Annex I — Amendments to Commission Regulation (EU) No 1178/2011

1. In Annex I, the following definitions are inserted in paragraph FCL.010:

‘‘Angular operation’ means an instrument approach operation in which the maximum tolerable error/deviation from the planned track is expressed in terms of deflection of the needles on the Course Deviation Indicator (CDI) or equivalent display in the cockpit.

‘Linear operation’ means an instrument approach operation in which the maximum tolerable error/deviation from the planned track is expressed in units of length, for instance nautical miles, for cross-track lateral deviation.

‘LNAV’ means Lateral Navigation; see RNP APCH definition.

‘LPV’ means Localiser Performance with Vertical Guidance; see RNP APCH definition.

‘Performance-Based Navigation (PBN)’ means area navigation based on performance requirements for aircraft operating along an ATS route, on an instrument approach procedure or in a designated airspace.

‘RNP APCH’ is a PBN specification used for instrument approach operations.

‘RNP APCH operation down to LNAV minima’ is a 2D instrument approach operation for which the lateral guidance is based on GNSS positioning.

‘RNP APCH operation down to LNAV/VNAV minima’ is a 3D instrument approach operation for which the lateral guidance is based on GNSS positioning and the vertical guidance is provided either by the Baro VNAV function or by the GNSS positioning including SBAS.

‘RNP APCH operation down to LPV minima’ is a 3D instrument approach operation for which both lateral and vertical guidance are based on GNSS positioning including SBAS.

‘RNP AR APCH’ is a navigation specification used for instrument approach operations requiring a specific approval.

‘Three-dimensional (3D) instrument approach operation’ means an instrument approach operation using both lateral and vertical navigation guidance.

‘Two-dimensional (2D) instrument approach operation’ means an instrument approach operation using lateral navigation guidance only.

‘VNAV’ means Vertical Navigation; see RNP APCH definition.’.

2. In Annex I, point (a) of paragraph FCL.605 is replaced by the following:

‘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);’.

3. In Annex I, point (a) of paragraph FCL.700 is replaced by the following:

(a) Holders of a pilot licence shall not act in any capacity as pilots of an aircraft unless they have a valid and appropriate class or type rating except:

(i) for LAPL, SPL and BPL; or

(ii) when undergoing skill tests, or proficiency checks for renewal of class or type ratings; or

(iii) when receiving flight instruction; or

(iv) when they hold a flight test rating issued in accordance with FCL.820.

4. In Annex I, point (c) of paragraph FCL.700 is deleted.

5. In Annex I, point (c)(3) of paragraph FCL.820 is replaced by the following:

(3) to conduct flights without a type or class rating as defined in Subpart H, except that the flight test rating shall not be used for commercial air transport operations.

6. In Annex I, the initial block in paragraph (11) of Appendix 7 is replaced by the following:

‘(11) The following limits shall apply, corrected to make allowance for turbulent conditions and the handling qualities and performance of the aircraft used:

Height		
	Generally	± 100 feet
	Starting a go-around at decision height/altitude	+ 50 feet/– 0 feet
	Minimum descent height/MAP/altitude	+ 50 feet/– 0 feet
Tracking		
	On radio aids	± 5°
	For 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/deviation shall normally be limited to ± ½ the RNP value associated with the procedure. Brief deviations from this standard up to a maximum of 1 time the RNP value are allowable.
	3D linear vertical deviations (e.g. RNP APCH (LNAV/VNAV) using BaroVNAV)	not more than –75 ft below the vertical profile at any time, and not more than +75 ft above the vertical profile at or below 1 000 ft above aerodrome level.
Heading		
	all engines operating	± 5°
	with simulated engine failure	± 10°
Speed		

all engines operating	± 5 knots
with simulated engine failure	+ 10 knots/– 5 knots

7. In Annex I, Section 1 of the 'CONTENT OF THE TEST — **Aeroplanes**' in paragraph (11) of Appendix 7 is replaced by the following:

'CONTENT OF THE TEST

Aeroplanes

SECTION 1 — PRE-FLIGHT OPERATIONS AND DEPARTURE Use of checklist, airmanship, anti-icing/de-icing procedures, etc., apply in all sections	
a	Use of flight manual (or equivalent) especially a/c performance calculation, mass and balance
b	Use of Air Traffic Services document, weather document
c	Preparation of ATC flight plan, IFR flight plan/log
d	Identification of the required navaids for departure, arrival and approach procedures
e	Pre-flight inspection
f	Weather Minima
g	Taxiing
h	PBN departure (if applicable): — Check that the correct procedure has been loaded in the navigation system; and — Cross-check between the navigation system display and the departure chart.
i	Pre-take-off briefing, Take-off
j (°)	Transition to instrument flight
k (°)	Instrument departure procedures, including PBN departures, and altimeter setting
l (°)	ATC liaison — compliance, R/T procedures

(°) Must be performed by sole reference to instruments.

