SES	Active	ECAC+
NAV10	RNP Approach Procedures to instrument RWY	

REG	ASP	MIL	APO	USE	INT	IND	NM	MET	AIS	USP

Subject matter and scope

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.

Applicability Area(s) & Timescale(s)

Applicability Area 1 (EU SES states instrument RWY ends.)	All EU SES States
Applicability Area 2 (Other ECAC+ instrument RWY ends, which are not listed in Applicability Area 1.)	Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Georgia, Israel, Moldova, Montenegro, Morocco, North Macedonia, Serbia, Türkiye, Ukraine, United Kingdom

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 served by precision approach.		25/01/2024	Applicability Area 1 + Applicability Area 2
Instrument RWY ends without precision approach at other ECAC+ instrument RWYs.		25/01/2024	Applicability Area 2

References

European ATM Master Plan

OI step -	[AOM-0602]-Enhanced terminal operations with APV using Barometric VNAV								
	Enablers -	A/C-04 NAV03.1	A/C-05a	CTE-N01 NAV03.2	MIL-STD-01	MIL-STD-02			
OI step -	[AOM-0604]-Enhanced terminal operations with LPV using SBAS								
	Enablers -	A/C-01	A/C-06	CTE-N01 NAV03.2	CTE-N06	CTE-N06a	MIL-STD-01	MIL-STD-02	PRO-AC-06
OI step -	- No OI Link -								
	Enablers -	CTE-N06a	CTE-N06b						

Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective Objective covering the enabler	WXYZ-003	Not covered in the Implementation Plan

Applicable legislation

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

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Essential Operational Changes

CNS Infrastructure and Services

SESAR Solution

#103 - LPV approaches using SBAS as alternative to ILS CAT I

ICAO GANP - ASBUs

APTA-B0/1	PBN Approaches (with basic capabilities)
APTA-B1/1	PBN Approaches (with advanced capabilities)
NAVS-B0/2	Satellite Based Augmentation Systems (SBAS)

Deployment Programme

- none -	

European Plan for Aviation Safety

RMT.0445	Technical requirements and operational procedures for airspace design, including flight procedure design
RMT.0639	Performance-based navigation implementation in the European air traffic management network
RMT.0643	Regular update of AMC-20

Operating Environments

Airport
Terminal Airspace

Stakeholder Lines of Action (SLoAs)

SloA ref.	Title	From	By
NAV10-REG01	Apply EASA material to local national regulatory activities	01/06/2010	25/01/2024
NAV10-REG02	Verify the transition plan for PBN in ANS provision	03/12/2020	25/01/2024
NAV10-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
NAV10-ASP02	Provide an approved SBAS Service to support APV/SBAS and declare the Service area	**FINALISED**	
NAV10-ASP03	Develop National safety case for RNP approach down to LNAV/VNAV and LPV minima	01/01/2009	25/01/2024
NAV10-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
NAV10-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
NAV10-ASP06	Design and Publish RNP non-precision (NPA) approach procedures to LNAV minima	07/08/2018	03/12/2020 25/01/2024
NAV10-ASP07	Establish the transition plan for PBN in ANS provision	03/12/2020	25/01/2024
NAV10-ASP08	At PCP airport, Design and Publish RNP approach procedures to LNAV, LNAV/VNAV and LPV minima to RWYs without precision approach	**DELETED**	
NAV10-ASP09	At PCP airport, Design and Publish RNP non-precision (NPA) approach procedures to LNAV minima	**DELETED**	
NAV10-USE01	Equip aircraft with systems approved for RNP approach down to LNAV/VNAV and/or LPV minima operations	01/04/2006	25/01/2024
NAV10-USE02	Get airworthiness certification and operational approval	01/04/2006	25/01/2024

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

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.

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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:	-

