PUBLIC USE

smatsa

SMATSA PBN Transition Plan for Montenegro

PBN.PLN.MNE

Edition	**:**	**1.0**
Edition Date	**:**	**13.08.2020.**
Status	**:**	**In use**

Контрола летења Србије и Црне Горе
SMATSA доо Београд
Бр. ATM-00-64/257
10 AUG 2020 год.

Based on the Serbia and Montenegro Air Traffic Services SMATSA llc Regulation of organisation and job description - OU/DIR No 235/28 dated 21.12.2018. with associated amendments, in accordance with defined tasks and authorisation for the job position Director of SMATSA llc, I hereby enact

SMATSA PBN Transition Plan for Montenegro

SMATSA PBN Transition Plan for Montenegro shall enter into force on 13.08.2020.

Director of SMATSA llc

Predrag Jovanović

DOCUMENT APPROVAL

Function	Name and Signature	Date
Director of ATM, MET & AIS Sector	ZA Mirjana Vasiljević	7.8.2020.
Head of ATM Division	Željko Šokčić	7.8.2020.
Director of ACC Beograd Sector	Aleksandar Obradović	06.08.2020.
Director of Terminal and Aerodrome Control Sector	Slobodan Kurćubić	06.08.2020.
Director of CNS Sector	Radomir Ćirić	06.08.2020.

PARTICIPANTS IN DOCUMENT PRODUCTION

Function	Name and Signature	Date
Author		
Instrument Flight Procedure Design Coordinator	Marko Ljubičić	7.8.2020.
Co-authors		
Chief of ASM Department	Danijel Miler	6.8.2020.
Instrument Flight Procedure Design Specialist	Velibor Andrić	6.8.2020.

DOCUMENT CHANGE RECORD

Edition	Edition Date	Reason for change
0.1	03.03.2020.	Creation of the document
0.2	11.03.2020.	Further content consolidation
0.3	23.03.2020.	Further content consolidation
0.4	08.04.2020.	Further content consolidation
0.5	23.04.2020.	Further content consolidation
0.6	15.06.2020.	Document updated after Eurocontrol NM revision
1.0	13.08.2020.	Document in use

DISTRIBUTION LIST

Edition	Date	Distribution	Remarks
0.5	29.04.2020.	• Eurocontrol Network Manager	Electronic copy
0.6	15.06.2020.	• Eurocontrol Network Manager	Electronic copy
1.0	13.08.2020.	• Eurocontrol Network Manager • Civil Aviation Agency of Montenegro • Ministry of Transport and Maritime Affairs	Electronic copy Electronic copy Hardcopy and electronic copy

TABLE OF CONTENTS

LIST OF TABLES

FOREWORD

Bearing in mind that SMATSA llc is responsible for providing air navigation services in two countries - the Republic of Serbia and the state of Montenegro, two distinct but interrelated PBN transition plans were developed regarding each country in particular.

Montenegro, to which this document refers to, although not yet a fully member of the EU but candidate country, is the signatory of ECAA agreement meaning that EC Regulations shall be made part of its internal legal order.

PBN IR was transposed into national legislation in Montenegro during 2019, hence SMATSA llc has a legal requirement to comply with the implementation process of the requirements laid down in the PBN IR.

This is done in order to support harmonised approach on a European level, as the only recognised way to cope with the continued growth of aviation and increasing demands on the use of available airspace.

In the creation of this document relevant NETOPS meeting working papers were concerned and used adjusted according to the specific needs and current level of SMATSA llc compliance with requirements stipulated in the PBN IR.

This document is intended to be a living document. New editions will be published on the basis of experience gained and of comments and suggestions received from the relevant stakeholders.

EXECUTIVE SUMMARY

SMATSA llc has developed a PBN Transition Plan in order to ensure compliance with the PBN IR[1] enabling smooth and safe transition to the provision of services using PBN in a timely and effective manner in its AoR.

Results of conducted comparative analysis of the current operations level against published requirements showed that in terms of en-route, TMA and approach operations SMASTA llc is in line with all objectives defined for 2020 and beyond.

At this moment exclusive use of PBN and establishment of contingency measures with transition to the minimum operation network of conventional NAVAIDs is the only objective still needs to be done.

For that reason, the main focus in the coming period will be placed on development of a convenient strategy for gradually moving to the PBN only operational environment and reducing the network of conventional infrastructure to the extent appropriate for all stakeholders.

Furthermore, SMATSA llc will undertake appropriate stakeholder consultation which will enable implementation of identified and confirmed transitional measures in accordance with agreed timelines. In that way airspace users will be informed about the planned changes in a timely manner and be able to adequately equip/retrofit airborne equipment if required. In order to support that process a detailed strategic roadmap for PBN implementation is also provided within this document.

The final document, when fully completed, will describe the agreed changes to meet regulatory requirements as defined in future operational environment.

[1]Please see item 1.1.1

1 INTRODUCTION

1.1 Presentation of the document

1.1.1 About the document

This document is developed by the Serbia and Montenegro Air Traffic Services SMATSA llc (hereinafter: SMATSA llc) in compliance with:

- Commission Implementing Regulation (EU) 2018/1048 of 18 July 2018 laying down airspace usage requirements and operating procedures concerning performance-based navigation (OJ L 189, 26.7.2018, p. 3–8), including national transposition – "Pravilnik o korišćenju vazdušnog prostora i operativnih procedura u vezi sa navigacijom zasnovanoj na navigacionim performansama (PBN) (Sl.l. CG br. 1/2020) (Preuzeta Uredba Komisije br. 2018/1048)" (hereinafter: PBN IR) and
- Executive Director Decision 2018/013/R of 21 November 2018 issuing Acceptable Means of Compliance and Guidance Material to Commission Regulation (EU) No 1332/2011 and Commission Implementing Regulation (EU) 2018/1048 and repealing Decision 2012/002/R of the Executive Director of the Agency of 8 March 2012 and
- Annexes I and II to ED Decision 2018/013/R - Acceptable Means of Compliance and Guidance Material to Commission Regulation (EU) No 1332/2011 and Commission Implementing Regulation (EU) 2018/1048 on common airspace usage requirements and operating procedures 'AMC & GM to AUR' (Issue 2, 21 November 2018)

1.1.2 Structure of the document

This document contains following sections:

- Section 1: Introduction - provides the structure, purpose and scope of the document and the list of all requirements arising from the PBN IR;
- Section 2: Evaluation of the operational environment - presents description of the current operational environment subject to a change according to the PBN IR requirements;
- Section 3: Compliance with the requirements - provides an analysis regarding current fulfilment of the PBN IR requirements;
- Section 4: Implementation objectives - identifies the main objectives that need to be done in future period in accordance with the PBN IR requirements;
- Section 5: Transition plan - provides a detailed plan for the fulfilment of objectives identified in the previous Section;
- Section 6: Future operational environment - provides an overview of the future state of the operational environment when all of the specified goals are met;
- Section 7: Definitions - gives a reference to definitions;
- Section 8: Acronyms and abbreviations - gives a list of all acronyms and abbreviations used in the document;
- Section 9: Appendices - gives a list of all appendices in the document;
- Appendix 1 - PBN Checklist of Implementation - presents a general compliance table in regard of the PBN IR.
- Appendix 2 - Detailed PBN implementation roadmap - gives a general overview and timeline regarding implementation of defined transitional measures.

