



Agenda Item 6: Any other business

FAA NAVIGATION EVOLUTION ROADMAP

(Presented by the United States)

SUMMARY

The FAA Navigation Evolution Roadmap provides the high-level framework for the transition from today's legacy ground-based navigation system infrastructure to an integrated, performance-based navigation system. The Navigation Evolution Roadmap captures the current state of navigation services and charts the direction for the future. The FAA will work collaboratively with the aviation community to produce subsequent versions that reflect collective efforts; and, to address issues and concerns.

1. Background

1.1 The Navigation Evolution Roadmap provides the high-level framework for the transition from today's legacy ground-based navigation system infrastructure to an integrated, performance-based navigation system which is a more streamlined, cost effective navigation service to support the concepts spelled out in the Federal Aviation Administration's (FAA) Roadmap for Performance-Based Navigation. The Navigation Evolution Roadmap addresses today's systems, technological opportunities, concepts and guidelines for transitioning to future concepts and some of the challenges that lay ahead.

1.2 The Navigation Evolution Roadmap and the Roadmap for Performance-Based Navigation are separate but related documents. The Roadmap for Performance-Based Navigation defines operational goals and concepts, identifies steps and milestones to achieve performance-based navigation (PBN), presents key policy and technical issues, and outlines critical decisions necessary to define and support the capabilities needed to complete the transition to performance-based navigation. It provides stakeholders and users with guidance to assist in making business, equipage, maintenance, and training decisions. Satellite navigation (SatNav) will be the primary base for the navigation infrastructure, although there will be a network of ground-based navigational aids (NAVAIDS) to provide continued safe operation in the event of a SatNav system(s) outages or malfunctions.

1.3 The Navigation Evolution Roadmap must assure the infrastructure is in place to support performance-based requirements. The Navigation Evolution Roadmap is inherently tied to technologies, budgetary schedules, and other cycles that may not coincide with the cycles and updates of the Roadmap for Performance-Based Navigation.

1.4 This Navigation Evolution Roadmap is a collaborative effort focused on identifying and working with the needs of government, industry, and user. A key objective is to capitalize on previous and ongoing work, incorporating critical decisions and efforts, into this Navigation Evolution Roadmap with milestones and key decisions laid out in near-term (2006-2010), mid-term (2011-2015) and long-term (beyond 2016) timeframes. These milestones are intentionally coincident with the timeframes of the Roadmap for Performance-Based Navigation.

1.5 The first version of the Navigation Evolution Roadmap captures the current state of navigation services and charts the direction for the future. The FAA will work collaboratively with the aviation community to produce subsequent versions that reflect collective efforts; and, to address issues and concerns. To proactively work the critical issues of performance-based navigation and the transition to Next Generation Air Transportation System (NextGen), the Navigation Evolution Customer Council (NECC) has been established under the auspices of RTCA. The NECC will specifically work the issues of transition and implementation for navigation services, and address the interdependencies between navigation and the surveillance and communication domains.

1.6 This navigation roadmap provides details on the means to achieve the strategic goals and objectives contained in the Joint Program Development Office's Integrated Work Plan (IWP), the Operational Evolution Partnership (OEP), the NAS Enterprise Architecture (EA), and national/international goals and objectives. The FAA will update this roadmap as required to reflect changes to the NAS EA. Further, a companion business plan is being developed by the FAA Navigation Services to support the strategies articulated in the Navigation Evolution Roadmap. The business plan is based upon primary fiscal sources and other key documents and work has been developed and will be updated to reflect budgetary decisions. Key results and impacts of those decisions will also be reflected in future navigation roadmap releases.

2. Conclusion

2.1 As this roadmap is updated, emphasis will be placed on refining operational requirements and assumptions. There is a high degree of certainty that some assumptions will change as the lines between the domains of communications, navigation, and surveillance (CNS) blend; consider, for example Automatic Dependent Surveillance-Broadcast (ADS-B). Future assumptions must account for any interdependency between CNS systems. Collaborative agreement on these assumptions will ensure the ability to implement new technologies.