International Civil Aviation Organization
South American Regional Office
Third SAM Workshop/Meeting on ATS Routes Network Optimisation (SAM ATSRO/3) - RLA/06/901
Lima, Peru, 4 to 8 July 2011

SAM ATSRO/3-WP/08
26/06/11

Agenda Item 2: Analysis of Version 1 of the SAM ATS routes network

PBN CAPACITY OF THE SAM AIRCRAFT FLEET

(Presented by the Secretariat)

Summary

The objective of this working paper is to present the results of the survey conducted in 2009 on PBN capacity of the SAM aircraft fleet, and to present the draft tool for consulting the database generated. The paper also contains a proposal for States to continue adding the corresponding information to the database pursuant to Conclusion SAM/IG/4-3, *Continued data collection about PBN fleet capacity in the South American Region*.

References:
- Regional Project RLA/99/901
- SAM/IG meeting reports

ICAO Strategic Objectives:	***A - Safety*** ***C – Environmental protection and sustainable development of air transport***

1 Background

1.1 The second workshop/meeting of the SAM Implementation Group (SAM/IG/2) (Lima, Peru, 3-7 November 2008) approved a proposal to conduct a survey amongst SAM States on the identification of aircraft by registration number *versus* PBN capacity. In order to conduct this survey, the Region Safety Oversight Cooperation System (SRVSOP) developed a form on PBN capacity of aircraft as part of its support to the implementation of PBN in the Region.

1.2 The survey was circulated amongst SAM States through letter LT 2/3A.5-SA058 dated 29 January 2009, requesting them to send information on commercially operated aircraft with a mass greater than 5,700 kg before 20 March 2009.

1.3 The third workshop/meeting of the SAM Implementation Group (SAM/IG/3) (Lima, Peru, 20-24 April 2009) agreed to modify the survey form to include additional information on RNP AR APCH operations. It also agreed to set a single date for delivery of results on 31 July 2009. On that date, States shall send the results corresponding to aircraft used for:

a) commercial air transport with a mass greater than 5 700 kg;

b) commercial air transport with a mass equal to or less than 5 700 kg; and

c) general aviation.

1.4 In this sense, the delivery date for SAM States that were requested to complete the survey through letter LN 3/17.6.38 – SA5209 (04/05/09) as well as for those States that had already sent part of the information requested in letters LN 3/17.6.38 – SA5202 (04/05/09) and LN 3/17.6.38 – SA5222 (11/05/09) was set for 31 July 2009.

1.5 The SAMIG/4 meeting (19-23 October 2009) analysed once again the survey on PBN capacity of the SAM aircraft fleet, taking note of the progress made in the collection of information and the status of development of the corresponding database. The meeting noted that by 2009, information on commercial aviation had been received from Argentina, Bolivia, Brazil, Colombia, Chile, Ecuador, Guyana, French Guiana, Uruguay and Peru. **Appendix A** contains information about the status of completion of the survey.

1.6 In this regard, the meeting considered that efforts should continue to be made so that each State, through its PBN focal point, could take appropriate action for prompt delivery of information on PBN capacity of its fleet to the ICAO Regional Office. Information collected by States should, to the extent possible, be sent to the Regional Office in Excel format.

2 Discussion

2.1 According to the survey management procedure in each State, a focal point has been designated for collecting all the information for this survey, inserting it in an Excel database, and finally sending it to the ICAO Regional Office. Accordingly, State focal points must take the appropriate action to send the information on PBN fleet capacity to the ICAO Regional Office. **Appendix B** contains the list of PBN focal points of SAM States.

2.2 To facilitate the updating of data, it was decided that the file containing the survey information of each State would be posted on the Office website, and that each State would have a code to access information about its fleet. Thus, each State would be able to update the data and send it by e-mail to the Regional Office. Likewise, Conclusion SAM/IG/4-3 *Continued data collection about PBN fleet capacity in the South American Region* was approved as follows:

Conclusion SAM/IG/4-3 Continued data collection about PBN fleet capacity in the South American Region

The Meeting considered that:

a) efforts should be continued in order that each State, through its PBN Focal Points, conduct such actions to send, as soon as possible, information about its PBN fleet capacity to the ICAO Regional Office. The information collected by States should, as far as possible, be sent to the Regional Office in a file with Excel format.

b) that each State is responsible for providing data and, as time passes, updates or further details on the submitted data should be made;

c) to facilitate the updating of data, the file of the survey of each State be posted on the website of the SAM Office, in order that each State, through a code, can have access to information on its fleet and thus perform the update of the data entered, and send it, via e-mail, to the Regional Office.

