



香港特別行政區政府

民航處

Civil Aviation Department

The Government of the Hong Kong Special Administrative Region

DCA 4047F (RNAV 1 and RNAV 2) (04/2018)

APPLICATION FOR RNAV 1 and RNAV 2 OPERATIONAL APPROVAL (FOR HONG KONG OPERATORS)

(For Foreign Operators: apply RNAV 1 and RNAV 2 operational approval from the State of Operator or Registry)

Please complete the form in BLOCK CAPITALS using black or dark blue ink.

This form is designed to elicit all the required information from those operators requiring RNAV 1 and RNAV 2 operations approvals. The completed form and supporting documentation should be submitted to Civil Aviation Department at the address listed below:

Flight Standards and Airworthiness Division

Civil Aviation Department Headquarters

1 Tung Fai Road, Chek Lap Kok

Lantau, Hong Kong

Email: ops@cad.gov.hk

Fax: (852) 2362 4250

Note: Application submission should be at least 30 days before the start of operations

- Section I Operator details and Signature (completion is mandatory)
- Section II Notes for completion
- Section III Operator's submissions matrix
- Section IV Job Aid (completion is mandatory)



SECTION I. OPERATOR DETAILS AND SIGNATURE

1.	Name of Operator	
2.	Applicant's name	
3.	Title	
4.	Mailing Address	
5.	E-mail Address	
6.	Telephone Number/ Fax Number	
7.	Date of submission	

SIGNATURE: _____



SECTION II. NOTES FOR COMPLETION

1. Applicability
General description of the operation with references to appropriate standards and guidance material.
2. Operator's submissions matrix
Section III of this application form is to highlight the documents required for submission.
3. Documents to be included with the submission
Copies of all documents referred to in the operator's submissions matrix should be included when returning the completed application form to the Civil Aviation Department. Original documents should not be sent; photocopies are sufficient. Do not send complete manuals, only the relevant sections/pages.
FAILURE TO INCLUDE ALL RELEVANT DOCUMENTATION MAY RESULT IN A DELAY IN PROCESSING THE APPLICATION.
4. Submissions and enquiries
Email: ops@cad.gov.hk
Fax: (852) 2362 4250



SECTION III. OPERATOR'S SUBMISSIONS MATRIX

Reference documents	Submission based upon current regulatory material. Compliance statement should show how criteria have been satisfied.
Airworthiness navigation system capability compliance statement	Specify to what standards the navigation system complies.
Aircraft flight manual	Copy of the extract from the AFM showing the certification standard for PBN operation.
Navigation system FMS/autopilot interface capability	Full details of navigation system, FMS and autopilot including type, number, software version.
Navigation accuracy	Statement of certified navigation accuracy.
Navigation database	Details of the supplier of the navigation database, the supplier's approval status and, where necessary, additional quality assurance/data integrity checks applied by the operator or the supplier.
Maintenance	Details of maintenance procedures applicable to the navigation system and associated databases.
Charts	Details of the supplier of charts, supplier's approval status and, where necessary, additional quality assurance/data integrity checks applied by the operator or the supplier.
Error reporting	Outline of error reporting process and procedures for error analysis, prevention and correction, including feedback to the CAD, navigation database and chart suppliers, as well as OEMs.
Standard operating procedures	Details of applicable operating procedures. It is recommended that the manufacturer's procedures are used as a starting point.



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Operations manual	Details of dispatch requirements (navigation accuracy, MEL, RAIM, NOTAMs); RTF phraseology; SOPs; crew authorisation requirements; training and testing requirements.
Any further comments	



SECTION IV. RNAV 1 and RNAV 2 JOB AID

APPLICATION TO CONDUCT RNAV 1 and RNAV 2 OPERATIONS

1. Purpose of the job aid

- a) To provide information on the relevant reference documents.
- b) To provide a record of the operator application, the inspector comments and the operator follow-up action for each relevant paragraph in the reference document(s).

