

A low-angle, upward-looking photograph of several modern skyscrapers with glass facades. The sun is positioned between the buildings, creating a bright, hazy glow and lens flare effects. In the center of the frame, a commercial airplane is captured in flight, silhouetted against the bright sky. The overall color palette is dominated by warm tones of orange, yellow, and blue.

Next**GEN**

AVS Work Plan
2016

From the

Associate Administrator for Aviation Safety

May 2016



Dear Members of the Aviation Safety Community:

The latest version of the AVS Work Plan for NextGen is both a review and a look ahead. It's designed to give our stakeholders a window into accomplishments and plans.

Since the inaugural AVS Work Plan for NextGen was published in 2010, we've sought to provide an overarching perspective of the future of aviation through the lens of the Aviation Safety organization. We've outlined both our responsibilities and our deliverables. We've taken care over the years to align our efforts with the continuously evolving capabilities in the system, as well as modifications being made to the FAA's NextGen Implementation Plan. In this edition, we have aligned our efforts to the streamlined FAA NextGen Implementation Plan. As such, we've included the Report Card on our accomplishments and a description of our Future Commitments.

This year's FAA Aerospace Forecast anticipates growth on a number of fronts: number of seats per aircraft; passenger totals; and in general aviation overall. Given that optimistic projection, we must raise the safety bar wherever and whenever possible. This report details our efforts to do that as we stay abreast of NextGen technology and procedures.

We all have a role to play in achieving our goals. Please take the time to offer your ideas not only on safety, but in terms of efficiency and any other improvements that might help our system to maintain its world leadership. As you review the Plan, please send your comments to 9-AVS-AWA NextGen@faa.gov.

Sincerely,

A handwritten signature in black ink that reads "Margaret Gilligan".

Margaret Gilligan
Associate Administrator for Aviation Safety

Table of Contents

2	Letter from the Associate Administrator for Aviation Safety
3	Table of Contents
4	Section 1 - 2015 Report Card
5	Performance-Based Navigation (PBN)
6	Automatic Dependent Surveillance-Broadcast (ADS-B)
7	Data Communications
7	Low Visibility Operations
7	Engines and Fuel
7	NAVLEAN
7	Aviation Safety Information Analysis and Sharing (ASIAS)
8	Section 2 - Future Commitments
9	Performance-Based Navigation (PBN)
9	Automatic Dependent Surveillance-Broadcast (ADS-B)
10	Data Communications
10	Low Visibility Operations
11	Flight Deck Enhancements
11	Aviation Safety Information Analysis and Sharing (ASIAS)



Section 1

2015 Report Card

The following section describes the accomplishments and plans in each enabler category. For tracking from the previous year's Work Plan, this table summarizes the status of the enabling policies that were scheduled for completion within the last year. Shaded rows in the Report Card indicate where accomplishment was not completed by April 2016.

Initiative	Specific Action (Activity Target)	OPR	Work Plan Schedule	Actual Completion Date
PBN				
Advanced RNP, RNP 0.3, RNP 2	AC 90-105A update to support RNP 2 operations, RNP 0.3 rotorcraft operations and Advanced RNP (A-RNP) capabilities	AFS-470	July 2015	March 2016
	MOPS: DO-283B RNP for Area Navigation	RTCA SC-227	December 2015	December 2015
Established on RNP (EoR)	Complete the EoR Track-to-Fix fly-by approach safety analysis	AFS-450	December 2015	December 2015
Area Navigation (RNAV)	Order 8260.19G <i>Flight Procedures and Airspace</i> – to support implementation of Orders 8260.58 and 8260.3	AFS-420	August 2015	July 2015
	Update Order 8260.58 (PBN) - OPD Guidance (STAR Criteria)	AFS-420	March 2016	March 2016
	Update Order 8260.3 – to incorporate STAR guidance and vertical guided approaches	AFS-420	March 2016	March 2016
Trajectory Operations Navigation	TSO-C115d: Equipment standard for RNP system suited for A-RNP operations	AIR-131	February 2016	March 2016
	AC 20-138D, Change 2, <i>Airworthiness Approval of Positioning and Navigation Systems</i>	AIR-131	August 2016	April 2016
Alternative Position, Navigation, & Timing (APNT)	Support research for GPS independent APNT capability	AIR-131/ AFS-470	September 2015	September 2015

