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March 5, 2012

Docket Operations, M-30  
U.S. Department of Transportation  
1200 New Jersey Avenue SE, Rm W12-140  
West Building Ground Floor  
Washington, D.C. 20590-0001

Re: Proposed Provision of Navigation Services for the Next Generation Air Transportation System (NextGen) Transition to Performance-Based Navigation (PBN); Docket No. FAA-2011-1082

To Whom It May Concern:

The Aircraft Owners and Pilots Association (AOPA), representing over 400,000 general aviation members nationwide, appreciates the opportunity to comment and offers the following recommendations to the Federal Aviation Administration (FAA) on the Notice of proposed provision of navigation services for the NextGen transition to PBN.

AOPA has long been supportive of the transition from a ground to a satellite based national airspace system (NAS). General aviation operators have embraced the capabilities that Global Positioning System (GPS) and the Wide Area Augmentation System (WAAS) enable whether using portable units for situational awareness visual flight rules (VFR) operations or panel-mounted units that allow for precision-like approach minimums during instrument flight rules (IFR) operations. With greater reliance on a satellite infrastructure as we migrate away from using VHF Omni-directional Range (VOR) and other legacy navigation aids (NAVAIDs), it is critical that the transition plan allow for outreach to the operator community and input on individual navaid discontinuance proposals.

We strongly encourage the FAA to work toward the goal of allowing flexible point to point navigation enabled by geospatial positioning, navigation and timing (PNT) and avoid the blanket transition of Victor airways to T-routes. Instead, transitioning V-routes to T-routes where necessary and only implementing a route structure when needed seems prudent. In all other areas when able, direct point to point navigation that does not require a charted route structure is preferable.

### **Ensuring GPS Remains Viable for the Future is Critical**

The U.S. government commitment to maintaining GPS services and adding a second frequency which will make GPS more resistant to unintentional radio frequency is a positive step forward. As noted in the Notice of proposed policy, the FAA has acknowledged the vulnerabilities of GPS to scheduled and unscheduled outages. Since Wide Area Augmentation System (WAAS) does not require backup navigation, general aviation pilots utilizing WAAS are heavily impacted by scheduled and unscheduled GPS testing or jamming, particularly during periods of instrument meteorological conditions (IMC). The policy also indicates the FAA will “ensure sufficient infrastructure is provided to mitigate the effects of scheduled GPS outages.” AOPA strongly encourages the FAA to ensure safeguards exist that allow for continued and reliable GPS coverage including perimeters around the range and scope of planned jamming and tests and assurances against interference by other spectrum users. Clearly these safeguards will require cross governmental agency coordination and collaboration to adequately protect GPS reliability and viability.

### **WAAS Benefits and Viability are Critical**

AOPA has been a strong advocate of WAAS since the program's inception. This navigation system has been embraced by the general aviation community, with more than 74,000 WAAS units sold to date. The clear advantages of precision like approach minimums at thousands of runway ends enables all weather access to hundreds of general aviation airports nationwide. Not only does WAAS offer additional safety and access benefits, but it does so at a fraction of the cost of most conventional ground based nav aids. It remains imperative the FAA remain focused on delivering the benefits that WAAS provides to the general aviation community.

In addition, AOPA strongly encourages the FAA to ensure the necessary WAAS infrastructure is in place to provide redundant coverage for the entire NAS including Alaska in its entirety in the event of a satellite failure, loss or outage. While AOPA has been supportive of the implementation of WAAS and the benefits it enables, we also recognize the vulnerabilities that exist with not having redundant satellite coverage as evidenced by more than the earlier loss of a satellite that resulted in an outage of WAAS in portions of Alaska and no back up for the conterminous United States (CONUS).

### **Alternative Position, Navigation and Timing Solutions must consider GA**

As we evolve to a robust NextGen environment with greater reliance on GPS and satellite-based augmentation systems (SBAS), it is important that alternative position, navigation and timing (APNT) solutions emerge that are suitable for general aviation operations and utilize existing equipage as much as possible.

While the notice of proposed policy references enhancing distance measuring equipment (DME) facilities, the majority of general aviation aircraft are not equipped nor would they use DME/DME or DME/Inertial Reference Unit (IRU) navigation equipment. Considering this is not a viable solution for general aviation operators, AOPA opposes moving forward with DME/DME or DME/IRU as the only current solution and agency infrastructure investment in APNT. As the FAA investigates other APNT solutions that would serve the PNT requirements for all users, we recommend that the agency allow the utilization of existing GA equipment as part of its plan moving forward and we urge the agency to ensure a robust back-up infrastructure remains in place until a suitable APNT solution has been established for general aviation users.

#### **VOR Drawdown Details Needed**

AOPA recognizes the need and intent of the agency to reduce costs associated with maintaining VORs and other ground-based navaids as we evolve to a satellite based NAS. As proposed, the VOR minimum operating network (MON) addresses the enroute aspect of navigation above 5,000 feet above ground level (AGL). However, the notice does not provide the details on how the drawdown impacts operations below 5,000 feet AGL including approach transitions or if it provides adequate approach coverage for general aviation operations. In addition, there is no mention of the already significantly reduced VOR network in the western portion of the United States and how that infrastructure will be impacted. Until such time as the details of the drawdown and VOR MON are available for public review and analysis, it is impossible to determine if the drawdown by the January 1, 2020 timeframe is operationally feasible.

We strongly urge the FAA to provide the opportunity for the aviation community to review and comment on the full details of the VOR MON including those facilities that will be retained, the facilities that will be discontinued and those instrument approach procedures that will continue to be available or will be impacted by the drawdown. In particular, pilots must be afforded the opportunity to comment on any individual reduction in infrastructure after having seen the full VOR MON plan and its associated impacts. Since the removal or discontinuance of such a large percentage of our current navigation infrastructure is being considered, we would strongly urge the FAA to establish a portion of their website where the public and aviation community could stay abreast of any proposed navaid decommissionings. While relying on the larger aviation organizations to share the message or read the Federal Register has been somewhat effective, one resource where all proposed and decommissioned navaids is shared would prove extremely valuable. Additional

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details of the MON and updates to the navigation policy could also be shared using this method of outreach via the website. Our hope is the FAA will continue to solicit early and routine user input as they investigate APNT solutions and anticipate a reduction in the MON beyond the 2020 timeframe.

**Summary**

AOPA continues to support the transition to a satellite based NAS and the benefits that GPS enables. As with any transition, the details of the plan are critical to the success of implementation. We appreciate the opportunity to provide insight on the overarching FAA proposed policy and look forward to further discussion and opportunity for comment as additional details of the plan develop.

Sincerely,

A handwritten signature in black ink, appearing to read "Heidi J. Williams". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Heidi J. Williams  
Vice President  
Air Traffic Services and Modernization