

**Draft Guidance Material to
Commission Implementing Regulation (EU) 2018/1048**

RMT.0682 (SUBTASK 1)

Important note:

This file is published for information purposes only. No quality control has been performed yet. Further changes may occur for further alignment of draft AMC and GM with the corresponding draft implementing rules in the course of the adoption process.

This GM to Commission Implementing Regulation (EU) 2018/1048 document (Annex to ED Decision 202X/XXX/R) shows deleted text, new or amended text as follows:

The amendment(s) is (are) arranged as follows to show deleted, new, and unchanged:

- deleted text is **struck through**;
- new or amended text is highlighted in **blue**;
- an ellipsis '[...]' indicates that the rest of the text remains unchanged.

Annex II to ED Decision 2018/013/R of the Executive Director of the Agency of 21 November 2018 is amended as follows:

GM2 Article 4 Transitional measures

ED Decision 202X/XXX/R

RELEVANT ASPECTS OF THE TRANSITION PLAN

In implementing the required routes and procedures, there is an opportunity to optimise the overall safety, capacity and efficiency of flight operations. The transition plan needs to take due account of the complexity of the airspace structures and traffic flows as well as the specificities of the traffic operating at the affected aerodromes. In addition, it is suggested that a transition plan address, at least, the following aspects:

[...]

- (d) the need to consider CAT II/III ground facilities (ILS, MLS, **GLS**) to supplement RNP APCH procedures where operations below CAT I minima are required due to local conditions, as well as the existing and planned GLS facilities that **currently mostly** provide guidance during CAT I approach and landing operations, but which are anticipated to support CAT II/III operations in the future; and

[...]

GM1 Article 5 Exclusive use of PBN

ED Decision 202X/XXX/R

One of the benefits of PBN is that it allows to decommission more costly or less performing equipment. As PBN allows vertical guidance through RNP APCH procedures down to LNAV/VNAV or LPV minima, this applies, in particular, to a number of the remaining NDB and VOR facilities used for approach, which could be decommissioned by 6 June 2030 as per [Article 7\(2\)\(a\)](#). However, the implementation of PBN approaches does not currently permit the replacement of landing systems where minima below 200 ft are required, such as those enabled by CAT II or CAT III operations. Therefore, it is expected that CAT II and CAT III landing systems, primarily predicated on ILS, will remain in service unaffected by this Regulation.

~~Article 5 precludes the use of instrument approach procedures, other than those predicated on PBN, as per AUR.PBN.2005. As regards CAT I approaches predicated on ILS and MLS, they may in many cases be replaced by SBAS approaches that can be operated down to CAT I precision approach minima.~~

~~There could be locations at which SBAS approaches cannot offer CAT I minima, so existing instrument approach procedures based on ILS, GLS or MLS may be retained.~~

Additionally, it should be noted that when designing the contingency measures foreseen under [Article 6](#), providers of ATM/ANS may decide to retain also a network of CAT I landing systems using, for instance, ILS as a backup. As regards this contingency infrastructure, more information is provided in [GM1 Article 6](#).

GM2 Article 5 Exclusive use of PBN

ED Decision 202X/XXX/R

Paragraph 1 does not allow to provide services based on conventional navigation or non-compliant PBN applications after the transition to PBN is over, i.e., as of 6 June 2030.

Paragraph 2 recognises that, for the time being, PBN cannot enable approach operations down to CAT II and CAT III minima; therefore, GBAS landing systems (GLS) and instrument landing systems (ILS) enabling CAT II, or CAT III operations, will not be subject to any service restrictions.

Moreover, since GBAS approach procedures are neither PBN nor conventional approach procedures, GLS CAT I procedures can also continue to be used without restrictions after 5 June 2030.

