Meeting Summary, February 11, 2011  
NextGen Advisory Committee (NAC)

The February 11, 2011 meeting of the NextGen Advisory Committee (NAC) convened at 8:30 a.m. in the Capitol View Business & Conference Center, Rotunda/Terrace Conference Room, 9th Floor, 101 Constitution Avenue, NW, Washington, DC, 20001.

The meeting discussions are summarized below. Attendees are identified in Attachment 1, the presentations for the Committee are contained in Attachment 2, and the NextGen interactive discussion is Attachment 3.

Welcome and Introductions
Mr. Dave Barger, President and CEO of JetBlue Airways, and the Chairman of the NextGen Advisory Committee, called the meeting to order and welcomed the NAC members and others in attendance at this public Federal advisory committee meeting. He also expressed his interest in having the NAC meetings in other locations, suggesting that in 2012 the Committee consider Wichita or Seattle as possible meeting sites in addition to Washington, DC.

Chairman Barger recognized new members Ms. Kim Day, Denver International Airport, Mr. Lee Moak, Air Line Pilots Association, and Major General Brett Williams, United States Air Force, and welcomed them to the meeting. All NAC members were asked to introduce themselves.

Designated Federal Official Statement
Designated Federal Official (DFO) Michael Huerta, FAA Deputy Administrator, read the Federal Advisory Committee Act notice governing the open meeting.

Approval of September 23, 2010 Meeting Summary and NAC Work Group Terms of Reference
Chairman Barger asked for consideration of the written summary of the September 23, 2010 meeting. The Committee approved the Summary with no revisions or objections. Chairman Barger asked for consideration of the Terms of Reference (TOR) for the three NAC Work Groups. The Committee subsequently approved the TORs for the Airspace and Procedures, Business Case & Performance Metrics and Integrated Capabilities Work Groups.

Chairman’s Remarks
Excerpts from Mr. Barger remarks to the Committee follow:

“Since we last met in September, I have sought to learn as much as I could on the many facets of “NextGen”… I have sought to learn what this term means to me, with my JetBlue logo on for operating a major airline in the heavily congested northeast airspace out of New York and Boston… I’ve also tried to learn what this term means from the vantage point of different stakeholders in our industry, such as manufacturers of aircraft, of equipment that fills a cockpit, equipment elsewhere on aircraft, in the towers and the en route centers as well as from leaders of our controllers,
from Wall Street and of course, from the dedicated safety experts at the FAA…
I have spent the past several months reading reports and calling each of you…
I have attended multiple meetings of our own Subcommittee, led by Tom Hendricks and Steve Brown who we will hear from shortly, as well its working groups…

I share these recent activities with you for two reasons:

First, with some learning under my belt and a great deal of learning ahead of me, I am now only beginning to appreciate the complexity and multi-layered depths of our mission to “advise the FAA” and foster a shared vision of NextGen and its implementation…
Second, in my day job at JetBlue, I’d never ask one of our 13,000 Crewmembers to engage in an activity I would not engage in myself: from picking up random trash in the terminal or on an aircraft to helping a lost or confused customer…
Similarly, I share my recent efforts with you so that I may encourage each of you, directly as well as through your colleagues on the Subcommittee and on the Work Groups, to roll up your sleeves, get involved in the important discussions and deliberations and share your expertise…
As each of us face distracting headwinds in our respective spheres of work, be it rising fuel costs, continued economic stagnation, endless wintery weather patterns or monitoring the latest Administration or Hill or even private proposal on how to shape any number of aspects of NextGen…
Losing site of our mission, against this backdrop, is easy…
Today, with the agenda you see before you, I hope our mission is clarified and tightened…
During my calls with each of you, each of YOU, despite offering incredibly varied viewpoints, helped me to clarify our mission…

The following are several of your comments…
(Editorial note -- excerpted comments with non-attribution of the quotes.)

“We don’t have a choice – the status quo is not acceptable.”

“NextGen is a philosophy making the operator the center of system.”

“It’s all about technology that enhances the efficiency and safety of the system.”

“NextGen isn’t either/or, it’s about the integration and ongoing transformation of the system,”

This comment pulled together the ongoing research with the ever-evolving “Now Gen” concept we’ve discussed about the FAA’s “day job” versus NextGen being seen by some as a silver bullet…
Later today, as we close, I am truly looking forward to more of your input on getting ourselves in alignment on a definition for NextGen… In closing this opening for our meeting, please accept my personal thanks to each of you for your commitment thus far and your efforts going forward. I also appreciate working with Andy and Margaret at RTCA in our weekly calls and other meetings.”

**FAA Report – Mr. Huerta**

Mr. Huerta expressed his appreciation for Chairman Barger’s passion and energy in leading the Committee. He linked President Obama’s State of the Union speech, “Dream Big, Build Big”, with the collaborative efforts of the Committee in working together to implement NextGen. Describing NextGen as an investment in the future that people are willing to make in a the public/private partnership to deliver on its promise for significant savings in fuel, emissions, improvements in efficiency and making the industry safer, Mr. Huerta also expressed that collaboration is important for NextGen to achieve goals of jobs and delivering benefits today.

Relating this to the Committee, he explained that the NAC is about the business of NextGen by making recommendations that help the FAA clarify where they need to go next, and why.

Addressing current budget discussions, Mr. Huerta stated that these are “interesting times” but that in the big picture, there is broad support and recognition that aviation is an engine for economic recovery and growth. He expressed appreciation for the aviation industry’s compelling story about the importance of aviation at the House Aviation Subcommittee hearing held on the previous day.

He concluded that the Committee provides the opportunity to coordinate efforts in making sure that NextGen moves forward; looking for help in defining how the FAA will measure the performance of NextGen implementation and examining opportunities to encourage NextGen equipage with operational or financial incentives.

