



Flight Operations Standards Directorate
Commercial Air Transport Section - Special Approvals - PBN Approvals / RNP APCH
RNP APCH Approval Application Attachments Compliance List

• Operator Name			
• Inspector Name			
• Airplane Type(s)			
• AOC Applicant/Holder Focal Point	Name	Phone No.	E-mail

No	RNP APCH Operational Approval Application Attachments	ICAO Doc 9613	OMD	YES	NO	NA	Remarks
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A	Operations Manual Part D - Training Program						
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1	Training Program.						
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a	Commercial operators must have a training program addressing the operational practices, procedures and training items related to RNP APCH, (e.g. initial, upgrade or recurrent training for pilots, dispatchers or maintenance personnel)	5.3.2.3.2.1					
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2	Flight Crew Training Program. The training program must provide sufficient training (e.g. simulator, training device, or aircraft) on the aircraft's RNP system to the extent that the pilots are not just task oriented, this includes:						
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a	The meaning and proper use of RNP systems	5.3.5					
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b	Procedure characteristics as determined from chart depiction and textual description	5.3.5					
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c	Knowledge regarding depiction of waypoint types (fly-over and fly-by), required path terminators (IF, TF, DF) and any other types used by the operator as well as associated aircraft flight paths	5.3.5					
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d	Knowledge on the required navigation equipment in order to conduct RNP APCH operations (at least one RNP system based on GNSS)	5.3.5					
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e	Knowledge of RNP system-specific information	5.3.5					
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(1)	Levels of automation, mode annunciations, changes, alerts, interactions, reversions, and degradation	5.3.5					
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(2)	Functional integration with other aircraft systems	5.3.5					
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(3)	The meaning and appropriateness of route discontinuities as well as related pilot procedures	5.3.5					
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(4)	Monitoring procedures for each phase of flight	5.3.5					
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(5)	Types of navigation sensors utilized by the RNP system and associated system prioritization/weighting/logic	5.3.5					
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(6)	Turn anticipation with consideration to speed and altitude effects; and	5.3.5					
(7)	Interpretation of electronic displays and symbols;	5.3.5					
f	knowledge of RNAV equipment operating procedures, as applicable, including how to perform the following actions	5.3.5					
(1)	Verify currency of the aircraft navigation data	5.3.5					
(2)	Verify the successful completion of RNP system self-tests	5.3.5					
(3)	Initialize RNP system position	5.3.5					
(4)	Retrieve and fly an RNP APCH	5.3.5					
(5)	Adhere to speed and/or altitude constraints associated with an approach procedure	5.3.5					
(6)	Fly interception of an initial or intermediate segment of an approach following ATC notification	5.3.5					
(7)	Verify waypoints and flight plan programming;	5.3.5					
(8)	Fly direct to a waypoint	5.3.5					
(9)	Determine cross-track error/deviation	5.3.5					
(10)	Insert and delete route discontinuity	5.3.5					
(11)	When required by the authority, perform gross navigation error check using conventional NAVAIDs; and	5.3.5					
(12)	Change arrival airport and alternate airport	5.3.5					
g	Knowledge of operator-recommended levels of automation for phase of flight and workload, including methods to minimize cross-track error to maintain procedure centre line	5.3.5					
h	Knowledge of radio telephony phraseology for RNP applications; and	5.3.5					
i	Ability to conduct contingency procedures following RNP system failures	5.3.5					
3	Flight Dispatcher Training Program.						
a	Specific equipments	AC NO 13					
b	Flight plan	AC NO 13					
c	MEL requirements	AC NO 13					
d	Normal procedures	AC NO 13					
e	Contingency procedures	AC NO 13					