2. Actions recommended for the inspector and operator

- a) At the pre-application meeting, the operator and the inspector review the approval process events and establish the form and content of the approval application.
- b) The operator records references to material in company documents for each relevant paragraph in the job aid.
- c) The operator submits to the inspector the completed job aid with the application.
- d) The inspector records his/her findings for each relevant paragraph in the job aid indicating compliance or necessary corrective action.
- e) The inspector informs the operator as soon as possible when a corrective action is required.
- f) The operator provides the inspector with the revised material when so requested.
- g) The CAD provides the operator with the operations specifications (Ops Specs) and a formal approval when the tasks and documents have been completed.



3. Reference documents

<i>Publisher</i>	<i>Reference</i>	<i>Title</i>
ICAO	Annex 2	Rules of the Air
	Annex 6	Operation of Aircraft
	Doc 4444	Procedure for Air Navigation Services — Air Traffic Management
	Doc 7030	Regional Supplementary Procedures
	Doc 9613	Performance-based Navigation (PBN) Manual
FAA	AC 90-100()	U.S. Terminal and En Route Area Navigation (RNAV) Operations
	14 CFR Part 121, Subpart G	Manual Requirements
EASA	TGL No. 10	Airworthiness and Operational Approval for Precision RNAV Operations in Designated European Airspace
	AMC 20-5	Airworthiness Approval and Operational Criteria for the use of NAVSTAR Global Positioning System (GPS)
CASA	AC 91U-II-B-3	Navigation Authorisations — RNAV 1 and RNAV 2
ICAO (SAM)	AC 91-003	Aircraft and Operators Approval for RNAV 1 and RNAV 2 Operations

**PART 1. GENERAL INFORMATION****BASIC EVENTS OF THE APPROVAL PROCESS**

	<i>Action by Operator</i>	<i>Action by Inspector</i>
1	Establish the need for the authorisation.	
2	Review the AFM, AFM supplement, TC data sheet, other appropriate documents (e.g. STCs, SBs, SLs) to determine aircraft eligibility. If necessary contact the aircraft and/or avionics OEM to confirm eligibility.	
3	Schedule a pre-application meeting with the inspector.	
4		During the pre-application meeting establish: - form and contents of the application; - documents required to support the application; - target date for the application submission; - requirement for flight validation.
5	Submit the application at least 30 days prior to startup of the planned operations.	
6		Review submission.
7	Ensure that amendments to manuals, programmes and other relevant documents are complete; provide training to flight crews, flight dispatchers and maintenance personnel; if required, conduct validation flight(s) as appropriate.	If required, participate in the validation flight(s).
8		Once the requirements have been met, issue operational approval.



PART 2. IDENTIFICATION OF AIRCRAFT AND OPERATORS

Name of Operator: _____

<i>Aircraft manufacturer, model and series</i>	<i>Registration number</i>	<i>Serial number</i>	<i>Navigation system manufacturer, model and number</i>	<i>RNP specification</i>

Date when operator intends to begin RNAV 1 and RNAV 2 operations: _____

<p>Date when application received by CAD: _____</p> <p>Date of pre-application meeting: _____</p>	<p>FOR OFFICIAL USE</p>
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**PART 3. OPERATOR APPLICATION**

<i>Annex</i>	<i>Title</i>	<i>Inclusion by Operator</i>	<i>Comments by Inspector</i>
A	Request for authorisation		
B	Aircraft eligibility — airworthiness AFM, AFM revision, AFM supplement, TCDS showing that the aircraft RNAV systems are eligible.		
C	Aircraft eligibility — modifications (if applicable) Maintenance records documenting installation or modification of aircraft systems to achieve eligibility.		
D	Maintenance Navigation database maintenance practices.		
E	Minimum equipment list		
F	Training Training programmes for flight crew, flight dispatchers and maintenance personnel.		
G	Operating policies and procedures Operations manual and checklists.		



Contents of the application to be submitted by the operator

- compliance documentation for the aircraft/navigation systems;
- operating procedures and policies;
- sections of the maintenance manual related to navigation databases.

Note — Documents may be grouped in a single binder or may be submitted as individual documents.

