

**BEFORE THE UNITED STATES HOUSE OF REPRESENTATIVES  
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE  
SUBCOMMITTEE ON AVIATION**

**TESTIMONY OF  
NEIL PLANZER  
VICE PRESIDENT –STRATEGY  
BOEING AIR TRAFFIC MANAGMEMENT**

**ON BEHALF OF THE  
AEROSPACE INDUSTRIES ASSOCIATION**

**“NEXTGEN: A Review of the RTCA Mid-Term Implementation Task Force  
Report”**

**OCTOBER 28, 2009  
2167 RAYBURN HOUSE OFFICE BUILDING  
WASHINGTON, DC**

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**Testimony of**

**Neil Planzer, The Boeing Company**

**Vice President Strategy, Air Traffic Management**

**On Behalf of the Aerospace Industries Association**

**NEXTGEN: A Review of the RTCA Mid-Term Implementation Task Force Report**

**October 28, 2:00PM**

My name is Neil Planzer and I am speaking here on behalf of the Aerospace Industries Association (AIA). AIA represents nearly 300 aerospace manufacturing companies with over 657,000 high-wage, highly skilled employees. AIA operates as the largest aerospace trade association in the United States across three sectors, civil aviation, space systems, and national defense. Member companies export 42 percent of their total output and routinely post the nation's largest manufacturing trade surplus, a level exceeding \$57 billion in 2008. I am the Vice President of Strategy for Air Traffic Management at the Boeing Company, which is one of AIA's largest members. I have had the pleasure of working in the ATM community for 37 years in multiple roles. I have been a controller, I have been a senior executive in the FAA, I have been the lead for ATC in the DOD and most recently I have worked at Boeing helping to move NextGen along. Seeing things from these various vantage points I know that transforming our air transportation system is a daunting task. My experience has made me recognize that our industry can accomplish some amazing feats when we want.

## **RTCA Report**

The recent report published by the RTCA Task Force documents the industry consensus that NextGen is critically important, acceleration of implementation is needed, and solutions with near term user benefits must be prioritized. While the recommendations in this report will not address everything needed for NextGen, it does lay out specific technologies and operational changes that we can focus on today. And while FAA does not control all the requirements for success, FAA needs to immediately accelerate the recommendations of the RTCA document, integrating them with the other important elements of the NextGen Implementation Plan (NGIP).

## **NextGen is Critically Important**

Any way you look at it, safety-wise, security-wise, economically, and environmentally we need to move forward with NextGen. Every day we delay we pay the costs and push off the benefits.

- Our system today is safe, but it is our responsibility to always strive to increase safety.
- Our security was significantly threatened on September 11<sup>th</sup>, 2001 and we are still looking for ways to increase security and prepare for future threats. NextGen should dramatically improve information sharing amongst the FAA, DOD and DHS and the resulting network enabled operations will significantly improve our nation's security.
- Our economy is fueled by a robust and reliable air transportation system. In the U.S. alone, commercial aviation accounted for \$1.2 trillion in national output in 2004, \$380 billion in earnings and 11.4 million jobs. On the other hand, the economic health of commercial airline companies has been suffering over the last 8 or so years. As airlines look for ways to

save money, NextGen can provide efficiencies that will truly impact their bottom line.

- Our impact on the environment can be reduced by improving the efficiency of flights through the system. NextGen should allow more direct routes, enable optimal flight profiles, and reduce delays; all of which will support achievement of the goal for 2 percent annual emission reductions set by the International Civil Aviation Organization (ICAO) earlier this month.

### **Immediate Implementation**

While the FAA's planning effort has resulted in a good future concept of operations, it has lacked many of the implementation actions necessary to deliver real operational improvements. As the years have rolled by, political leaders citing growth and ever-deteriorating system performance have pointed to the NextGen program as the path forward. Despite agreement and support from virtually all the stakeholders and users, the program has been smaller than the words and few near term benefits have been realized. The RTCA report highlights some of the steps that need to be taken today to move forward. I suggest that the FAA needs to immediately begin implementation of the recommendations in the RTCA report and integrate these actions into the NextGen Implementation Plan including the following five components:

- ***Clear Performance Metrics*** –Are the NextGen activities really improving safety efficiency and capacity? System-Performance-based metrics hold us all accountable.
- ***Specific Milestones for 6/12/18/24/36 months*** – The entire industry wants and needs to realize NextGen benefits as soon as possible. Therefore we need to be specific about what steps will be taken and what is needed to achieve operational capabilities and user benefits.