1.2 Purpose

The primary purpose of the document is to ensure fulfilment of the requirements stated in Article 4 of the PBN IR regarding necessary measures to ensure a smooth and safe transition to the provision of the services using PBN in a timely and effective manner.

This document is 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[2].

1.3 Scope

SMATSA llc is a provider of air traffic management/air navigation services (ATM/ANS) responsible for development, implementation and maintenance of:

- Instrument approach procedures;
- STARs and SIDs; and
- ATS routes;

Within BEOGRAD ATCC Area of Responsibility, in the airspace of Montenegro (part of BEOGRAD FIR/UIR[3]).

Aerodromes that are subject to the PBN IR are those with one or more IRE (as shown in the table below).

Table 1 Aerodromes falling into the scope of the PBN IR

Name	Location	ICAO Code	TMA
Podgorica	Podgorica	LYPG	TMA Podgorica
Tivat	Tivat	LYTV	TMA Tivat

In addition to ones without the IRE, the following aerodromes are excluded in line with the EASA Basic Regulation[4]:

- Aerodromes which are not open to public use or aerodromes which do not serve commercial air transport or aerodromes without paved instrument runways of more than 800 metres and which do not exclusively serve helicopters using instrument approach or departure procedures;
- Aerodromes that are controlled and operated by the military, as well as ATM/ANS that are provided or made available by the military;
- Aerodromes with low volumes of traffic provided that the aerodromes concerned meet the minimum common safety objectives. Low volume of traffic is considered to be less than 10000 IFR movements per year.

In the event of the appearance of new eligible airports, this document will be updated accordingly.

[2] Regulation (EC) No 550/2004 of the European Parliament and of the Council of 10 March 2004 on the provision of air navigation services in the single European sky (the service provision Regulation) (OJ L 96, 31.3.2004, p. 10-19) transposed into national legislative of the Republic of Serbia within Pravilnik o uslovima i načinu izdavanja i važenja sertifikata za pružanje usluga u vazdušnoj plovidbi (Sl. glasnik RS, br. 32/11, 54/12 i 24/13)

[3] As stated in the latest version of the AIP Serbia/Montenegro

[4] Regulation (EU) 2018/1139 of the European Parliament and of the Council of 4 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency, and amending Regulations (EC) No 2111/2005, (EC) No 1008/2008, (EU) No 996/2010, (EU) No 376/2014 and Directives 2014/30/EU and 2014/53/EU of the European Parliament and of the Council, and repealing Regulations (EC) No 552/2004 and (EC) No 216/2008 of the European Parliament and of the Council and Council Regulation (EEC) No 3922/91 (OJ L 212, 22.8.2018, p. 1–122)

1.4 Entry into force and application

The following tables provide a summary of the PBN IR requirements.

Table 2 originates from Annexes I and II to ED Decision 2018/013/R and gives a list of requirements by implementation timing and Table 3[5] represents requirements in a more transparent way.

Montenegro is outside of geographical scope regarding PCP IR[6] requirements (AF#1 and AF#3) and therefore they are not considered further in this document.

General PBN requirement stated in Article 3 of the PBN IR is considered fulfilled when all other requirements are met.

Table 2 Summary of the PBN IR requirements by 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 IR, and, where required, RF legs	(1) + (2) + (3)
RNAV 5 for all ATS routes at or above FL150	(6)
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)
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)
RNP 1(+): RNP 1 specification including RF and/or vertical paths defined by constraints	

[5] Table is adopted from document - NETOPS23_Item_8_4_WP_13_Sample_PBN_Impl_Plan_Annex_final.

[6] 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 (OJ L 190, 28.6.2014, p. 19-44)

Table 3 Summary of the PBN IR requirements by article

REQUIREMENTS		03 DEC 2020	25 JAN 2024	06 JUN 2030
Article 4 and Article 7 Applicability of AUR.PBN.2005				
Article 4	Transition Plan (*or significant updates)* approved *(living document)*[*]	x[*]	x[*]	x[*]
AUR.PBN.2005 (1) or (2) or (3)	RNP APCH at IREs without Precision Approach (PA)	x		
	RNP APCH at all IREs (with PA)		x	
AUR.PBN.2005 (4) or (5)	RNAV 1 or RNP 1(+) SID and STAR - one per IRE		x	
	RNAV 1 or RNP 1(+) for all SID and STARs			x
AUR.PBN.2005 (6)	RNAV 5 ATS routes at and above FL150	x		
	RNAV 5 ATS routes below FL150		x	
AUR.PBN.2005 (7)	Helicopter RNP 0.3/RNAV 1/RNP 1 SID/STAR - one per IRE		x	
	Helicopter RNP 0.3/RNAV 1/RNP 1 for all SID/STAR			x
	Helicopter RNP 0.3/RNAV 1/RNP 1 ATS routes below FL150		x	
Article 5 and Article 6				
Article 5	Exclusive use of PBN			x
Article 6	Contingency measures	x	x	x

*The transition plan will have several iterations; Article 4 requires that the draft/significant updates to the plan must be approved by the competent authority prior to it being implemented. The obligations in the transition plans would need to be commensurate with the target date obligations.

2 EVALUATION OF THE OPERATIONAL ENVIRONMENT

2.1 Instrument approach procedures

Status of current approach operations is presented in the table below.