PART 4. CONTENTS OF THE OPERATOR APPLICATION

#	Topic	<i>Specific ICAO reference</i>	<i>Operator compliance description</i>	<i>Inspector disposition/ comments</i>	<i>Follow-up by Inspector</i>
		<i>(Doc 9613 fourth edition Volume II, Part B, Chapter 3)</i>	<i>(Document reference/ method)</i>	<i>(Accepted/not accepted)</i>	<i>(Status and date)</i>
1	Authorisation request Statement of intent to obtain authorisation.				



#	Topic	Specific ICAO reference	Operator compliance description	Inspector disposition/ comments	Follow-up by Inspector
		(Doc 9613 fourth edition Volume II, Part B, Chapter 3)	(Document reference/ method)	(Accepted/not accepted)	(Status and date)
2	Aircraft/navigation system eligibility Documents that establish eligibility.	3.3.2.2 3.3.2.3.1			
3	Training Details of training programmes.	3.3.2.3.2 3.3.5			
4	Operating policies and Procedures Operations manual and Checklists.	3.3.2.3.3			
5	Maintenance practices Document references for navigation database maintenance practices.	3.3.2.3.5 3.3.6			
6	MEL update	3.3.2.3.4			

**PART 5. OPERATING PROCEDURES**

#	Topic	Specific ICAO reference	Operator compliance description	Inspector disposition/ comments	Follow-up by Inspector
		(Doc 9613 fourth edition Volume II, Part B, Chapter 3)	(Document reference/ method)	(Accepted/not accepted)	(Status and date)
1	Flight planning	—	—	—	—
1a	Verify that the aircraft is approved for RNAV 1 and RNAV 2 operations.	3.3.4.1			
1b	Verify RAIM availability (GNSS only).	3.3.4.3.1 3.3.4.3.2			
1c	Verify the availability of NAVAIDS (non-GNSS).	3.3.4.2.3 3.3.4.3.4			
1d	Verify that the navigation database (if carried) is current and appropriate for the region.	3.3.4.2.2 3.3.4.5.3			
1e	Verify the FPL: “R” should appear in field 10 and PBN/C1-D4 (as appropriate) in field 18.	3.3.4.2.1			



#	Topic	Specific ICAO reference	Operator compliance description	Inspector disposition/ comments	Follow-up by Inspector
		(Doc 9613 fourth edition Volume II, Part B, Chapter 3)	(Document reference/ method)	(Accepted/not accepted)	(Status and date)
2	General operating procedures	—	—	—	—
2a	Verify the flight-planned route.	3.3.4.5.3			
2b	Advise ATC if unable to comply with the requirements for RNAV 1/ RNAV 2.	3.3.4.5.2			
2c	Confirm that the navigation database is up to date.	3.3.4.5.3			
2d	Retrieve SIDs/STARs only from the database.	3.3.4.5.4			
2e	Cross-check the chart with the RNAV system display.	3.3.4.5.3 3.3.4.5.6			
2f	Cross-check with conventional NAVAIDS to monitor for navigational reasonableness.	3.3.4.5.7			



#	Topic	Specific ICAO reference	Operator compliance description	Inspector disposition/ comments	Follow-up by Inspector
		(Doc 9613 fourth edition Volume II, Part B, Chapter 3)	(Document reference/ method)	(Accepted/not accepted)	(Status and date)
2g	Use an appropriate display.	3.3.4.5.8 3.3.4.5.9			
2h	Use appropriate scaling.	3.3.4.5.10			
2i	Follow route centre line within 1 or 0.5 NM.	3.3.4.5.11			
2j	Do not modify the flight plan in the RNAV system after ATC heading assignment until a clearance is received to re-join the route or a new clearance is confirmed.	3.3.4.5.12			
3	RNAV SID requirements	—	—	—	—
3a	Prior to take-off check the RNAV system, aerodrome and procedure loaded and the displayed position.	3.3.4.6.1			