2015 REPORT CARD (CONT.)

Initiative	Specific Action (Activity Target)	OPR	Work Plan Schedule	Actual Completion Date
ADS-B				
Flight Interval Management (FIM) (ADS-B In)	MOPS: DO-361 Automatic Dependent Surveillance - Broadcast ¹	RTCA SC-186	December 2015	September 2015
	TSO-C195c, revised equipment standard for interval management	AIR-132	February 2016	2018 ²
	AC 20-172C, revised AC on interval management installation	AIR-132	May 2016	2018 ²
	AC 90-114, ADS-B Operations, Appendix for FIM	AFS-430	June 2016	2018 ²
	Revise Order 8900.1, Standard Operations Specifications	AFS-430	June 2016	2018 ²
Closely Spaced Parallel Operations (CSPO) (ADS-B In)	Technical Report on Paired Approach Analysis Data Collection	AFS-450	August 2015	January 2016
ADS-B Out	AVS Policy Memo for Approval of ADS-B Out Installations-establishes criteria for approval of initial transmitter/GPS pairings and subsequent installations under major and minor alterations	AFS-360	March 2016	March 2016
DATA COMMUNICATIONS				
Baseline 2	Safety and Performance Standard for Baseline 2 ATS Data Communications	RTCA SC-214	July 2016	March 2016
FANS 1/A	Supersede guidance in AC 120-70B with AC 120-70C	AFS-470	July 2015	August 2015

¹MOPS DO-361 was originally scoped as DO-317C

²Activity is being rolled into the FIM activity currently scheduled for 2018

2015 REPORT CARD (CONT.)

Initiative	Specific Action (Activity Target)	OPR	Work Plan Schedule	Actual Completion Date
LOW VISIBILITY OPERATIONS				
Enhanced Flight Vision Systems (EFVS)	Publish final rule expanding operational use of Enhanced Flight Vision Systems	AFS-410	September 2015	December 2016
	AC 90-106A EFVS: Update AC to address use of EFVS for touchdown and rollout	AFS-410	September 2015	December 2016
	AC 20-167A <i>Airworthiness Approval of EVS, SVS, CVS and EFVS</i> : Update AC to address use of EFVS for touchdown	AIR-131	September 2015	December 2016
Synthetic Vision Guidance Systems (SVGS)	MASPS: DO-359 Synthetic Vision Guidance Systems	RTCA SC-213	December 2014	May 2015
	AC 20-185, Operational guidance on use of SVGS for reduced visibility ILS approach operations	AIR-131	September 2015	December 2015
ENGINES AND FUEL				
Unleaded AVGAS Fuel Replacement	Phase 1 test data to be supplied to offerors and used to select fuels for Phase 2	AIR-20	December 2015	March 2016
More Efficient Engines (Open Rotor)	Address novel features in Open Rotor engine designs and their integration with the aircraft	ANE-110	December 2015	December 2015
NAVLEAN				
NAVLEAN	(Rec.21) Establish a Web-based Operations Approval entry portal and a Web-based work package to accommodate the needs of other LOBs and external stakeholders	AFS-200	September 2015	September 2015
ASIAS				
Aviation Safety Information Analysis & Sharing (ASIAS)	Provide enhanced safety information analysis and sharing to include improved system-wide risk identification, integrated risk analysis and modeling, and implementation of emergent risk management (ASIAS 1.0)	AVP-200	December 2015	December 2015



Section 2

Future Commitments

This section lays out the planned schedule for AVS to develop policy documents (i.e., Operational Guidance, Equipment Installation Guidance and Equipment Standards) in support of NextGen capabilities that reside onboard the aircraft. It also relates AVS policy which may be dependent upon accepted industry standards. Many of the FAA Policy documents that enable NextGen capabilities are dependent on the development of consensus based industry standards, such as the industrial standards documents that are produced by RTCA Inc. Where relevant these industry standards are listed with the estimated date they will reach final approval of their standards body. The dates listed below are the best estimates of completion dates for both the industrial standards bodies and the FAA. Furthermore, activities listed below that were listed in the previous year's plan will be footnoted if their scheduled completion date has been modified.

Enabler	Initiative	Specific Action (Activity Target)	OPR	Schedule
PBN				
RNAV	Research	Expand study for EoR Duals/Triples and Radius-to-Fix	AFS-450	January 2017
Closely Spaced Parallel Operations (CSPO)	Research	Simultaneous Operations without vertical guidance	AFS-450	September 2016
ADS-B				
Closely Spaced Parallel Operations (ADS-B In)	Industry Standard	MOPS: Standard for CSPO/FIM	RTCA SC-186	2018 ³
	Equipment Standard	TSO: Provides higher performance along-track guidance, control and indications, and alerts for terminal operations	AIR-132	2018
	Installation Guidance	AC: Provides higher performance along-track guidance control and indications, and alerts for terminal operations	AIR-132	2018
	Operational Guidance	AC 90-114, ADS-B Operations, Appendix for FIM ⁵	AFS-430	2018 ⁶
Flight Interval Management (ADS-B In)	Industry Standard	MOPS: Standard for CSPO/FIM	RTCA SC-186	2018 ⁴
	Equipment Standard	TSO: Provides higher performance along-track guidance, control and indications, and alerts for terminal operations	AIR-132	2018
	Installation Guidance	AC: Provides higher performance along-track guidance control and indications, and alerts for terminal operations	AIR-132	2018
	Operational Guidance	AC 90-114, ADS-B Operations, Appendix for FIM ⁵	AFS-430	2018 ⁶