8. In Annex I, rows a and b of Section 3 (En-Route IFR procedures) of the 'CONTENT OF THE TEST — **Aeroplanes**' in paragraph (11) of Appendix 7 are replaced by the following:

a	Tracking, including interception, e.g. NDB, VOR, or track between waypoints
b	Use of navigation system and radio aids

9. In Annex I, a new Section 3a is inserted in the 'CONTENT OF THE TEST — **Aeroplanes**' in paragraph (11) of Appendix 7, as follows:

SECTION 3a — ARRIVAL PROCEDURES	
a	Setting and checking of navigational aids, if applicable
b	Arrival procedures, altimeter checks
c	Altitude and speed constraints, if applicable
d	PBN arrival (if applicable): — Check that the correct procedure has been loaded in the navigation system; and — Cross-check between the navigation system display and the arrival chart.

10. In Annex I, Section 4 of the 'CONTENT OF THE TEST — **Aeroplanes'** in paragraph (11) of Appendix 7, is replaced by the following:

SECTION 4 (°) — 3D OPERATIONS ($^{++}$)	
a	Setting and checking of navigational aids Check Vertical Path angle For RNP APCH: — Check that the correct procedure has been loaded in the navigation system; and — Cross-check between the navigation system display and the approach chart.
b	Approach and landing briefing, including descent/approach/landing checks, including identification of facilities
c ($^{+}$)	Holding procedure
d	Compliance with published approach procedure
e	Approach timing
f	Altitude, speed heading control (stabilised approach)
g ($^{+}$)	Go-around action
h ($^{+}$)	Missed approach procedure/landing
i	ATC liaison — compliance, R/T procedures

($^{+}$) May be performed in either Section 5 or Section 6.
(°) Must be performed by sole reference to instruments.
($^{++}$) One approach in either Section 5 or Section 6 shall be an RNP APCH. Where an RNP APCH is not practicable, it shall be performed in an appropriately equipped FSTD.

11. In Annex I, Section 5 of the 'CONTENT OF THE TEST — **Aeroplanes**' in paragraph (11) of Appendix 7, is replaced by the following:

SECTION 5 (°) — 2D OPERATIONS ($^{++}$)	
a	Setting and checking of navigational aids For RNP APCH: — Check that the correct procedure has been loaded in the navigation system; and — Cross-check between the navigation system display and the approach chart.
b	Approach and landing briefing, including descent/approach/landing checks, including identification of facilities
c ($^{+}$)	Holding procedure
d	Compliance with published approach procedure
e	Approach timing
f	Altitude/Distance to MAPT, speed, heading control (stabilised approach), Stop Down Fixes (SDF(s)), if applicable
g ($^{+}$)	Go-around action
h (+)	Missed approach procedure/landing
i	ATC liaison — compliance, R/T procedures

($^{+}$) May be performed in either Section 5 or Section 6.
(°) Must be performed by sole reference to instruments.
($^{++}$) One approach in either Section 5 or Section 6 shall be an RNP APCH. Where an RNP APCH is not practicable, it shall be performed in an appropriately equipped FSTD.

12. In Annex I, Section 1 of the 'CONTENT OF THE TEST — **Helicopters'** in paragraph (11) of Appendix 7, is replaced by the following:

'Helicopters

SECTION 1 — DEPARTURE Use of checklist, airmanship, anti-icing/de-icing procedures, etc., apply in all sections	
a	Use of flight manual (or equivalent) especially aircraft performance calculation; mass and balance
b	Use of Air Traffic Services document, weather document
c	Preparation of ATC flight plan, IFR flight plan/log
d	Identification of the required navaids for departure, arrival and approach procedures
e	Pre-flight inspection

f	Weather minima
g	Taxiing/Air taxi in compliance with ATC or instructions of instructor
h	PBN departure (if applicable): — Check that the correct procedure has been loaded in the navigation system; and — Cross-check between the navigation system display and the departure chart.
i	Pre-take-off briefing, procedures and checks
j	Transition to instrument flight
k	Instrument departure procedures, including PBN procedures

13. In Annex I, a new Section 3a is inserted in the 'CONTENT OF THE TEST — **Helicopters**' in paragraph (11) of Appendix 7, as follows:

SECTION 3a — ARRIVAL PROCEDURES	
a	Setting and checking of navigational aids, if applicable
b	Arrival procedures, altimeter checks
c	Altitude and speed constraints, if applicable
d	PBN arrival (if applicable) — Check that the correct procedure has been loaded in the navigation system; and — Cross-check between the navigation system display and the arrival chart.

14. In Annex I, Section 4 of the 'CONTENT OF THE TEST — **Helicopters'** in paragraph (11) of Appendix 7, is replaced as follows:

SECTION 4 — 3D OPERATIONS (+)	
a	Setting and checking of navigational aids Check Vertical Path angle For RNP APCH: — Check that the correct procedure has been loaded in the navigation system; and — Cross-check between the navigation system display and the approach chart.
b	Approach and landing briefing, including descent/approach/landing checks
c (*)	Holding procedure
d	Compliance with published approach procedure
e	Approach timing

f	Altitude, speed, heading control (stabilised approach)
g (*)	Go-around action
h (*)	Missed approach procedure/landing
i	ATC liaison — compliance, R/T procedures
(*) To be performed in Section 4 or Section 5. (+) 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.	

