



NAV10 — RNP Approach Procedures to instrument RWY

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Implement RNP Approach procedures with vertical guidance . The intention is to transition from conventional Non Precision Approach (NPA) procedures to RNP approach procedures with vertical guidance. RNP approach operations with vertical guidance using SBAS are flown to LPV minima, while the operations using Baro are flown to LNAV/VNAV minima. In addition, RNP approach operations using SBAS can be flown to LNAV/VNAV minima. The main incentive is to enhance safety but there are potential benefits in terms of reduced minima and better access to airports that do not have precision approach and landing capabilities.

This objective is in line with Regulation (EU) 2018/1048 on PBN. It also supports the Performance Based Navigation implementation and harmonisation strategy of the ICAO European Region. Individual ANSPs, airports and aircraft operators in ECAC area (in non-EU member states) should implement this functionality based on ICAO 37th Assembly resolution which recommends implementation of RNP approaches with vertical guidance to all instrument RWY ends.

At instrument runway ends where, due to terrain, obstacles or air traffic separation conditions, the implementation of RNP approach procedures to LNAV/VNAV and LPV minima is excessively difficult or not feasible, providers of ATM/ANS shall implement RNP Non-precision approach procedures (NPA) in accordance with the requirements of the RNP APCH specification, down to LNAV minima (See SLoA-ASP06 in this objective).

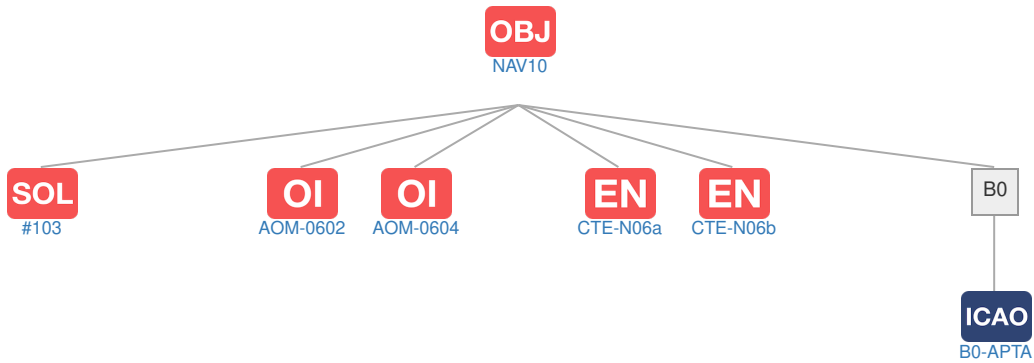
NOTE: The implementation of RNP approach procedures based on SBAS may be restricted by the coverage limitation of EGNOS satellite signal within the concerned airspace.

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each military authority to review this Objective IN ITS ENTIRETY and address each of the SLoAs that the military authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SLoAs which identify actions EXCLUSIVE to military authorities.

Edition	2022
Stakeholders	Regulator / Air Navigation Service Provider / Airspace Users
Type	SES
Scope	ECAC+
Status	Active

Context

Related Elements



Applicability Area(s) and Timescales

Applicability Area 1:

All EU SES States except: Maastricht UAC
(EU SES states instrument RWY ends.)

Applicability Area 2:

Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Georgia, Israel, Moldova, Montenegro, Morocco, North Macedonia, Serbia, Türkiye, Ukraine, United Kingdom
(Other ECAC+ instrument RWY ends, which are not listed in Applicability Area 1.)

Timescales	From	By	Applicable to
Initial operational capability	01-06-2011	-	Applicability Area 1 + Applicability Area 2
Instrument RWY ends without precision approach in EU SES States.	-	03-12-2020	Applicability Area 1
Instrument RWY ends without precision approach at other ECAC+ instrument RWYs.	-	25-01-2024	Applicability Area 2
Instrument RWY ends served by precision approach.	-	25-01-2024	Applicability Area 1 + Applicability Area 2

Links to ATM Master Plan Level 2

OI Operational Improvement Steps

Code	Title	IOC	FOC	Related Elements
AOM-0602	Enhanced terminal operations with APV using Barometric VNAV	31-12-2020	31-12-2024	SOL OI EN OBJ DS ICAO
AOM-0604	Enhanced terminal operations with LPV using SBAS	19-10-2022	31-12-2026	SOL OI EN OBJ DS ICAO