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No	RNP APCH Operational Approval Application Attachments	ICAO Doc 9613	OMA	YES	NO	NA	Remarks
B	Operations Manuals						
1	Operations Manuals Part A						
a	Preflight planning						
(1)	Operators and pilots intending to conduct operations using an RNP APCH procedure must file the appropriate flight plan suffixes and the on-board navigation data must be current and include appropriate procedures	5.3.4.1.1					
(2)	In addition to the normal preflight planning checks, the following must be included	5.3.4.1.2					
(a)	The pilot must ensure that approaches which may be used for the intended flight (including alternate aerodromes) are selected from a valid navigation database (current AIRAC cycle), have been verified by the appropriate process (navigation database integrity process) and are not prohibited by a company instruction or NOTAM	5.3.4.1.2					
(b)	During the preflight phase, the pilot should ensure sufficient means are available to navigate and land at the destination or at an alternate aerodrome in the case of loss of RNP APCH airborne capability	5.3.4.1.2					
(c)	Operators and pilots must take account of any NOTAMs or operator briefing material that could adversely affect the aircraft system operation, or the availability or suitability of the procedures at the airport of landing, or any alternate airport; and	5.3.4.1.2					
(d)	For missed approach procedures based on conventional means (VOR, NDB), operators and pilots must ensure that the appropriate airborne equipment required for this procedure is installed in the aircraft and is operational and that the associated ground-based NAVAIDs are operational	5.3.4.1.2					
(3)	The availability of the NAVAID infrastructure, required for the intended routes, including any non-RNAV contingencies, must be confirmed for the period of intended operations using all available information. Since GNSS integrity (RAIM or SBAS signal) is required by Annex 10, Volume I, the availability of these should also be determined as appropriate. For aircraft navigating with SBAS receivers (all TSO-C145()/C146()), operators should check appropriate GPS RAIM availability in areas where the SBAS signal is unavailable	5.3.4.1.3					



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b	GNSS availability						
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(1)	RAIM levels required for RNP APCH down to LNAV or LNAV/VNAV minima can be verified either through NOTAMs (where available) or through prediction services. Guidance on how to comply with this requirement (e.g. if sufficient satellites are available, a prediction may not be necessary). Operators should be familiar with the prediction information available for the intended route	5.3.4.2.1.1					
(2)	RAIM availability prediction should take into account the latest GPS constellation NOTAMs and avionics model (when available). The service may be provided by the ANSP, avionics manufacturer, and other entities, or through an airborne receiver RAIM prediction capability	5.3.4.2.1.2					
(3)	In the event of a predicted, continuous loss of appropriate level of fault detection of more than five minutes for any part of the RNP APCH operation, the flight planning should be revised (e.g. delaying the departure or planning a different departure procedure)	5.3.4.2.1.3					
(4)	RAIM availability prediction software does not guarantee the service; rather they are tools to assess the expected capability of meeting the RNP. Because of unplanned failure of some GNSS elements, pilots/ANSPs should realize that RAIM or GPS navigation altogether may be lost while airborne which may require reversion to an alternative means of navigation. Therefore, pilots should assess their capability to navigate (potentially to an alternate destination) in case of failure of GPS navigation	5.3.4.2.1.4					

c	Prior to commencing the procedure						
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(1)	In addition to the normal procedure prior to commencing the approach (before the IAF and in compatibility with crew workload), the pilot must verify the correct procedure was loaded by comparison with the approach charts. This check must include: the waypoint sequence; and reasonableness of the tracks and distances of the approach legs, and the accuracy of the inbound course and length of the FAS	5.3.4.3.1					
(2)	The pilot must also check using the published charts, the map display or CDU, which waypoints are fly-by and which are fly-over	5.3.4.3.2					
(3)	For multi-sensor systems, the pilot must verify, during the approach, that the GNSS sensor is used for position computation	5.3.4.3.3					



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(4)	For an RNP system with ABAS requiring barometric corrected altitude, the current airport barometric altimeter setting should be input at the appropriate time and location, consistent with the performance of the flight operation	5.3.4.3.4					
(5)	When the operation is predicated on the availability of ABAS, the pilot should perform a new RAIM availability check if ETA is more than 15 minutes different from the ETA used during the preflight planning. This check is also processed automatically 2 NM before the FAF for an E/TSO-C129a Class A1 receiver	5.3.4.3.5					
(6)	ATC tactical interventions in the terminal area may include radar headings, “direct to” clearances which bypass the initial legs of an approach, interception of an initial or intermediate segment of an approach, or the insertion of waypoints loaded from the database. In complying with ATC instructions, the pilot should be aware of the implications for the RNP system:	5.3.4.3.6					
(7)	The lateral definition of the flight path between the FAF and the MAPt must not be revised by the pilot under any circumstances	5.3.4.3.7					