- ***Policy and Procedure Modernization*** - In many ways technology has outpaced the policies and procedures needed to actually make operational changes happen. To realize the benefits of a technical capability implementation must encompass policies, procedures, operational approval processes, certification, regulatory guidance, training, criteria and standards. It will be absolutely critical to streamline or reform the process for updating these policies and procedures. A key aspect of this is the need to keep global interoperability in mind relative to other programs such as Europe's SESAR program.
- ***Incentivize Equipage*** – NextGen modernization needs to cover both equipment on the ground, as well as in the aircraft.
- ***Accommodations for future Industry Developments*** –FAA needs to fold into the implementation plan other issues that were not covered by the RTCA recommendations.

**Clear Performance Metrics** A key message in the RTCA report is the need for accountability for achieving progress. First, FAA needs to establish and empower a NextGen organization that clearly defines the budget, schedule, project organization, leadership and the specific transition/implementation steps needed to make NextGen a reality. Second, the FAA must establish a set of progress metrics so that the NextGen organization, the Administration, the Congress, industry stakeholders and the public can measure and track the operational improvement that is actually being achieved by the program. These metrics need to measure performance outcomes, not just activity. By that, I mean, are our efforts actually improving safety, capacity, efficiency, etc. For example, when implementing new Required Navigation Performance (RNP) and Area Navigation (RNAV) approaches and departures, quantity – total number of new procedures – means nothing if the quality of the procedures do not bring measurable benefits to the system. Specific performance metrics should include but not be limited to the following:

*Is the aviation accident rate improving?*

Aviation safety has been steadily improving over the past years. NextGen precision operations should allow safety to continue to improve while simultaneously adding capacity and increasing efficiency. A reasonable goal is for average accident rates to decrease by 1 percent per year.

*Are average gate-to-gate travel times for city-pair routes decreasing?*

The fact that travel times have been steadily *increasing* over the years (despite faster and more efficient aircraft) is a sure sign of an increasingly inadequate ATM system. Increasing delays are only half the issue. Airlines also continuously add to their *scheduled* flight times to account for system delays. The result is more expense and lost productivity. A reasonable yearly goal is for scheduled and actual flight times to be reduced 1 percent per year and at least a 20 percent reduction by 2025.

*Is individual runway utilization capacity increasing?*

Current “maximum” capacity limits on major airport runways are based on surveillance, navigation, and flight path control assumptions from the 1960’s that are no longer valid with modern technologies and aircraft. A NextGen goal should be to increase safely allowable individual runway capacity at a rate of 1 added operation per hour per runway per year from today’s 40 and 45 operations per hour per runway, and achieve at least 60 operations per hour per runway by 2025.

*Are new runways being introduced where added capacity is needed?*

NextGen capacity goals will be reached by added runway utilization productivity (above item) and some new runway construction at major airports. NextGen precision operations should allow very closely spaced runways to be feasible, thus reducing airport and noise boundaries. A good objective is for construction of 20 new runways at major airports by 2025.

**Specific Milestones for 6/12/18/24/36 months** There has been a lot of excellent work within the FAA and industry testing new operational procedures that leverage the advanced equipment on today's modern aircraft. The challenge has been moving beyond tests and trials to operational implementation. The RTCA report highlights many of these solutions that have been tested for years, have strong user support, and could dramatically improve efficiency of the system – (i.e. RNP, Tailored Arrivals). We need to lay out a plan with specific milestones for the capabilities completed in 6 months, a year, 18 months, etc.

