



Proc. No.: FOD.F.226b  
 AMDT No. : 0  
 Issue Date: 23/02/2018

SAFETY REGULATION DIVISION

POLICY AND PROCEDURES

**Title: PBN Operations and Licensing Requirements - Declaration for AOC Holders**

**Responsibility:** Assistant Director, Flight Operations Department and Managers, Airline Standards and General Aviation Standards

**AOC HOLDER ORGANISATION:**

**ISSUE NUMBER** \_\_\_\_

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**Statement of compliance with:**

**COMMISSION REGULATION (EU) No 965/2012 (of 5 October 2012 laying down technical requirements and administrative procedures related to air operations pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council) as amended by COMMISSION REGULATIONS (EU) No. 800/2013, No. 71/2014, No. 83/2014, No 379/2014, 2015/140, 2015/640, 2015/1329, 2015/2338, 2016/1199 and 2017/363,**

**And**

**COMMISSION REGULATION (EU) No 1178/2011 (of 3 November 2011 laying down technical requirements and administrative procedures related to civil aviation aircrew pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council) as amended by COMMISSION REGULATIONS (EU) No. 290/2012, 70/2014, 245/2014, 2015/445 and 2016/539 as they relate to Performance Based Navigation.**

Signed: \_\_\_\_\_ Date \_\_\_\_\_

Signed: \_\_\_\_\_ Date \_\_\_\_\_

Signed: \_\_\_\_\_ Date \_\_\_\_\_

(To be signed by Accountable Manager, Nominated Person Flight Operations and Nominated Person Crew Training)

Title \_\_\_\_\_ For Organisation Name (Article 1, Article 5 and ORO.GEN.005 refer) \_\_\_\_\_

**Notes:**

This Declaration relates only to the implementation of PBN operations as amended in CR (EU) 2016/539 and CR (EU) 2016/1199, Compliance with CR (EU) 2016/539 is required by 25th Aug 2018.

**AMC illustrate a means to comply with the rule, but not the only means: they are non-binding. If you propose to use alternative means to comply with the rule, you will need to demonstrate compliance with the rule to your competent authority. The burden of proof of compliance rests fully with the Organisation.**



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**Changes introduced by CR (EU) 2016/539**

**Modified AMC & GM by EASA Decision 2016/008/R**

**Regulation**

Article 4a	PBN IR privileges	• Pilot needs to undertake TK (FCL.615) + Training (FCL.615) + skill test (appendix 7) or proficiency check (Appendix 9)• IR pilots without PBN may only fly on non-PBN routes and APCHs. No PBN items shall be required for the renewal of their IR, until 25 August 2020; after that date, PBN privileges shall be required for every IR.'					
Article 10a	ATOs	ATOs to introduce PBN privileges to IR courses compliant with Annex I (Part-FCL) by 25 August 2020 at the latest.	For Information				

**Annex I - Part FCL**

FCL.010	Definitions	Angular & linear operation, LNAV, LPV, PBN, RNP APCH, RNP APCH to LNAV – LNAV/VNAV –LPV, RNP AR APCH, 3D and 2D instrument approach operations and VNAV	For Information		GM2 FCL.010 Definitions	Lateral and vertical navigation guidance	It refers to the guidance provided either by: • a ground-based radio navigation aid; or • computer-generated navigation data from ground-based, space- based, self-contained navigation aids or a combination of these.'
FCL.600.IR	IR - General	"an IR appropriate to the category of aircraft" replaced by "an IR with privileges appropriate to the applicable airspace requirements"	For Information				



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FCL.605.IR	IR - Privileges	The privileges of a holder of an IR are to fly aircraft under IFR, including PBN operations, with a minimum decision height of no less than 200 feet (60 m)	For Information				
FCL.615.IR					AMC7 FCL.615(b) IR	IR Theoretical knowledge and flight instruction: PBN LOs	<ul style="list-style-type: none"> <li>Delete '062 05 01', '062 05 02', '062 05 03',": AREA NAVIGATION SYSTEMS AND RNAV OR FMS and</li> <li>Insert '062 07 00 00' "PBN" when applicable</li> </ul>
Appendix 7 - IR skill test. Point 1		An applicant for an IR shall have received instruction on the same class or type of aircraft to be used in the test which shall be appropriately equipped for the training and testing purposes					
<ul style="list-style-type: none"> <li>Appendix 7 - IR skill test Point 11</li> <li>Appendix 9 -Training Section B Point 4 and Section C Point 4a</li> </ul>	PA replaced by "Angular deviations"	Half scale deflection, azimuth and glide path (e.g. LPV, ILS, MLS, GLS)					
	2D (LNAV) and 3D (LNAV/VNAV) "linear" lateral deviations	Cross-track error limited to $\pm \frac{1}{2}$ the RNP value.					