15. In Annex I, Section 5 of the 'CONTENT OF THE TEST — **Helicopters**' in paragraph (11) of Appendix 7, is replaced as follows:

SECTION 5 — 2D OPERATIONS (+)	
a	Setting and checking of navigational aids For RNP APCH: — Check that the correct procedure has been loaded in the navigation system; and — Cross-check between the navigation system display and the approach chart.
b	Approach and landing briefing, including descent/approach/landing checks and identification of facilities
c (*)	Holding procedure
d	Compliance with published approach procedure
e	Approach timing
f	Altitude, speed, heading control (stabilised approach)
g (*)	Go-around action
h (*)	Missed approach procedure (*)/landing
i	ATC liaison — compliance, R/T procedures
(*) To be performed in Section 4 or Section 5. (+) 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 FSTD5.	

16. In Annex I, Section 6 of the 'CONTENT OF THE TEST — **Helicopters**' in paragraph (11) of Appendix 7, is replaced as follows:

SECTION 6 — ABNORMAL AND EMERGENCY PROCEDURES This section may be combined with sections 1 through 5. The test shall have regard to control of the helicopter, identification of the failed engine, immediate actions (touch drills), follow-up actions and checks and flying accuracy, in the following situations:	
a	Simulated engine failure after take-off and on/during approach (*) (at a safe altitude unless carried out in an FFS or FNPT II/III, FTD 2,3) (*) Multi-engine helicopter only.
b	Failure of stability augmentation devices/hydraulic system (if applicable)
c	Limited panel
d	Autorotation and recovery to a pre-set altitude
e	3D operations manually without flight director (*) 3D operations manually with flight director (*) (*) Only one item to be tested.

17. In Annex I, the footnote to the table in Section A. (**Aeroplanes**) of Appendix 8 is replaced by the following:

'* Provided that within the preceding 12 months the applicant has flown at least three IFR departures and approaches including one RNP APCH approach on an SP class or type of aeroplane in single pilot operations, or, for multi-engine non-high performance non-complex aeroplanes, the applicant has passed section 6 of the skill test for single-pilot non-high performance non-complex aeroplanes flown solely by reference to instruments in single-pilot operation.'.

18. In Annex I, the footnote to the table in Section B. (**Helicopters**) of Appendix 8 is replaced by the following:

'* Provided that within the preceding 12 months at least 3 IFR departures and approaches including one RNP APCH approach (could be a Point in Space (PinS) approach) have been performed on an SP type of helicopter in an SP operation.'.

19. In Annex I, paragraph 4 of Section B. (**Specific requirements for the aeroplane category**) of Appendix 9 is replaced by the following:

'The following limits shall apply, corrected to make allowance for turbulent conditions and the handling qualities and performance of the aeroplane used:

Height

Generally	±100 feet
Starting a go-around at decision height	+ 50 feet/-0 feet
Minimum descent height/altitude	+ 50 feet/-0 feet

Tracking	
on radio aids	± 5°
For ‘angular’ deviations	half scale deflection, azimuth and glide path (e.g. LPV, ILS, MLS, GLS).
2D (LNAV) and 3D (LNAV/VNAV) ‘linear” deviations	Cross track error/deviation shall normally be limited to ± ½ the RNP value associated with the procedure. Brief deviations from this standard up to a maximum of 1 time the RNP value are allowable.
3D linear vertical deviations (e.g. RNP APCH (LNAV/VNAV) using BaroVNAV)	not more than –75 ft below the vertical profile at any time, and not more than +75 ft above the vertical profile at or below 1 000 ft above aerodrome level.
Heading	
all engines operating	± 5°
with simulated engine failure	± 10°
Speed	
all engines operating	± 5 knots
with simulated engine failure	+10 knots/-5 knots’

20. In Annex I, rows 3B.4 and 3B.5 in the table in paragraph 5 of Section 3B. (**Specific requirements for the aeroplane category**) of Appendix 9 are replaced by the following:

SINGLE-PILOT AEROPLANES, EXCEPT FOR HIGH PERFORMANCE COMPLEX AEROPLANES	PRACTICAL TRAINING				CLASS OR TYPE RATING SKILL TEST/PROF. CHECK	
Manoeuvres/Procedures	FTD	FFS	A	Instructor initials when training completed	Chkd in FFS A	Examiner initials when test completed
3B.4* 3D operations to DH/A of 200 ft (60 m) or to higher minima if required by the approach procedure (autopilot may be used to the final approach segment vertical path intercept)		P--->	---->		M	
3B.5* 2D operations to MDH/A		P--->	---->		M	

21. In Annex I, row 3.9.3 in Section 3 of the table in Paragraph 6 of Section B. (**Specific requirements for the aeroplane category**) of Appendix 9 is replaced by the following and a note is added under it:

3.9.3* 3D operations to DH/A of 200 ft (60 m) or to higher minima if required by the approach procedure							

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).

22. In Annex I, 'the outer marker (OM)' in row 3.9.3.4 in Section 3 of the table in paragraph 6 of Section B. (**Specific requirements for the aeroplane category**) of Appendix 9 is replaced by '1 000 ft above aerodrome level'.

23. In Annex I, 'Non-precision approach' in row 3.9.4 in Section 3 of the table in paragraph 6 of Section B. (**Specific requirements for the aeroplane category**) of Appendix 9 is replaced by '2D operations'.

24. In Annex I, ‘after an ILS approach’ in row 4.1 in Section 4 of the table in paragraph 6 of Section B. (**Specific requirements for the aeroplane category**) of Appendix 9 is replaced by ‘during a 3D operation’.

