



Agenda Item 4: Standards and procedures for performance-based navigation operations approval

Forms CMA F5 AND CMA F6 for Approval and cancellation of aircraft and operators approval for performance-based navigation (PBN)

(Presented by the Secretariat)

Summary	
<p>This working paper presents information on the corresponding forms for approval and cancellation of PBN approval, and civil aviation administrations are invited to take the corresponding actions for its application at a national level.</p>	
References:	
<ul style="list-style-type: none">• Doc. 9613, Manual on performance based navigation• Fifth Workshop/Meeting (SAM/IG/5) Report• PBN Implementation Project – short term en-route operations in the SAM Region.	
ICAO Strategic objectives	<i>A – Safety</i> <i>C – Environmental Protection</i> <i>D – Efficiency</i>

1 Background

1.1 Within the framework of performance-based navigation (PBN), the SAM Implementation Group (SAMIG) has decided to establish a database with RNAV5 aircraft and operators' approval and other navigation specifications, which would be in charge of the CAR/SAM Regional Monitoring Agency (CARSAMMA).

2 Analysis

2.1 In order to establish a database, the Meeting felt that it was necessary to prepare the corresponding forms for approval and cancellation of approvals and the Secretariat was requested to, jointly with CARSAMMA and the support of the Regional Project RLA/06/901, if applicable, distribute the necessary forms to the SAM Region States, in order to prepare and keep updated the referred database.

2.2 CARSAMMA, together with the Secretariat, have prepared the Form models for registration of approval and cancellation of approval of PBN aircraft and operators shown in **Appendices A and B** to this working paper.

2.3 These forms have been named CMA F5 and CMA F6 and contents, contain instructions to fill them, and once they are completed by the certifying authorities either in approval or cancellation process, as applicable, will become the only data base for Regional PBN approval, and should be sent to the CAR/SAM Regional Monitoring Agency (CARSAMMA).

2.4 This data base (simplified version) will be available through internet for all interested parties, and in the full version, this form will be sent on a monthly basis to other agencies (RMA) for information exchange purposes.

2.5 In addition, together with forms CMA F5 and CMS F6, the instructions to fill them are available.

2.6 The forms for approval and cancellation of approval of aircraft and operations for performance-based navigation (PBN) were submitted to the aeronautical authorities through letter LT 11/30.2-SA455 dated 8 July 2010.

3 **Suggested action**

3.1 The meeting is invited to take note of forms CMA F5 and CMS F6 shown in **Appendices A and B** to this working paper, and to take the corresponding actions in order to apply the referred forms within your administration.

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APPENDIX A



THE INFORMATION CONTAINED IN THIS FORM MUST BE COINCIDENT WITH THE "SPECIFICATIONS RELATED TO OPERATIONS" THAT EACH AIRCRAFT SHOULD KEEP ONBOARD

CMA F5 REGISTRY OF PBN OPERATIONS AIRCRAFT APPROVAL

Report to CARSAMMA aircraft approved for PBN operations.

1. Certifying Authority:				
AIRCRAFT IDENTIFICATION				
2. State of Registry:	3. Name of Operator :			4. State of operator:
5. Registry number:	6. Aircraft Type:	7. Aircraft Serial:	8. Manufacturer's serial number:	
PBN APPROVAL				
9. Approval		10. Specification	11. Code	12. Date of approval
Yes <input type="checkbox"/>	No <input type="checkbox"/>	RNAV 10 (RNP 10)		
Yes <input type="checkbox"/>	No <input type="checkbox"/>	RNAV 5		
Yes <input type="checkbox"/>	No <input type="checkbox"/>	RNAV 2		
Yes <input type="checkbox"/>	No <input type="checkbox"/>	RNAV 1		
Yes <input type="checkbox"/>	No <input type="checkbox"/>	RNP 4		
Yes <input type="checkbox"/>	No <input type="checkbox"/>	RNP 2		
Yes <input type="checkbox"/>	No <input type="checkbox"/>	RNP 1 basic		
Yes <input type="checkbox"/>	No <input type="checkbox"/>	RNP 1 advanced		
Yes <input type="checkbox"/>	No <input type="checkbox"/>	RNP APCH		
Yes <input type="checkbox"/>	No <input type="checkbox"/>	RNP AR APCH		
Yes <input type="checkbox"/>	No <input type="checkbox"/>	APV BARO VNAV		
13. ADDITIONAL INFORMATION				
14. RESPONSIBLE CERTIFYING AUTHORITY				
15. Issuance Date:				

When completed, please return the report(s) to:
 Agencia de Monitoreo para el Caribe y Sudamérica (CARSAMMA)
 Assessoria de Segurança no Controle do Espaço Aéreo (ASEGCEA)
 PRAÇA SENADOR SALGADO FILHO, S/N - CENTRO
 20021-370 - RIO DE JANEIRO - RJ
 Tel: (55-21)2101-6358 Fax: (55-21) 2101-6358
 E-Mail: carsamma@decea.gov.br