Table 4 Overview of current approach operations

ICAO Code	RWY	IAPs					
		Conventional			PBN - RNP APCH		
LYPG	**18**	/	/	/[7]	/	/	/
	36	ILS Cat I (LOC)	VOR (DME)	NDB (DME)	LPV Cat I	LNAV/ VNAV	LNAV
LYTV	**14**	/	/	/[8]	/	/	/
	32	LOC[9] (DME)	/	NDB (DME)	/	/	/

NOTE: As a non-EU country SMATSA llc signed EWA (with ESSP) about the use of EGNOS Service only in December 2018 which caused the late implementation (March 2020) of LPV minima in regards to the other RNP APCH procedures.

2.1.1 Aerodrome Podgorica – LYPG

General information about approach operations at LYPG is given in Table 5 and detailed description of conventional approach procedures is presented in Table 6.

Table 5 LYPG approach operations

RWY	18	36
NAV provided	Non-instrument approach	PBN and Conventional
IAPs provided	Circling with Prescribed Tracks	PA, APV and NPA
Primary IAP	/	ILS Cat I
Redundancy (fallback /backup /contingency)	/ (Implementation excessively difficult due to terrain)	Multiple redundancy is provided by means of RNP APCH procedures down to all three minima lines and additional VOR and NDB approaches which may be used on request; radar vectoring to IF

[7] Non-instrument approach (Circling with Prescribed Tracks).

[8] Non-instrument approach (Circling with Prescribed Tracks).

[9] Final approach track intercepts RCL for 20°, which does not comply with PANS OPS criteria for straight-in approach for Cat C and D ACFT.

Table 6 Conventional approach procedures at LYPG

ICAO Code	RWY	Approach Phase		NAVAIDs	
				Primary	Support/Backup
LYPG	**18**	Final approach	Circling with Prescribed Tracks	VOR/DME: POD NDB: (L) GO	/
	36	Initial / Intermediate approach	ILS (LOC) Z, Y	VOR/DME: POD (Radar vectoring)	NDB: POD
			VOR Z, Y	VOR/DME: POD (Radar vectoring)	NDB: POD
			NDB Z, Y	NDB: POD DME: POD (Radar vectoring)	VOR: POD
			NDB X (dual ADF)	NDB: POD, (L) GO (Radar vectoring)	/
		Final approach	ILS (LOC) Z, Y	GP/LOC: YUI DME: POD NDB: (L) GO	NDB: POD Markers (OM, MM)
			VOR Z, Y	VOR/DME: POD NDB: (L) GO	NDB: POD
			NDB Z, Y	NDB: POD DME: POD	VOR: POD NDB: (L) GO
			NDB X (dual ADF)	NDB: POD, (L) GO	/
		Missed approach	ILS (LOC) Z, Y	VOR/DME: POD	NDB: POD
			VOR Z, Y	VOR/DME: POD	NDB: POD
			NDB Z, Y	NDB: POD DME: POD	VOR: POD NDB: (L) GO
			NDB X (dual ADF)	NDB: POD, DAN	/
Total nb. of NAVAIDs		ILSs: 1	VOR/DMEs: 1	NDBs: 3	Markers: 2

2.1.2 Aerodrome Tivat – LYTV

General information about approach operations at LYTV is given in Table 7 and detailed description of conventional approach procedures is presented in Table 8.

Table 7 LYTV approach operations

RWY	14	32
NAV provided	Non-instrument approach	Conventional
IAPs provided	Circling with Prescribed Tracks	NPA
Primary IAP	/	LOC (DME required)
Redundancy (fallback /backup /contingency)	/ (Implementation excessively difficult due to terrain)	Limited up to FAF. After FAF no redundancy. All instrument procedures have final visual segment and are marked as “day only”.

Table 8 Conventional approach procedures at LYTV

ICAO Code	RWY	Approach Phase		NAVAIDs	
				Primary	Support/Backup
LYTV	**14**	Final approach	Circling with Prescribed Tracks	DME: TIV NDB: TAZ	/
	32	Initial / Intermediate approach	LOC Z	VOR/DME: POD NDB: TAZ DME: TIV	/
			LOC Y	RNP 1 NDB: TAZ	DME: TIV
			NDB Z	VOR/DME: POD NDB: TAZ DME: TIV	/
			NDB Y	RNP 1 NDB: TAZ	DME: TIV
		Final approach	LOC Z	LOC/DME: TIV	NDB: TAZ
			LOC Y	LOC/DME: TIV	NDB: TAZ
			NDB Z	NDB: TAZ DME: TIV	NDB: RO
			NDB Y	NDB: TAZ	/
		Missed approach	LOC Z	DME: TIV NDB: RO, TAZ VOR/DME: POD (MA holding)	/

ICAO Code	RWY	Approach Phase		NAVAIDs	
				Primary	**Support/Backup**
			LOC Y	DME: TIV NDB: RO, TAZ RNP 1 (MA holding)	VOR/DME: POD (MA holding)
			NDB Z	NDB: TAZ, RO DME: TIV VOR/DME: POD (MA holding)	/
			NDB Y	NDB: RO, TAZ RNP 1 (MA holding)	VOR/DME: POD (MA holding)
Total nb. of NAVAIDs		LOC: 1	DMEs: 2	VOR: 1	NDBs: 2

2.2 SID and STAR routes

2.2.1 TMA Podgorica (LYPG)

General information about TMA operations is given in Table 9 and detailed description of arrival and departure procedures is presented in

Table 10.

Table 9 LYPG TMA operations

RWY	18 / 36
Radar service provided	Yes
NAV provided	PBN and Conventional
NAV specification	RNP 1
PBN NAV infrastructure	GNSS
Conventional NAV infrastructure	Based on a single VOR/DME and five NDB navaids.
Concept of operations	Primary procedures in use are those based on conventional navaids; aircraft equipped and able to use RNP 1 routes will be cleared to used them upon request. All aircraft may be subject to radar vectoring in accordance with ATC Surveillance Minimum Altitude Chart.

