• **Operator Name**	
• **Inspector Name**	
• **Airplane Type(s)**	

• **AOC Applicant/Holder Focal Point**	**Name**	**Phone No.**	**E-mail**

No	RNP 1 Operational Approval Application Attachments	ICAO Doc 9613	OMD	YES	NO	NA	Remarks
A	**Operations Manual Part D - Training Program**						
1	**Training Program.**						
a	Commercial operators must have a training program addressing the operational practices, procedures and training items related to RNP 1 operations (e.g. initial, upgrade or recurrent training for pilots, dispatchers or maintenance personnel	3.2.3.2.3.2.1					
2	**Flight Crew Training Program.** The training program should provide sufficient training (e.g. simulator, training device, or aircraft) on the aircraft's RNP system to the extent that the pilots are familiar with the following:						
a	The meaning and proper use of aircraft equipment/navigation suffixes	3.3.5					
b	Procedure characteristics as determined from chart depiction and textual description	3.3.5					
c	Depiction of waypoint types (fly-over and fly-by) and path terminators (provided in 3.3.3.4 g), AIRINC 424 path terminators) and any other types used by the operator), as well as associated aircraft flight paths	3.3.5					
d	Required navigation equipment for operation on RNP 1 SIDs, and STARs	3.3.5					
e	RNP system-specific information:	3.3.5					
(1)	Levels of automation, mode annunciations, changes, alerts, interactions, reversions, and degradation	3.3.5					
(2)	Functional integration with other aircraft systems	3.3.5					
(3)	The meaning and appropriateness of route discontinuities as well as related pilot procedures	3.3.5					
(4)	Pilot procedures consistent with the operation	3.3.5					
(5)	Types of navigation sensors utilized by the RNP system and associated system prioritization/ weighting/logic	3.3.5					

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(6)	Turn anticipation with consideration to speed and altitude effects	3.3.5					
(7)	Interpretation of electronic displays and symbols	3.3.5					
(8)	Understanding of the aircraft configuration and operational conditions required to support RNP 1 operations, i.e. appropriate selection of CDI scaling (lateral deviation display scaling)	3.3.5					
f	RNP system operating procedures, as applicable, including how to perform the following actions:	3.3.5					
(1)	Verify currency and integrity of the aircraft navigation data	3.3.5					
(2)	Verify the successful completion of RNP system self-tests	3.3.5					
(3)	Initialize navigation system position	3.3.5					
(4)	Retrieve and fly an RNP 1 SID or a STAR with appropriate transition	3.3.5					
(5)	Adhere to speed and/or altitude constraints associated with an RNP 1 SID or STAR	3.3.5					
(6)	Select the appropriate RNP 1 SID or STAR for the active runway in use and be familiar with procedures to deal with a runway change	3.3.5					
(7)	Verify waypoints and flight plan programming	3.3.5					
(8)	Fly direct to a waypoint	3.3.5					
(9)	Fly a course/track to a waypoint	3.3.5					
(10)	Intercept a course/track	3.3.5					
(11)	Following vectors and rejoining an RNP 1 route from "heading" mode	3.3.5					
(12)	Determine cross-track error/deviation. More specifically, the maximum deviations allowed to support RNP 1 must be understood and respected	3.3.5					
(13)	Resolve route discontinuities	3.3.5					
(14)	Remove and reselect navigation sensor input	3.3.5					
(15)	When required, confirm exclusion of a specific NAVAID or NAVAID type	3.3.5					
(16)	Change arrival airport and alternate airport	3.3.5					
(17)	Perform parallel offset function if capability exists. Pilots should know how offsets are applied, the functionality of their particular RNP system and the need to advise ATC if this functionality is not available	3.3.5					
(18)	Perform RNAV holding function	3.3.5					
g	Operator-recommended levels of automation for phase of flight and workload, including methods to minimize cross-track error to maintain route centre line	3.3.5					
h	R/T phraseology for RNAV/RNP applications	3.3.5					
i	Contingency procedures for RNAV/RNP failures	3.3.5					

No	RNP 1 Operational Approval Application Attachments	ICAO Doc 9613	OMD	YES	NO	NA	Remarks
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					