**Subcommittee Report: NAC Subcommittee & Work Groups**

NAC Subcommittee (NACSC) Co-chairs Steve Brown, Senior Vice President Operations and Administration, National Business Aviation Association and Tom Hendricks, Vice President, Operations and Safety, Air Transport Association provided a description of the NACSC membership that is diverse and designed to help implement NextGen. The membership includes both US and International participants and is shown below:

- Government
  - 5 FAA
  - 2 Labor (Controllers/Safety Specialist)
- Operators
  - 11 Aircraft Operators (Airlines/GA/Cargo/Pilots)
  - 5 Airports/State
  - 2 ATC Service Providers
- Manufacturers
  - 3 Aircraft
  - 8 Avionics/Procedures
- Vendors
NAC February 11, 2011 Meeting Summary

- 10 ATC Automation/Engineering Services
  - Other -- 3 RTCA/MITRE

The NACSC Co-chairs explained that the NACSC has met three times and is very enthusiastic about its role in managing Taskings from the FAA into actionable items for NAC consideration. They outlined the membership of the three Work Groups and their role in conducting important detailed work on the specific Taskings previously received from the FAA, as well as the newly issued Equipage Tasking.

The Work Groups and Co-chairs are:

**Airspace and Procedures**
- Bob Lamond, Director, ATS & Infrastructure, National Business Aviation Association
- Bill Murphy, Director, ATC & Airfield Operations, US Airways

**Business Case & Performance Metrics**
- Ed Lohr, Director, Fleet Strategy, Delta Air Lines
- Debby Kirkman, NextGen Performance Integration Lead, The MITRE Corporation

**Integrated Capabilities**
- Chris Oswald, Vice President, Safety & Technical Operations, Airports Council International
- Sarah Dalton, Director, Airspace & Technology, Alaska Airlines

During the discussion on the Work Groups, one Committee member recommended that human factors should be included in the issues under consideration by the Airspace and Procedures Work Group. Another member stated that it is important that desired results (i.e. how the outcome will be used) should be provided to the Work Groups.

On the issue of representation, a question was raised about the absence of international (EUROCONTROL specifically) representation on some of the Work Groups. The Co-chairs acknowledged that there is EUROCONTROL representation on the NACSC and expressed their agreement that recommendations should consider global system interoperability. It was also suggested that the Business Case Work Group should include representation from aircraft/avionics manufacturers either as a member or subject matter expert. The Co-chairs agreed to ensure that this occurs through the use of subject matters experts (SMEs). Another Committee member expressed concern that as the need for additional data is identified that it not drive new requirements on aircraft operators.

As the Subcommittee/Work Group agenda item concluded, Chairman Barger expressed his appreciation to Tom and Steve for their leadership and reinforced his willingness to take steps to continue aligning the effort of the NACSC, Work Groups and the Committee.

Ms. Jenny requested that if data are needed to support the performance measures for metrics that the NAC and its subordinate groups define, that the members of the NAC provide assistance in getting that data, if possible. All agreed.
FAA Navigation Procedures Project (NAV Lean)
Peggy Gilligan, FAA Associate Administrator for Aviation Safety, was recognized and briefly reviewed the Agency’s NAV Lean initiative to evaluate the FAA’s processes for developing Instrument Flight Procedures, both performance-based and conventional, to determine where streamlining could occur. As a result, the FAA identified and is acting on 21 recommendations for improving this process that will result in up to a 40% reduction of the time it takes to develop and approve a requested procedure. Details are being made available to Committee members.

Future of Aviation Advisory Committee (FAAC) NextGen Recommendations
Susan Kurland, U.S. Department of Transportation, Assistant Secretary for Aviation and International Affairs, who served as the Chair of the FAAC, briefed the Committee on the efforts of that advisory group appointed by DOT Secretary Ray LaHood. The FAAC preliminary recommendations endorsed the concept of Federal Government financial and operational incentives for NextGen aircraft equipage. Ms. Kurland explained how these broad initiatives form the basis of the Tasking being requested of the Committee by the FAA to develop specific industry consensus-based recommendations for implementation. She expressed the Secretary’s support for the Committee activities and requested that she be given the chance to meet again with the Committee after the FAAC recommendations are finalized.

Discussion of FAA Equipage Tasking
Julie Oettinger, FAA Assistant Administrator, Office of International Aviation, Office of Policy, Planning and Environment, led the Committee through a discussion of the Tasking request for Committee recommendations on NextGen Avionics Equipage. There was a great deal of interest by the Committee members and discussion on this agenda topic.

One of the Committee members emphasized that costs for NextGen-related equipment is not just the equipment, but also the potential impacts on other aircraft systems and pilot training that underscore the importance of analyzing the benefits and overall cost based on the useful life of the aircraft. It was also pointed out by a Committee member that safety must also be a component of the overall analysis of equipage cost versus benefits.

Addressing the concept of operational benefits/incentives to equip, one of the Committee members cautioned that some are very challenging to implement. It was also noted by three Committee members that capability and benefits must be identified first and then these data be used to define equipage. Ms. Oettinger also agreed to share FAA data related to operational incentives and other related information on the equipage topic. (Note: RTCA will follow up on this offer and make that information available to the NAC.)

Several Committee members explained that air carriers (especially regionals) with fixed revenue contracts are limited in their ability to absorb additional costs for aircraft equipment, training and other related expenses.

There was a brief discussion about the merits of equipage mandates, but it was generally agreed that this is a lengthy and controversial process; a collaborative approach is preferred.
Regarding the question of who (which user groups) should be eligible for equipage incentives, one commenter complimented the FAA on asking this question. Another commented that through this tasking, each area is essentially being given the opportunity to “make the case” for their inclusion in incentives. Likewise, it was also noted that General Aviation is an important component of the overall air traffic in regional airspace and airports and is a relevant factor in the equipage discussion. Another Committee member explained that some air traffic control system capabilities are dependent on 100% equipage and that this is a factor that must be considered in the equipage incentives analysis. It was also suggested that airports should be considered in the equipage incentives discussion as well as operator flight planning systems.

One of the Committee members suggested that system performance metrics on what will provide benefits are important and some of the incentives may be constrained by their costs and the committee should take such fiscal constraints into account when forging their recommendations. One member suggested that the committee should gather information on the current initiatives being advocated by various organizations in the aviation community.