Table 10 Conventional and PBN TMA procedures at LYPG

ICAO Code	RWY	SIDs	STARs

LYPG	**18**	**RNP 1** / based on GNSS	***/***
		Conventional / based on: VOR/DME: POD NDB: POD, MOJ, NIK, DAN, (L) GO	***/***
	36	**RNP 1** / based on GNSS	**RNP 1** / based on GNSS
		Conventional / based on: VOR/DME: POD NDB: POD, MOJ, NIK, DAN, (L) GO	**Conventional** / based on: VOR/DME: POD NDB: POD, MOJ, NIK, DAN, (L) GO
TMA Podgorica total nb. of NAVAIDs		VOR/DME: 1	NDBs: 5

2.2.2 TMA Tivat (LYTV)

General information about TMA operations is given in Table 11 and detailed description of arrival and departure procedures is presented in

Table 11 LYTV TMA operations

RWY	14 / 32
Radar service provided	No (procedural control only)
NAV provided	PBN and Conventional
NAV specification	RNP 1
PBN NAV infrastructure	GNSS
Conventional NAV infrastructure	Based on a single VOR, two DMEs and two NDBs.
Concept of operations	RNP 1 and conventional routes may be used on request on an equivalent base

Table 12 Conventional and PBN TMA procedures at LYTV

ICAO Code	RWY	SIDs	STARs
LYTV	**14**	**RNP 1** / based on GNSS	**RNP 1** / based on GNSS
		Conventional / based on: NDB: TAZ, RO, NIK, (+POD backup only) DME: TIV VOR/DME: POD	**Conventional** / based on: NDB: TAZ, RO, NIK, (+POD backup only) DME: TIV VOR/DME: POD
	32	**RNP 1** / based on GNSS	**RNP 1** / based on GNSS
		Conventional / based on: NDB: TAZ, RO, NIK, (+POD backup only) DME: TIV VOR/DME: POD	**Conventional** / based on: NDB: TAZ, RO, NIK, (+POD backup only) DME: TIV VOR/DME: POD
TMA Tivat total nb. of NAVAIDs		VOR/DMEs: 1 DME: 1 NDBs: 4	

2.3 En-route

Aircraft, other than State aircraft, operating under instrument flight rules within BEOGRAD FIR/UIR above 9500 FT ALT, shall be equipped, as a minimum, with RNAV equipment meeting RNAV 5 (B-RNAV) specification as set out in ICAO Doc 7030 – Regional Supplementary Procedures.

NOTE: RNAV 5, defined in ICAO Doc 9613 – Performance-based Navigation Manual, is equivalent to B-RNAV with regard to the navigational equipment and certification requirements. Those two terms (RNAV 5 and B-RNAV) in AIP Serbia/Montenegro are treated as equal.

SMATSA llc has implemented crossborder FRA on 24/7 basis (SECSI FRA).

Status of current en-route operations is presented in the table below.

Table 13 Overview of current en-route operations

NAV application	Limits	NAV specification	NAV infrastructure	NAV back-up infrastructure
FRA*	FL660 FL205	RNAV 5	GNSS	VOR/DME & NDB + Radar as required
ATS routes	FL205 MNM ALT			

* Outside of the PBN IR scope regarding MNE.

2.4 Surveillance and communication systems

TBD

2.5 Airborne equipment and capabilities

PBN fleet capability for 2019 flights at LYPG and LYTV is given in the table below. Statistics are prepared through Eurocontrol's CNS Dashboard under the following conditions:

- Period: JAN – DEC 2019;
- Traffic: Arrivals only;
- Flight type: Scheduled.

Main conclusions are:

- Almost all flights were PBN approved (99.98% LYPG, 99.89% LYTV), however significantly less flights were GNSS capable (~69% LYPG, ~67% LYTV);
- Although implemented in May 2017, RNP 1 capabilities were still not so much represented during 2019 (~36.4% LYPG, ~43.4% LYTV), meaning that more than 50% of flights in LYTV and over 60% flights in LYPG are currently not capable to use published RNP 1 SID and STAR routes and that they still depend on conventional NAVAIDs as a source of navigation;
- RNP APCHs were at a 60% level (~62.01% LYPG, ~58.19% LYTV) without any flight with LPV capability on for both aerodromes. This is most probably due to the fact that RNP APCH to LPV minima were implemented on 26 March 2020, and the increase in LPV capable operations can be expected.

Table 14 PBN fleet capability at LYPG and LYTV

FLEET CAPABILITY	**LYPG**		**LYTV**	
	Flights	Percentage	Flights	Percentage
Total number of flights	**6264**		**4657**	
R - PBN approved	**6263**	**99.98%**	**4652**	**99.89%**
G - GNSS	**4349**	**69.43%**	**3140**	**67.43 %**
RNAV 1 – Any means (any Dx)	**5527**	**88.23%**	**3316**	**71.20%**
RNAV 1 – GNSS only (D2 only)	**612**	**9.77%**	**517**	**11.10%**
RNAV 1 – Non GNSS (D3 or D4 and not (D1 or D2))	**1273**	**20.32%**	**240**	**5.15%**
D1 - RNAV 1 all permitted sensors	3403	54.33%	2437	52.33%
D2 - RNAV 1 GNSS	851	13.59%	639	13.72%
D3 - RNAV 1 DME/DME	770	12.29%	130	2.79%
D4 - RNAV 1 DME/DME/IRU	1286	20.53%	241	5.18%
RNP 1 (any Ox)	**2280**	**36.40%**	**2004**	**43.03%**
O1 - Basic RNP 1 all permitted sensors	1982	31.64%	1876	40.28%
O2 - Basic RNP 1 GNSS	598	9.55%	128	2.75%

O3 - Basic RNP 1 DME/DME	34	0.54%	0	0.00%
O4 - Basic RNP 1 DME/DME/IRU	9	0.14%	1	0.02%
RNP APCH – Any means (S1 or S2 or B)	**3884**	**62.01%**	**2710**	**58.19%**
RNP APCH (S1 or S2)	**3884**	**62.01%**	**2710**	**58.19%**
RNP APCH – LNAV only (S1 and not S2 and not B)	**1102**	**17.59%**	**532**	**11.42%**
S1 - RNP APCH	1934	30.87%	801	17.20%
S2 - RNP APCH with BARO-VNAV	2782	44.41%	2178	46.77%
B - LPV (APV with SBAS)	0	0.00%	0	0.00%
RNP AR APCH (T1 or T2)	**200**	**3.19%**	**413**	**8.87%**
T2 - RNP AR APCH without RF (special authorisation required)	129	2.06%	0	0.00%
T1 - RNP AR APCH with RF (special authorisation required)	199	3.18%	413	8.87%
A - GBAS landing system	**50**	**0.80%**	**645**	**13.85%**

3 COMPLIANCE WITH THE REQUIREMENTS

PBN Checklist of implementation is provided within Appendix 1 of this document in order to verify compliance with the transition planning requirements.

3.1 Implementation of IAPs

3.1.1 Requirements

AUR.PBN.2005 (1) or (2) or (3):

- RNP APCH at IREs without Precision Approach (PA) by 03 DEC 2020;
- RNP APCH at all IREs (with PA) by 25 JAN 2024.