Detailed SLoA Descriptions

NAV10-REG01	**Apply EASA material to local national regulatory activities**	From: 01/06/2010	By: 25/01/2024
Action by:	**State Authorities**		
Description & purpose:	Publish national regulatory material for RNP approach procedures based on Airworthiness Approval and Operational Criteria for RNP approach (RNP APCH) operations including LNAV/VNAV minima (EASA AMC 20-27) and Airworthiness approval and Operational criteria RNP approach (RNP APCH) Operations including LPV minima (EASA AMC 20-28).		
Supporting material(s):	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 Url : http://www.easa.europa.eu/system/files/dfu/Annex II - AMC 20-28.pdf 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 Url : https://www.easa.europa.eu/sites/default/files/dfu/Annexes%20to%20EDD%202018-013-R.pdf 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 Url : https://www.easa.europa.eu/agency-measures/docs/agency-decisions/2009/2009-019-R/Annex%20III%20-%20AMC%2020-27.pdf		
Finalisation criteria:	1 - National regulatory material for RNP approach procedures based on EASA AMC 20-27 and EASA AMC 20-28 has been published.		
NAV10-REG02	**Verify the transition plan for PBN in ANS provision**	From: 03/12/2020	By: 25/01/2024
Action by:	**National Supervisory Authorities (NSAs)**		
Description & purpose:	This SLoA is mandatory only for the States subject to Commission Implementing Regulation (EU) 2018/1048 of 18 July 2018. Verify whether the draft transition plan, or the draft significant update thereof, complies with the requirements of PBN Implementing Regulation and in particular whether it takes account of the views of airspace users where appropriate, including those operating State aircraft. Inform the providers of ATM/ANS of the outcome of that verification without undue delay.		
	Note :This SLoA is recommended as the best practice to the States which are not subject to Commission Implementing Regulation (EU) 2018/1048 of 18 July 2018.		
Supporting material(s):	EUROCONTROL - Airspace Concept Handbook for the Implementation of Performance Based Navigation (PBN) - Edition 4.0 / 04/2021 Url : https://www.eurocontrol.int/publication/airspace-concept-handbook-implementation-performance-based-navigation-pbn ICAO - Doc 9613 - Performance-based Navigation (PBN) Manual - Edition 4 / 03/2013 Url : https://store.icao.int/en/performance-based-navigation-pbn-manual-doc-9613 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 Url : https://www.easa.europa.eu/sites/default/files/dfu/Annexes%20to%20EDD%202018-013-R.pdf ICAO - Doc 9992 - Manual on the Use of Performance-based Navigation (PBN) in Airspace Design - First Edition / 01/2013 Url : http://store1.icao.int/ ICAO - Doc 7030 - Regional supplementary Procedures - Edition 5 / 07/2011 Url : https://www.icao.int/EURNAT/Pages/EUR-and-NAT-Document.aspx ICAO - Doc 8168-Volume II - Aircraft Operations - Volume II - Construction of Visual and Instrument Flight Procedures - Edition 5 / 11/2011 Url : https://store.icao.int/		
Finalisation criteria:	1 - The outcome of the verification has been notified to ANSP.		
NAV10-ASP01	**Design and Publish RNP approach procedures to LNAV, LNAV/VNAV and LPV minima to RWYs served by precision approach**	From: 01/06/2008	By: 25/01/2024
Action by:	**ANS Providers**		

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Description & purpose:	Develop RNP approach procedures at all instrument runway ends already served by precision approach, either as the primary approach or as a back-up for precision approaches except where due to terrain, obstacles or air traffic separation conditions, the implementation is not feasible. This action includes the following tasks: - Identify runways where RNP approach should be introduced; - Design RNP approach procedures; - Publish RNP approach procedures in national AIPs. At instrument runway ends without an appropriate SBAS coverage, providers of ATM/ANS shall also implement LPV minima, no later than 18 months from the date at which such appropriate SBAS coverage becomes available. Where required due to traffic density or traffic complexity, implement radius to fix (RF) legs.		
	Note : Note1: An alternative implementation option, for the case where LNAV/VNAV and LPV are not feasible, is described in SLoA-ASP06 of this objective. Note2: If RF legs are implemented due to traffic density or traffic complexity, it should be reported via LSSIP in the comment to this SLoA. Note3: The name (the list) of the aerodrome(s) where this SLoA is implemented, and the minima which was applied (i.e. LNAV/VNAV or LPV) should be reported via LSSIP in the comment field to this SLoA. Note4: This SLoA should be used to provide reports for all ECAC+ RWYs served by Precision Approach.		
Supporting material(s):	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 Url : https://www.easa.europa.eu/sites/default/files/dfu/Annexes%20to%20EDD%202018-013-R.pdf ICAO - EUR-Doc 025 - EUR RNP APCH Guidance Material - Second Edition / 01/2021 Url : https://www.icao.int/EURNAT/EUR%20and%20NAT%20Documents/EUR%20Documents/EUR%20Documents/025%20-%20EUR%20RNP%20APCH%20Guidance%20Material.pdf ICAO - Doc 8168-Volume II - Aircraft Operations - Volume II - Construction of Visual and Instrument Flight Procedures - Edition 5 / 11/2011 Url : https://store.icao.int/		
ATM Master Plan relationship:	[PRO-250]-Rotorcraft procedures for IFR access to VFR FATOs		
Finalisation criteria:	1 - RNP approach down to LNAV, LNAV/VNAV and LPV minima Procedures have been implemented in accordance with guidance material and published in the National AIP, and are in use.		
NAV10-ASP02	**Provide an approved SBAS Service to support APV/SBAS and declare the Service area**	From: **Applicability Area 1:** 01/06/2008	By: **Applicability Area 1:** 31/12/2010
Action by:	**EGNOS Service Provider**		
Description & purpose:	Provide an approved SBAS EGNOS-based service capable to support APV/SBAS and declare the Service area. This action includes the following tasks: - APV/SBAS is supported by EGNOS; - Clear identification/documentation/approval of the Geographical Area where the SBAS EGNOS-based service supports APV/SBAS operations; - The EGNOS service provider to be certified as a Navigation Service Provider in accordance with Regulations 550/2004 and 2096/2005. This will include a conformity declaration of the EGNOS system in compliance to the implementing rules for interoperability in order to make the system be integrated in the EATM Network (EC Regulation 552/2004 about the interoperability of the European Air Traffic Management network the 'Interoperability regulation').		
Finalisation criteria:	1 - SBAS EGNOS-based service is approved for APV/SBAS operations, and the Geographical Service Area has been clearly defined. 2 - EGNOS service provider has been certified as Air Navigation Service Provider (ANSP). 3 - EGNOS Service Provider has issued a conformity declaration of the EGNOS System to the NSA.		
NAV10-ASP03	**Develop National safety case for RNP approach down to LNAV/VNAV and LPV minima**	From: 01/01/2009	By: 25/01/2024
Action by:	**ANS Providers**		
Description & purpose:	Develop a generic safety case for RNP approach down to LNAV/VNAV and/or LPV, or LNAV minima procedures developed upon the EASA AMC for RNP APCH. Identify and develop the means for mitigation of any issues requiring remedial action to ensure safety targets are met. The material will be developed in a manner, and approval sought through the appropriate bodies, that will enable cross reference to be made by States in their implementation of RNP approaches. At instrument runway ends without an appropriate SBAS coverage, providers of ATM/ANS shall also implement LPV minima, no later than 18 months from the date at which such appropriate SBAS coverage becomes available.		