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	3D linear vertical deviations (e.g. RNP APCH (LNAV/VNAV) using BaroVNAV)	< 75 feet below the vertical profile at any time, < + 75 feet above the vertical profile at or below 1 000 feet above aerodrome level.					
Appendix 7 - IR skill test. Content of test	SECTION 1 - PRE-FLIGHT	d) Identification of required navaids for departure, arrival and approach procedures h) PBN departure (if applicable): -Check correct procedure loaded in the navigation system; - Cross-check navigation system display and the departure chart. k) Instrument departure procedures, including PBN departures, and altimeter setting					
	SECTION 3a - ARRIVAL PROCEDURES	<ul style="list-style-type: none"> <li>• Setting and checking of navigational aids</li> <li>• Arrival procedures, altimeter checks</li> <li>• Altitude and speed constraints</li> <li>• PBN arrival (if applicable):</li> <li>• Check correct procedure loaded in the navigation system;</li> <li>• Cross-check navigation system display and the arrival chart.</li> </ul>					
	SECTION 4 - 3D OPERATIONS(++)	a) Setting and checking navigational aids. Check Vertical Path angle For RNP APCH: <ul style="list-style-type: none"> <li>• Check correct procedure loaded in the navigation system;</li> <li>• Cross-check navigation system display and the approach chart.</li> </ul>					



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Item / Req.	Title	Summary	Operator's Manual Ref:	Compliant Yes/No	Item / Req.	Title	Summary
	SECTION 5 - 2D OPERATIONS(++)	a) Setting and checking of navigational aids For RNP APCH: • Check correct procedure loaded in the navigation system; • Cross-check the navigation system display and the approach chart. f) Altitude/Distance to MAPT, speed, heading control (stabilised approach), Stop Down Fixes (SDF(s)), if applicable					
	Notes (++)	To establish or maintain PBN privileges one approach in either Section 4 or Section 5 shall be an RNP APCH. Where an RNP APCH is not practicable, it shall be performed in an appropriately equipped FSTD.					
Appendix 8 - Cross-crediting	Footnote to Table in Section A: Revalidating IR privileges: planes	'Provided that within the preceding 12 months the applicant has flown at least three IFR departures and approaches exercising PBN privileges, including one RNP APCH approach ...',					
Appendix 9 - Training	Point 5 (Single-pilot) and 6 (Multi-pilot) of Section B	'(h/j) To establish or maintain PBN privileges one approach shall be an RNP APCH. Where an RNP APCH is not practicable, it shall be performed in an appropriately equipped FSTD.'					
Appendix 9 - Training	point 5 (Single-pilot) of Section B	• 3.B.5* "Non-Precision Approach" replaced by "2D operations" • "P" = Trained as PIC or Co-pilot and as Pilot Flying (PF) and Pilot Not Flying (PNF) moved from FTD to FFS.					



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	<ul style="list-style-type: none"> <li>•Point 6 (Multi- pilot) of Section B Row 3.9.3</li> <li>•Point 12 of Section C (helicopter) row 5.4.2</li> </ul>	Note: "According to the AFM, RNP APCH procedures may require the use of autopilot or Flight director. The procedure to be flown manually shall be chosen taking into account such limitations (for example, choose an ILS for 3.9.3.1 in case of such AFM limitation)."					
Appendix 9 - Training	<ul style="list-style-type: none"> <li>•Point 6 (Multi- pilot) of Section B Row 3.9.3.4</li> <li>•Point 12 of Section C row 5.4.4</li> </ul>	"outer marker (OM)" replaced by "1 000 feet above aerodrome level"					
Appendix 9 - Training	Point 6 (Multi- pilot) of Section B Row 5.1	"also after an ILS approach with transition to visual flight" replaced by "on with visual reference established when" ... "DH" replaced by "DA/H following an instrument approach operation"					
Appendix 9 - Training	Point 12 of Section C row 5.4.2	Manually, with or without Flight Director					
					AMC2 ARA.FCL.300(b)	Examination procedures. Subject 062 table	5 new PBN questions are added (062 07). The number of "Area Navigation Systems and RNAV or FMS" (062 05) questions is reduced by 5 to maintain the total number.