INSTRUCTIONS TO COMPLETE THE CARSAMMA FORM CMA F5

1. Enter the identification of the Certifying authority.
2. Enter the two ICAO identification letters of the Registry State, as contained in ICAO Doc 7910.
3. Enter the three ICAO identification letters of the user, as contained in ICAO Doc 8585. For International General Aviation, enter "IGA". For military aircraft, enter "MIL". In Other situation, place an X in this field and write the name of the user/owner in the column 13, Additional Information.
4. Enter the ICAO State two letters the identification, as contained in ICAO Doc 7910.
5. Enter the aircraft registry.
6. Enter the ICAO designator, as contained in ICAO Doc 8643; i.e., for Airbus A320-211, enter A322; for Boeing B747-438, enter B744.
7. Enter the series of aircraft type or manufacturers designation; i.e., for Airbus A320-211 enter 211; for Boeing B747-438, enter 400 or 438.
8. Enter the Aircraft Manufacturer Serial Number.
9. Indicate status of operational clearance to operate as per each one of the specifications detailed in column 10.
10. Do not enter.
11. Enter the code that shall establish with which equipment was the operation authorized. This code shall be consequent with what was entered in **Table "A"** below.
Note: RNP 1 Advanced and RNP 2 specifications are in progress, and no code has been associated yet for these specifications.
12. Enter the date in which aircraft was cleared.
13. Enter if you wish to make a relevant indication.
14. Signature of certifying authority.
15. Enter with the entering date; i.e., for 26 October 2010, enter 26/10/10.

TABLE A

Code	RNAV Navigation Specifications
A1	RNAV 10 (RNP 10)
B1	RNAV 5 – All sensors allowed
B2	RNAV 5 GNSS
B3	RNAV 5 DME/DME
B4	RNAV 5 VOR/DME
B5	RNAV 5 INS o IRS
B6	RNAV 5 LORAN C
C1	RNAV 2 – All sensors allowed
C2	RNAV 2 GNSS
C3	RNAV 2 DME/DME
C4	RNAV 2 DME/DME/IRU
D1	RNAV 1 – All sensors allowed
D2	RNAV 1 GNSS
D3	RNAV 1 DME/DME
D4	RNAV 1 DME/DME/IRU
Code	RNP Navigation Specifications
L1	RNP 4
O1	RNP 1 basic – All sensors allowed
O2	RNP 1 GNSS basic
O3	RNP 1 DME/DME basic
O4	RNP 1 DME/DME/IRU basic
S1	RNP APCH
S2	RNP APCH with BARO-VNAV
T1	RNP AR APCH with RF (special clearance required)
T2	RNP AR APCH without RF (special clearance required)

APPENDIX B



THE INFORMATION CONTAINED IN THIS FORM
MUST BE COINCIDENT WITH THE CONTENT OF
"SPECIFICATIO NS RELATED TO OPERATIONS"
WHICH EACH AIRCRAFT MUST CARRY ON BOARD.

CMA F6

AIRCRAFT CANCELLATION REGISTRY FOR PBN OPERATIONS

1. When the Registry State originates the discharge of a user / aircraft approval for PBN operations in the CAR/SAM Regions, details as those shown below must be submitted to CARSAMMA through the most appropriate method.
2. The form must be entered and immediately submitted to CARSAMMA when the registry State originates the discharge of a user / aircraft approval for PBN operations.

1. CERTIFYING AUTHORITY:			
AIRCRAFT IDENTIFICATION			
2. State of Registry	3. Name of Operator:		4. State of Operator:
5. Registry number:	6. Aircraft Type:	7. Aircraft Serial :	8. Manufacturer´s Serial Number:
9. PBN APPROVAL CANCELLATION:	Type of approval cancelled:		Date:
10. REASON FOR APPROVAL CANCELLATION:			
11. REMARKS:			
12. RESPONSIBLE CERTIFYING AUTHORITY:			
13. ISSUANCE DATE:			

When completed, please send the report(s) to:
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 PRAÇA SENADOR SALGADO FILHO, S/N - CENTRO
 20021-370 - RIO DE JANEIRO - RJ
 Tel: (55-21)2101-6358 Fax: (55-21) 2101-6358
 E-Mail: carsamma@decea.gov.br



INSTRUCTIONS TO COMPLETE THE CARSAMMA FORM F6

2. If focal points may not transmit the information requested in Form CARSAMMA F6 through internet, they should send it through an e-mail to CARSAMMA. A CARSAMMA Form should be completed for each PBN-approved aircraft. The explanation below refers to the numbers written in the fields of CARSAMMA Form F6.
 1. Enter the identification of the Certifying Authority.
 2. Enter the two ICAO identification letters of the Registry State, as contained in ICAO Doc 7910.
 3. Enter the three ICAO identification letters, as contained in Doc. 8585. For International General Aviation, enter "IGA". For military aircraft, enter "MIL". In any other situation, place an X in this field and write the name of the user / owner in column 11, "Remarks".
 4. Enter the two ICAO letters of identification from the User's State, as contained in ICAO Doc. 7910.
 5. Enter the aircraft registry.
 6. Enter the ICAO designator, as contained in ICAO Doc. 8643; i.e., for Airbus A320-211, enter A322; for Boeing B747-438, enter B744.
 7. Enter the aircraft type serial or manufacturer's designator; i.e., for Airbus A320-211, enter 211; for Boeing B747-438, enter 400 or 438.
 8. Enter the aircraft Manufacturer's serial number.
 9. Enter the cancelled approval type (code or name) and the Cancellation Date. Use one or more lines, is applicable.
 10. Enter the reason for cancellation.
 11. Enter Remarks, if appropriate.
 12. Signature of the Certifying Authority.
 13. Enter with the entering date; i.e., for 26 October 2010, enter 26/10/10.