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Supporting material(s):	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 Url : https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017R0373&from=EN EUROCONTROL - EAM 4 - ESARR 4 - Risk Assessment and Mitigation in ATM - Edition 1.0 / 04/2001 Url : https://www.eurocontrol.int/publication/esarr-4-risk-assessment-and-mitigation-atm EUROCONTROL - Air Navigation Systems Safety Assessment Methodology (SAM) - Version 2.1 / 11/2006 Url : https://www.eurocontrol.int/tool/safety-assessment-methodology		
Finalisation criteria:	1 - National Safety case for RNP approach down to LNAV/VNAV, LPV, and LNAV minima has been developed and submitted to the NSA.		
NAV10-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**	From: 01/01/2009	By: 25/01/2024
Action by:	**ANS Providers**		
Description & purpose:	It is an essential requirement for RNAV/RNP procedures that all coordinates data published in AIPs, e.g. Runway Thresholds, Navigation Aids, Waypoints, etc, are surveyed with reference to the WGS84 standard. Following survey which must be undertaken in accordance with the Eurocontrol standard for WGS 84 survey (Doc 006), the data must be maintained with adequate integrity.		
Supporting material(s):	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 Url : https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32020R0469 ICAO - Doc 9674 - World Geodetic System - 1984 (WGS-84) Manual - Edition 2 / 12/2002 Url : https://store.icao.int/		
Finalisation criteria:	1 - AIP Updated accordingly		
NAV10-ASP05	**Design and Publish RNP approach procedures to LNAV, LNAV/VNAV and LPV minima to RWYs without precision approach**	From: 07/08/2018	By: **Applicability Area 1:** 03/12/2020 **Applicability Area 2:** 25/01/2024
Action by:	**ANS Providers**		
Description & purpose:	Develop RNP approach procedures at all instrument runway ends without precision approach, except where due to terrain, obstacles or air traffic separation conditions, the implementation is not feasible. This action includes the following tasks: - Identify runways where RNP approach should be introduced; - Design RNP approach procedures; - Publish RNP approach procedures in national AIPs. At instrument runway ends without an appropriate SBAS coverage, providers of ATM/ANS shall also implement LPV minima, no later than 18 months from the date at which such appropriate SBAS coverage becomes available. Where required due to traffic density or traffic complexity, implement radius to fix (RF) legs.		
	Note :Note 1: For EU SES states instrument RWY without precision approach procedures, i.e. with NPA only, this SLoA shall be finalised by 03/12/2020. For other ECAC+ states (non-EU SES states), it should be implemented by 25/01/2024. Note 2: An alternative implementation option, for the case where LNAV/VNAV and LPV is not feasible, is described in SLoA-ASP06 of this objective. Note 3: If RF legs are implemented due to traffic density or traffic complexity, it should be reported via LSSIP in the comment to this SLoA. Note 4: Name (list) of the aerodrome(s) where this SLoA is implemented, and the minima which was applied (i.e. LNAV/VNAV or LPV) should be reported via LSSIP in the comment field to this SLoA.		
Supporting material(s):	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 Url : https://www.easa.europa.eu/sites/default/files/dfu/Annexes%20to%20EDD%202018-013-R.pdf ICAO - EUR-Doc 025 - EUR RNP APCH Guidance Material - Second Edition / 01/2021 Url : https://www.icao.int/EURNAT/EUR%20and%20NAT%20Documents/EUR%20Documents/EUR%20Documents/025%20-%20EUR%20RNP%20APCH%20Guidance%20Material.pdf ICAO - Doc 8168-Volume II - Aircraft Operations - Volume II - Construction of Visual and Instrument Flight Procedures - Edition 5 / 11/2011 Url : https://store.icao.int/		
ATM Master Plan relationship:	[PRO-250]-Rotorcraft procedures for IFR access to VFR FATOs		
Finalisation criteria:	1 - RNP approach down to LNAV, LNAV/VNAV and LPV minima Procedures have been implemented in accordance with guidance material and published in the National AIP, and are in use.		