GM1 Article 7 Entry into force and application

ED Decision 2018/013/R

The following table provides a summary of the implementation timing:

Implementation by 3 December 2020	AUR.PBN.2005 points
RNP APCH or RNP AR to all IREs without PA, except at those airports listed in point 1.2.1 of the Annex to the PCP Regulation ¹ , and, where required, RF legs	(1) + (2) + (3)
RNAV 5 for all ATS routes at or above FL150	(6)
RNAV 10 or RNP 4 for all ATS routes in support of oceanic and remote continental operations at or above FL150	(8)
Implementation by 25 January 2024	
RNP APCH or RNP AR to all IREs, and, where required, RF legs	(1) + (2) + (3)
For all IREs, RNAV 1 or RNP 1(+) for at least one established SID/STAR	(4) + (5)
For all IREs, RNP 0.3 or RNP 1 or RNAV 1 for at least one established SID/STAR for rotorcraft operations	(7)
RNAV 5 for ATS routes established below FL150	(6)
RNP 0.3 or RNP 1 or RNAV 1 for ATS routes established below FL150 for rotorcraft operations	(7)
RNAV 10 or RNP 4 for all ATS routes in support of oceanic and remote continental operations established below FL150	(8)
Implementation by 6 June 2030	
RNAV 1 or RNP 1(+) applicable to all SIDs/STARs when established	(4) + (5)
RNP 0.3 or RNP 1 or RNAV 1 applicable to all SIDs/STARs for rotorcraft operations when established	(7)
IRE: instrument runway end PA: precision approach	

¹ Commission Implementing Regulation (EU) No 716/2014 of 27 June 2014 on the establishment of the Pilot Common Project supporting the implementation of the European Air Traffic Management Master Plan

RNP 1(+): RNP 1 specification including, where the operational scenario so requires, RF and/or vertical paths defined by constraints
SID: standard instrument departure
STAR: standard instrument arrival
RF: radius to fix
RNAV X & RNP X: navigation specifications

GM1 AUR.PBN.2005(1) Routes and procedures

ED Decision 202X/XXX/R

Contractual arrangements covering the implementation of approach procedures based on the European Geostationary Navigation Overlay Service (EGNOS) are expected to be established between the providers of ATM/ANS responsible for implementing RNP APCH down to LPV minima and the EGNOS service provider, as per ~~paragraph 3.1 of Annex I to Commission Implementing Regulation (EU) No 1035/2011~~ ATM/ANS.OR.B.015 in Commission Implementing Regulation (EU) 2017/373.

~~Similar provisions in Commission Implementing Regulation (EU) 2017/373 regarding contracted activities, i.e. ATM/ANS.OR.B.015, and the associated AMC & GM, may be of help to providers of ATM/ANS.~~

GM1 AUR.PBN.2005(3) Routes and procedures

ED Decision 202X/XXX/R

The term ‘appropriate SBAS coverage’ refers to the EGNOS Safety of Life (SoL) service area, as declared in the EGNOS SoL Service Definition Document (SDD). The EGNOS SoL SDD is published by the ~~European GNSS Agency (GSA)~~ European Union Agency for the Space Programme (EUSPA), including the performance commitment maps, as provided by the certified EGNOS provider.

It is expected that the signal-in-space meets the performance requirements defined in Amendment 89 to ICAO Annex 10, Volume I, prior to implementing SBAS-based procedures.

It is recommended that the 18-month deadline commence from the moment at which the affected aerodrome reference point falls at least 100 NM inside the 99 % APV-I availability area, as published in the EGNOS SoL SDD.

For those areas where the SBAS performance commitment does not meet the average continuity risk specified in Amendment 89 to ICAO Annex 10, Volume I, it is still possible to implement SBAS-based procedures. However, due consideration should be given to the implementation of specific operational mitigations. These operational mitigations should be appropriate to the continuity performance declared by the SBAS service provider and should account for aspects such as the influence of airspace complexity, traffic levels, limiting terrain and obstacles, level of ATS provided, and availability of other navigation and surveillance capabilities.

GM1 AUR.PBN.2005(8) Routes and procedures

ED Decision 202X/XXX/R

INCONSISTENT DESIGNATIONS

For purposes of consistency with ICAO’s PBN concept, this Regulation employs the ‘RNAV 10’ designation because this specification does not include on-board performance monitoring and alerting. Before the publication of ICAO Document 9613 AN/937, ‘Performance-based Navigation (PBN) Manual’, 2013, 4th Edition, ‘RNP 10’ was used as designation for the same navigation specification, i.e., in reference to the same set of requirements.

For the above reasons, many routes and airspace volumes continue to use the RNP 10 designation. To recognise the validity of the present publications, 'RNP 10' and 'RNAV 10' designations should be considered equivalent.

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