3.1.2 Fulfilment

The requirements are fulfilled for LYPG, and not for LYTV. The details are presented in the table below.

Implementation of 3D RNP APCH at LYTV RWY 32 may be considered as fulfilled in terms of the PBN IR because implementation is characterized as excessively difficult due to terrain after preliminary IFP design was made.

Considering moderate volumes of traffic at LYTV, implementation of 3D approach procedure in accordance with the requirements of the RNP authorisation required (RNP AR APCH) specification is not planned in the short term.

Also, implementation of radius to fix (RF) legs at LYPG and LYTV is not required due to traffic density or traffic complexity.

Table 15 Current level of compliance with IAPs requirements

ICAO Code	RWY	RWY Type	RNP APCHs		
			3D approach		2D approach
			LPV	LNAV/VNAV	LNAV
LYPG	18	Non-Instrument approach	**Not applicable**	**Not applicable**	**Not applicable**
	36	Instrument Precision Approach	Implemented on 26 MAR 2020 **- in accordance with AUR.PBN.2005 (1)**	Implemented on 26 MAR 2020 **- in accordance with AUR.PBN.2005 (1)**	Implemented on 25 MAY 2017 **- in accordance with AUR.PBN.2005 (1)**
LYTV	14	Non-Instrument approach	**Not applicable**	**Not applicable**	**Not applicable**
	32	Non-Precision Instrument Approach	Not implemented **- in accordance with AUR.PBN.2005 (2)**: implementation is excessively difficult due to terrain	Not implemented **- in accordance with AUR.PBN.2005 (2)**: implementation is excessively difficult due to terrain	Not implemented* **- not in accordance with AUR.PBN.2005 (2)**

* In accordance to the PBN IR, non-precision instrument approach runway is defined in Annex I, point 22 of Commission Regulation (EU) No 139/2014 as an instrument runway served by visual aids and a non-visual aid providing at least directional guidance adequate for a straight-in approach.

Bearing that in mind it could be concluded that PBN IR requirements are not applicable to LYTV RWY 32, because standard straight-in approach is not possible and not implemented due to terrain.

However, this regulation was amended by Commission Regulation (EU) 2018/401 changing a definition for non-precision approach runway to a runway served by visual aids and at least one non-visual aid, intended for landing operations following a Type A instrument approach operation.

According to the amended regulation PBN IR requirements to LYTV RWY 32 are once again activated.

Further consultations and attitudes towards this issue are needed in order to step out from the grey area and make a clear stand about the status of runways served by non-standard procedures.

3.2 Implementation of SIDs and STARs

3.2.1 Requirements

AUR.PBN.2005 (4) or (5):

- RNAV 1 or RNP 1(+) SID and STAR - one per IRE by 25 JAN 2024;
- RNAV 1 or RNP 1(+) for all SID and STARs by 06 JUN 2030.

3.2.2 Fulfilment

All requirements have been fulfilled in accordance with details presented in the table below.

In order to maintain air traffic safety in environment with high terrain and obstacle features at LYPG (TMA Podgorica) and in addition to that, no radar service provision at

LYTV (TMA Tivat), SID and STAR routes with higher performance requirements than RNAV 1 navigation specification have been implemented - RNP 1 specification, including additional navigation functionalities regarding operations along a vertical path and between two fixes and with the use of:

(1) An 'AT' altitude constraint; or
(2) An 'AT OR ABOVE' altitude constraint; or
(3) An 'AT OR BELOW' altitude constraint; or
(4) A 'WINDOW' constraint.

Implementation of RF legs is not currently planned.

Table 16 Current level of compliance with SIDs/STARs requirements

ICAO Code	RWY	SIDs	STARs
		RNAV 1 or RNP 1	**RNAV 1 or RNP 1**
LYPG	18	RNP 1 + vertical constraints to all SIDs Implemented on 25 MAY 2017 **- in accordance with AUR.PBN.2005 (5)** higher performance are required in order to maintain air traffic safety in environments with high terrain features	**Not applicable** (STARs not established/Non-instrument approach RWY)
	36	RNP 1 + vertical constraints to all SIDs Implemented on 25 MAY 2017 **- in accordance with AUR.PBN.2005 (5)** higher performance are required in order to maintain air traffic safety in environments with high terrain features	RNP 1 + vertical constraints to all STARs Implemented on 25 MAY 2017 **- in accordance with AUR.PBN.2005 (5)** higher performance are required in order to maintain air traffic safety in environments with high terrain features
LYTV	14	RNP 1 + vertical constraints to all SIDs Implemented on 25 MAY 2017 **- in accordance with AUR.PBN.2005 (5)** higher performance are required in order to maintain air traffic safety in environments with high terrain features	RNP 1 + vertical constraints to all STARs Implemented on 25 MAY 2017 **- in accordance with AUR.PBN.2005 (5)**: higher performance are required in order to maintain air traffic safety in environments with high terrain features
	32	RNP 1 + vertical constraints to all SIDs Implemented on 25 MAY 2017 **- in accordance with AUR.PBN.2005 (5)**: higher performance are required in order to maintain air traffic safety in environments with high terrain features	RNP 1 + vertical constraints to all STARs Implemented on 25 MAY 2017 **- in accordance with AUR.PBN.2005 (5)**: higher performance are required in order to maintain air traffic safety in environments with high terrain features

3.4 Implementation of ATS routes

3.4.1 Requirements

AUR.PBN.2005 (6):

- RNAV 5 ATS routes at and above FL150 by 03 DEC 2020;
- RNAV 5 ATS routes below FL150 by 25 JAN 2024.

3.4.2 Fulfilment

All requirements have been fulfilled in accordance with details presented in the table below.

Table 17 Current level of compliance with ATS routes requirements

Vertical limits	ATS routes
Above FL150	RNAV 5 established from route MNM ALT to FL205 within BEOGRAD FIR/UIR Implemented on 01 FEB 2018 in line with the SECSI FRA initiative **- in accordance with AUR.PBN.2005 (6)**
Below FL150	

3.5 Implementation of SID/STAR/ATS routes for rotorcraft operations

3.5.1 Requirements

AUR.PBN.2005 (7):

- Helicopter RNP 0.3/RNAV 1/RNP 1 SID/STAR - one per IRE by 25 JAN 2024;
- Helicopter RNP 0.3/RNAV 1/RNP 1 for all SID/STAR by 06 JUN 2030;
- Helicopter RNP 0.3/RNAV 1/RNP 1 ATS routes below FL150 by 25 JAN 2024.