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NAV10-ASP06	**Design and Publish RNP non-precision (NPA) approach procedures to LNAV minima**	From: 07/08/2018	By: **Applicability Area 1:** 03/12/2020 **Applicability Area 2:** 25/01/2024
Action by:			
Description & purpose:	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. RWY end with only circling approach is not a subject to this SLoA and a requirement of PBN IR. This action includes the following tasks: - Identify runways where RNP approach should be introduced; - Design RNP approach procedures; - Publish RNP approach procedures in national AIPs.		
	Note :Note 1: This SLoA is alternative implementation option to the one described in SLoA-ASP01 and SLoA-ASP05 of this objective. Note 2: For EU SES states instrument RWY without precision approach procedures, i.e. with NPA only, this SLoA shall be finalised by 03/12/2020. For other ECAC+ states (non-EU SES states), it should be finalised by 25/01/2024. Note 3: As an 'instrument runway' means instrument runway adequate for straight-in approaches, and knowing that a circling is an extension of an instrument approach procedure which provides for visual circling of the aerodrome prior to landing (in other words a visual manoeuvre), RWY end with a only circling approach is not included in PBN IR. Note 4: The name (the list) of the aerodromes where this SLoA is implemented, should be reported via LSSIP in the comment field to this SLoA. Note 5: If RF legs are implemented due to traffic density or traffic complexity, report it in the comment to this SLoA.		
Supporting material(s):	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 Url : https://www.easa.europa.eu/sites/default/files/dfu/Annexes%20to%20EDD%202018-013-R.pdf ICAO - EUR-Doc 025 - EUR RNP APCH Guidance Material - Second Edition / 01/2021 Url : https://www.icao.int/EURNAT/EUR%20and%20NAT%20Documents/EUR%20Documents/EUR%20Documents/025%20-%20EUR%20RNP%20APCH%20Guidance%20Material.pdf ICAO - Doc 8168-Volume II - Aircraft Operations - Volume II - Construction of Visual and Instrument Flight Procedures - Edition 5 / 11/2011 Url : https://store.icao.int/		
ATM Master Plan relationship:	[PRO-250]-Rotorcraft procedures for IFR access to VFR FATOs		
Finalisation criteria:	1 - RNP non-precision approach (NPA) down to LNAV minima have been implemented in accordance with guidance material and published in the National AIP, and are in use.		

NAV10-ASP07	**Establish the transition plan for PBN in ANS provision**	From: 03/12/2020	By: 25/01/2024
Action by:	**ANS Providers**		
Description & purpose:	This SLoA is mandatory only for the States subject to Commission Implementing Regulation (EU) 2018/1048 of 18 July 2018. Establish and implement a transition plan for using PBN. The transition plan shall be kept up-to-date. The transition plan shall be consistent with the European ATM Master Plan and the common projects referred to in Article 15a of Regulation (EC) No 550/2004 of the European Parliament and of the Council. Consult all of the following parties on the draft transition plan and the draft of any significant updates thereof and take account of their views where appropriate: a) aerodrome operators, airspace users and representative organisations of such airspace users affected by the provision of ANS services; b) the Network Manager; c) ANS providers in adjacent airspace blocks. Submit the results of the consultation, as well as the draft transition plan, or the draft significant update thereof, for approval to the competent authority		
	Note :This SLoA is recommended as the best practice to the States which are not subject to Commission Implementing Regulation (EU) 2018/1048 of 18 July 2018.		