At the end of the Committee open discussion, Margaret Jenny, RTCA President presented a draft plan to develop a response in the time frames requested by the FAA in the Tasking letter. This included forming an ad-hoc Task Group of the NAC members to address “which user groups and/or aircraft types should be considered for these potential incentives?” In addition to this issue, she also presented a preliminary schedule for addressing all of the remaining Tasking areas through the NACSC and its associated Work Groups. The Committee will receive recommendations for its consideration at the May 19, 2011 meeting addressing the issues of which capabilities should be eligible for incentives and which user groups/ or aircraft types. The remaining areas from the Tasking letter will be addressed at the Committee’s meeting on September 29, 2011.

Concluding this agenda item, Mr. Huerta pointed out to the Committee that pending action on the FAA Authorization legislation may expedite the need for the recommendations to be considered prior to the September deadline. To respond to this possibility the NACSC and Work Groups are prepared to develop preliminary recommendations should the need arise.

**FAA’s 2011 NextGen Implementation Plan – Pre-release overview**

Vicki Cox, FAA Senior Vice President for NextGen & Operations Planning, provided a briefing of the FAA’s 2011 NextGen Implementation Plan that will be released in March. She explained that it incorporates many of the recommendations from the aviation industry made in RTCA Task Force 5 and outlines the FAA’s planned actions for specific NextGen programs. The Committee will receive a copy of the report upon its release.

**Understanding NextGen – Committee Interactive Discussion**

Chairman Barger explained that for the Committee to be effective, it is important that the members have a common understanding of the term “NextGen”. To help in that effort, Rob Moran, Chief Operating Officer of the Aircraft Owners and Pilots Association and an experienced meeting facilitator and strategic planning expert led the Committee through a “workshop” session open to the public. The Committee was divided into four work groups and asked to develop a draft press release explaining NextGen. The draft products of the exercise reported out during the meeting are contained in attachment 3. The Committee will be completing work on a common understanding of NextGen at its next meeting.
Other Business/Anticipated Issues for NAC Consideration and Action at May 19, 2011 Meeting
No other business was raised. Mr. Huerta expressed his thanks for the hard work and effort of the Committee members and Chairman Barger to work towards consensus on NextGen, applying energy to continue participating in this important activity.

Chairman Barger expressed his appreciation for all of the hard work of the NAC in support of the aviation industry and the FAA by the Committee members, NACSC and Work Groups. He expressed that we must continue working with a sense of urgency to get things done.

The next meetings of the NAC are:
- May 19th, 2011, New York JFK Airport
- Sep 29th, 2011, Washington, DC RTCA Headquarters, 1150 18th Street

Adjourn
Chairman Barger closed the meeting of the Committee at 1:05 p.m.
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Welcome to the Meeting of the NextGen Advisory Committee!

February 11, 2011
Washington, DC

Welcome & Introductions

Chairman Dave Barger, President & CEO JetBlue Airways
Agenda

1. Welcome & Introductions – David Barger, Chairman
2. Review and Approval of 9/23/10 Meeting Summary/Work Group Terms of Reference
3. Chairman’s Report – Chairman Barger
4. FAA Report – Mr. Huerta
5. Subcommittee Report: NAC Subcommittee & Work Groups
6. FAAC NextGen Recommendations – Susan Kurland, USDOT
7. FAA Equipage Tasking – Julie Oettinger, FAA
8. FAA’s 2011 NGIP – Pre-release overview – Vicki Cox, FAA
9. Understanding NextGen –Interactive Discussion – Rob Moran, Facilitator
10. Other Business/Anticipated Issues for NAC May 19, 2011 meeting

PUBLIC MEETING ANNOUNCEMENT

Read by: Designated Federal Official Michael Huerta
NextGen Advisory Committee
February 11, 2011

In accordance with the Federal Advisory Committee Act, this Advisory Committee meeting is OPEN TO THE PUBLIC. Notice of the meeting was published in the Federal Register on: January 21, 2011

Members of the public may address the committee with PRIOR APPROVAL of the chairman. This should be arranged in advance.

Only appointed members of the Advisory Committee may vote on any matter brought to a vote by the Chairman.

The public may present written material to the Advisory Committee at any time.
Review and Approval of
September 23, 2010
Meeting Summary/Terms of Reference

-- Committee Members

Chairman’s Report

Chairman Dave Barger
President & CEO JetBlue Airways
Comments from Calls …

- “NextGen is a philosophy and a reality whereby the operator is at the center of the system.”
- “The purpose of the NAC is for a point of consolidation; the goal is to yield a constitution, deployment strategy and framework to move this initiative forward.”
- “The NAC should ensure a disciplined, programmed, project management with best practices, including milestones, metrics and timelines.”
- “With regard to NextGen and the future, we don’t have a choice, the status quo is not acceptable.”

- “It’s all about technology that enhances the efficiency and safety of the system.”
- “Interoperability across the global system is vital and we must be focused on quick wins to improve the performance of the system and continue to build momentum.”
- “NextGen isn’t either/or, it’s about the integration and ongoing transformation of the system.”
- “It’s important that the NAC is focused on the budget with champions on the Hill to support the initiative.”
- “There’s an incredible amount of Euros on the table; brick by brick we have to move to a philosophy of time-based operations.”
FAA Report

Michael Huerta
FAA Deputy Administrator

NAC Subcommittee
Report: NAC Subcommittee & Work Groups

Subcommittee Co-Chairs:
Steve Brown, Senior Vice President Operations and Administration, National Business Aviation Association

Tom Hendricks, Vice President, Operations and Safety, Air Transport Association
Current NAC Structure

NEXTGEN ADVISORY COMMITTEE (NAC)

NAC SUBCOMMITTEE (NACSC)