EN Enablers

Code	Title	IOC	Related Elements
CTE-N06a	EGNOS V2.4.X	31-12-2020	OI EN OBJ DS ⚙️
CTE-N06b	EGNOS V3	31-12-2023	OI EN OBJ DS ⚙️

SOL Links to SESAR Solutions

Code	Title	Program	Related Elements
#103	LPV approaches using SBAS as alternative to ILS CAT I	SESAR1	OI OBJ DS EOC ICAO

PCP Links to PCP ATM Sub-Functionalities

Code	Title	Related Elements
No record found		

ICAO ICAO Block Modules

Designator	Title	Related Elements
B0		
B0-APTA	Improved Airport Accessibility	SOL OI OBJ

References

Applicable legislation

Commission Implementing Regulation (EU) 2018/1048 of 18 July 2018 laying down airspace usage requirements and operating procedures concerning performance-based navigation

Applicable ICAO Annexes and other references

None

Deployment Programme 2022

-

Operating Environments

Airport

Terminal Airspace

Expected Performance Benefits

Safety	Reduction in Controlled Flight Into Terrain (CFIT) occurrences. Improved pilot situation awareness and reduced crew workload.
Capacity	Potential to enhance capacity due to lower minima than can be achieved through conventional NPA.
Operational efficiency	Improved thanks to shortened approaches, increased flexibility in the use of runways, reduced landing minima for runways with only conventional NPAs, fallback during precision approach system outages.
Cost efficiency	-
Environment	Emissions and noise nuisance reduced by use of optimal flight procedures and routings and the elimination of step-down approach procedures.
Security	-

Stakeholder Lines of Action

Code	Title	From	By	Related Enablers
REG01	Apply EASA material to local national regulatory activities	01-06-2010	25-01-2024	
REG02	Verify the transition plan for PBN in ANS provision	03-12-2020	25-01-2024	
ASP01	Design and Publish RNP approach procedures to LNAV, LNAV/VNAV and LPV minima to RWYs served by precision approach	01-06-2008	25-01-2024	EN
ASP02	Provide an approved SBAS Service to support APV/SBAS and declare the Service area	FINALISED		
ASP03	Develop National safety case for RNP approach down to LNAV/VNAV and LPV minima	01-01-2009	25-01-2024	
ASP04	Publish in AIPs all coordinates data in WGS-84 in accordance with ICAO Annex 15 requirements and Article 14 of Regulation (EU) No 73/2010	01-01-2009	25-01-2024	
ASP05	Design and Publish RNP approach procedures to LNAV, LNAV/VNAV and LPV minima to RWYs without precision approach	07-08-2018	03-12-2020 25-01-2024	
ASP06	Design and Publish RNP non-precision (NPA) approach procedures to LNAV minima	07-08-2018	03-12-2020 25-01-2024	
ASP07	Establish the transition plan for PBN in ANS provision	03-12-2020	25-01-2024	
ASP08	At PCP airport, Design and Publish RNP approach procedures to LNAV, LNAV/VNAV and LPV minima to RWYs without precision approach	DELETED		
ASP09	At PCP airport, Design and Publish RNP non-precision (NPA) approach procedures to LNAV minima	DELETED		
USE01	Equip aircraft with systems approved for RNP approach down to LNAV/VNAV and/or LPV minima operations	01-04-2006	25-01-2024	EN
USE02	Get airworthiness certification and operational approval	01-04-2006	25-01-2024	

Supporting Material

Title	Related SLoAs
EASA - AMC 20-27 - Airworthiness Approval and Operational Criteria for RNP APPROACH (RNP APCH) Operations Including APV BARO- NAV Operations - ED Decision 2009/019/R / 12/2009 https://www.easa.europa.eu/agency-measures/docs/agency-decisions/2009/2009-019-R/Annex%20III%20-%20AMC%2020-27.pdf	REG01, USE01, USE02
EASA - AMC 20-28 - Airworthiness Approval and Operational Criteria related to Area Navigation for Global Navigation Satellite System approach operation to Localiser Performance with Vertical guidance minima using Satellite Based Augmentation System ED Decision 2009/014/R 09/2012 http://www.easa.europa.eu/system/files/dfu/Annex II - AMC 20-28.pdf	REG01, USE01, USE02
EASA - EASA Decision 2018/013/R - AMC & GM to Regulation (EU) 2018/1048 (PBN IR) – Annex II to EASA Decision 2018/013/R 11/2018 https://www.easa.europa.eu/sites/default/files/dfu/Annexes%20to%20EDD%202018-013-R.pdf	ASP01, ASP05, ASP06, ASP07, REG01, REG02