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Supporting material(s):	EUROCONTROL - Airspace Concept Handbook for the Implementation of Performance Based Navigation (PBN) - Edition 4.0 / 04/2021 Url : https://www.eurocontrol.int/publication/airspace-concept-handbook-implementation-performance-based-navigation-pbn ICAO - Doc 9613 - Performance-based Navigation (PBN) Manual - Edition 4 / 03/2013 Url : https://store.icao.int/en/performance-based-navigation-pbn-manual-doc-9613 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 Url : https://www.easa.europa.eu/sites/default/files/dfu/Annexes%20to%20EDD%202018-013-R.pdf ICAO - Doc 9992 - Manual on the Use of Performance-based Navigation (PBN) in Airspace Design - First Edition / 01/2013 Url : http://store1.icao.int/ ICAO - Doc 7030 - Regional supplementary Procedures - Edition 5 / 07/2011 Url : https://www.icao.int/EURNAT/Pages/EUR-and-NAT-Document.aspx ICAO - Doc 8168-Volume II - Aircraft Operations - Volume II - Construction of Visual and Instrument Flight Procedures - Edition 5 / 11/2011 Url : https://store.icao.int/		
Finalisation criteria:	1 - The draft transition plan, or the draft significant update thereof, has been submitted to the competent authority for approval.		
NAV10-USE01	**Equip aircraft with systems approved for RNP approach down to LNAV/VNAV and/or LPV minima operations**	From: 01/04/2006	By: 25/01/2024
Action by:	**Airspace Users**		
Description & purpose:	Fit the aircraft with suitably approved equipment (Stand alone or integrated with existing FMS) as follows: - APV/Baro equipment compliant to AMC 20-27; - APV/SBAS SBAS compliant to AMC 20-28. For new or modified aircraft, the Aircraft Flight Manual (AFM) or the Pilot's Operating Handbook (POH), whichever is applicable, should be updated according to AMC 20-27 and AMC 20-28.		
Supporting material(s):	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 Url : http://www.easa.europa.eu/system/files/dfu/Annex II - AMC 20-28.pdf FAA - AC 20-138C - Airworthiness Approval of Positioning and Navigation Systems 05/2012 Url : http://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.list/parentTopicID/101 FAA - AC 90-105 - Approval Guidance for RNP Operations and Barometric Vertical Navigation in the U.S. National Airspace System 01/2009 Url : http://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.list/parentTopicID/128 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 Url : https://www.easa.europa.eu/agency-measures/docs/agency-decisions/2009/2009-019-R/Annex%20III%20-%20AMC%2020-27.pdf		
ATM Master Plan relationship:	[A/C-05a]-APV Barometric VNAV [CTE-N06]-Satellite-based Augmentation System (SBAS) [CTE-N06a]-EGNOS V2.4.X [CTE-N06b]-EGNOS V3		
Finalisation criteria:	1 - Aircraft have been fitted with suitable APV/Baro equipment compliant to AMC 20-27 or APV/SBAS compliant to AMC 20-28. 2 - The AFM or the POH, whichever is applicable, have been updated according to AMC 20-27 and AMC 20-28.		
NAV10-USE02	**Get airworthiness certification and operational approval**	From: 01/04/2006	By: 25/01/2024
Action by:	**Airspace Users**		
Description & purpose:	Apply for approval against EASA AMC 20-27 and 20-28. The applicant needs to submit, to the competent National Authorities, a compliance statement which shows how the criteria of the AMC 20-27 and 20-28 have been satisfied.		

NAV10	RNP Approach Procedures to instrument RWY

Supporting material(s):	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 Url : http://www.easa.europa.eu/system/files/dfu/Annex II - AMC 20-28.pdf ICAO - Doc 9613 - Performance-based Navigation (PBN) Manual - Edition 4 / 03/2013 Url : https://store.icao.int/en/performance-based-navigation-pbn-manual-doc-9613 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 Url : https://www.easa.europa.eu/agency-measures/docs/agency-decisions/2009/2009-019-R/Annex%20III%20-%20AMC%2020-27.pdf ICAO - Doc 8168-Volume II - Aircraft Operations - Volume II - Construction of Visual and Instrument Flight Procedures - Edition 5 / 11/2011 Url : https://store.icao.int/
Finalisation criteria:	1 - The airworthiness and operational approval has been granted by the competent National Authorities to the operator.