**Annex VII - Part ORA**



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ORA.ATO.135	Annex VII, point (a)	a) The ATO shall use an adequate fleet of training aircraft or FSTDs appropriately equipped for the training courses provided					
<b>Changes introduced by CR (EU) 2016/1199</b>					<b>Modified AMC &amp; GM by EASA Decision 2016/014-021/R</b>		
<b>Annex I - Definitions</b>							
103a	RNP term introduced		For Information		GM1 Annex I	New definitions	Accuracy, ABAS, RNAV, Availability, Continuity of function, Integrity, Lateral navigation, RAIM, SBAS (EGNOS) and Vertical navigation
<b>Annex III - Part ORO</b>							
ORO.GEN.160					AMC2 ORO.GEN.160	Occurrence reporting	REPORTABLE EVENTS OF PBN OPERATIONS
ORO.FC.230					AMC1 ORO.FC.230	Recurrent training and checking	<ul style="list-style-type: none"> <li>• "precision instrument approach" and "non-precision approach" replaced by "3D approach operation" and "2D approach operation"</li> <li>• New: "at least one of the 3D or 2D approach operations should be an RNP APCH or RNP AR APCH operation;"</li> </ul>
<b>Annex IV - Part CAT</b>							



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CAT.OP.MPA.126	Performance- based navigation	Operator shall ensure that relevant PBN navigation specification is stated in the AFM and the aircraft is operated according to it.			• AMC1 CAT.OP.MPA.126	PBN OPERATIONS	For PBN operations not included in SPA, the operator should establish operating procedures (normal, abnormal, contingency, database management, MEL entries), specify flight crew qualification and training, ensure continued airworthiness.
					• AMC2 CAT.OP.MPA.126	MONITORING AND VERIFICATION	<ul style="list-style-type: none"> <li>• Pre-flight and general considerations</li> <li>• Departure</li> <li>• Arrival and approach</li> <li>• Altimetry settings (Baro VNAV)</li> <li>• Sensor and lateral navigation accuracy selection</li> </ul>
					• AMC3 CAT.OP.MPA.126	MANAGEMENT OF THE NAVIGATION DATABASE	flight crew should neither insert nor modify waypoints by manual entry into a procedure been retrieved from the database





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					• AMC4 CAT.OP.MPA.126	DISPLAYS AND AUTOMATION	<ul style="list-style-type: none"> <li>• Use a lateral deviation indicator, FD or Autopilot in lateral navigation.</li> <li>• Monitor desired path, a/c position relative to lateral and vertical paths.</li> <li>• Suitable full-scale deflection</li> <li>• Keep deviations within 1/2 time RNAV/RNP value</li> <li>• Vertical deviation indicator, FD or Autopilot for 3D</li> <li>• Below vertical path deviation within 75ft or half scale deflection for angular</li> </ul>
					• AMC5 CAT.OP.MPA.126	VECTORIZING AND POSITIONING	In complying with ATC instructions, the flight crew should be aware of the implications for the navigation system when executing radar headings, "direct- to", initial or intermediate fixes interceptions. Some of these operations have special conditions (see AMC for more details)