Title	Related SLoAs
EC - COMMISSION IMPLEMENTING REGULATION (EU) 2017/373 - (OJ L 62, 8.03.2017, p. 1) - COMMISSION IMPLEMENTING REGULATION (EU) 2017/373 of 1 March 2017 laying down common requirements for providers of air traffic management/air navigation services and other air traffic management network functions and their oversight, repealing Regulation (EC) No 482/2008, Implementing Regulations (EU) No 1034/2011, (EU) No 1035/2011 and (EU) 2016/1377 and amending Regulation (EU) No 677/2011 03/2017 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017R0373&from=EN	ASP03
EC - REGULATION (EU) 2020/469 of 14 February 2020 - COMMISSION IMPLEMENTING REGULATION (EU) 2020/469 of 14 February 2020 amending Regulation (EU) No 923/2012, Regulation (EU) No 139/2014 and Regulation (EU) 2017/373 as regards requirements for air traffic management/air navigation services, design of airspace structures and data quality, runway safety and repealing Regulation (EC) No 73/2010. 01/2010 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32020R0469	ASP04
EUROCONTROL - Air Navigation Systems Safety Assessment Methodology (SAM) - Version 2.1 / 11/2006 https://www.eurocontrol.int/tool/safety-assessment-methodology	ASP03
EUROCONTROL - Airspace Concept Handbook for the Implementation of Performance Based Navigation (PBN) - Edition 4.0 / 04/2021 https://www.eurocontrol.int/publication/airspace-concept-handbook-implementation-performance-based-navigation-pbn	ASP07, REG02
EUROCONTROL - EAM 4 - ESARR 4 - Risk Assessment and Mitigation in ATM - Edition 1.0 / 04/2001 https://www.eurocontrol.int/publication/esarr-4-risk-assessment-and-mitigation-atm	ASP03
FAA - AC 20-138C - Airworthiness Approval of Positioning and Navigation Systems 05/2012 http://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.list/parentTopicID/101	USE01
FAA - AC 90-105 - Approval Guidance for RNP Operations and Barometric Vertical Navigation in the U.S. National Airspace System 01/2009 http://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.list/parentTopicID/128	USE01
ICAO - Doc 7030 - Regional supplementary Procedures - Edition 5 / 07/2011 https://www.icao.int/EURNAT/Pages/EUR-and-NAT-Document.aspx	ASP07, REG02
ICAO - Doc 8168-Volume II - Aircraft Operations - Volume II - Construction of Visual and Instrument Flight Procedures - Edition 5 / 11/2011 https://store.icao.int/	ASP01, ASP05, ASP06, ASP07, REG02, USE02
ICAO - Doc 9613 - Performance-based Navigation (PBN) Manual - Edition 4 / 03/2013 https://store.icao.int/en/performance-based-navigation-pbn-manual-doc-9613	ASP07, REG02, USE02
ICAO - Doc 9674 - World Geodetic System - 1984 (WGS-84) Manual - Edition 2 / 12/2002 https://store.icao.int/	ASP04
ICAO - Doc 9992 - Manual on the Use of Performance-based Navigation (PBN) in Airspace Design - First Edition / 01/2013 http://store1.icao.int/	ASP07, REG02
ICAO - EUR-Doc 025 - EUR RNP APCH Guidance Material - Second Edition / 01/2021 https://www.icao.int/EURNAT/EUR%20and%20NAT%20Documents/EUR%20Documents/EUR%20Documents/025%20-%20EUR%20RNP%20APCH%20Guidance%20Material.pdf	ASP01, ASP05, ASP06

Consultation & Approval

Working Arrangement in charge	NSG - Navigation Steering Group
Outline description approved in	-
Latest objective review at expert level	06/2021
Commitment Decision Body	Provisional Council (PC)
Objective approved/endorsed in	07/2010
Latest change to objective approved/endorsed in	05/2019