25. In Annex I, ‘also after an ILS approach with transition to visual flight on reaching DH’ in row 5.1 in section 5 of the table in paragraph 6 of Section B. (**Specific requirements for the aeroplane category**) of Appendix 9 is replaced by ‘with visual reference established when reaching DA/H following an instrument approach operation’.

26. In Annex I, ‘ILS’ in row 6.2 in Section 6 of the table in paragraph 6 of Section B. (**Specific requirements for the aeroplane category**) in Appendix 9 is replaced by ‘CAT II/III’.

27. In Annex I, paragraph 4(a) in Section C. (**Specific requirements for the helicopter category**) in Appendix 9 is replaced by the following:

‘(a) IFR flight limits

Height:		
	Generally	±100 feet
	Starting a go-around at decision height/altitude	+5 feet/-0 feet
	Minimum descent height/altitude	+50 feet/-0 feet
Tracking:		
	On radio aids	±5°
	3D ‘angular’ deviations	half scale deflection, azimuth and glide path (e.g. LPV, ILS, MLS, GLS).
	2D (LNAV) and 3D (LNAV/VNAV) ‘linear’ deviation:	cross track error/deviation shall normally be limited to ± ½ the RNP value associated with the procedure. Brief deviations from this standard up to a maximum of 1 times the RNP value are allowable.
	3D linear vertical deviations (e.g. RNP APCH (LNAV/VNAV) using BaroVNAV):	not more than –75 ft below the vertical profile at any time, and not more than +75 ft above the vertical profile at or below 1 000 ft above aerodrome level.
Heading:		
	Normal operations	± 5°
	Abnormal operations/emergencies	± 10°
Speed:		

Generally	± 10 knots
With simulated engine failure	+ 10 knots/– 5 knots’

28. In Annex I, ‘ILS approaches down to CAT I decision height’ in row 5.4 in Section 5 of the table in paragraph 12 of Section B. (**Specific requirements for the aeroplane category**) in Appendix 9 is replaced by ‘3D operations to DH/A of 200 ft (60 m) or to higher minima if required by the approach procedure’.

29. In Annex I, a note is added to row 5.4.1 in Section 5 of the table in paragraph 12 of Section B. (**Specific requirements for the aeroplane category**) of Appendix 9 as follows:

‘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 taken into account such limitations (example choose an ILS for 5.4.1 in case of such AFM limitation).’.

30. In Annex I, ‘Precision approach manually, with or without flight director’ in row 5.4.2 in Section 5 of the table in paragraph 12 of Section B. (**Specific requirements for the aeroplane category**) of Appendix 9 is replaced by ‘Manually, with Flight Director’.

31. In Annex I, ‘passing the outer marker (OM)’ in row 5.4.4 in Section 5 of the table in paragraph 12 of Section B. (**Specific requirements for the aeroplane category**) in Appendix 9 is replaced by ‘passing 1 000 ft above aerodrome level’.

32. In Annex I, ‘Non precision approach’ in row 5.5 in Section 5 of the table in paragraph 12 of Section B. (**Specific requirements for the aeroplane category**) of Appendix 9 is replaced by ‘2D operations’.

33. In Annex VII, point (a) in paragraph ORA.ATO.135 is replaced by the following:

‘(a) The ATO shall use an adequate fleet of training aircraft or FSTDs appropriate to the courses of training provided. For IR training, aircraft or FSTDs shall be equipped for PBN training.’.

Annex II — Amendments to Commission Regulation (EU) No 965/2012

1. In Annex I, the following definition is inserted:

   ‘‘Required navigation performance (RNP) specification’ means a navigation specification for PBN operations which includes a requirement for on-board navigation performance monitoring and alerting.’.

2. In Annex II (Part-ARO), the table (EASA FORM 139) in Appendix II is replaced by the following:

‘Appendix II

OPERATIONS SPECIFICATIONS **(subject to the approved conditions in the operations manual)**				
Issuing Authority Contact Details Telephone[1]: _____; Fax: _____; E-mail: _____				
AOC[2]: Operator Name[3]: Date[4]: Signature: Dba Trading Name Operations Specifications#:				
Aircraft Model[5]: Registration Marks[6]:				
Commercial operations ☐				
Area of operation[7]:				
Special Limitations[8]:				
Specific Approvals:	Yes	No	Specification[9]	Remarks
Dangerous Goods	☐	☐		
Low Visibility Operations Take-off Approach and Landing	☐	☐	RVR[11]: m CAT[10].... RVR: m DH: ft	
RVSM[12] ☐ N/A	☐	☐		
ETOPS[13] ☐ N/A	☐	☐	Maximum Diversion Time[14]: min.	
Complex navigation specifications for PBN operations[15]	☐	☐		[16]
Minimum navigation performance specification	☐	☐		
Helicopter operations with the aid of night vision imaging systems	☐	☐		
Helicopter hoist operations	☐			
Helicopter emergency medical service operations	☐	☐		
Cabin crew training[17]	☐	☐		
Issue of CC attestation[18]	☐	☐		
Continuing airworthiness	☐	☐	[19]	
Others[20]				