3.5.2 Fulfilment

All requirements may be considered as fulfilled in terms of the PBN IR because routes and procedures for rotorcraft operations have not been established at the moment and currently there is no demand for their implementation (see the table below).

Table 18 Current level of compliance with rotorcraft operations requirements

NAV Specification	SID / STAR / ATS routes
RNP 0.3 or RNAV 1 or RNP 1	Not implemented **- in accordance with AUR.PBN.2005 (7)**: SID / STAR or ATS routes for rotorcraft operations have not been established yet

3.6 Exclusive use of PBN and establishment of contingency measures

3.6.1 Requirements

Article 5 and Article 6:

- Exclusive use of PBN by 06 JUN 2030;
- Contingency measures for each phase of Transition Plan.

3.6.2 Fulfilment

Fulfilment of Article 5 and 6 requirements is planned in accordance with the Section 5 - Transition plan. Up to that moment contingency measures are ensured through the means of procedures/routes multiple redundancy supporting all phases of operations as stated within Section 2.

4 IMPLEMENTATION OBJECTIVES

Current operations compliance analysis revealed that SMATSA llc fulfils the following requirements at this moment:

- IAPs - implemented, except for RNP APCH operations to LYTV RWY 32 which are still under discussion;
- SIDs/STARs - fully implemented;
- ATS routes - fully implemented;
- SID / STAR / ATS routes for rotorcraft operations - no requirements.

In order to make full compliance with the PBN IR the following general measures have been defined for future implementation:

- Gradually withdrawal of conventional procedures (SIDs/STARs/IAPs);
- Implementation of DME/DME network as a backup infrastructure for TMA (where possible) and en-route PBN operations in case of a reversion from GNSS;
- Implementation of contingency measures, including retention of necessary minimum operational network of conventional NAVAIDs:
  - ILS Cat I (where available) - Will be used only as contingency approach procedure in case of a reversion from GNSS;
  - All DMEs (aerodrome, TMA, en-route):
    - Should be modernised (if not already) and retained in order to make DME/DME backup infrastructure to support TMA and en-route PBN operations;
    - New DME installations may be expected, if required by the DME/DME coverage analysis;
  - Aerodrome VORs:
    - Should be modernised (if not already) and retained as contingency approach procedures at IREs where ILS Cat I is not available;
    - Will be retained as contingency NAVAIDs for TMA and en-route operations in case of a reversion from GNSS or PBN unavailability;
    - Together with collocated DMEs they form the only backup solution for missed approach phase (even for initial/intermediate phase when no radar service is provided) when GNSS signal is not available;
    - Aerodrome VOR/DMEs also support backup COM failure procedures and are used by airlines to define internal engine-out and other emergency procedures;
  - NDBs and markers:
    - -All except TAZ (will remain as contingency NAVAID for FAF and MAH for LYTV) will be withdrawn from operational use (GAT).

5 TRANSITION PLAN

Regarding the current level of compliance with the PBN IR requirements and identified future objectives three periods for further implementation steps have been determined:

- Short-term (next 3 years);
- Medium-term (from 4 to 7 years);
- Long-term (beyond 7 years).

All transitional measures need to be yet confirmed within consultation process that shall involve all relevant stakeholders.

Table 19 shows all transitional measures with planned implementation timing.

Table 19 Overview of transitional measures

Transition period		**Location**	**Operational requirement**
			Exclusive use of PBN and establishment of contingency measures
Short-term	2020	LYTV	Implementation of RNP APCH down to LNAV minimum WEF 3 DEC 2020 at the latest (Note: activity may be delayed if COVID-19 pandemic measures should be extended)
	2021	/	/
	2022	TMA Podgorica - LYPG	Rationalisation of LYPG RWY 18/36 conventional SIDs and RWY 18 conventional STARs
Medium-term	2023	LYPG	Withdrawal of NDB IAPs
	2024	TMA Podgorica, TMA Tivat - LYPG, LYTV	Implementation of DME/DME backup infrastructure for LYPG and LYTV SIDs/STARs
	2025	TMA Tivat - LYTV	Rationalisation of LYTV RWY 14/32 conventional SIDs and STARs
	2026	TMA Podgorica - LYPG	Withdrawal of all LYPG conventional procedures
Long-term	2027	TMA Tivat - LYTV	Withdrawal of LYTV conventional procedures
	2028	En-route	Implementation of DME/DME backup infrastructure for RNAV 5 ATS routes network
	2029	/	/
	2030	/	/

Detailed PBN implementation roadmap presenting identified transitional measures is given in Appendix 2.

5.1 Short-term plan

5.1.1 LYTV RWY 32

- Implementation of RNP APCH down to LNAV minimum
  - The possibility to implement 2D RNP APCH (down to LNAV minimum) flight procedure for the RWY 32 in LYTV is going to be assessed. If it proves to be possible (even with OCA/H higher than optimal), the procedure will be implemented.

(Note: activity may be delayed if COVID-19 pandemic measures should be extended)

5.1.2 TMA Podgorica - LYPG RWY 18/36

- Rationalisation of conventional SIDs/STARs by 2022:
  - Only few routes in addition to radar vectoring will be retained in order to provide services to non-equipped aircraft at this stage;
  - Design of these routes should be based on VOR/DME POD mainly with the goal to exclude the use NDBs wherever possible;
  - If possible, withdrawal of NDBs MOJ and NIK (for GAT).

5.2 Medium-term plan

5.2.1 LYPG RWY 36

- Withdrawal of NDB IAPs by 2023:
  - Multiple redundancy will be maintained (ILS, RNP APCH, VOR);
  - NDBs considered for withdrawals (for GAT) are: DAN, (L) GO and POD;
  - Combining this measure with previous one should be considered.

5.2.2 TMA Podgorica, TMA Tivat – LYPG, LYTV

- Implementation of DME/DME backup infrastructure for SIDs/STARs by 2024:
  - Detailed DEMETER analysis shall be undertaken;
  - Analysis will show if additional DME installations are necessary to develop adequate backup infrastructure network which will certainly include POD and TIV DME.