No	RNP 1 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 on RNP 1 SIDs and STARs should file the appropriate flight plan suffixes	3.3.4.2.1					
(2)	The on-board navigation data must be current and include appropriate procedures	3.3.4.2.2					
(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, 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	3.3.4.2.3					
b	**ABAS availability**						
(1)	RAIM levels required for RNP 1 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	3.3.4.3.1					
(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, other entities or through an airborne receiver RAIM prediction capability	3.3.4.3.2					
(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 1 operation, the flight planning should be revised (e.g. delaying the departure or planning a different departure procedure)	3.3.4.3.3					
(4)	RAIM availability prediction software does not guarantee the service; rather, they are tools to assess the expected capability to meet the RNP. Because of unplanned failure of some GNSS elements, pilots/ANSP must 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	3.3.4.3.4					

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c	**General operating procedures**						
(1)	The pilot should comply with any instructions or procedures identified by the manufacturer as necessary to comply with the performance requirements in this navigation specification	3.3.4.4.1					
(2)	Operators and pilots should not request or file RNP 1 procedures 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 1 procedure, the pilot must advise ATC that he/she is unable to accept the clearance and must request alternate instructions	3.3.4.4.2					
(3)	At system initialization, pilots must confirm that the aircraft position has been entered correctly. Pilots must verify proper entry of their ATC assigned route upon initial clearance and any subsequent change of route. Pilots must ensure that the waypoint sequence depicted by their navigation system matches the route depicted on the appropriate chart(s) and their assigned route	3.3.4.4.3					
(4)	Pilots must not fly an RNP 1 SID or STAR unless it is retrievable by procedure name from the on-board navigation database and conforms to the charted procedure. However, the procedure may subsequently be modified through the insertion or deletion of specific waypoints in response to ATC clearances. The manual entry, or creation of new waypoints, by manual entry of latitude and longitude or rho/theta values is not permitted. Additionally, pilots must not change any SID or STAR database waypoint type from a fly-by to a fly-over or vice versa	3.3.4.4.4					
(5)	Pilots should cross-check the cleared flight plan by comparing charts or other applicable resources with the navigation system textual display and the aircraft map display, if applicable. If required, the exclusion of specific NAVAIDs should be confirmed	3.3.4.4.5					
(6)	Cross-checking with conventional NAVAIDs is not required, as the absence of integrity alert is considered sufficient to meet the integrity requirements. However, monitoring of navigation reasonableness is suggested, and any loss of RNP capability shall be reported to ATC	3.3.4.4.6					
(7)	For RNP 1 routes, pilots must use a lateral deviation indicator, flight director, or autopilot in lateral navigation mode. Pilots of aircraft with a lateral deviation display must ensure that lateral deviation scaling is suitable for the navigation accuracy associated with the route/procedure (e.g. full-scale deflection: ±1 NM for RNP 1)	3.3.4.4.7					

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(8)	All pilots are expected to maintain centre lines, as depicted by on-board lateral deviation indicators and/or flight guidance during all RNP 1 operations described in this manual, unless authorized to deviate by ATC or under emergency conditions. For normal operations, cross-track error/deviation (the difference between the system computed path and the aircraft position relative to the path, i.e. FTE) should be limited to ±½ the navigation accuracy associated with the procedure (i.e. 0.5 NM for RNP 1). 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 RNP 1) are allowable	3.3.4.4.8					
(9)	If ATC issues a heading assignment that takes an aircraft off of a route, the pilot should not modify the flight plan in the RNP system until a clearance is received to rejoin the route or the controller confirms a new route clearance. When the aircraft is not on the published RNP 1 route, the specified accuracy requirement does not apply	3.3.4.4.9					
(10)	Manually selecting aircraft bank limiting functions may reduce the aircraft's ability to maintain its desired track and are not recommended. Pilots should recognize that manually selectable aircraft bank-limiting functions might reduce their ability to satisfy ATC path expectations, especially when executing large angle turns. This should not be construed as a requirement to deviate from airplane flight manual procedures; pilots should be encouraged to limit the selection of such functions within accepted procedures	3.3.4.4.10					
d	**Aircraft with RNP selection capability.** Pilots of aircraft with RNP input selection capability should select RNP 1 or lower, for RNP 1 SIDs and STARs	**3.3.4.5**					
e	**RNP 1 SID specific requirements**						
(1)	Prior to commencing take-off, the pilot must verify that the aircraft's RNP 1 system is available, operating correctly, and that the correct airport and runway data are loaded. Prior to flight, pilots must verify their aircraft navigation system is operating correctly and the correct runway and departure procedure (including any applicable en-route transition) are entered and properly depicted. Pilots who are assigned an RNP 1 departure procedure and subsequently receive a change of runway, procedure or transition must verify that the appropriate changes are entered and available for navigation prior to take-off. A final check of proper runway entry and correct route depiction, shortly before take-off, is recommended	3.3.4.6.1					