1. Telephone and fax contact details of the competent authority, including the country code. E-mail to be provided if available.
2. Insertion of associated air operator certificate (AOC) number.
3. Insertion of the operator's registered name and the operator's trading name, if different. Insert 'Dba' before the trading name (for 'Doing business as').
4. Issue date of the operations specifications (dd-mm-yyyy) and signature of the competent authority representative.
5 Insertion of ICAO designation of the aircraft make, model and series, or master series, if a series has been designated (e.g. Boeing-737-3K2 or Boeing-777-232).
6. Either the registration marks are listed in the operations specifications or in the operations manual. In the latter case, the related operations specifications must make a reference to the related page in the operation manual. In case not all specific approvals apply to the aircraft model, the registration marks of the aircraft could be entered in the remark column to the related specific approval.
7. Listing of geographical area(s) of authorised operation (by geographical coordinates or specific routes, flight information region or national or regional boundaries).
8. Listing of applicable special limitations (e.g. VFR only, Day only, etc.).
9. List in this column the most permissive criteria for each approval or the approval type (with appropriate criteria).
10. Insertion of applicable precision approach category: LTS CAT I, CAT II, OTS CAT II, CAT IIIA, CAT IIIB or CAT IIIC. Insertion of minimum runway visual range (RVR) in meters and decision height (DH) in feet. One line is used per listed approach category.
11. Insertion of approved minimum take-off RVR in metres. One line per approval may be used if different approvals are granted.
12. Not Applicable (N/A) box may be checked only if the aircraft maximum ceiling is below FL290.
13. Extended range operations (ETOPS) currently applies only to two-engined aircraft. Therefore, the Not Applicable (N/A) box may be checked if the aircraft model has more or less than two engines.
14. The threshold distance may also be listed (in NM), as well as the engine type.
15. Performance-Based Navigation (PBN): one line is used for each complex PBN specific approval (e.g. RNP AR APCH), with appropriate limitations listed in the 'Specifications' and/or 'Remarks' columns. Individual approvals of specific RNP AR APCH procedures may be listed in the operations specifications or in the operations manual. In the latter case, the related operations specifications should have a reference to the related page in the operations manual.
16. Specify if the specific approval is limited to certain runway ends and/or aerodromes.
17. Approval to conduct the training course and examination to be completed by applicants for a cabin crew attestation as specified in Annex V (Part-CC) to Commission Regulation (EU) No 1178/2011.
18. Approval to issue cabin crew attestations as specified in Annex V (Part-CC) to Commission Regulation (EU) No 1178/2011.

19. The name of the person/organisation responsible for ensuring that the continuing airworthiness of the aircraft is maintained and a reference to the regulation that requires the work, i.e. Annex I (Part-M), Subpart G to Commission Regulation (EU) 1321/2014.

20. Other approvals or data can be entered here, using one line (or one multi-line block) per authorisation (e.g. short landing operations, steep approach operations, helicopter operations to/from a public interest site, helicopter operations over a hostile environment located outside a congested area, helicopter operations without a safe forced landing capability, operations with increased bank angles, maximum distance from an adequate aerodrome for two-engined aeroplanes without an ETOPS approval, aircraft used for non-commercial operations).'.

3. Note 6 to the table (EASA FORM 140 Issue 1) in Appendix V to Annex II (Part-ARO) is replaced by the following:

'(6) List in this column any approved operations, e.g. dangerous goods, LVO, RVSM, PBN, MNPS, NVIS, HHO.'.

4. In Annex II, a new provision is inserted in section II (Approvals) of Subpart OPS:

'ARO.OPS.240 Specific approval of RNP AR APCH

(a) When compliance with the requirements in SPA.PBN.105 has been demonstrated by the applicant, the competent authority shall grant a generic specific approval or a procedure-specific approval for RNP AR APCH.

(b) In the case of a procedure-specific approval, the competent authority shall:

(1) list the approved instrument approach procedures at specific aerodromes in the PBN approval;

(2) establish coordination with the competent authorities for these aerodromes, if appropriate; and

(3) take into account possible credits stemming from RNP AR APCH specific approvals already issued to the applicant.'.

5. In Annex IV (Part-CAT), a new provision is inserted in Section I (Motor-powered aircraft) of Subpart B (Operating Procedures):

'CAT.OP.MPA.126 Performance-based navigation

The operator shall ensure that, when performance-based navigation (PBN) is required for the route or procedure to be flown:

(a) the relevant PBN navigation specification is stated in the AFM or other document that has been approved by the certifying authority as part of an airworthiness assessment or is based on such approval; and

(b) the aircraft is operated in conformance with the relevant navigation specification and limitations in the AFM or other document referred above.'.

6. In Annex IV (Part-CAT), point (a)(1) of CAT.OP.MPA.135 in Section I (Motor-powered aircraft) of Subpart B (Operating Procedures) is replaced by the following:

'(1) space-based facilities, ground facilities and services, including meteorological services, adequate for the planned operation are provided;'.

7. In Annex IV (Part-CAT), point (b)(6) of CAT.OP.MPA.175 in Section I (Motor-powered aircraft) of Subpart B (Operating Procedures) is replaced by the following:

'(6) space-based facilities, ground facilities and services that are required for the planned flight are available and adequate;'.