d During the procedure

(1)	The aircraft must be established on the final approach course no later than the FAF before starting the descent (to ensure terrain and obstacle clearance)	5.3.4.4.1					
(2)	The crew must check the approach mode annunciator (or equivalent) is properly indicating approach mode integrity within 2 NM before the FAF	5.3.4.4.2					
(3)	The appropriate displays must be selected so that the following information can be monitored, the RNAV-computed desired path (DTK); and the aircraft position relative to the path (cross-track deviation) for FTE monitoring	5.3.4.4.3					
(4)	The procedure must be discontinued if the navigation display is flagged invalid; or in case of LOI alerting function; or if integrity alerting function is annunciated not available before passing the FAF; or if FTE is excessive	5.3.4.4.4					
(5)	The missed approach must be flown in accordance with the published procedure. Use of the RNP system during the missed approach is acceptable, provided, the RNP system is operational (e.g. no loss of function, no NSE alert, no failure indication); and the whole procedure (including the missed approach) is loaded from the navigation database	5.3.4.4.5					



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(6)	During the RNP APCH procedure, pilots must use a lateral deviation indicator, flight director and/or autopilot in lateral navigation mode. Pilots of aircraft with a lateral deviation indicator (e.g. CDI) must ensure that lateral deviation indicator scaling (full-scale deflection) is suitable for the navigation accuracy associated with the various segments of the procedure (i.e. ±1.0 NM for the initial and intermediate segments, ±0.3 NM for the FAS down to LNAV or LNAV/VNAV minima, and ±1.0 NM for the missed approach segment). All pilots are expected to maintain procedure centre lines, as depicted by on-board lateral deviation indicators and/or flight guidance during the whole approach procedure, unless authorized to deviate by ATC or under emergency conditions. For normal operations, cross-track error/deviation (the difference between the RNP system computed path and the aircraft position relative to the path) should be limited to ±½ the navigation accuracy associated with the procedure (i.e. 0.5 NM for the initial and intermediate segments, 0.15 NM for the FAS, and 0.5 NM for the missed approach segment). Brief deviations from this standard (e.g. overshoots or undershoots) during and immediately after turns, up to a maximum of one-times the navigation accuracy (i.e. 1.0 NM for the initial and intermediate segments), are allowable	5.3.4.4.6					
(7)	When Barometric VNAV is used for vertical path guidance during the FAS, deviations above and below the Barometric VNAV path must not exceed +22 m/-22 m (+75 ft/-75 ft), respectively	5.3.4.4.7					
(8)	Pilots must execute a missed approach if the lateral deviations or vertical deviations, if provided, exceed the criteria above, unless the pilot has in sight the visual references required to continue the approach	5.3.4.4.8					
e	General operating procedures						
(1)	Operators and pilots must not request an RNP APCH procedure unless they satisfy all the criteria in the relevant State documents. If an aircraft not meeting these criteria receives a clearance from ATC to conduct an RNP APCH procedure, the pilot must advise ATC that he/she is unable to accept the clearance and must request alternate instructions	5.3.4.5.1					
(2)	The pilot must comply with any instructions or procedures identified by the manufacturer as necessary to comply with the performance requirements in this navigation specification	5.3.4.5.2					
(3)	If the missed approach procedure is based on conventional means (e.g. NDB, VOR, DME), related navigation equipment must be installed and be serviceable	5.3.4.5.3					
(4)	Pilots are encouraged to use flight director and/or autopilot in lateral navigation mode, if available.	5.3.4.5.4					



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f	Contingency procedures						
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(1)	The pilot must notify ATC of any loss of the RNP APCH capability, together with the proposed course of action. If unable to comply with the requirements of an RNP APCH procedure, pilots must advise ATS as soon as possible. The loss of RNP APCH capability includes any failure or event causing the aircraft to no longer satisfy the RNP APCH requirements of the procedure. The operator should develop contingency procedures in order to react safely following the loss of the RNP APCH capability during the approach	5.3.4.6.1					
(2)	In the event of communications failure, the pilot must continue with the RNP APCH in accordance with the published lost communications procedure	5.3.4.6.2					

No	RNP APCH Operational Approval Application Attachments	ICAO Doc 9613	MEL	YES	NO	NA	Remarks
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2	Minimum Equipment List (MEL)						
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a	MEL revisions necessary to address provisions for RNP APCH operations to LNAV and/or LNAV/VNAV minima must be approved. Operators must adjust the MEL, or equivalent, and specify the required dispatch conditions	5.3.2.3.4					
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• Assessment Result	
<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Unsatisfactory

• Remarks	

Flight Operations Inspector Name	Signature	Date