5.2.3 TMA Tivat – LYTV RWY 32

- Rationalisation of conventional SIDs and STARs by 2025:
  - Only selected arrival and departure routes will be retained in order to provide services to non-equipped aircraft at this stage;
  - Withdrawal of NDB TAZ and installation of a VOR/DME at the same location will be considered;
  - Design of all routes should be based on NDB TAZ (or a new VOR/DME on the same location) and DME TIV only (if possible); VOR/DME POD and other NDBs (RO, POD, NIK) should be withdrawn the procedure design;

5.2.4 TMA Podgorica / LYPG

- Withdrawal of conventional procedures by 2026:

- Will cover all SIDs, STARs and IAPs;
- Minimum one approach procedure will be retained as contingency procedures (RWY 36 – ILS Cat I / optionally additional VOR approach);
- DME/DME infrastructure and radar vectoring as backup will be provided for TMA operations.

5.3 Long-term plan

5.3.1 TMA Tivat / LYTV

- Withdrawal of conventional procedures by 2027:
  - Will cover SIDs, STARs and IAPs;
  - Minimum one SID/STAR/approach procedure will be retained as contingency procedures (SID/STAR based on TAZ NDB (or the VOR/DME at the same location – please see item 5.2.3) / RWY 32 – LOC/DME approach).

5.3.2 En-route

- Implementation of DME/DME infrastructure for ATS routes by 2028:
  - Detailed DEMETER analysis shall be undertaken;
  - Analysis will show if additional DME installations are necessary to develop adequate backup infrastructure network which will certainly include TIV and POD DME;
  - POD VOR shall be used as a contingency NAVAIDs for en-route and approach operations at LYPG.

6 FUTURE OPERATIONAL ENVIRONMENT

6.1 Instrument approach procedures

Future approach operations at LYPG and LYTV are planned as shown in the table below and will be enabled for use in the following way:

- Primary (RNP APCHs) and supplementing (ILS Cat I where available) approach procedures shall be published in AIP and made fully available 24/7 for operations planning;
- Contingency procedures shall also be published in AIP but not for planning purposes and only available by NOTAM or by ATC clearance (on pilot request - if there is no other measure to be used on tactical basis);
- All NAVAIDs (operational and contingency) shall be published with necessary information available within adequate AIP AD sections.

Table 20 Future approach operations

ICAO Code	RWY	IAPs			
		NAV specification	**NAV infrastructure**	**Ground facilities to supplement RNP APCH procedures**	**NAV contingency procedures / infrastructure**
LYPG	**18**	**Not applicable**	**Not applicable**	**Not applicable**	**Not applicable**
	36	**RNP APCH** down to LPV, LNAV/VNAV and LNAV minima	**GNSS**	/	**ILS Cat I (LOC)** based on YUI GP/LOC and VOR/DME POD for missed approach
LYTV	**14**	**Not applicable**	**Not applicable**	**Not applicable**	**Not applicable**
	32	**RNP APCH** (to be confirmed) down to LNAV minima (and LP minima)	**GNSS**	**/**	**LOC (Offset 20°)** based on TIV LOC/DME and NDB TAZ/DME (or VOR/DME at the same location - to be confirmed) TIV for missed approach

6.2 SID and STAR routes

Future TMA operations at LYPG and LYTV are planned as shown in the table below and will be enabled for use in the following way:

- Primary SIDs and STARs (RNP 1) shall be published in AIP and made fully available 24/7 for operations planning;
- Contingency procedures for LYPG **shall not** be published in AIP because DME/DME back up infrastructure as well as radar vectoring will be provided; contingency measures will imply only flight to or from VOR/DME POD;
- Contingency procedures for LYTV **shall be** published in AIP because there is no radar service provided and due to high terrain configuration; procedures shall not be available for planning purposes and shall be used only by ATC clearance (on pilot request);
- All NAVAIDs (operational and contingency) shall be published with necessary information available within adequate AIP AD sections.

Table 21 Future TMA operations

ICAO Code	RWY	SIDs/STARs			
		NAV specification	**NAV infrastructure**	**NAV back-up infrastructure**	**NAV contingency infrastructure**
LYPG	**18**	RNP 1	GNSS	DME/DME + Radar as required	VOR/DME POD
	36				
LYTV	**14**	RNP 1	GNSS	DME/DME	NDB TAZ/DME TIV (or new VOR/DME – tbc)
	32				

6.3 En-route

Future en-route operations are planned as shown in the table below and will be enabled for use in the following way:

- The most operations will be performed within FRA environment;
- Extension of FRA laterally (through the involvement of additional countries in the SECSI FRA initiative) and vertically (below FL205 to the operationally required level) beyond 2030 should be expected and will subsequently affect ATS route network;
- Radar vectoring and DME/DME as a backup infrastructure will be provided;
- RNAV 5 ATS routes will be maintained in order to support operations in non-radar ATC units and to connect FRA and TMA.
- Contingency procedures/routes **shall not** be published in AIP because DME/DME back up infrastructure as well as radar vectoring will be provided; contingency measures will imply only flight to or from VOR(/DME) infrastructure;
- All contingency NAVAIDs shall be published with necessary information available within adequate AIP GEN or ENR sections.

Table 22 Future en-route operations

NAV application	Limits	NAV specification	NAV infrastructure	NAV back-up infrastructure	NAV contingency infrastructure
FRA*	*TBD*	RNAV 5	GNSS	DME/DMEs + Radar as required	Aerodrome VORs
ATS routes	*TBD*	RNAV 5			

* Out of the PBN IR scope regarding MNE.

6.4 NAVAID infrastructure

Necessary minimum operational network of conventional navigation aids within future operational environment framework is planned according to the table below.

Table 23 Future NAVAIDs minimum operational network

Location	Procedure	Current NAVAIDs network	Future NAVAIDs network		
		In ops	In ops	Contingency	Not in ops
LYPG / TMA Podgorica	IAPs	GP/LOC: YUI VOR/DME POD NDB (L) GO NDB POD NDB DAN	DME POD	GP/LOC YUI VOR POD	NDB (L) GO NDB POD NDB DAN
	SIDs and STARs	VOR/DME POD NDB POD NDB (L) GO NDB DAN NDB NIK NDB MOJ	DME/DME infrastructure backup: DME POD + additional, if required	VOR POD	NDB POD NDB (L) GO NDB DAN NDB NIK NDB MOJ
LYTV / TMA Tivat	IAPs	LOC TIV DME TIV NDB TAZ NDB RO VOR/DME POD	LOC TIV DME TIV	NDB TAZ (or a new VOR/DME at the same location - tbc)	NDB RO
	SIDs and STARs	NDB TAZ NDB RO NDB NIK DME TIV VOR/DME POD	DME/DME infrastructure backup: DME POD DME TIV + additional, if required	NDB TAZ (or a new VOR/DME at the same location - tbc)	NDB RO

