RNAV 1 AND RNAV 2 JOB AID
APPLICATION TO CONDUCT RNAV 1 AND RNAV 2 OPERATIONS

1. **Introduction**

This Job Aid was developed to provide air operators, and inspectors with guidance on the process to be followed in order to obtain an RNAV 1 and RNAV 2 approval. It should be used as an aid for the approval process but frequent reference to the ICAO PBN Manual (DOC9613) and CAAF SDPBN (Operations Approval) will be required. Volume II, Part B, Chapter 3 contains detailed guidance on the implementation of RNAV 1 and RNAV 2.

2. **Purpose of the Job Aid**

2.1 To give operators and inspectors information on the main RNAV 1 and RNAV 2 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 RNAV 1 and RNAV 2 elements are mentioned and columns for inspector comments and follow-up on the status of various elements of RNAV 1 and RNAV 2.

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 RNAV 1 and RNAV 2 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 RNAV 1 and RNAV 2 approval application.

3.3 The operator uses this Job Aid as a guide to collect the documents of the RNAV 1 and RNAV 2 application.

3.4 The operator inserts in the Job Aid references showing in what part of its documents are the RNAV 1 and RNAV 2 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 specifications (air operators) or a letter of authorization (others), as applicable, when the tasks and documents have been completed.

SECTION 1 - INFORMATION ON AIRCRAFT AND OPERATOR IDENTIFICATION

NAME OF THE OPERATOR: Is applying for RNAV 1 and RNAV 2 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 RNAV 1 AND RNAV 2 OPERATIONS

SECTION 2 – OPERATOR APPLICATION (ITEMS AND DOCUMENTS)

Item	Title of document	Indication of inclusion by the operator	Comments by the Inspector
1	**Airworthiness documents showing aircraft eligibility for RNAV 1 and RNAV 2.** AFM, AFM revision, AFM supplement, or Type certificate data sheet (TCDS) showing that the RNAV navigation system is eligible for RNAV 1 and RNAV 2 or RNP 1 or above. Or Manufacturer statement.- Aircraft with a manufacturer statement documenting compliance with RNAV 1 and RNAV 2, or P-RNAV (TGL-10) or FAA AC 90-100( ) or equivalent. *Note: Approvals in accordance with P-RNAV only or FAA AC 90-100( ) only require additional documentation to meet RNAV 1 and RNAV 2 requirements*		
2	**Aircraft modified to meet RNAV 1 and RNAV 2 standards. Documentation on aircraft inspection and/or modification, if applicable.** Maintenance records documenting the installation or modification of aircraft systems		
3	**Maintenance programme** • For aircraft with established maintenance procedures for RNAV 1 and RNAV 2 systems, the list of references of the document or programme. • For recently installed RNAV 1 and RNAV 2 systems, the maintenance procedures for review.		
4	**Minimum equipment list (MEL) if applicable** showing provisions for RNAV 1 and RNAV 2.		
5	**Training** Training programme for flight crews, flight dispatchers, and maintenance personnel as applicable.		
6	**Operating policies and procedures** including relevant section of Operations Manuals and checklists attached to the application, applicable to RNAV 1 and RNAV 2		
7	**Navigation database** Details of the navigation data validation programme.		

SECTION 3 – GUIDE FOR DETERMINING RNAV 1 AND RNAV 2 AIRCRAFT ELIGIBILITY

Item	Topics	Reference paragraphs ICAO Doc 9613 Vol II Part B 3	Location in the Documents of the operator	Comments
1	**System eligibility for RNAV 1 and RNAV 2 operations** Aircraft with a statement of compliance with at least one of the following:	3.3.2.6		
	a) Aircraft approved under TGL-10 and AC 90-100A	3.3.2.7.2 (b)		
	b) Aircraft approved under TGL-10 (P-RNAV) and additional requirements in Table II-B-3-1	3.3.2.7.3 (b)		
	c) Aircraft that comply with AC 90-100A and additional requirements in Table IIB-3-2	3.3.2.7.4 (b)		
	d) Aircraft with a statement by the manufacturer demonstrating compliance with RNAV 1 and RNAV 2 requirements.			
2	**Aircraft and system requirements (as applicable)**			
	a) FMS with TSO-C129() GNSS	3.3.3.2.1.1 (a)		
	b) FMS with TSO-C145() GNSS	3.3.3.2.1.1 (b)		
	c) Stand-alone TSO C129 ( ) Class A1 GNSS	3.3.3.2.1.1 (c)		
	d) Stand-alone TSO C146 ( ) GNSS	3.3.3.2.1.1 (d)		
	e) DME/DME RNAV equipment	3.3.3.2.2		
	DME/DME/IRU RNAV equipment	3.3.3.2.3		
3	**Functional requirements**	3.3.3.3		