BUSINESS CASE & PERFORMANCE METRICS WG

AIRSPACE & PROCEDURES WG

INTEGRATED CAPABILITIES WG

NAC Subcommittee

- Cole Hedden
- Ron Hawkins
- Peter Lyons
- Tom Hendricks
- Bill Bozen
- Craig Spence
- Joe Miceli
- Rip Torn
- Chris Oswald
- Neil Planzer
- Jim Crites
- Steve Dickson
- Ralph Riedle
- Steve Pennington
- Nancy Young
- Bo Redeborn
- Bruce DeCleene
- Ben DeLeon
- Nancy Kalinowski
- Gisele Mohler
- Nan Shellabarger
- Jim Bowman
- TBD
- Van Ruggles
- Steve Fulton
- Jens Hennig

- Peter Challan
- Chris Benich
- John Kefaliotis
- Greg Bowlin
- Joe Bertapelle
- Ken Elliott
- Bill Dunlay
- Sandy Samuel
- Jack Keis
- Lillian Ryals
- Chris Brinton
- Dale Wright
- Steve Brown
- Catherine Kuenzel
- Mike Riso
- Tom Bock
- Charlie Keegan
- TBD
- Bryan Vestor
- Andy Cebula
- George Ligler
- Ken Kaminski
- Dave Newton
- Todd Donovan
- Joe Burns
- Randy Burdette

- ACSS/L-3
- ARINC
- Aspen Avionics
- ATA
- Airbus
- AOPA
- ADF
- Airline Pilots Association
- ACI-NA
- Boeing Corporation
- DFW Airport
- Delta Air Lines
- DFS
- DoD PBFA
- Environment (ATA)
- Eurocontrol
- FAA, AVS
- FAA, ARP
- FAA, NextGen Office
- FAA APO
- FedEx Corporation
- Finance
- Garmin
- GE Aviation/Naverus
- GAMA

- Harris Corporation
- Honeywell
- ITT
- Jeppesen
- JetBlue Airways
- Jetcraft Avionics
- Leigh Fisher
- Lockheed Martin
- Metron Aviation
- The MITRE Corporation
- Mosaic ATM
- NATCA
- Northrop Grumman
- PASS
- PANYNJ
- Raytheon
- RAA
- Rockwell Collins
- RTCA
- RTCA/PMC
- Sensis Corporation
- Southwest Airlines
- Thales ATM
- United/Continental Airlines
- NASAO
Diversity Of Membership

- **Government**
  - 5 FAA
  - 2 Labor (Controllers/Safety Specialist)

- **Operators**
  - 11 Aircraft Operators (Airlines/GA/Cargo/Pilots)
  - 5 Airports/State
  - 2 ATC Service Providers

- **Manufacturers**
  - 3 Aircraft
  - 8 Avionics/Procedures

- **Vendors**
  - 10 ATC Automation/Engineering Services

- **Other** -- 3 RTCA/MITRE

Subcommittee Initial Focus

- Work Group Formation & Oversight
- Managing FAA Taskings
- Schedule Integration
- Preparing Strategic Recommendations for NAC Consideration
Current Subcommittee Activities

- Three Meetings (Dec/Jan/Feb)
- Established Work Groups
- Metroplex Tasking
- Performance Metrics Tasking
- Airspace Optimization
- Trajectory Operations Concept of Use
- Business Case Analytics Tool

NAC Work Groups

- **BUSINESS CASE & PERFORMANCE METRICS WG**
  - Co-Chairs: Ed Lohr, Delta Air Lines
  - Debby Kirkman, MITRE

- **AIRSPACE & PROCEDURES WG**
  - Co-Chairs: Bill Murphy, US Airways
  - Bob Lamond, NBAA

- **INTEGRATED CAPABILITIES WG**
  - Co-Chairs: Chris Oswald, ACI-NA
  - Sarah Dalton, Alaska Airlines
Airspace & Procedures WG

- George Ingram, Air Transport Association
- Heidi Williams, Aircraft Owners & Pilots Association
- Wilson Riggan, Allied Pilots Association
- Mark Cato, Air Line Pilots Association
- Robert Deering, American Airlines
- Grady Boyce, Delta Air Lines
- Brett Easler, DoD, CNO
- Gary Powell, FAA, AVS
- Christopher Hugunin, FAA, ARP
- Howard Callon, FAA, ATO
- Dan Allen, FedEx Corporation
- Bill Cranor, JetBlue Airways
- Mike Hines, Metropolitan Washington Airport Authority
- Diane Boone, The MITRE Corporation
- Dale Wright, National Air Traffic Controllers Association
- Bob Lamond, National Business Aviation Association
- Paul Kinstedt, Republic Holdings
- Bob Everson, Southwest Airlines
- Tim Stull, United/Continental Airlines
- Jim Hamilton, United Parcel Service
- Bill Murphy, US Airways

Role: Provide recommended actions to improve efficiency and operations through enhanced procedures and/or airspace changes, using existing technologies.
Terms of Reference

Areas of Focus Include:

- Metroplex Optimization
- Performance-Based Navigation Implementation
- Cruise Operations
- National Special Activity Airspace Project* (NSAAP)
- National Airspace and Procedures
- Regional Airspace and Procedures
  - Gulf Regional Airspace Strategic Initiative* (GRASI)

* Denotes specific carry over from old AWG

APWG Structure - Regional Task Groups
Coordination
Parallel Work

Coordination
Parallel work with other Industry groups such as—
- Other NACSC work groups
- FAA/Industry Collaborative Decision Making (CDM)
- Air Traffic Procedures Advisory Committee (ATPAC)
- Performance-Based Aviation Rulemaking Steering Group (PARC SG)
- S2K

Business Case
Performance Metrics WG

- John Novelli
  American Airlines
- Craig Spence
  Aircraft Owners & Pilots Association
- Joe White
  Air Transport Association
- Jim Crites
  DFW Airport
- Ed Lohr
  Delta Air Lines
- John Witucki
  DoD
- Raquel Girvin
  FAA, APO
- Almira Ramadani
  FAA, ATO
- Jim Littleton
  FAA, ATO Operational Performance
- Joel Murdock
  FedEx Corporation
- Bill Dunlay
  LeighFisher
- Deborah Kirkman
  The MITRE Corporation
- Kyle Gill
  NetJets
- Alex Burnett
  United/Continental Airlines
- Kirk Rummel
  United/Continental Airlines (until April)
Business Case
Performance Metrics WG

Role: Develop operational performance measures to ensure NextGen implementation produces desired results, and provide recommendations for ensuring a positive business case for NextGen.

