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Phil Boyer
President

September 14, 2006

Mr. Charles Leader
Director, Joint Planning and Development Office
1500 K Street, NW
Suite 500
Washington, DC 20005

Re: Comments to Next Generation *Air* Transportation System CONOPS

Dear Mr. Leader: Charlie

With all due respect to the hard work and substantial effort put forth by all involved in this important JPDO document, on behalf of our more than 408,000 member pilots and owners, we would submit that the Concept of Operations should be re-titled to reflect the true scope of this work:

Next Generation *AIRLINE* Transportation System

We say Next Generation *Airline*, not Air Transportation System because the CONOPS virtually ignores the general aviation community. We strongly believe that changes are needed to this important work so that it reflects a future air transportation system that includes general aviation -- improves both safety and access while preserving airports and modernizing the air traffic control system affordably.

The Aircraft Owners and Pilots Association (AOPA) has supported the Joint Planning and Development (JPDO) process from the beginning. Our staff serves on a majority of the Integrated Product Teams, AOPA management has participated in all the Workshops and Board Meetings, plus I personally serve on the Institute Management Council (IMC). Where then have words and phrases like *"itinerant aircraft"* and *"classic airspace"* been invented? And, what do they mean?

Certainly the overwhelming costs drivers for ATC design, development and equipment are the needs of the commercial airlines. General aviation (GA) is a relatively small user of the system of services provided by the FAA.

However, the CONOPS fails to recognize the GA community, which includes 600,000 pilots that operate more than 210,000 aircraft from over 5,400 public airports. In 2004, general aviation pilots flew over 28 million hours as compared to the airline's 19 million. The vast majority of the general aviation hours were conducted without in flight services from the FAA. How can the JPDO ignore the size, scope and magnitude of the general aviation industry in the United States?

Under the scenarios laid out in the Concept of Operations, the fact remains that even if general aviation equipped with all of the technologies, we would lose access to airspace, experience increased security requirements, and operate from fewer airports.

How did this document fail general aviation? AOPA would maintain a critical reason is the flawed development process used by the JPDO that fundamentally set this report and its' concepts in motion long before AOPA and other civil aviation organizations joined the JPDO via the NGATS Institute. Most of the operational requirements were drafted by government staff and identified before many from the industry were even invited to join the JPDO process. Even now, the aviation industry participates with the CONOPS authors *at arms length*, via integrated product teams. AOPA believes that industry organizations should work directly alongside the CONOPS authors to ensure maximum support for the nation's modernization initiative.

AOPA strongly supports the JPDO effort to plan the future air transportation system. For nearly two decades AOPA has been a staunch supporter of air traffic control system modernization, using technologies to reduce FAA costs while improving the airspace system for all airspace users. As far back as the late 1980's AOPA lobbied for general aviation use of the Long Range Navigation (LORAN) system. By the early 1990's AOPA turned our focus on using the Global Positioning System (GPS) for non-precision instrument approaches and ultimately called on the FAA to consider implementing a precision GPS system instead of buying new ground based navigation aids. That recommendation and widespread industry support resulted in the FAA's GPS augmentation programs (Wide Area Augmentation System

and Local Area Augmentation System). And most recently with mature satellite navigation, AOPA joined the FAA and airlines in developing a RADAR replacement system called Automatic Dependant Surveillance- Broadcast (ADS-B), which is in the early stages of nationwide implementation now.

Clearly, AOPA has been a strong supporter of air traffic control system modernization, and our steadfast commitment has resulted in successful modernization that not only improves general aviation safety and increases airspace system access, but also reduces the Federal investment costs significantly. Rest assured, AOPA will continue to staff the JPDO's integrated product teams, participate at the NGATS Institute executive level, and attend the necessary meetings to ensure the general aviation voice is heard. However, the development of JPDO products needs to consider the entire spectrum of air transportation system users, and the CONOPS is the first document for that work to be completed.

Besides our concerns about the lack of general aviation, AOPA has also identified eight specific issues that we recommend for your consideration. Those issues are attached for your review. We stand ready to take this current CONOPS and assist in the necessary revisions so that we can return to the title for this project that was originally intended: Next Generation Air Transportation System.

Sincerely,

Phil Boyer

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Detailed AOPA Comments to the JPDO's Concept of Operations for the Next Generation Air Transportation System

AOPA has identified eight key principals that the JPDO must consider in order to ensure the general aviation community benefits from the NGATS:

1. **The CONOPS will likely be viewed as the Federal policy on the future air transportation system.**

   The JPDO has buried the purpose of the document on page (i) in the preface, and does not remind the reader that this vision is undefined and will likely change. The CONOPS is intended to be a vision of how the future air transportation system *could be operated* in the future and yet it reads like a policy decision document. Nowhere else among the hundred plus pages of describing new airspace types, anticipated mandates, and operational changes does the CONOPS articulate the fact that these changes are conceptual in nature, highly unproven and may eventually be replaced with alternative improvements.

