



- c) consultation with stakeholders involved in transition planning to ensure that all stakeholders' needs, issues and concerns are addressed;
- d) State (or other organization) decision-making bodies to publish in their AIP non-compliance with ICAO chart titling plan and to inform their stakeholders should the State not elect to transition to the new chart identification;
- e) regulators to ensure that the “package” of chart identification, radio telephony, pilot and flight crew procedures (enabling shared flight crew/air traffic control (ATC) understanding) is properly formulated and is consistent with international practices;
- f) service providers and airline operators to provide effective briefings and knowledge transfer, and to ensure where appropriate that training is provided for operational personnel; and
- g) development of a timely and effective communication plan as this is key to synchronized transition planning and effective transition execution.

1.5 In September 2018, during the 3rd PANS-OPS Workshop (SAM/PANS-OPS/3), States were invited to present the procedures published in their AIP and the number of the procedures affected by the new identification. The commitment assumed was to develop an implementation plan for Circular 353 AN/209 and present that plan to ICAO South American Regional Office for the development of an implementation plan for the SAM Region.

1.6 This working paper presents the Circular 353 AN/209 “*Transition planning for change to instrument flight procedure approach chart identification from RNAV to RNP*” implementation plan for the Brazilian airports.

## 2. Brazilian PBN Procedures

2.1 IFR procedures published for Brazilian airports (IAC, SID, STAR) can be consulted on the AISWEB portal:

*<https://www.aisweb.aer.mil.br/?i=cartas>*

2.2 Brazil has over 1.524 IFR procedures (IAC, SID, STAR) published for 135 airports with IFR operations:

IAC		SID		STAR	
CONV	PBN	CONV	PBN	CONV	PBN
447	266	294	345	43	129
713		639		172	

Table 1 –IFR Procedures in Brazilian AIP

2.3 Procedures affected by Circular 353 AN/209 (new identification and PBN Box) are the following:

TYPE	NUMBER
RNAV (GNSS)	219
RNAV (RNP)	25
ILS (RNAV)	50
PINS (RNAV)	11
LOC (RNAV)	05
TVD (RNAV)	04
HEL (RNAV)	02
<b>TOTAL</b>	<b>316 IAC</b>

Table 2 – Approach procedures affected by Circular 353 AN/209

Note: It's considered that ILS procedures with RNAV transition are also affected by Circular 353 AN/209 because of the need to insert PBN Box on the chart.

2.4 In order to facilitate the development of the implementation plan, a control table has been prepared for the procedures:

Localidade	Tipo	NavSpec	PNA	RWY	Regional	Atualizada	FPDAM
SBAC	RNAV	RNAV	RNAV (GNSS) RWY 09	09			
SBAC	RNAV	RNAV	RNAV (GNSS) RWY 27	27			
SBAE	RNAV	RNAV	RNAV (GNSS) RWY 17	17			
SBAE	RNAV	RNAV	RNAV (GNSS) RWY 35	35			
SBAN	RNAV	RNAV	RNAV (GNSS) Z RWY 06L	06L			
SBAN	RNAV	RNAV	RNAV (GNSS) Y RWY 24R	24R			
SBAN	ILS	RNAV	ILS Z RWY 24R	24R			
SBAQ	RNAV	RNAV	RNAV GNSS RWY 17	17			
SBAQ	RNAV	RNAV	RNAV GNSS RWY 35	35			
SBAR	RNAV	RNAV	RNAV (GNSS) RWY 11	11			
SBAR	RNAV	RNAV	RNAV (GNSS) RWY 29	29			
SBAR	RNAV	RNAV	RNAV (GNSS) RWY 03	03			

Table 3 – Control table of the IAP affected by Circular 353 AN/209

### 3. Proposed Implementation Plan of Circular 353 AN/209

3.1 The strategy for the development of the implementation plan of Circular 353 AN/209 considered the following aspects:

- a) Establish blocks of procedures divided in group of AD and TMA;
- b) Start the change for the simplest TMAs;
- c) Change all procedures of the TMA.

FIR BRASIL	NUMBER
FIR BRASÍLIA	49
FIR CURITIBA	110
FIR RECIFE	49
FIR AMAZÔNICA	49
SRPV-SP	59
<b>TOTAL</b>	<b>316 IAC</b>

Table 4 – IAP PBN blocks by FIR

3.2 The proposed Implementation Plan of Circular 353 AN/209 (number of procedures, work blocks, time necessary for the change) is presented in Table 5.

3.3 Estimate that it will take 2.9 years to make the changes in the PBN procedure charts (and ILS with RNAV transition). The proposal is to start the work in JAN 2020.

Note: The time needed to make the change in the identification of the procedure (and introduction of the PBN Box) depends on the updating of the chart. More "old" charts take more time for correction.

<b>FIR</b>	<b>IAC</b>	<b>BLOCK</b>	<b>MONTHS</b>	<b>PERIOD</b>
<b>FIR AMAZÔNICA</b>	49	01	6.0	JAN/JUN 2020
<b>FIR RECIFE</b>	49	02	6.2	JUL 2020 JAN 2021
<b>FIR BRASÍLIA</b>	49	03	5.4	FEB/JUL 2021
<b>SRPV-SP</b>	59	04	5.6	AUG 2021 JAN 2022
<b>FIR CURITIBA (1)</b>	63	05	5.9	FEB/JUL 2022
<b>FIR CURITIBA (2)</b>	47	06	3.9	AUG/NOV 2022
<b>TOTAL</b>	<b>316</b>		<b>33</b>	<b>2.9 YEARS</b>

Table 5 – Proposed Implementation Plan of Circular 353 AN/209 - BRAZIL

3.4 In addition to the proposed change in the identification of PBN procedures, other actions will be adopted for the implementation of Circular 353 AN / 209:

- a) Adjust internal regulations (MACAR, CIRCEA, etc);
- b) Adapt design procedure tools (FPDAM, etc);
- c) Train pilots and ATCO;
- d) Coordinate the change with database providers;
- e) AIC to disclose the information;
- f) Coordinate the implementation with other organizations and authorities;
- g) Attend the Regional Plan that will be developed by the ICAO South American Regional Office.

#### 4. Suggested Actions

4.1 The Meeting is invited to:

- a) take note and review the information provided in this working paper;
- b) approve the creation of a working group of the Study and Airspace Implementation Group of the SAM (GESEA) to study and propose the development of a Implementation Plan of Circular 353 AN/209 for SAM Region (GESEA/SG2/GT Circular 353);
- c) To appoint advisors and the rapporteur of the GESEA/SG2/GT Circular 353, under GESEA/SG2; and
- d) Discuss and approve a schedule of meetings to develop the implementation plan.