Integrated Capabilities WG

- Pascal Joly
- Joe Miceli
- Chris Oswald
- Heidi Williams
- Sarah Dalton
- Bryan Will
- Aslaug Haraldsdottir
- Mark Hopkins
- Philip Basso
- Bruce DeCleene
- Kent Duffy
- Kip Spurio
- Dan Allen
- Jens Hennig
- Christopher Sutherland
- Paul Meyer
- Brad Culbertson
- Chris Forshier
- Lee Brown
- Airbus
- ADF
- ACI NA
- AOPA
- Alaska Airlines
- American Airlines
- Boeing
- Delta Air Lines
- DoD
- FAA, AVS
- FAA, ARP
- FAA, ATO
- FedEx
- GAMA
- Harris
- ATL Airport
- Lockheed Martin
- Metron Aviation
- MITRE
- Chris Brinton
- Christopher Stephenson
- Tom Bock
- Edward Stevens
- Scott Foose
- Rick Heinrich
- George Ligler
- David Rinehart
- Perry Clausen
- Glenn Morse
- Christian Kast
- Ron Thomas
- Mosaic ATM
- NATCA
- PANY/NJ
- Raytheon
- RAA
- Rockwell Collins
- RTCA/PMC
- Sensis Corporation
- Southwest Airlines
- United/Continental Airlines
- UPS
- US Airways
**Integrated Capabilities WG**

**Role:** Develop recommendations implementing NextGen capabilities that go beyond procedures and airspace changes that require new technologies (DataComm, ADS-B, Surface Traffic Management, etc.).

**Future Deliverables for NAC Consideration**

- Equipage Tasking
- Special Activity Airspace “Concept of Use”
- Metroplex Tasking
- Performance Metrics Tasking
- Airspace Optimization Tasking
- Trajectory Operations Concept of Use
NAC Subcommittee & Work Groups

Discussion

Break
Future of Aviation Advisory Committee
NextGen Recommendations

Susan Kurland
U.S. Department of Transportation
Assistant Secretary for Aviation and International Affairs

NextGen Advisory Committee
FAAC Recommendations
Relating to NextGen
Susan Kurland, Assistant Secretary for Aviation and International Affairs
February 11, 2011
RECOMMENDATION #3
(Environment)
Operational and Infrastructure Improvements

- Advocate for substantial additional targeted investment to accelerate equipage elements of NextGen that will have significant near term benefits and increase likelihood of successful deployment. Aim for deployment of accelerated equipage within the next 4 years. In addition, establish a ground taxi delay management pilot program and recommend appropriate deployment of taxi delay management methodology for U.S. airport operations within 3 years. Lastly, establish an airport energy efficiency and emissions reduction program to reduce emissions from airport power sources and increase energy efficiency at airports.

RECOMMENDATION #6
(Finance)
Funding Accelerated Equipage of Aircraft

- The FAAC proposes to the Secretary that the Federal Government undertake a significant financial investment to achieve extensive public benefits throughout the accelerated NextGen equipage of commercial and general aviation aircraft. This federal commitment must be matched in some fashion by financial or operational commitments, for example reduced CO2 emissions, on the part of commercial and general aviation aircraft operators. This Public/private partnership in equipping aircraft should focus on equipping aircraft and training staff to use the key NextGen technology and operational capabilities including performance-based navigation (PBN), automatic dependent surveillance – Broadcast (ADS-B), ground-based augmentation system (GBAS) and Data Communications. The FAAC believes a menu of financial options – grants, loans, leases, and loan guarantees – should be designed, in consultation with industry, and this financing can be managed through an Infrastructure bank or other financing vehicle. The form and structure of the financial options offered should depend on the appropriateness of the incentive for the technology and capability being funded, the aviation operators involved, the costs and benefits associated with the particular technology or operational capability and the share responsibility between the public and private partners. An important part of this program will be the detailing of commitments that both the FAA and operators should make to deliver promised benefits or mitigate against financial or other risk.
RECOMMENDATION #7  
(Finance)  
Delivering the Benefits of NextGen

- The Secretary should fully endorse and focus on ensuring that FAA delivers the operational capabilities, procedures, and approvals necessary for operators to realize the benefits from the NextGen air traffic control system as quickly as possible. Making progress on improving the environmental review process, developing a well-crafted and balanced Best Equipped, Best Served (BEBS) program, and fully leveraging the operations of those who have already invested in performance based on navigation or ADS-B are challenging but must be a high priority for DOT and FAA if public benefits are to be realized as well as the promised benefits to operators that equip. Furthermore, the Secretary should require the FAA to develop and commit to a timetable of when requirements will be set, when operational capabilities and procedures will be available, what training will be necessary and what will be the required authorizations.

RECOMMENDATION #8  
(Finance)  
Eligibility Criteria for Airport AIP and PFC Programs

- The FAA should review and redefine what is meant by “aviation infrastructure” and based upon that study it should update and modernize the eligibility criteria for AIP and PFC projects. As part of this review, DOT and FAA should consider whether investing AIP and PFC dollars in NextGen equipment, operational capabilities, and performance based procedures are needed to produce a demonstrated, near-term improvement in operational performance at airports. If changes are warranted, FAA should as much as possible of this update administratively and develop legislative recommendations to the Secretary for the remainder of the suggested changes. An update of the guiding authorities in this area should be focused on allowing more flexibility by airports in using AIP and PFC funds. Airport Committee members believe these changes must be accompanied by increases in AIP and the PFC level. Airline members believe that providing more flexibility can be achieved without these increases. FAA should determine or make recommendations on whether AIP and PFC levels need to be adjusted based on eligibility criteria changes.
RECOMMENDATION #12
(Competitiveness and Viability)

Intermodalism: The Secretary should

- Examine the Essential Air Service program (EAS) and identify multimodal service opportunities for EAS-eligible communities;