#	Topic	Specific ICAO reference	Operator compliance description	Inspector disposition/ comments	Follow-up by Inspector
		(Doc 9613 fourth edition Volume II, Part B, Chapter 3)	(Document reference/ method)	(Accepted/not accepted)	(Status and date)
3b	Engage LNAV no later than 153 m (500 ft) above aerodrome elevation.	3.3.4.6.2			
3c	If DME/DME only, do not use RNAV until within adequate DME coverage.	3.3.4.6.4			
3d	If DME/DME/IRU only, confirm navigation position within 0.17 NM of the start of the take-off roll.	3.3.4.6.5			
3e	If GNSS, acquire signal before start of take-off roll.	3.3.4.6.6			
4	RNAV STAR requirements	—	—	—	—
4a	Verify that the correct STAR is loaded and displayed.	3.3.4.7.1			



#	Topic	<i>Specific ICAO reference</i>	<i>Operator compliance description</i>	<i>Inspector disposition/ comments</i>	<i>Follow-up by Inspector</i>
		<i>(Doc 9613 fourth edition Volume II, Part B, Chapter 3)</i>	<i>(Document reference/ method)</i>	<i>(Accepted/not accepted)</i>	<i>(Status and date)</i>
4b	Contingency preparations.	3.3.4.7.3			
4c	Procedure modification in response to ATC instructions.	3.3.4.7.4			
4d	Observance of speed and altitude constraints.	3.3.4.7.6			



PART 6. CONTINGENCY PROCEDURES

#	Topic	Specific ICAO reference	Operator compliance description	Inspector disposition/ comments	Follow-up by Inspector
		(Doc 9613 fourth edition Volume II, Part B, Chapter 3)*	(Document reference/ method)	(Accepted/not accepted)	(Status and date)
1	Contingencies	—	—	—	—
1a	Advise ATC if unable to comply with the requirements for RNAV 1/RVAV 2.	3.3.4.8.1			
1b	Air-ground communications failure.	3.3.4.8.2 (Doc 4444 Chapter 15, 15.3)			
*All references are to Doc 9613 fourth edition, Volume II, Part B, Chapter 3, unless otherwise indicated.					



Personal Data Collection Statement

1. Purposes of Collection

The personal data provided by means of this form, including all the supporting documents included in the application, will be used by Civil Aviation Department for the following purposes:

- a. Processing of your application in this form;
- b. Carrying out relevant provisions of the Civil Aviation Ordinance (Chapter 448) and its subsidiary Orders / Regulations;
- c. Assisting in the enforcement of any other Ordinances and Regulations by other Government Bureaux and Departments;
- d. For communication purposes between Civil Aviation Department and yourself;
- e. For validation and verification of authenticity of your supporting documents in association with the application;
- f. For statistics and research purposes on the condition that the resulting statistics or results will not be made available in a form which will identify the data subjects.

It is obligatory for you to supply the personal data as required in this form. If you fail to supply the required data, we may not be able to process your application.

2. Classes of Transferees

The personal data you provided by means of this form may be disclosed to:

- a. Other Government Bureaux and Departments for the purposes mentioned in paragraph 1 above;
- b. Other Contracting States of the International Civil Aviation Organisation and Civil Aviation Authorities for the purpose mentioned in paragraph 1 above;

- c. Other organisations or agencies for execution of their duties as required by Civil Aviation Department.

3. Access to Personal Data

You have a right of access and correction with respect to personal data as provided for in Sections 18 and 22 and Principle 6 of Schedule 1 of the Personal Data (Privacy) Ordinance. Your right of access includes the right to obtain a copy of your personal data provided by this form.

4. Enquiries

Enquiries concerning the personal data collected by means of this form, including the making of access and correction, should be addressed to :

Flight Standards Office
Flight Standards and Airworthiness Division
Civil Aviation Department Headquarters
1 Tung Fai Road
Hong Kong International Airport
Lantau, Hong Kong

(Attn.: Safety Officer (Technical Support))

Anti-bribery Reminder:

Anyone, while having dealings of any kind with the Civil Aviation Department (CAD), should not offer advantage to the CAD officers, or else he may commit an offence under section 4(1) and/or section 8 of the Prevention of Bribery Ordinance (Chapter 201 of Laws of Hong Kong), and be liable to a maximum penalty of a fine of \$500,000 and imprisonment for 7 years.