A key recommendation in the RTCA report is that new procedures must be prioritized to provide benefits for the users. It's easy to see the improved performance NextGen will provide when it is fully implemented. The challenge is defining the discrete operational steps to be taken and providing performance improvements during the transition. It is critical that the first phases of NextGen provide benefits to the users in order to gain trust and confidence as we move to later phases that will require more investments by everyone. FAA has received input from the industry through RTCA. FAA must take the information and turn it into detailed, measurable, specific actions and begin implementation now.

**Policy and Procedure Modernization** The implementation of technology is only one piece of the puzzle for improved safety and capacity. To realize the benefits of a technical capability, the FAA must update the encompassing policies, procedures, operational approval processes, certification, regulatory guidance, training, criteria and standards. For instance, if technology provides information and surveillance improvements that enable aircraft to safely operate in closer proximity, the safety and capacity benefit will only occur if the policies and procedures are also adjusted to allow decreased aircraft separation. FAA must prioritize the policy and procedures for modernization that go hand-in-hand with the programs identified for acceleration and immediate benefits. Industry needs to see a commitment by the FAA to address and fund the resolution of the enabling policies and procedures. Without this commitment, we won't see the benefits of the capabilities and users will not invest in upgrades to their

aircraft. At the same time, global interoperability must not be forgotten, not only for the benefit of operational consistency but for safety as well. Lastly, the aviation community can ill afford these modernization steps without a significant streamlining of organizational decision processes to enable change and achieve desired implementation timetables.

**Incentivize Equipage** At one time the equipment used to separate aircraft was located only on the ground. Now, information and systems on the aircraft are an integral part of the air traffic control system. Many of FAA's NextGen systems will have little to no benefits without the complementary equipment in the aircraft. In the past, the equipment in the aircraft was solely the responsibility of the airlines. It is now clear that with the sophistication of on-board aircraft systems, the lines of responsibility in the air traffic system are increasingly shared. In addition, the benefits of many NextGen systems will increase exponentially with the full exploitation of the aircraft systems. Operators have been given equipment mandates in the past – TCAS, transponders, even radios. But, not since the advent of air traffic control itself has the civil fleet been put on notice that it will need to fundamentally upgrade aircraft avionics to fly in U.S. airspace. Unfortunately, the fragile nature of airline economics, along with past failures to implement new systems have kept the industry from proactively installing on board equipment. The RTCA report gave three suggestions of how to incentivize equipage:

- 1) Provide financial incentives (low interest loans, direct subsidies, or other innovative mechanisms)
- 2) Provide a timely, unambiguous set of processes to assure the realization of a sufficient level of operational benefits by NAS users to make the business case for new investments.
- 3) Replace the current “first come, first served” ATC prioritization with a “best-equipped, best-served” policy to increase value to early adopters.

All three of these are good ideas and need to be pursued. The first and third are likely to require new regulations and/or legislative action, but the second suggestion - increasing

operator trust by delivering benefits - can be done today. We just need the commitment to do it.

With every project the FAA needs to be able to show what the benefits are to the users and when they can start realizing those benefits. Oftentimes that means showing the clear plan to complete regulations, certification, operational procedures and approvals, etc.

### **Accommodations for future Industry Developments**

While we cannot accurately predict all the challenges the aviation system will face, we do know there will be new systems or improvements introduced by industry that will need to be accommodated. Because of this, we recognize the need for flexibility and are not suggesting that the RTCA report replaces the current NextGen Implementation Plan. For example, one known challenge that needs to be addressed is the safe integration of Unmanned Aircraft Systems (UAS). The RTCA report did not address the UAS challenge in much detail. As it adopts the RTCA Task Force recommendations, the FAA will need to make sure that important NextGen requirements are accounted for in addition to the midterm recommendations in the report.

### **Conclusion**

The wonderful news is that we are not fighting about whether or not NextGen is necessary, or cost effective, or a priority -- we all agree on the importance of NextGen. In fact, I think we all agree we need to see benefits now. I would guess, that we all agree that it is time for FAA to take the RTCA report and turn it into specific actions we can all support. FAA wants it, Congress wants it, the public demands it, and the industry cannot survive without it.