- Recognizing that modernization of the air traffic control (ATC) system is the highest priority, recommend that legislation establishing an infrastructure bank, or any appropriate infrastructure legislation, give priority consideration to projects that link airports with other forms of transportation, such as rail and transit to create transportation hubs that serve multiple cities. This consideration should not result in the diversion of any funds from ATC modernization efforts, and should be done in conjunction with appropriate environmental and cost-benefit analysis. Transportation providers, including airports, could compete for funding to build the airport-link system; and

RECOMMENDATION #12 – cont’d
(Competitiveness and Viability)

Intermodalism

- Establish a task force on intermodalism, including representatives from all modes transportation, including aviation, to examine the status of efforts to remove barriers to intermodalism, make recommendations about advancing projects that achieve the movement of passengers and goods in a multi-modal fashion, and document the benefits of intermodalism. Benefits and costs should be measured at the overall transportation system level.
RECOMMENDATION #15
(Workforce/Labor)

Science, Technology, Engineering & Math Education Programs (STEM)

- **Coordination and Focus within DOT:** Workforce development on STEM should be centralized and focused top tier initiative of the Department of Transportation. The Secretary should assign the Assistant Secretary for Administration the task of developing, overseeing, coordinating, implementing, and integrating a strategic workforce development plan that includes STEM education programs and activities for the current and future workforce. A strategic plan would identify a) key strategies and program areas for outreach to students of all ages; b) subject areas for current and future workforce development that support future DOT needs (such as FAA skills in a NextGen environment); c) opportunities for professional and management intern/fellowships with the Department and its agencies; d) partnerships with industry that foster innovation and collaboration; and e) create an advisory council comprised of outside experts focused on aviation and aerospace can provide expertise to help identify, align, and coordinate efforts on workforce development and STEM education within the Department. Additionally, we encourage greater collaboration and coordination with the Department on workforce development initiatives, as well as between programs like the University Transportation Centers and the FAA Centers of Excellence.

RECOMMENDATION #15 – cont’d
(Workforce/Labor)

Science, Technology, Engineering & Math Education Programs (STEM)

- **Educational Outreach and Recognition:** The Secretary should take steps to increase outreach to educational institutions (from pre-kindergarten to institutions of higher education) to raise the visibility and profile of aerospace and aviation by enhancing existing programs to develop or expand aerospace and aviation education programs geared to support the future needs of aviation and aerospace, including implementation of NextGen technologies. The Secretary should also consider improving programs and connections with non-profit, independent, and for-profit two and four-year educational institutions (including community colleges) that give students hands-on experience applicable to the aviation and aerospace workplace. Finally, the Secretary should establish an award for innovation to recognize persons, businesses, or organizations that develop unique scientific and engineering innovations in aerospace and aviation (similar to the Baldrige award for quality or the Collier Trophy for aircraft).
RECOMMENDATION #15 – cont’d
(Workforce/Labor)

Science, Technology, Engineering & Math Education Programs (STEM)

- **Interagency/Intergovernmental Collaboration:** The Secretary of Transportation should work with the Secretary of Labor as an integral part of the Interagency Aerospace Revitalization Task Force, originally established in 2006, to implement a national strategy focused on recruiting, training, and cultivating the aerospace workforce. The Task Force should incorporate core manufacturing, operational excellence, continuous process improvement, etc. into the workforce development process to ensure America can compete in the global manufacturing marketplace that underpins the success of our aviation industry. Additionally, the Secretary should work with the Department of Education to provide resources that would create state-of-the-art STEM elementary and secondary educational facilities.

RECOMMENDATION #21
(Safety)

NextGen and Enhanced Safety Performance

- The Secretary should ensure that safety performance standards and training are embedded into NextGen planning, implementation, and monitoring.
DISCUSSION

Discussion of FAA Equipage Tasking

Julie Oetinger, FAA Assistant Administrator
Office of International Aviation, Office of Policy, Planning and Environment
Why Equipage Matters

- **NextGen has demonstrated benefits to operators, the FAA, and society:**
  - Shorter travel distance and time,
  - Lower fuel burn and emissions

- **We are collaborating to continue to prove benefits:**
  - UPS use of ADS-B at Louisville & Philadelphia airports
  - JetBlue using ADS-B in New York

- **But, equipment is required both on the ground and in the air in order for NextGen to work.**
Equipage is Expensive

• Operators must see the business case in order to make the investment in equipage

• Some operators are finding a favorable business case

• But with other equipage, NextGen benefits do not necessarily accrue to the first aircraft operators to equip

• Incentives can help close the business case gap

A Bit of Background

• FAA asked RTCA to develop recommendations on how to maximize agency benefits and justify industry investments in NextGen.

• RTCA Task Force 5 recommended FAA provide:
  - Provide financial incentives
  - Provide clear plans and commitments to realize benefits
  - Implement “Best Equipped, Best Served”

• The Administration proposed a National Infrastructure Bank, that could include funding possibilities for NextGen.
A Bit of Background cont.

- The Future of Aviation Advisory Committee (FAAC) made its recommendations to the Secretary in December 2010:
  - FAAC advocated for substantial additional targeted investment to accelerate NextGen equipage.

- The FAA has been participating in demonstrations and pilot projects to document NextGen benefits.

- FAA has been researching financial assistance options as well as operational incentives to increase NextGen equipage rates.

Financial Incentives for NextGen Equipage

- Options we have evaluated include:
  - Pilot and Demonstration programs
  - Public-Private Partnerships (PPPs)
  - Loan Guarantees
  - Direct loans (Low Interest or No Interest)
  - Tax incentives
  - Grants

- Potential fiscal and legal constraints
Operational Incentives for NextGen Equipage

- Considerations for favoring equipped aircraft
  - Direct routings for equipped aircraft and keeping them on preferred routes as much as practical
    - Move less capable aircraft when separation conflicts develop
    - Disadvantage more capable aircraft only in emergencies
  - Priority to equipped aircraft on
    - approach to airports with flow control
    - on environmentally friendly routes or flows

Operational Incentives: Potential Outcomes of Interest
Our Request to the NextGen Advisory Committee:

Provide further industry input on the equipage question

Phase I Request

1) Prioritize the NextGen mid-term operations that are dependent on equipage, and

2) Recommend the aircraft types or user groups that should be considered for incentives. Groups to consider are: national and international air carriers, regional air carriers, charter operators, business aviation, personal use/general aviation, recreational use aviation, military air transport, military tactical aircraft, helicopters and utility operators.