³Forecasted schedule pending successful research

⁴Schedule revised to accommodate publication of material after industry standards are developed

⁵Appendix will be added to the current revision of AC 90-114

⁶Publication date dependent on the completion of industry standards for Baseline 2 (Final)

FUTURE COMMITMENTS (CONT.)

Enabler	Initiative	Specific Action (Activity Target)	OPR	Schedule
DATA COMMUNICATIONS				
FANS 1/A	Operational Guidance	AC 90-Data Comm Revision, update operational use of data communications	AFS-470	December 2016
Baseline 2	Installation Guidance	<i>AC 20-140C Guidelines for Design Approval of Aircraft Data Link Communications Systems Supporting Air Traffic Services</i>	AIR-132	August 2016
	Operational Guidance	AC 90 - Data Comm	AFS-470	2018
Data Link Recording	Installation Guidance	<i>AC 20-160A, Onboard Recording of Controller Pilot Data Link Communication in Crash Survivable Memory. (Add Baseline 2 approved message set)</i>	AIR-132	August 2016
LOW VISIBILITY OPERATIONS				
Enhanced Flight Vision System (EFVS)	Installation Guidance	AC 20-167A <i>Airworthiness Approval of EVS, SVS, CVS and EFVS</i> : Update AC to address use of EFVS for touchdown	AIR-131	December 2016
	Operational Guidance	AC 90-106A EFVS: Update AC to address use of EFVS to touchdown and rollout	AFS-410	December 2016
	Operational Guidance	Publish final rule expanding operational use of EFVS systems	AFS-410	December 2016
	Installation Guidance	<i>Airworthiness Approval of EVS, SVS, CVS and EFVS</i> : Update AC to address use of EFVS for touchdown with visibilities down to 300 RVR	AIR-131	2018 ⁷
Synthetic Vision Guidance System (SVGS)	Operational Guidance	Operational guidance on use of SVGS for reduced visibility ILS approach operations	AFS-410	September 2016
GLS Category III	Installation Guidance	Interim criteria (project specific policy)	AIR-131	2019 ⁸
	Operational Guidance	AC 120-XLS Criteria for Approval of Category I, II and III Weather Minima for Takeoff, Approach and Landing updated to include CAT III GLS	AFS-410	October 2019 ⁸

⁷Schedule depends on operational acceptance of RTCA/DO-341 concepts. FAA and industry are evaluating the use of a fail operational architecture as envisioned by RTCA, which may drive a revision to DO-341

⁸New projected date moved to 2019 in order to synch up with development of Ground Based Augmentation System ground sites

FUTURE COMMITMENTS (CONT.)

Enabler	Initiative	Specific Action (Activity Target)	OPR	Schedule
FLIGHT DECK ENHANCEMENTS				
Flight Information System – Broadcast (FIS-B)	Operational Guidance	AC 00-63B: Updated language to support exclusive use (Category 1) information	AFS-430	June 2016
Airborne Collision Avoidance System (ACAS-X)	Industry Standard	MOPS: DO-ACAS-Xa/Xo	RTCA-147	2018
	Equipment Standard	TSO: Improves airborne collision avoidance performance with fewer nuisance alerts	AIR-132	2020
	Installation Guidance	AC: Improves airborne collision avoidance performance with fewer nuisance alerts	AIR-132	2020
SVS for Airplane State Awareness	Industry Standard	MASPS for SVS to support airplane state awareness safety initiative	RTCA SC-213	June 2017 ⁹
	Installation Guidance	AC/Installation Guidance for SVS to support airplane state awareness safety initiative	AIR-130	2018
ASIAS				
ASIAS	Aviation Safety Information Analysis & Sharing (ASIAS)	Provide safety information sharing and emergent trend detection to include identification of system vulnerabilities to develop and implement mitigation strategies (ASIAS 2.0)	AVP-200	December 2020

⁹Dependent on NASA studies to finish MASPS publication