   The CONOPS should remind the reader that this is what the JPDO envisions at this time, and research may very well prove the concepts to be unattainable.

2. **CONOPS strategies are largely government developed, and some may not have the support of industry.**

   Long before the civil aviation community joined the JPDO via the NGATS institute, the Federal agencies developed the candidate improvements that now comprise the CONOPS. As a result, the CONOPS do not address the feasibility of accomplishing some of these operational improvements, and ignores the risk of user acceptance.

   At the recent NGATS funding workshop for general aviation, JPDO staff shed more light on their process for choosing the JPDO strategies, explaining that when there were competing solutions, they chose the "most transformational." AOPA is specifically concerned with this decision-making process due to the unforeseen impact and risk of achieving workable solutions.

   Choosing the right solution set for the NGATS should be the result of collaborative requirements definition, careful analysis, stakeholder input and acceptance, and risk mitigating research.

Just one example of where AOPA questions whether the interventions were carefully considered is on page 2-35 of the CONOPS where JPDO proposes to replace "live controllers" at airports with staffed virtual towers. It's not clear how this service is an improvement to general aviation users, nor if it's technically feasible, or safe. It is obvious that the FAA could avoid the need to hire more controllers by moving them to a centralized facility, increasing their productivity. However, the CONOPS should articulate this concept as a possible means, but not the only means to improve controller productivity. The CONOPS should identify the need to research a broad range of options, with virtual towers just one of those options.

3. The CONOPS lacks benefits to general aviation.

Page 2-1 of the CONOPS indicates that

> "the overall philosophy driving the delivery of services in the NGATS is that user preferences are accommodated to the maximum extent possible and restrictions are imposed only when a real operational need exists."

Despite this assertion, the CONOPS increases barriers for the general aviation community to operate more than it reduces them, especially on aircraft that operate under Visual Flight Rules (VFR). In today's air transportation system, general aviation operations are restricted on a daily basis by several different airspace types including those for safety (Class B/C/D, etc.), military uses (MOA, Restricted, Prohibited airspace) and homeland security (Air Defense Identification Zone and Temporary Flight Restriction [TFR]). The CONOPS appears to EXPAND these areas and it appears to limit more airspace, taking it away from broad user access at the expense of general aviation operations. The CONOPS does not accommodate general aviation user preferences to the maximum extent possible.

In order for the JPDO CONOPS to be true to it's claim that user preferences are accommodated, the CONOPS needs to add significant benefits for general aviation including:

- Maximizing general aviation aircraft equipage for general aviation benefits
- Improving all-weather operations at all general aviation airports
- Reduce pilot workload through innovative cockpit integration and decision making tools between pilots and ATC
- Consistent and reliable access to airports and airspace in major metropolitan areas without cumbersome and costly avionics upgrades.
- Concepts for eliminating today's security related airspace restrictions

4. The CONOPS fails to discuss the critical need for preserving the existing airport infrastructure, especially in the vicinity of major metropolitan areas.

The JPDO acknowledges that

> "runway capacity is the primary limiting factor in NAS operations today at the busiest aerodromes… some aerodromes may need additional runways to accommodate the expected NGATS traffic growth."

Without preserving today's 5,400 public airports, the JPDO requirement to support future traffic demand is at risk. Most aviation experts agree that airports need more runways in order to increase capacity but in many cases, more runways are impossible to build because the airports are constrained by surrounding development. In the Nations largest cities, air transportation options support demand by using multiple airports. The Los Angeles, New York City, and Washington, D.C. metropolitan areas all rely on multiple airports to meet the demands of the traveling public. The JPDO should plan for similar distribution of demand throughout the country.

In 2006, opening a brand new airport is a rare event. In 2025, the chances of obtaining land and eliminating opposition for new airports seems impossible to conceive. The JPDO needs to identify key research and policy changes that will ensure airport preservation. The CONOPS also needs to articulate the plan for expanding and improving airports in a strategic method to be sure the airports are ready for the demand. Lastly, the CONOPS should identify the role of new technologies that reduce operating and infrastructure costs while improving safety. With today's advanced technologies, the airports vision should include key research and development initiatives that permit aircraft to operate in all-weather conditions without the need to invest in hundreds of acres of land, or lighting systems that require frequent and expensive maintenance.