SECTION 4 - PROCEDURES FOR RNAV 1 AND RNAV 2 OPERATIONS

Item	Operating Procedures	Reference paragraphs ICAO Doc 9613 Vol II Part B 3	Location in the Documents of the operator	Comments
1	**Pre-flight planning**			
	File appropriate flight plan suffix	3.3.4.1.1		
	Ensure on-board navigation data current and appropriate for the region of intended operation	3.3.4.1.2		
	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.	3.3.4.1.3		
	Check GNSS integrity prediction (for GNSS equipped aircraft)	3.3.4.1.3 3.3.4.1.4		
	For navigation relying on DME, check NOTAMs to verify the condition of critical DMEs. Assess capability to navigate (potentially to an alternate destination) in case of failure of critical DME while airborne	3.3.4.1.5		

Item	Operating Procedures	Reference paragraphs ICAO Doc 9613 Vol II Part B 3	Location in the Documents of the operator	Comments
2	**General operating procedures**			
	Operator procedures to ensure flight crew do not request, or file a flight plan for RNAV 1 and RNAV 2 routes unless they meet all the criteria in the relevant State documents.	3.3.4.2.2		
	Operator procedures to ensure any manufacturer requirements, to meet the performance requirements of this section are met	3.3.4.2.1		
	At system initialization, pilots must: a) confirm the validity of the navigation database; b) verify the current position of the aircraft; c) verify the proper entry of the assigned ATC route once the initial clearance is received, and of any subsequent route changes; and d) ensure that the WPT sequence displayed on the navigation system coincides with the route shown in the appropriate charts and with the assigned route.	3.3.4.2.3		
	Operator procedures to ensure SID/STARs are retrieved from the on-board navigation database using the procedure name are consistent with the charted procedure and only modified as outlined in the PBN Manual.	3.3.4.2.4		
	RNAV 1 or RNAV 2 routes to be obtained from the database and only modified as per approved procedures	3.3.4.2.5		

Item	Operating Procedures	Reference paragraphs ICAO Doc 9613 Vol II Part B 3	Location in the Documents of the operator	Comments
	Operator procedures for verifying navigation system text display.	3.3.4.2.6		
	Operator procedures for confirming reasonableness of navigation.	3.3.4.2.7		
	For RNAV 2 Routes - recommended procedures for the use of a lateral deviation indicator, flight director or autopilot in lateral navigation mode	3.3.4.2.8		
	For RNAV 1 routes - requirements for the use of a lateral deviation indicator, a FD or an AP in the lateral navigation mode.	3.3.4.2.9		
	Operator procedures for setting lateral deviation scale (where applicable)	3.3.4.2.10		
	Operator procedures for limiting FTE to +/- ½ navigation accuracy	3.3.4.2.11		
	Operator procedures for rejoining route following ATC course assignment	3.3.4.2.12		
	Operator procedures for setting bank angle limitations.	3.3.4.2.13		
3	**Specific RNAV SID requirements**			
	Operator procedures for determining system availability and pre-departure setup	3.3.4.3.1		
	Operator procedures/requirements for equipment use to ensure meeting RNAV 1 performance.	3.3.4.3.3		
	For DME/DME/IRU aircraft. - requirements for position confirmation.	3.3.4.3.5		
	For aircraft utilizing GNSS requirements for acquiring signal and flight plan loading to ensure the appropriate navigation system monitoring and sensitivity	3.3.4.3.6		

Item	Operating Procedures	Reference paragraphs ICAO Doc 9613 Vol II Part B 3	Location in the Documents of the operator	Comments
4	**Specific RNAV STAR requirements**			
	Operator procedures for loading/checking route	3.3.4.4.1		
	Operator procedures related to restriction on waypoint creation	3.3.4.4.2		
	Operator procedures for contingency procedures to revert to a conventional arrival route	3.3.4.4.3		
	Operator procedures for accepting radar headings or “direct to” tracking	3.3.4.4.4		
	Operator procedures for verifying system operation and selection of procedures	3.3.4.4.5		
	Operator procedures for observing published altitude and speed constraints	3.3.4.4.6		
5	**Contingency procedures**			
	Operators contingency procedures for loss of navigation capability	3.3.4.5.1		