2.3 The action plan for the optimisation of the ATS route network in the SAM Region (see WP/02), Phase 3, Version 2 of the ATS route network, in paragraph 3.2.2, requires an analysis of fleet navigation capacity to enable a more in-depth analysis of possible solutions for Version 2. Accordingly, States are again requested to complete the fleet capacity database before 30 October 2011.

3 Suggested action

3.1 The Meeting is invited to:

a) take note of the information provided in this working paper;

b) request States to take the necessary action to collect the pending information and to insert such information in the database of each State; and

c) use the SAM PBN fleet capacity form shown in **Appendix B**.

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APPENDIX A

SURVEY STATUS ON THE SAM REGION AIRCRAFT FLEET PBN CAPACITY

Date: at 22/10/2009

State	Was a reply received?	Comments
Argentina	YES	1. Only aircraft affected in air commercial operations 2. In forms sent the air operators are not identified 3. Information missing for general aviation, of more than 5700 kg. 4. For general aviation of less than 5700 kg. informs that the information may not be sent in view of the fact that it is an enormous effort in time established.
Bolivia	YES	1. Commercial aviation only 2. Information missing for general aviation
Brazil	YES	1. Only aircraft upper to MTOW 5700 kg; 2. Information lacks on RNP AR APCH
Colombia	YES	1. Only commercial aviation; it is necessary to submit via e-mail this data to facilitate reading of the same. 2. Information missing on RNP AR APCH.
Chile	SI	1. Only commercial aviation with aircraft of more than MTOW 5700 kg
Ecuador	SI	1. Only commercial aviation
Guyana	SI	1. Only commercial aviation
French Guyana	SI	1. Only commercial aviation 2. Information on RNP AR APCH missing
Panamá	Si	1. Only commercial aviation with aircraft of more than MTOW 5700 kg from COPA
Paraguay		
Perú	SI	1. Only commercial aviation with aircraft of more than MTOW 5700 kg; 2. Information on RNP AR APCH missing
Uruguay	SÍ	1. Only commercial aviation
Suriname		
Venezuela		

APPENDIX B

PBN FOCAL POINTS UP TO JULY 2011

State	Name	E-mail	Comments
Argentina	Daniel Movsesian	dmovsesian@anac.gov.ar	
Bolivia	Cesar Varela	cvarela@dgac.gob.bo	
Brasil	Julio Pereira	pln1@decea.gov.br	
Chile	Ricardo Bordalí	rbordali@dgac.cl	
Colombia	Rafael Rocha	rrocha@aerocivil.gov.co	
Ecuador	Bolivar Dávalos	bolivar_davalos@dgac.gov.ec bolodavalos@yahoo.es	
Guyana Francesa	Philippe Rondel	philippe.rondel@aviation-civile.gouv.fr	
Guyana	Artie Heeralall	dans@gcaa-gy.org	
Panamá	Ivan de León	ideleon@aeronautica.gob.pa	
Paraguay	Roque Díaz	dac@dinac.gov.py; roquediaze@gmail.com	
Perú	Fernando Hermoza	fhermoza@mintc.gob.pe	
Suriname	Keneth Dors	ats.sur@sr.net	
Uruguay	Rosanna Barú	rocbb17@gmail.com	
Venezuela	Juan Ochoa	c.ochoa@inac.gob.ve	
IATA	Manuel Góngora	gongoram@iata.org	

APENDICE C / APPENDIX C

CAPACIDAD PBN DE LAS AERONAVES
PBN AIRCRAFT CAPACITY

1. Explotador :
Operator:

Fecha:
Date

2. Aeronave Aircraft		3. Capacidad RNAV RNAV Capacity (AFM)					4. Capacidad RNP RNP Capacity (AFM)					5. Baro-VNAV (AFM)	6. Sensores de Navegación Navigation Sensors					8. Integridad Integrity		9. FMS		
																7. GPS Primario TSO C129A/C145A/C146A						
Matrícula Register	Modelo Model	10 (RNP 10)	5	2	1	P-RNAV	4	2	1	RNP APCH	RNP AR APCH		VOR/DME	DME/DME	INS o IRS	Single	Dual	RAIM o AAIM	FDE	No	Single	Dual

Instrucciones para el llenado de la Tabla / Instructions for filling out the Table

1. Explotador/Operator: Complete el nombre del explotador, por ejemplo: CONDOR/Complete the name of the operator, for example: CONDOR.

