NextGen

Safety Enhancements

Presented to: Rotorcraft Forum
By: Lou Volchansky, Avionics Systems Branch, AIR-130
Date: 1 February 2012
Process Lifecycle of Technologies and Operations

Continued Operational Safety
- Identify new risks
- Overall peak resource demand
- Monitor Implementation

Research Concept Development
- Initiate new standards and initial safety assessment
- Experimental prototype
- Prototype projects and prototype safety assessment
- Resource peak demand per project

Develop Standards
- Initiate standards update
- ADS-B ITP

Manage Approvals and Oversight
- Standards published + mature safety assessment + workforce training

RNP(AR)

Data Comm (FANS)
NextGen is a set of technologies, and a set of actions enabled by those technologies, that transforms the way the aviation system operates. Safety, aircraft centric operations, and aircraft equipage are keys to NextGen’s success.
## ADS-B

### Overview of Aircraft Operator Enablers

<table>
<thead>
<tr>
<th>Avionics Enablers</th>
<th>Aircraft and Operator Guidance</th>
<th>Capability Overview</th>
<th>Target Users</th>
<th>Target Area</th>
<th>Maturity</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADS-B Out</td>
<td>Complete</td>
<td>Enables improved air traffic surveillance and automation processing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airborne/Ground CDTI</td>
<td>Complete</td>
<td>Improved awareness of other traffic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surface Indications/Alerts</td>
<td>2016</td>
<td>Displays and provides alerts based on non-normal traffic status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-Trail Procedure</td>
<td>Complete</td>
<td>Oceanic in-trail climb/descent</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interval Management Traffic Situational Awareness and Alerting</td>
<td>2014</td>
<td>Display of along-track guidance, control and indications, and alerts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Closely Spaced Parallel Operations</td>
<td>2017</td>
<td>Guidance information for aircraft participating in paired approaches to closely spaced runways</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
NextGen Technologies – ADS-B
Gulf of Mexico ADS-B (Low) Coverage

Coverage:
- 1500' and above
- 3000' and above
- 6000' and above

ADS-B stations

NextGen Rotorcraft Forum
Avionics Requirements for GOMEX Separation Services

• Minimum Operational Performance Standards (MOPS) specified in:
  • RTCA, Inc. Documents
    – DO-260B:1090ES (Extended Squitter) & TIS-B
    – DO-282B: Universal Access Transceiver (UAT)
  • FAA Technical Standard Order (TSO)
    – TSO-C166b: 1090ES & TIS-B
    – TSO-C154c: Universal Access Transceiver (UAT)
Streamlining

• AVS Work Plan for NextGen
  – Supports NextGen Implementation Plan

• 20 streamlining initiatives completed in 2010
  – Certification of new technology
  – Early-Adopter procedure coordination
  – Prioritization and sequencing
  – Operational approvals

• Scheduled to complete 18 initiatives for the 2011 period
  – Ongoing work: field approval policy, guidance on Major/Minor changes, workforce training
AVS Work Plan for NextGen

- **Continue**
  - Streamlining initiatives
  - Publishing airworthiness/ops approval guidance
  - Training work force

- **ID safety enhancements**
  - Look at data
  - What are the “pro-safety” equipment items?
  - Are new standards needed?
Summary

- Develop performance-based standards to accommodate flexibility in implementation
  - Challenge: incorporate new technologies at different levels of maturity
  - Accelerate standards development phase to manage approvals phase

- AVS Work Plan outlines commitment to NextGen
  - Supports “enabler” concept of NextGen Implementation Plan
  - Continue policy and streamlining initiatives designed to speed installation

- Look at areas where technology promotes safety
  - Are new standards needed?
Resources Available to Stay Informed

www.faa.gov/nextgen

FAA’s NextGen
IMPLEMENTATION PLAN
March 2011

NextGen Implementation Plan Summarizes:
• Targets for NextGen
• Accomplishments
• NextGen benefits

Online:
• Overviews
• News
• Videos
• NextGen Documents
• And more…

Interactive Flash Map:
• NextGen Deployments
• NextGen Demonstrations
• And more…