5. The CONOPS requires aircraft operating under VFR to invest significantly in avionics upgrades, and comply with rigid operational rules, without direct tangible benefits.

The JPDO decided, "the basis of *all* operations in the NAS is an aircraft's expected flight profile and its expected departure and arrival times. NGATS uses four dimensional trajectory (4DT) management as the core for managing the ATM system, ensuring that, to the maximum extent possible resources are allocated to math known demand and demand is not limited to relatively static resources." (page 1-5).

The CONPS strategy requires all general aviation operations to adhere to this rather dynamic, unpredictable and extremely structured philosophy. The CONOPS philosophy benefits one segment of the aviation community very strongly, and severely impacts several other segments of aviation.

The fact that all operations will transmit flight profile and their departure / arrival times implies aircraft equipage with the capability to perform these operations, and a mandatory submission of flight plan information, even for flight training and operations where the aircraft departs and arrives from the same airport, and never leaves the traffic pattern.

Despite the JPDO assertion this new philosophy benefits users, AOPA cannot find a single new benefit to be obtained. Therefore, if the concept were to become policy, AOPA would oppose equipment investments and rigid flight plan management for general aviation operations. If general aviation equips with equipment and complies with these flight plan requirements, what improved access will the general aviation pilot have? Will there be a reduction or elimination of TFR's? Will the FAA eliminate all terminal airspace except for super density airspace areas?

The impact on general aviation only gets worse when combining these requirements with the CONOPS vision that VFR operations will be given the same treatment as today, "when ANSP personnel workload or safety prohibit VFR aircraft from accessing certain airspace." (page 3-7)

6. **The CONOPS proposes Automated Virtual Towers (AVT) for general aviation airports, a concept that AOPA does not support.**

Citing the need to address a "one-in-one-out" problem, the CONOPS proposes to develop and implement virtual towers with automation providing the airport's airspace management. AOPA opposes the proposal, primarily because there are numerous methods to alleviate the one-in-one-out problem that are much less invasive to general aviation.

The CONOPS appears to require very advanced and costly technologies on general aviation aircraft just to access general aviation airports. AOPA is concerned that the general aviation community will be banned from their own airports because of this equipage requirement. AOPA strongly suggests that the JPDO work with the general aviation community to find a much more appealing solution to the one-in-one-out issue.

The CONOPS envisions aircraft self separating in instrument conditions at AVT airports, which ultimately will require many general aviation aircraft to equip with extremely expensive avionics, when other options can avoid the equipage and achieve the desired results.

AOPA agrees that on any given day aircraft arrivals and departures are delayed because the FAA does not have sufficient infrastructure in place. However, the one-in-one-out problem is not bad enough to warrant mandatory equipage of self-separation capabilities at small airports.

7. **The CONOPS needs to articulate the method by which general aviation operations can benefit from performance-based equipage.**

   The FAA has adopted a philosophy of promoting operational benefits through performance-based equipage. However, the CONOPS needs to articulate the philosophy and vision of applying performance-based philosophies for general aviation. Today's new general aviation aircraft have unprecedented capabilities, and they are underutilized. With all-glass displays, moving maps, precision approach navigation via SATNAV, traffic data link, graphic weather, and other integrated capabilities, there is no doubt that the general aviation aircraft of today and in the future will be capable of safe, predictable travel consistently. Unless the NGATS plans for these capabilities, general aviation cannot reap all of the benefits.

8. **This version of CONOPS doesn't fully address security impacts on general aviation.**

   Two major elements of the airborne operations are missing from this current CONOPS, defense and homeland security uses. AOPA notes a brief mention of military aircraft operations on page 3-5, but without more details, AOPA is left to assume the military will have unlimited airspace at their disposal, without the need for charting it's location. How will general aviation operations avoid airspace? Will the military have carte blanch access to airspace for their mission support regardless of the impact on other airspace users? AOPA doesn't believe these outcomes are the goal, but without CONOPS content the future of military airspace is unclear.

   AOPA also found sparse reference to future airspace security restrictions on page 6-5, where the JPDO discusses the Government's plan to continue it's use of TFR's to impose security on the general aviation community. The CONOPS says nothing as to how it will alleviate the need for TFR's that are for stadium events, Very Important Person (VIP) travel, and other routine activities that somehow receive special security status.

   AOPA can only find CONOPS that expand today's harmful impact on general aviation by defense and security organizations. AOPA strongly urges the JPDO to draft CONOPS documentation that explains how the future system will alleviate the impact of today's security and defense department requirements.