

## **PART 3 JOB AIDS**

### **APPLICATION TO CONDUCT**

#### **RNP APCH (LNAV)**

##### **1. Introduction**

This Job Aid was developed to provide operators, and inspectors with guidance on the process to be followed in order to obtain an RNP APCH approval for approaches flown to LNAV minima. It should be used as an aid for the approval process but frequent reference to the ICAO PBN Manual (DOC 9613) and PBN Operational Approval Handbook will be required. Volume II, Part C, Chapter 5 contains detailed guidance on the implementation of RNP APCH.

##### **2. Purpose of the Job Aid**

- 2.1 To give operators and inspectors information on the main RNP APCH reference documents.
- 2.2 To provide tables showing the contents of the application, the associated reference paragraphs, the place in the application of the operator where RNP APCH elements are mentioned and columns for inspector comments and follow-up on the status of various elements of RNP APCH.

##### **3. Actions Recommended for the Inspector and Operator**

- 3.1 At the pre-application meeting with the operator, the inspector reviews the “basic events of the RNP APCH approval process” described in Section 1 of this Job Aid, in order to provide an overview of the approval process events.
- 3.2 The inspector reviews this Job Aid with the operator in order to establish the form and content of the RNP APCH approval application.
- 3.3 The operator uses this Job Aid as a guide to collect the documents of the RNP APCH application.
- 3.4 The operator inserts in the Job Aid references showing in what part of its documents are the RNP APCH elements located.
- 3.5 The operator submits the Job Aid and the application to the inspector (with the required documents).
- 3.6 The inspector indicates in the Job Aid whether an item is in compliance or needs corrective action.
- 3.7 The inspector informs the operator as soon as possible when a corrective action by the operator is required.
- 3.8 The operator provides the inspector with the revised material when so requested.
- 3.9 The MCAA provides the operator with the operational specifications (air operators) or a letter of authorization (others), as applicable, when the tasks and documents have been completed.



## APPLICATION TO CONDUCT RNP APCH

### SECTION 1 - INFORMATION ON THE IDENTIFICATION OF AIRCRAFT AND OPERATORS

**NAME OF THE OPERATOR:** \_\_\_\_\_ is applying for RNP APCH Operations

Approval.

Aircraft manufacturer, model, and series	Aircraft Registration (required only if installed equipment varies between model and series)	List relevant make and model of related navigation equipment

DATE OF PRE-APPLICATION MEETING \_\_\_\_\_

DATE ON WHICH THE APPLICATION WAS RECEIVED \_\_\_\_\_

DATE ON WHICH THE OPERATOR INTENDS TO BEGIN RNP APCH OPERATIONS \_\_\_\_\_



## SECTION 2 – OPERATOR APPLICATION (ITEMS AND DOCUMENTS)

Item	Title of document	Indication of inclusion by the operator	Comments by the Inspector
1	<b>Airworthiness documents showing aircraft eligibility for RNP APCH.</b> AFM, AFM revision, AFM supplement, or Type certificate data sheet (TCDS) showing that the RNP navigation system is eligible for RNP APCH. or; Manufacturer statement. - Aircraft with a manufacturer statement documenting compliance		
2	<b>Aircraft modified to meet RNP APCH standards.</b> Documentation on aircraft inspection and/or modification, if applicable. Maintenance records documenting the installation or modification of aircraft systems		
3	<b>Maintenance programme</b> <ul style="list-style-type: none"><li>• For aircraft with established maintenance procedures for RNP APCH systems, the list of references of the document or programme.</li><li>• For recently installed RNP APCH systems, the maintenance procedures for their review.</li></ul>		
4	<b>Minimum equipment list (MEL) if applicable</b> showing provisions for RNP APCH systems.		
5	<b>Training</b> Training programme for flight crews, flight dispatchers, and maintenance personnel as applicable.		



Item	Title of document	Indication of inclusion by the operator	Comments by the Inspector
6	<b>Operating policies and procedures</b> Operations manual (OM) and checklists or sections to be attached to the application, corresponding to RNP APCH operating procedures and policies.		
7	<b>Navigation database</b> Details of the navigation data validation programme.		

### SECTION 3 – GUIDE FOR DETERMINING RNP APCH AIRCRAFT ELIGIBILITY

Item	Topics	Reference paragraphs ICAO Doc 9613 Vol II Part C 5	Location in the Documents of the operator	Comments
1	<b>Aircraft and system requirements</b>			
	Aircraft approved to conduct RNAV (GNSS) approaches.			
	Aircraft that have a statement of compliance in their flight manual (AFM), AFM supplement, pilot operations handbook (POH), or in the avionics operating manual.	5.3.2.4		
	RNP installation based on GNSS standalone system	5.3.3.1, Note 3		
	RNP installation is based on GNSS sensor equipment used in a multi-sensor system	5.3.3.1, Note 3		



