published a Vertiport Design Advisory Circular and we have awarded

approximately $3 million in grants states and local governments for vertiport feasibility studies. And, I am pleased to report that initial plans needed for development of tiltrotor terminal approach procedures have been completed.

In 1995, we will complete an analysis on the economic feasibility of the tiltrotor along with assessments of its impact on en route and terminal airspace. Throughout 1995, we will continue our work on navigation, instrument approaches and surveillance that is common to both helicopters and tiltrotors. Helicopter GPS non-precision work will be completed this year and helicopter precision approach work will be initiated next year. Although some tiltrotor procedures work has been initiated with simulators, these procedures cannot be completed until an actual aircraft is available.

We will continue to work cooperatively with other government agencies and industry on tiltrotor technology. The FAA and manufacturers have agreed in principle on a "shadow certification" approach to the follow-on Engineering Manufacturing and Development (EMD) aircraft configuration. Lessons learned from that activity would be directly applicable to a civil variant. FAA remains ready to certificate a civil tiltrotor when requested to do so.

Before closing Mr. Chairman, I would like to bring the Subcommittee up-to-date on the Civil Tiltrotor Development Advisory Committee. I am pleased to report that the first meeting has been scheduled for May 20. Mr. Frank Kruesi, Assistant Secretary for Transportation Policy has been designated Chairman, Dr. Wesley Harris, will represent NASA, and I will serve as the FAA representative. Mr. Richard Weiss will serve as the Designated Federal Official. Also represented will be key industry officials such as Mr. Denton Hanford and Mr. Webb Joiner who are scheduled to address this Subcommittee later this afternoon. Other members will include officials from the DoD, state and local governments, airports, environmentalists, financial experts, and safety experts.

The Advisory Committee will report to Congress one year after its initial meeting and will evaluate the technical feasibility and economic viability of developing a civil tiltrotor aircraft and its needed infrastructure. I believe this committee will provide the guidance and recommendations necessary to develop a national policy for this technology.

Mr. Chairman, that concludes my prepared statement, and I would be pleased respond to any questions at this time.