No	RNP 1 Operational Approval Application Attachments	ICAO Doc 9613	OMA	YES	NO	NA	Remarks
(2)	Engagement altitude. The pilot must be able to use RNP 1 equipment to follow flight guidance for lateral navigation, e.g. lateral navigation no later than 153 m (500 ft) above airport elevation	3.3.4.6.2					
(3)	Pilots must use an authorized method (lateral deviation indicator/navigation map display/flight director/autopilot) to achieve an appropriate level of performance for RNP 1	3.3.4.6.3					
(4)	GNSS aircraft. When using GNSS, the signal must be acquired before the take-off roll commences. For aircraft using TSO-C129a avionics, the departure airport must be loaded into the flight plan in order to achieve the appropriate navigation system monitoring and sensitivity. For aircraft using TSO-C145 ()/C146 () avionics, if the departure begins at a runway waypoint, then the departure airport does not need to be in the flight plan to obtain appropriate monitoring and sensitivity. If the RNP 1 SID extends beyond 30 NM from the ARP and a lateral deviation indicator is used, its full-scale sensitivity must be selected to not greater than 1 NM between 30 NM from the ARP and the termination of the RNP 1 SID	3.3.4.6.4					
(5)	For aircraft using a lateral deviation display (i.e. navigation map display), the scale must be set for the RNP 1 SID, and the flight director or autopilot should be used	3.3.4.6.5					
f	**RNP 1 STAR specific requirements**	**3.3.4.7**					
(1)	Prior to the arrival phase, the pilot should verify that the correct terminal route has been loaded. The active flight plan should be checked by comparing the charts with the map display (if applicable) and the MCDU. This includes confirmation of the waypoint sequence, reasonableness of track angles and distances, any altitude or speed constraints, and, where possible, which waypoints are fly-by and which are fly-over. If required by a route, a check will need to be made to confirm that updating will exclude a particular NAVAID. A route must not be used if doubt exists as to the validity of the route in the navigation database	3.3.4.7.1					
(2)	The creation of new waypoints by manual entry into the RNP 1 system by the pilot would invalidate the route and is not permitted	3.3.4.7.2					
(3)	Where the contingency procedure requires reversion to a conventional arrival route, necessary preparations must be completed before commencing the RNP 1 procedure	3.3.4.7.3					

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(4)	Procedure modifications in the terminal area may take the form of radar headings or "direct to" clearances and the pilot must be capable of reacting in a timely fashion. This may include the insertion of tactical waypoints loaded from the database. Manual entry or modification by the pilot of the loaded route using temporary waypoints or fixes not provided in the database is not permitted	3.3.4.7.4					
(5)	Pilots must verify their aircraft navigation system is operating correctly, and the correct arrival procedure and runway (including any applicable transition) are entered and properly depicted	3.3.4.7.5					
(5)	Although a particular method is not mandated, any published altitude and speed constraints must be observed	3.3.4.7.6					
(6)	Aircraft with TSO-C129a GNSS RNP systems: If the RNP 1 STAR begins beyond 30 NM from the ARP and a lateral deviation indicator is used, then full scale sensitivity should be manually selected to not greater than 1 NM prior to commencing the STAR. For aircraft using a lateral deviation display (i.e. navigation map display), the scale must be set for the RNP 1 STAR, and the flight director or autopilot should be used	3.3.4.7.7					

g	Contingency procedures						
(1)	The pilot must notify ATC of any loss of the RNP capability (integrity alerts or loss of navigation), together with the proposed course of action. If unable to comply with the requirements of an RNP 1 SID or STAR for any reason, pilots must advise ATS as soon as possible. The loss of RNP capability includes any failure or event causing the aircraft to no longer satisfy the RNP 1 requirements of the route	3.3.4.8.1					
(2)	In the event of communications failure, the pilot should continue with the published lost communications procedure	3.3.4.8.2					

No	A-RNP Operational Approval Application Attachments	ICAO Doc 9613	MEL	YES	NO	NA	Remarks
2	Minimum Equipment List (MEL)						
a	MEL revisions necessary to address RNP 1 provisions must be approved. Operators must adjust the MEL, or equivalent, and specify the required dispatch conditions	**3.3.2.3.4**					

- **Assessment Result**

☐ **Satisfactory**	☐ **Unsatisfactory**

- **Remarks**

Flight Operations Inspector Name	Signature	Date