Item	Topics	Reference paragraphs ICAO Doc 9613 Vol II Part C 5	Location in the Documents of the operator	Comments
	Positioning data from other types of navigation sensors can be integrated with GNSS data provided they do not cause position errors that exceed the total system error (TSE)). Otherwise, means must be provided to deselect or cancel the other types of navigation sensors.	5.3.3.2		
	Functional requirements	5.3.3.3		

#### SECTION 4 - PROCEDURES FOR RNP APCH OPERATIONS

Item	Operating Procedures	Reference paragraphs ICAO Doc 9613 Vol II Part C 5	Location in the Documents of the operator	Comments
1	<b>Pre-flight planning</b>			
	File appropriate flight plan suffix	5.3.4.1.1		



Item	Operating Procedures	Reference paragraphs ICAO Doc 9613 Vol II Part C 5	Location in the Documents of the operator	Comments
	Ensure that the approaches which may be used for the intended flight (including alternate aerodromes): a) are selected from a valid navigation data base (current AIRAC cycle); b) have been verified through an appropriate (navigation database integrity process); and c) have not been prohibited by any NOTAM issued by the CAA or by the air navigation service providers or by an operational instruction of the company	5.3.4.1.2 a)		
	Ensure that there are sufficient means available to fly and land at the destination or alternate aerodrome in case of loss of RNP APCH capability.	5.3.4.1.2 b)		
	Take account of any NOTAM issued by the CAA or by the ANSP, or by an operational instruction of the company that might adversely affect aircraft system operation or the availability or suitability of the procedures at the destination aerodrome or at any alternate aerodromes.	5.3.4.1.2 c)		
	For missed approach procedures based on conventional NAVAIDs (VOR, NDB), verify that the appropriate airborne equipment required to fly such procedures is installed and operational in the aircraft.	5.3.4.1.2 d)		



Item	Operating Procedures	Reference paragraphs ICAO Doc 9613 Vol II Part C 5	Location in the Documents of the operator	Comments
	Use all the information available, to confirm the availability of the required navigation infrastructure for the projected routes, including any non-RNAV contingency, for the intended operation.	5.3.4.1.3		
	Check GNSS integrity prediction	5.3.4.1.3		
2	<b>Prior to commencing the procedure</b>			
	In addition to normal procedures, prior to commencing the approach (before the initial approach fix (IAF)), the flight crew must verify the correct procedure has been loaded, by comparing said procedure with the approach charts. This check must include: a) the WPT sequence; b) the integrity of the tracks and distances of the approach legs, the accuracy of the inbound course and the length of the final approach segment.	5.3.4.3.1		
	For multi-sensor systems, verify during the approach that a GNSS sensor is used for position computation.	5.3.4.3.3		
	For a RNP system with aircraft-based augmentation system (ABAS) requiring barometric aiding, set the current aerodrome barometric altimeter	5.3.4.3.4		
	Check GNSS availability	5.3.4.3.5		



Item	Operating Procedures	Reference paragraphs ICAO Doc 9613 Vol II Part C 5	Location in the Documents of the operator	Comments
	Operator procedures for rejoining route following ATC course assignment	5.3.4.3.6		
	Operator procedures to prohibit revision of lateral definition of the flight path between the FAF and the missed approach point (MAPt).	5.3.4.3.7		
3	<b>During the procedure</b>			
	Establish aircraft on course prior to FAF	5.3.4.4.1		
	Check appropriate approach mode active prior to FAF.	5.3.4.4.2		
	Select appropriate displays so that the following information can be monitored by the flight crew: a) the RNP computed desired track (DTK); and b) the aircraft position relative to the path cross track deviation (XTK) for FTE monitoring.	5.3.4.4.3		
	Discontinue approach: a) if the navigation display is announcing a failure (flagged invalid); or b) in case of loss of the integrity alerting function; or c) if the integrity alerting function is annunciated not available before passing the FAF; or d) if the FTE is excessive.	5.3.4.4.4		





Item	Operating Procedures	Reference paragraphs ICAO Doc 9613 Vol II Part C 5	Location in the Documents of the operator	Comments
	Missed approach must be flown in accordance with the published procedure. Use of the RNP system during the missed approach provided: a) the RNP system is operational (e.g., there is no loss of function, no NSE alert, no failure indication, etc.). b) the whole procedure (including the missed approach) is loaded from the navigation data base.	5.3.4.4.5		
	Operator procedures for limiting FTE to +/- ½ navigation accuracy	5.3.4.4.6		
	Operator procedures for limiting vertical deviations within + 100/-50 ft when Baro-VNAV is used for vertical path guidance during the final approach segment	5.3.4.4.7		
	Operator procedures for the conduct of a missed approach if the lateral or vertical deviations are excessive	5.3.4.4.8		
4	<b>Contingency procedures</b>			
	Notify ATC of any loss of the RNP APCH capability, together with the proposed course of action.	5.3.4.6.1		
	Operator contingency procedures in order to react safely following the loss of the RNP APCH capability during the approach.	5.3.4.6.1		