En-route	ATS routes	Only as a backup: NDB MOJ NDB NIK NDB POD NDB TAZ VOR/DME POD	DME/DME infrastructure backup: DME POD DME TIV + additional, if required	VOR POD (+ new VOR/DME at the same location - tbc)	NDB MOJ NDB NIK NDB POD NDB TAZ
Total nb. of NAVAIDs		*CURRENT*	*FUTURE*		*TO BE WITHRAWN*
		GP/LOCs: 1 LOC/DME: 1 VORs: 1 DMEs: 1 NDBs: 6 Markers: 3 **TOTAL: 13**	GP/LOCs: 0 (1)[1] LOC/DME: 1 (0) VORs: 0 (1 or 2)[2] DMEs: 0 (1) NDBs: 1 or 0[3] Markers: 0 **TOTAL: 2 or 1 (2 or 3)**		GP/LOC: 0 LOC/DME: 0 VORs: 0 DMEs: 0 NDBs: 5 (or 6) Markers: 3 **TOTAL: 9 (or 10)**

[1] Contingency NAVAIDs shown in brackets.

[2,3] Only if a new VOR/DME is to be installed at a location of NDB TAZ

6.5 Surveillance and communication systems

TBD

7 DEFINITIONS

For the purposes of this document definitions from Article 2 of the PBN IR shall apply.

8 ACRONYMS AND ABBREVIATIONS

AIP	Aeronautical information publication
ALT	Altitude
ANS	Air navigation services
ANSP	Air navigation service provider
AoR	Area of responsibility
APCH	Approach
APV	Approach procedure with vertical guidance
ATC	Air traffic control
ATCC	Air traffic control centre
ATM	Air traffic management
ATS	Air traffic services
AUR	Airspace Usage Requirements
B-RNAV	Basic area navigation
CAT	Category
DCT	Direct
DME	Distance measuring equipment
EC	European Commission
ECAC	European common aviation area
EGNOS	European geostationary navigation overlay service
ESSP	European satellite service provider
EU	European Union
EWA	EGNOS working agreement
FIR	Flight information region
FL	Flight level
FRA	Free route airspace
GNSS	Global navigation satellite system
GAT	General air traffic
IAP	Instrument approach procedure
ICAO	International civil aviation organization
IFP	Instrument flight procedure
ILS	Instrument landing system
IR	Implementing rule

IRE	Instrument runway end
LNAV	Lateral navigation
LOC	Localizer
LPV	Localizer performance with vertical guidance
MNE	Montenegro
MNM	Minimum
NAV	Navigation
NAVAID	Navigation aid
NDB	Non-directional beacon
NETOPS	Network operations team
NPA	Non-precision approach
PA	Precision approach
PBN	Performance based navigation
PCP	Pilot common project
RF	Radius to fix
RNAV	Area navigation
RNP	Required navigation performance
RS	Republic of Serbia
RWY	Runway
SID	Standard instrument departure
STAR	Standard instrument arrival
TBD	To be defined
TMA	Terminal control area
UIR	Upper flight information region
VNAV	Vertical navigation
VOR	Very high frequency omnidirectional radio range

9 APPENDICES

No.	Appendix Title	No. of pages
1	PBN checklist of implementation	1
2	Detailed PBN implementation roadmap	1

APPENDIX 1 - PBN Checklist of implementation

Table 24 PBN Checklist of implementation

Regulatory requirement to be shown in Transition Plan		Compliance (Y/N)	Comment
A	AUR.PBN.2005 (1) RNP APCH at IRE without PA (or der. 2 or 3) by 03 DEC 2020	Y	Not implemented, planned to be implemented WEF 3 DEC 2020 at the latest - see Subsection 3.1 and Table 19
B	AUR.PBN.2005 (6) RNAV 5 at and above FL150 by 03 DEC 2020	Y	Implemented - see Subsection 3.3
C	AUR.PBN.2005 (1) RNP APCH at IRE having PA (or der. 2 or 3) by 25 JAN 2024	Y	Implemented - see Subsection 3.1
D	AUR.PBN.2005 (6) RNAV 5 below FL150 by 25 JAN 2024	Y	Implemented - see Subsection 3.3
E	AUR.PBN.2005 (4) RNAV 1 or RNP 1 (+) SID/STARs one per IRE by 25 JAN 2024 (or der. 5)	Y	Implemented - see Subsection 3.2
F	AUR.PBN.2005 (7) Helicopter RNP 0.3 SID/STAR – one per IRE by 25 JAN 2024	Y	Not implemented - see Subsection 3.4 (no requirements)
G	AUR.PBN.2005 (7) Helicopter RNP 0.3 ATS routes below FL150 by 25 JAN 2024	Y	Not implemented - see Subsection 3.4 (no requirements)
H	AUR.PBN.2005 (4) RNAV 1 or RNP 1 (+) for all SID/STARs by 06 JUN 2030	Y	Implemented - see Subsection 3.2
I	AUR.PBN.2005 (7) Helicopter RNP 0.3 for all SID/STAR by 06 JUN 2030	Y	Not implemented - see Subsection 3.4 (no requirements)
J	Transition Plan covering compliance criteria A & B	Y	All criteria A & B already fulfilled except for one IRE which is planned to be fulfilled before PBN IR start of application
K	Transition Plan covering compliance criteria C, D, E, F & G	Y	No need for transition plan because: - criteria C, D & E already fulfilled - no requirements for criteria F & G exist
L	Transition Plan covering compliance criteria H & I	Y	No need for transition plan because: - criteria H already fulfilled - no requirements for criteria I exist
M	Exclusive use of PBN	N	Planned - see Section 5
N1	Contingency Measures in accordance with Article 6 for each phase of Transition Plan	Y	Implemented for the current phase of the Transition Plan - see Subsection 3.5
N2	Retention of minimum operational network of conventional navigation aids and related surveillance and communication infrastructure as per Article 6	Y	Implemented for the current phase of the Transition Plan - see Subsection 3.5; Transition to the minimum operation network of conventional navigation aids (including withdrawal and rationalisation of conventional procedures) in line with criteria M is still to be done in accordance with Transition Plan defined in Section 5

APPENDIX 2 - Detailed PBN implementation roadmap

TBD

END OF THE DOCUMENT