

### **RNAV 10 (DESIGNATED and AUTHORISED AS RNP10) JOB AID APPLICATION TO CONDUCT RNP 10 (RNP 10)**

#### **1. Introduction**

This Job Aid was developed to provide States, operators, and inspectors with guidance on the process to be followed in order to obtain an RNAV 10 (RNP 10) approval. It should be used as an aid for the approval process but frequent reference to the ICAO PBN Manual (DOC9613) and CAAF SD-PBN (Operations Approval) will be required. Volume II, Part B, Chapter 1 contains detailed guidance on the implementation of RNP 10.

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

- 2.1 To give operators and inspectors information on the main RNP 10 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 10 elements are mentioned and columns for inspector comments and follow-up on the status of various elements of RNP 10

#### **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 10 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 10 approval application.
- 3.3 The operator uses this Job Aid as a guide to collect the documents of the RNP 10 application.
- 3.4 The operator inserts in the Job Aid references showing in what part of its documents are the RNP 10 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 CAAF provides the operator with the operational specification (air operators) or a letter of authorization (others), as applicable, when the tasks and documents have been completed.

**SECTION 1 - INFORMATION ON THE IDENTIFICATION OF AIRCRAFT AND OPERATORS****NAME OF THE OPERATOR:**

Is applying for RNP 10 Operations Approval.

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

DATE OF PRE-APPLICATION MEETING:

DATE ON WHICH THE APPLICATION WAS RECEIVED:

DATE ON WHICH THE OPERATOR INTENDS TO BEGIN RNP 10 OPERATIONS:

**FOR SECTION 2 CONTENTS OF THE APPLICATION TO BE SUBMITTED BY THE OPERATOR**☐ **RNP 10 COMPLIANCE DOCUMENTATION OF THE AIRCRAFT/NAVIGATION SYSTEMS**☐ **OPERATING PROCEDURES AND POLICIES**☐ **SECTIONS OF THE MAINTENANCE MANUAL RELATED TO LRNS (if not previously reviewed)****Note 1:** Documents may be grouped in a single binder or may be submitted as individual documents.

**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 10.</b> AFM, AFM revision, AFM supplement, or Type certificate data sheet (TCDS) showing that the LRNS is eligible for RNP 10.		
2	<b>Aircraft modified to meet RNP 10 standards.</b> Documentation on aircraft inspection and/or modification, if applicable.		
3	<b>Maintenance program</b> <ul style="list-style-type: none"><li>For aircraft with established LRNS maintenance practices, the list of references of the document or program.</li><li>For newly installed LRNS provide LRNS maintenance practices for review.</li></ul>		
4	<b>Minimum Equipment List (MEL) if applicable</b> showing provisions for LRNS		
5	<b>Training programme</b> for flight crews, flight dispatchers, and maintenance personnel as applicable.		
6	<b>Operating policies and procedures</b> including relevant section of Operations Manuals and checklists attached to the application, applicable to RNP 10		
7	<b>Navigation database (if carried)</b> Details of the navigation data validation programme.		

### SECTION 3 – GUIDE FOR DETERMINING RNP 10 AIRCRAFT ELIGIBILITY

Item	Topics	Reference paragraphs ICAO Doc 9613 Vol II Part B 1	Location in the Documents of the operator	Comments
1	<b>Eligibility Method 1</b> – Eligibility of aircraft through RNP certification. (RNP compliance documented in the AFM).	1.3.3.1.2		
2	<b>Eligibility Method 2</b> - Eligibility of aircraft through previous certification of the navigation system.	1.3.3.1.3		
3	<b>Eligibility Method 3</b> - Eligibility of aircraft through data collection.	1.3.3.1.4		
4	<b>Aircraft Equipment</b>			
	Dual Long Range Navigation Systems	1.3.4		
	<b>Dual GNSS</b>	1.3.4.2.1		
	GNSS approved as primary means of navigation (AC 20-138 or equivalent)	1.3.4.2.1.1		
	Multi-sensor systems into which the GNSS is integrated (AC 20-130 or equivalent).	1.3.4.2.1.2		
	Complies with regulations/advisory information for use of GNSS for primary oceanic/remote performance	1.3.4.2.1.3		
	Approved FDE prediction programme	1.3.4.2.1.4		

Item	Topics	Reference paragraphs ICAO Doc 9613 Vol II Part B 1	Location in the Documents of the operator	Comments
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	<b>Dual INS or IRS</b>	1.3.4.2.2.1		
	INSs or IRUs approved according to 14 CFR, Part 121, Appendix G (time limit 6.2 hours).	1.3.4.2.2		
	INSs or IRUs approved for MNPS operations in the North Atlantic or RNAV operation in Australia (time limit 6.2 hours).	1.3.4.2.2		
	Application for extended time limit	1.3.4.2.3		
	Operator route evaluation conducted	1.3.9.6		
	<b>Single IRS or IRU and Single GNSS</b>	1.3.4.2.4		
	INS/IRU approved to 14 CFR Part 121 Appendix G or equivalent	1.3.4.2.4		
	GNSS authorized for oceanic/remote (TSO C129a with FTE, TSO C145a/146a, or equivalent)	1.3.2.4		
	Approved FDE prediction programme	1.3.4.2.4		

#### SECTION 4 – BASIC PILOT PROCEDURES FOR RNP 10 OPERATIONS

Item	Operating Procedures	Reference paragraphs ICAO Doc 9613 Vol II Part B 1	Location in the Documents of the operator	Comments
1	<b>Flight planning</b>			
	Verify that aircraft has been approved for RNP 10 operations.	1.3.5		
	Verify that two LRNS are operational.	1.3.6.1		

	Verify that the RNP 10 time limit has been taken into account (aircraft equipped with only INS/IRU).	1.3.5.1 (a)		
	Verify requirements for GNSS, such as FDE, if applicable to the operation.	1.3.5.1 (b)		
	Insert the letter “R” in Box 10 of the ICAO flight plan, (also insert the letter Z in that same box, and NAV/RNP 10 in Box 18 for WATRS plus spaces)	1.3.7		
	If required, take into account any operational restriction related to RNP 10 approval for a specific navigation system.	1.3.5.1 (c)		
2	<b>Pre-flight procedures</b>			
	Review of maintenance logs and forms for LRNS status	1.3.5.2 (a)		
	Review the emergency procedures for operations in RVAV 10 (RNP 10) airspace or routes.	1.3.5.2 (c)		

Item	Operating Procedures	Reference paragraphs ICAO Doc 9613 Vol II Part B 1	Location in the Documents of the operator	Comments
3	<b>En-route procedures</b>			
	Before oceanic point of entry verify at least two LRNS capable of navigating in RNP 10. If not consider using an alternate route or initiating a deviation.	1.3.9.1		
	Before entering oceanic airspace, check aircraft position as accurately as possible using external navigation aids.	1.3.9.2		

	Operating procedures must include mandatory cross-check procedures in order to identify navigation errors in advance and prevent the aircraft from inadvertently deviating from the routes authorised by the ATC.	1.3.9.3		
	Crews must notify the ATC of any degradation or failure of the navigation equipment below the navigation performance requirements, or of any deviation required for a contingency procedure.	1.3.9.4		
	Operator procedures for use of a lateral deviation indicator, an FD or an AP in lateral navigation mode (LNAV) for RNP 10 operations.	1.3.9.5		
	Operator procedures for limiting FTE to +/- ½ navigation accuracy	1.3.9.5		
	Operator procedures for manual updating of position (if approved)	1.3.9.9		