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					• AMC6 CAT.OP.MPA.126	ALERTING AND ABORT	Discontinue RNP APCH if navigation system failure, excessive lateral/vertical deviation, loss of on-board monitoring and alerting. LNAV is acceptable if vertical guidance is lost with aircraft above 1,00ft AGL.
					• AMC7 CAT.OP.MPA.126	CONTINGENCY PROCEDURES	RNP X and RNAV X designations
CAT.OP.MPA.135(a)(1)	Routes and areas of operation.	Operator shall ensure that space-based facilities are adequate for the planned operation.			AMC1 CAT.OP.MPA.135	RNAV 10	N/A
CAT.OP.MPA.175 (b)	Flight Preparation						
CAT.OP.MPA.175(b)(7)	Flight Preparation	"any navigational database required for performance- based navigation is suitable and current"			• AMC1 CAT.OP.MPA.175	FLIGHT PREPARATION FOR PBN OPERATIONS	<ul style="list-style-type: none"> <li>• RNP APCH procedures selectable from the navigation database and are not prohibited by NOTAM.</li> <li>• If RAIM is required for integrity, its availability should be verified during the pre-flight</li> </ul>
					• AMC2 CAT.OP.MPA.175	DATABASE SUITABILITY	<ul style="list-style-type: none"> <li>• database required for PBN operations includes the routes and procedures required for the flight</li> <li>• database validity (current AIRAC cycle)</li> </ul>



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CAT.OP.MPA.182	Destination aerodromes - instrument approach operations	sufficient means are available to navigate and land at the destination or at any alternate aerodrome in the case of loss of capability			• AMC1 CAT.OP.MPA.182	PBN OPERATIONS	The pilot-in-command should only select an aerodrome as a destination alternate aerodrome if an instrument approach procedure that does not rely on GNSS is available either at that aerodrome or at the destination aerodrome.



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					• GM1 CAT.OP.MPA.182	INTENT OF AMC1	(a) The limitation applies only to destination alternate aerodromes for flights when a destination alternate aerodrome is required. A take-off or en route alternate aerodrome with instrument approach procedures relying on GNSS may be planned without restrictions. A destination aerodrome with all instrument approach procedures relying solely on GNSS may be used without a destination alternate aerodrome if the conditions for a flight without a destination alternate aerodrome are met. (b) The term 'available' means that the procedure can be used in the planning stage and complies with planning minima requirements.



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CAT.IDE.A.345 CAT.IDE.H.345	Communication and navigation equipment for operations under IFR or under VFR over routes not navigated by reference to	For PBN operations the aircraft shall meet the airworthiness certification requirements for the appropriate navigation specification			• GM2 CAT.IDE.A.345 • GM2 CAT.IDE.H.345	AIRCRAFT ELIGIBILITY FOR PBN SPECIFICATION NOT REQUIRING SPECIFIC APPROVAL	Appropriate references in AFM or other applicable documents (FCOM, TC, STC, AMC, AC, etc).  LPV: AMC 20-28; FAA AC 20-138 and FAA AC 90-107 For aircraft that have a TAWS Class A installed and do not provide Mode-5 protection on an LPV approach, the DH is limited to 250ft
					• GM3 CAT.IDE.A.345 • GM3 CAT.IDE.H.345 • GM2 NCC.IDE.A.250 • GM2 NCC.IDE.H.250 • GM2 NCO.IDE.A.195 • GM3 NCO.IDE.H.195 • GM2 SPO.IDE.A.220 • GM2 SPO.IDE.H.220	GENERAL	Aircraft approved for one RNP or RNAV specification is not automatically approved for others.
CAT.IDE.A.355 CAT.IDE.H.355	Management of aeronautical databases	Databases shall be adequate and meet quality requirements. Operator shall ensure timely distribution and report occurrences.					



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**ATO:**

1. For guidance on pilot knowledge and training, the ATO should refer to EASA Learning Objectives (AMC7 FCL.615(b)). Also, ICAO Doc 9613 provides additional guidance.
2. All ATOs conducting training for the IR must ensure that the IR training courses they offer are compliant with the requirements of Annex I (Part-FCL) if the courses are due to complete on or after 25 August 2020.
3. The Head of Training (HT) at the ATO is responsible for ensuring that all their instructors are trained and hold the PBN endorsement on their licenses before they provide PBN instruction.

**AOC:**

1. All AOC holders should ensure that pilots joining them have received the appropriate PBN training and checking in accordance with their specific operations.
2. All AOC holders who conduct PBN operations should ensure that their Recurrent Training Syllabus includes a check of competency during the Operators Proficiency Check (OPC). Refer AMC1 ORO.FC.230(b)(1).
3. Refer to Personnel Licensing Licence Skill Test (LST) and Licence Proficiency Check (LPC) forms as published on the IAA website.
4. Operators must make sure that all training is conducted at an ATO that holds appropriate approval for PBN training.