8. In Annex IV (Part-CAT), at the end of point (b)(7) of CAT.OP.MPA.175 in Section I (Motor-powered aircraft) of Subpart B (Operating Procedures) the word "and" is deleted.

9. In Annex IV (Part-CAT), a new point (b)(8) is inserted in CAT.OP.MPA.175 in Section I (Motor-powered aircraft) of Subpart B (Operating Procedures):

'(8) any navigational database required for performance-based navigation is suitable and current; and'.

10. In Annex IV (Part-CAT), point (b)(8) in CAT.OP.MPA.175 in Section I (Motor-powered aircraft) of Subpart B (Operating Procedures) is renumbered (b)(9).

11. In Annex IV (Part-CAT), a new provision is inserted in Section I (Motor-powered aircraft) of Subpart B (Operating Procedures):

'CAT.OP.MPA.182 Destination alternate aerodromes — instrument approach procedures relying on GNSS

The operator shall 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.'.

12. In Annex IV (Part-CAT), point (a)(3) of CAT.IDE.A.205 in Section 1 (Aeroplanes) of Subpart D (Instruments, data and equipment) is replaced by the following:

'(3) a seat belt with upper torso restraint system on each passenger seat and restraining belts on each berth in the case of aeroplanes with an MCTOM of less than 5 700 kg and with an MOPSC of less than nine, having an individual CofA first issued on or after 8 April 2015;'

13. In Annex IV (Part-CAT), point (b) of CAT.IDE.A.205 in Section 1 (Aeroplanes) of Subpart D (Instruments, data and equipment) is replaced by the following:

'(b) A seat belt with upper torso restraint system shall have:

(1) a single point release;

(2) on the seats for the minimum required cabin crew, two shoulder straps and a seat belt that may be used independently; and

(3) on flight crew seats and on any seat alongside a pilot's seat:

(i) two shoulder straps and a seat belt that may be used independently; or

(ii) a diagonal shoulder strap and a seat belt that may be used independently for the following aeroplanes:

(A) aeroplanes with an MCTOM of less than 5 700 kg and with an MOPSC of less than nine that are compliant with the emergency landing dynamic conditions defined in the applicable certification specification;

(B) aeroplanes with an MCTOM of less than 5 700 kg and with an MOPSC of less than nine that are not compliant with the emergency landing dynamic conditions defined in the applicable certification specification and having an individual CofA first issued before 28 October 2014; and

(C) aeroplanes certified in accordance with CS-VLA or equivalent and CS-LSA or equivalent.'.

14. In Annex IV (Part-CAT), a new point (f) is inserted in CAT.IDE.A.345 in Section 1 (Aeroplanes) of Subpart D (Instruments, data and equipment):

'(f) When PBN is required, the aircraft shall meet the airworthiness certification requirements for the appropriate navigation specification.'.

15. In Annex IV (Part-CAT), a new point (e) is inserted in CAT.IDE.H.345 in Section 2 (Helicopters) of Subpart D (Instruments, data and equipment):

'(e) When PBN is required, the aircraft shall meet the airworthiness certification requirements for the appropriate navigation specification.'.

16. In Annex V (Part-SPA), Subpart B (Performance-based navigation (PBN) operations) is replaced by the following:

'SPA.PBN.100 PBN operations

(a) An approval is required for each of the following PBN specifications:

(1) RNP AR APCH; and

(2) RNP 0.3 for helicopter operation.

(b) An approval for RNP AR APCH operations shall allow operations on public instrument approach procedures which meet the applicable ICAO procedure design criteria.

(c) A procedure-specific approval shall be required for private instrument approach procedures or any public instrument approach procedure that does not meet the applicable ICAO procedure design criteria, or where required by the Aeronautical Information Publication (AIP) or the competent authority.

SPA.PBN.105 PBN operational approval

To obtain a PBN specific approval from the competent authority, the operator shall provide evidence that:

(a) the relevant airworthiness approval, suitable for the intended PBN operation, is stated in the AFM or other document that has been approved by the certifying authority as part of an airworthiness assessment or is based on such approval;

(b) a training programme for the flight crew members and relevant personnel involved in the flight preparation has been established;

(c) a safety assessment has been carried out;

(d) operating procedures have been established specifying:

(1) the equipment to be carried, including its operating limitations and appropriate entries in the minimum equipment list (MEL);

(2) flight crew composition, qualification and experience;

(3) normal, abnormal and contingency procedures; and

(4) electronic navigation data management; and

(e) a list of reportable events has been specified; and

(f) a management RNP monitoring programme has been established for RNP AR APCH operations, if applicable.

17. In Annex VI (Part-NCC), a new point (a)(4)(ix) is inserted in NCC.GEN.106 in Subpart A (**General Requirements**):

'(ix) any navigational database required for performance-based navigation is suitable and current;'.

18. In Annex VI (Part-NCC), at the end of point (a)(4)(vii) in NCC.GEN.106 in Subpart A (**General Requirements**), the word 'and' is deleted.

19. In Annex VI (Part-NCC), at the end of point (a)(4)(viii) in NCC.GEN.106 in Subpart A (**General Requirements**), the word 'and' is inserted.