2. Aeronave/Aircraft: En este punto se encuentran dos columnas que permiten identificar a la aeronave/At this point there are two columns which permit aircraft identification:

- ► en la columna titulada "Matricula", indique la matrícula de la aeronave/In column titled "License", please indicate aircraft license..
- ► en la columna titulada "Modelo", indique el modelo de la aeronave, por ejemplo B767-300./In column titled "Model" indicate the aircraft model, for example B767/300.

3. Capacidad RNAV: marque con una X, según corresponda, si la aeronave dispone de capacidades RNAV con los valores de confinamiento señalados en las columnas, de acuerdo a lo indicado en el Airplane Flight Manual (AFM) o en el Pilot Operating Handbook (POH). Esta solo debe reflejar la capacidad demostrada de la aeronave y no necesariamente el que tenga una autorización operacional de su Administración./Mark with an X, as required, if aircraft has RNAV capacilities with confinement values shown in columns, as per indicated in Airplane Flight Manual (AFM) or in the Pilot Operating Handbook (POH). This should reflect only the aircraft demonstrated capacity and not necessarily the one having operational clearance of its administration.

RNAV Capacity: Notas/Notes:

- ► Si el AFM indica la capacidad RNP10, esta debe considerarse como válida en la opción RNAV 10./If AFM indicates RNP10 capacity, it should be considered as valid in option RNAV/10.
- ► Si el AFM indica la capacidad B-NAV, esta debe considerarse como válida en la opción RNAV 5./If AFM indicates B-NAV capacity, it should be considered as valid in option RNAV 5.

4. Capacidad RNP: marque con una X, según corresponda, si la aeronave dispone de capacidades RNP con los valores señalados en las columnas, de acuerdo a lo indicado en el Airplane Flight Manual (AFM) o en el Pilot Operating Handbook (POH). Esta solo debe reflejar la capacidad demostrada de la aeronave y no necesariamente el que tenga una autorización operacional de su Administración.

5. Baro-VNAV: marque con una X, según corresponda, si la aeronave dispone de capacidad Baro-VNAV, de acuerdo a lo indicado en el Airplane Flight Manual (AFM) o en el Pilot Operating Handbook (POH). Esta solo debe reflejar la capacidad demostrada de la aeronave y no necesariamente el que tenga una autorización operacional de su Administración. /Mark with an X if aircraft has BARO-VNAV capacity, as indicated in the Airplane Flight Manual (AFM) or in the Pilot Operating Handbook (POH). I should only reflect capacity demonstrated of the aircraft and not necessarily the one having an operational clearance by its administration.

6. Sensores de Navegación/ Navigation sensors: marque con una X, según corresponda, los sensores de navegación con que dispone la aeronave./Mark with an X, as required, the navigation sensors of the aircraft.

7. GPS Primario/Primary GPS: marque con una X, según corresponda, si la aeronave dispone de equipos DPS single o dual, certificados como equipos de navegación primarios y que cumplen con las TSO C129A; C145A o C1

8. IntegridadIntegrity: marque con una X, según corresponda, si el sistema GNSS de la aeronave dispone de medios para asegurar la integridad de los señales de navegacion GPS (Vigilancia autónoma de la integridad en el receptor (RAIM) y de deteccion de fallas o exclusion (FDE). / Mark with an X, as required, if GNSS aicraft System has means to ensure integrity of GPS navigation signals. (Receptor Autonomous surveillance of receptor integrity (RAIM) and detection of failures or exclusion (FDE).

9. FMS: marque con una X, según corresponda, en caso la aeronave disponga de FMS o No./Mark with an X as required, in case the aircraft has FMS or No.

A continuación se describe un ejemplo de cómo llenar la tabla/Here follows an example of how to fill in the table:

1. Explotador : CONDOR
Operator:

2. Aeronave Aircraft		3. Capacidad RNAV / RNAV Capacity (AFM)					4. Capacidad RNP/ RNP Capacity (AFM)				5. Baro-VNAV (AFM)	6. Sensores de Navegación / Navigation Sensors					8. Integridad Integrity		9. FMS		
												VOR/DME	DME/DME	INS o IRS	7. GPS Primario/PrimaryTSO C129A/C145A/C146A						
Matrícula Register	Modelo Model	10 (RNP 10)	5	2	1	P-RNAV	4	2	1	APRCH					Single	Dual	RAIM o AAIM	FDE	No	Single	Dual
BB-MEL	DHC-8-200	-	x	-	-	-	-	-	-	-	-	-	x	x	x		x	x	-	x	
AA-165	A321-232	x	x	x	x	x	x	x	x	x	x	x		x	-	x	x	x	-	-	x