Phase I recommendations requested by May 2011
Phase II Request

1) For each relevant user group, identify the gaps in the business case (i.e. the delta between cost and assessed benefit) for NextGen-required equipage that operational or financial incentives could be used to close;

2) For each relevant equipage type and/or user group, as appropriate, identify the incentive(s) most likely to close the business case gap. Also, identify which delivery mechanisms would be most effective for the recommended incentive(s). Most helpful would be scenarios of various financial options, i.e., loans, grants, other avenues, that are in accord with current political and fiscal climates;

3) Identify reasonable conditions that would justify investment of taxpayer funds on incentives;

Phase II recommendations requested by September 2011

Phase II Request continued

4) Define a realistic timetable for recommended financial and/or operational incentives to drive investment decisions and transition, along with any related considerations;

5) In terms of an incentives program, identify the assurances that could be provided to early adopters of NextGen technology; and

6) Recommend criteria for evaluating the success of incentives.

Phase II recommendations requested by September 2011
Conclusion

• FAA is committed to achieving NextGen
• NextGen avionics are expensive but critically important to achieving the benefits of NextGen
• Funding is limited in today’s budget climate. We look forward to continued industry input on how to prioritize and achieve avionics equipage so the industry and flying public can realize the full spectrum of NextGen benefits.
• Phase 1 Recommendations Due: May 2011
• Phase II Recommendations Due: September 2011
• Your feedback may be even more valuable given this year’s Congressional calendar and Federal budget activities

DISCUSSION
FAA Equipage Tasking

Margaret Jenny, RTCA President

Background

- NextGen will require aviation equipage
  - Data Communications
  - ADS-B In and Out
  - RNP
  - WAAS LPV
- FAAC made recommendation regarding equipage
- FAA is exploring operational incentives
- FAA would like industry consensus on specific questions regarding equipage for NextGen…
May Deliverable

- **PRIORITIZED OPS CAPABILITIES**: Prioritize the NextGen mid-term operations that are dependent on equipage
- **USER GROUPS**: Recommend the aircraft types or user groups that should be considered for incentives

September Deliverable

- **GAPS**: For each relevant user group, identify the gaps in the business case for NextGen-required equipage that operational or financial incentives could be used to close
- **INCENTIVES**: For each relevant equipage type and/or user group, as appropriate, identify the incentive(s) most likely to close the business case gap. Also, identify which delivery mechanisms would be most effective for the recommended incentive(s). Most helpful would be scenarios of various financial options, i.e., loans, grants, other avenues, that are in accord with current political and fiscal climate
- **JUSTIFICATION**: Identify reasonable conditions that would justify investment of taxpayer funds on incentives
- **TIMETABLE**: Define a realistic timetable for recommended financial and/or operational incentives to drive investment decisions and transition, along with any related considerations
- **EARLY ADOPTERS**: In terms of an incentive program, identify the assurances that could be provided to early adopters of NextGen technology.
- **EVALUATION CRITERIA**: Recommend criteria for evaluation the success of incentives
Preliminary* Schedule

**February**
- Recommend criteria for evaluation the success of incentives
- Prioritize the NextGen mid-term operations that are dependent on equipage
- Recommend the aircraft types or user groups that should be considered for incentives. Identify reasonable conditions that would justify investment of taxpayer funds on incentives.
- For each relevant user group, identify the gaps in the business case for NextGen required equipage that operational or financial incentives could be used to close
- For each relevant equipage type and/or user group, as appropriate, identify the incentive(s) most likely to close the business case gap. Also, identify which delivery mechanisms would be most effective for the recommended incentive(s). Most helpful would be scenarios of various financial options, i.e., loans, grants, other avenues, that are in accord with current political and fiscal climates. In terms of an incentive program, identify the assurances that could be provided to early adopters of NextGen technology.

**March**
- Success Criteria
  - BCWG, ICWG
- Ops Capabilities
  - ICWG
- User Groups
  - NAC
- Business Case Gaps
  - BCWG

**April**
- Incentives
  - NACSC/NAC Ad Hoc

**May**
- Update Success Criteria
  - BCWG, ICWG

**June**
- Timetable
  - NACSC Ad Hoc

**July**
- Define a realistic timetable for recommended financial and/or operational incentives

**August**

**September**
- Recommend criteria for evaluation the success of incentives

**DISCUSSION**

* Work in progress
FAA’s 2011 NextGen Implementation Plan – Pre-release Overview

Vicki Cox, FAA Senior Vice President for NextGen & Operations Planning

NextGen Implementation Plan – an update

Presented to: RTCA NextGen Advisory Council

By: Victoria Cox, FAA Air Traffic Senior Vice President for NextGen and Operations Planning

Date: February 11, 2011
The new NextGen Implementation Plan will be published in March 2011

- The NextGen Implementation Plan (NGIP) is FAA’s key external outreach document
- The plan is clear on benefits of investments in NextGen capabilities

NextGen Implementation Plan Contents

- Why NextGen Matters
- NextGen Today
- NextGen Benefits
- NextGen in 2018
- NextGen Ahead
- Challenges
- Appendix A: NextGen Investments for Operators and Airports
- Appendix B: Delivering the Mid-Term Vision
**NextGen Implementation Plan has depth and details**

The NextGen Segment Implementation Plan serves as the management tool with lower level details of activities required for delivery of capabilities.