20. In Annex VI (Part-NCC) a new provision NCC.OP.116 is inserted in Subpart B (**Operational procedures**):

'NCC.OP.116 Performance-based navigation — aeroplanes and helicopters

The operator shall ensure that, when PBN is required for the route or procedure to be flown:

(a) the relevant PBN specification is stated in the AFM or other document that has been approved by the certifying authority as part of an airworthiness assessment or is based on such approval; and

(b) the aircraft is operated in conformance with the relevant navigation specification and limitations in the AFM or other document mentioned above.'.

21. In Annex VI (Part-NCC), paragraph (a) of NCC.OP.145 in Subpart B (**Operational procedures**) is replaced by the following:

'NCC.OP.145 Flight preparation

(a) Before commencing a flight, the pilot-in-command shall ascertain by every reasonable means available that the space-based facilities, ground and/or water facilities, including communication facilities and navigation aids available and directly required on such flight, for the safe operation of the aircraft, are adequate for the type of operation under which the flight is to be conducted.'.

22. In Annex VI (Part-NCC), VI a new provision NCC.OP.153 is inserted in Subpart B (**Operational procedures**):

'NCC.OP.153 Destination alternate aerodromes — instrument approach procedures relying on GNSS

The pilot-in-command shall 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.'.

23. In Annex VI (Part-NCC), paragraph (b) of NCC.IDE.A.180 in Section 1 (Aeroplanes) of Subpart- D (**Instruments, data and equipment**) is replaced by the following:

'(b) A seat belt with upper torso restraint system shall have:

(1) a single point release;

(2) on the seats for the minimum required cabin crew, two shoulder straps and a seat belt that may be used independently; and

(3) on flight crew seats and on any seat alongside a pilot's seat:

(i) two shoulder straps and a seat belt that may be used independently; or

(ii) a diagonal shoulder strap and a seat belt that may be used independently for the following aeroplanes:

(A) aeroplanes with an MCTOM of less than 5 700 kg and with an MOPSC of less than nine that are compliant with the emergency landing dynamic conditions defined in the applicable certification specification;

(B) aeroplanes with an MCTOM of less than 5 700 kg and with an MOPSC of less than nine that are not compliant with the emergency landing dynamic conditions defined in the applicable certification specification and having an individual CofA first issued before 25 August 2016.'.

24. In Annex VI (Part-NCC), a new paragraph (d) is inserted in NCC.IDE.A.250 in Section 1 (**Aeroplanes**) of Subpart D (**Instruments, data and equipment**) as follows:

'(d) When PBN is required, the aircraft shall meet the airworthiness certification requirements for the appropriate navigation specification.'.

25. In Annex VI (Part-NCC), a new paragraph (d) is inserted in NCC.IDE.H.250 in Section 2 (**Helicopters**) of Subpart D (**Instruments, data and equipment**) as follows:

'(d) When PBN is required, the aircraft shall meet the airworthiness certification requirements for the appropriate navigation specification.'.

26. In Annex VII (Part-NCO), a new point (a)(4)(vii) is inserted in NCO.GEN.105 in Subpart A (**General Requirements**) as follows:

'(vii) any navigational database required for PBN is suitable and current;'

27. In Annex VII (Part-NCO), at the end of point (a)(4)(v) in NCO.GEN.105 in Subpart A (**General Requirements**) the word 'and' is deleted.

28. In Annex VII (Part-NCO), at the end of point (a)(4)(vi) in NCO.GEN.105 in Subpart A (**General Requirements**) the word 'and' is inserted.

29. In Annex VII (Part-NCO), a new paragraph (f) is inserted in NCO.GEN.140 in Subpart A (**General Requirements**) as follows:

'(f) Reasonable quantities of articles and substances that would otherwise be classified as dangerous goods and that are used to facilitate flight safety, where carriage aboard the aircraft is advisable to ensure their timely availability for operational purposes, shall be considered authorised under paragraph 2.2.1(a) of the Technical Instructions. This is regardless of whether or not such articles and substances are required to be carried or intended to be used in connection with a particular flight.

The packing and loading on board of the above-mentioned articles and substances shall be performed, under the responsibility of the pilot in command, in such a way as to minimise the risks posed to crew members, passengers, cargo or the aircraft during aircraft operations.'.

30. In Annex VII (Part-NCO) a new provision NCO.OP.116 is inserted in Subpart B (**Operational procedures**) as follows:

'NCO.OP.116 Performance-based navigation — aeroplanes and helicopters

The pilot-in-command shall ensure that, when PBN is required for the route or procedure to be flown:

(a) the relevant PBN navigation specification is stated in the AFM or other document that has been approved by the certifying authority as part of an airworthiness assessment or is based on such approval; and

(b) the aircraft is operated in conformance with the relevant navigation specification and limitations in the AFM or other document mentioned above.'.

31. In Annex VII (Part-NCO), paragraph (a) of NCO.OP.135 in Subpart B (**Operational procedures**) is replaced by the following:

'(a) Before commencing a flight, the pilot-in-command shall ascertain by every reasonable means available that the space-based facilities, ground and/or water facilities, including communication facilities and navigation aids available and directly required on such flight, for the safe operation of the aircraft, are adequate for the type of operation under which the flight is to be conducted.'.

32. In Annex VII (Part-NCO), a new provision NCO.OP.142 is inserted in Subpart B (**Operational procedures**) as follows:

'**NCO.OP.142 Destination alternate aerodromes — instrument approach procedure relying on GNSS**

The pilot-in-command shall 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.'.

33. In Annex VII (Part-NCO), point (a)(4) of NCO.IDE.A.140 in Section 1 (**Aeroplanes**) of Subpart D (**Instruments, data and equipment**) is replaced by the following:

'(4) a seat belt with upper torso restraint system on each flight crew seat, having a single point release for aeroplanes having a CofA first issued on or after 25 August 2016.'.

34. In Annex VII (Part-NCO), a new paragraph (d) is inserted in NCO.IDE.A.195 in Section 1 (**Aeroplanes**) of Subpart D (**Instruments, data and equipment**) as follows:

'(d) When PBN is required, the aircraft shall meet the airworthiness certification requirements for the appropriate navigation specification.'.

35. In Annex VII (Part-NCO), a new paragraph (d) is inserted in NCO.IDE.H.195 in Section 2 (**Helicopters**) of Subpart D (**Instruments, data and equipment**) as follows:

'(d) When PBN is required, the aircraft shall meet the airworthiness certification requirements for the appropriate navigation specification.'.

36. In Annex VIII (Part-SPO), a new point (a)(4)(vii) is inserted in SPO.GEN.107 in Subpart A (**General requirements**) as follows:

'(vii) any navigational database required for PBN is suitable and current;'.

37. In Annex VIII (Part-SPO), at the end of point (a)(4)(v) in SPO.GEN.107 in Subpart A (General requirements), the word 'and' is deleted.

38. In Annex VIII (Part-SPO), at the end of point (a)(4)(vi) in SPO.GEN.107 in Subpart A (**General requirements**), the word 'and' is inserted.

39. In Annex VIII (Part-SPO), a new provision SPO.OP.116 is inserted in Subpart B (**Operational procedures**) as follows:

'SPO.OP.116 Performance-based navigation — aeroplanes and helicopters

The operator shall ensure that, when PBN is required for the route or procedure to be flown:

(a) the relevant PBN specification is stated in the AFM or other document that has been approved by the certifying authority as part of an airworthiness assessment or is based on such approval; and

(b) the aircraft is operated in conformance with the relevant navigation specification and limitations in the AFM or other document mentioned above.'.

40. In Annex VIII (Part-SPO), paragraph (a) in SPO.OP.140 in Subpart B (**Operational procedures**) is replaced by the following:

'(a) Before commencing a flight, the pilot-in-command shall ascertain by every reasonable means available that the space-based facilities, ground and/or water facilities, including communication facilities and navigation aids available and directly required on such flight, for the safe operation of the aircraft, are adequate for the type of operation under which the flight is to be conducted.'.

41. In Annex VIII (Part- SPO), a new provision SPO.OP.152 is inserted in Subpart B (**Operational procedures**) as follows:

'SPO.OP.152 Destination alternate aerodromes — instrument approach procedure relying on GNSS

The pilot-in-command shall 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.'.

42. In Annex VIII (Part-SPO), paragraphs (c) and (d) in SPO.IDE.A.160 in Section 1 (**Aeroplanes**) of Subpart D (**Instruments, data and equipment**) are replaced by the following:

'(c) for other-than-complex motor-powered aeroplanes, a seat belt with upper torso restraint system on each flight crew seat, having a single point release for aeroplanes having a CofA first issued on or after 25 August 2016;

(d) for complex motor-powered aeroplanes, a seat belt with upper torso restraint system, incorporating a device that will automatically restrain the occupant's torso in the event of rapid deceleration:

(1) on each flight crew seat and on any seat alongside a pilot's seat; and

(2) on each observer's seat located in the flight crew compartment.'.

43. In Annex VIII (Part-SPO), a new paragraph (e) is inserted in SPO.IDE.A.160 in Section 1 (**Aeroplanes**) of Subpart D (**Instruments, data and equipment**) as follows:

'(e) The seat belt with upper torso restraint system required by (d) shall have:

(1) a single point release;

(2) on flight crew seats and on any seat alongside a pilot's seat:

(i) two shoulder straps and a seat belt that may be used independently; or

(ii) a diagonal shoulder strap and a seat belt that may be used independently for the following aeroplanes:

(A) aeroplanes with an MCTOM of less than 5 700 kg and with an MOPSC of less than nine that are compliant with the emergency landing dynamic conditions defined in the applicable certification specification;

(B) aeroplanes with an MCTOM of less than 5 700 kg and with an MOPSC of less than nine that are not compliant with the emergency landing dynamic conditions defined in the applicable certification specification and having an individual CofA first issued before 25 August 2016;'.

44. In Annex VIII (Part-SPO), a new paragraph (d) is inserted in SPO.IDE.A.220 in Section 1 (**Aeroplanes**) of Subpart D (**Instruments, data and equipment**) as follows:

'(d) When PBN is required, the aircraft shall meet the airworthiness certification requirements for the appropriate navigation specification.'.

45. In Annex VIII (Part-SPO), a new paragraph (d) is inserted in SPO.IDE.H.220 in Section 2 (**Helicopters**) of Subpart D (**Instruments, data and equipment**) as follows:

'(d) When PBN is required, the aircraft shall meet the airworthiness certification requirements for the appropriate navigation specification.'.