**NextGen Segment Implementation Plan is aligned with:**

- NAS Enterprise Architecture, January 2010
- FAA’s Response to the Recommendations of the RTCA NextGen Mid-Term Implementation Task Force, January 2010
- FAA’s NextGen Mid-Term Concept of Operations for the National Airspace System, Version 2.0
**NextGen Segment Implementation Plan** is organized by Portfolios

**Portfolios:**
- Collaborative Air Traffic Management
- Improved Surface Operations
- Time-Based Flow Management
- Closely Spaced, Parallel, Converging and Intersecting Runway Operations
- Improved Approaches and Low-Visibility Operations
- Performance-Based Navigation
- On-Demand NAS Information
- Automation Support for Separation Management

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**The NextGen Segment Implementation Plan (NSIP) is a Master Program Plan**

**It Includes:**
- Operations-focused approach
- Comprehensive view of capabilities and integration challenges
- Portfolio structure for management and acquisition
- Framework that enables alignment of related work plans across programs and organizations
- FAA Action Plans in Response to RTCA Task Force 5 Tier 1 Recommendations

**It Helps to:**
- Support delivery of customer solutions
- Inform enterprise-wide decision making and trade-offs
- Establish the portfolio management framework for all activities for a defined segment of time
- Improve FAA's investment analysis activities
- Manage delivery of Agency commitments in response to industry recommendations; Answer the industry call for improvement
NSIP is aligned with the NAS Enterprise Architecture

The NSIP was created using artifacts from the NAS EA to align technical strategy, programmatic plans and available funding.

- The *infrastructure roadmaps* were used to identify supporting systems/programs and to create the NSIP schedules, e.g. acquisition Decision Points

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Summary

- The new NextGen Implementation Plan will be published in March 2011

- The NextGen Implementation Plan is FAA’s key external outreach document

- The NextGen Implementation Plan has depth and details. It is aligned with:
  - NextGen Segment Implementation Plan
  - NAS Enterprise Architecture
DISCUSSION

Understanding NextGen – Committee Interactive Discussion

Rob Moran, Facilitator
NextGen- A Defining Moment

“The true journey of discovery does not consist of searching for new landscapes, but in having ‘new eyes’.”

-Marcel Proust

Understanding NextGen

• What brings us here today- Outcome
• Process-
  – What are we going to do?
  – How will we accomplish our goal?
  – Review input
  – Small group exercise
  – Review input and Synthesize
  – Next steps
Question #1 - Challenge

- Provide safer and more efficient use of national airspace
- Solve congestion - increase capacity - improve performance (air traffic systems)
- Communication
- Improve infrastructure
- Overcome the lack of trust and confidence in the FAA’s ability to deliver

Question #2 Scope

Set of technologies - set of actions - systems of systems - rules of the road - curb to curb, comprehensive, charting a new course for NG, prioritizing options - help the FAA hear priorities - coordinate - decisions made will determine the future of the aviation community - Overhaul and modernize air transportation - all aspects of operations, challenging, complicated, costly, collaborative, game changing, overdue - A new way of thinking
Question #2B - Contribution

Provide input and guidance, coordinate with stakeholders, investment partner, instigator and nudge, add expertise, be the conscience of the program, provide solutions, observe and cheerlead, look at the big picture and ensure thinking is strategic, help the FAA hear priorities, facilitate a public/private partnership, provide a venue for collaboration and consensus, establish a “single” voices to advise government, inject my expertise and experience.

Question #3 - Success Factors and Conditions

Priorities in place, the will to find innovative funding- abandon old ways of doing business, truly collaborate (egos and turf battles), decisive direction, well articulated/fully coordinated plan that has wide support, full international harmonization, total commitment, clear step by step capabilities overseen by a single NG leadership model, funding, coordination, cooperation, discipline, shared understanding, ability to measure, support of the aviation community, clear cost benefit analysis, strong leadership, effective partnership, single czar.
Small Group Exercise

• Small Groups:
  – Task- Write a press release that “articulates a succinct definition of NextGen for policymakers, our colleagues in the aviation industry and the media” Think of this as an opportunity to announce your collective view of the future, the possibilities, perhaps introducing a new way of seeing things.
  – Identify a scribe and facilitator, establish a process and act.

Other Business/Anticipated Issues for NAC Consideration & Action at May 19, 2011 meeting

Margaret Jenny, President, RTCA
Future Meeting Dates 2011

- May 19th – New York JFK Airport
- September 29th – RTCA New Location
  1150 18th Street, Washington, DC

Adjourn
Work Shop Notes from the Understanding NextGen – Committee Interactive Discussion

The Committee was divided into four work groups and asked to develop a draft press release explaining NextGen. The draft products from the Four Work Groups are shown below.

Group One

NextGen is the adoption of innovative policies, procedure, and technologies to enhance efficiencies, improves safety, reduce our environmental footprint, and expand capacity.

The beneficiaries include travelers, operators, residents of our communities, and the millions employed in the industry—both directly and indirectly.

In short, NextGen will transform our nation’s aviation system and ensure we remain competitive in a global marketplace.

NextGen sets out a path for change while remaining flexible to adopt future innovations.

Group Two

Aviation growth drives local and global prosperity, creating a need for more efficient utilization of the airspace.

NextGen will safely enable more aircrafts to fly shorter, more direct, routes and use less fuel.

Through collaboration, the aviation community will implement improved technologies and policies.

Everyone will benefit: People who fly, their communities, and our environment.
Group Three

The 28 member RTCA NextGen Advisory Committee on Friday announced its consensus on the key elements that define NextGen and identified key reasons for moving toward making NextGen a reality.

NextGen is an imperative for the global competitiveness of this country. It is an investment in upgrading the entire aviation system through technologies, procedures, and people.

Benefits to all citizens will include clearer skies, less noise, economic benefits, and job creation while maintaining the level of safety that we currently enjoy.

The committee feels that this opportunity must be seized in order to maintain our position as a global economic leader.

Group Four

In order to enhance aviation safety, increase system capacity, reduce delays, and minimize our environmental footprint, we are calling for a $___B investment over a _____ year period in a transformational “NextGen” air traffic system. NextGen is based on visionary policies, cutting-edge technologies, and innovative procedures.

This important and urgent investment in NextGen is necessary to ensure the U.S. will remain the world leader in aviation.