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**THIRD MEETING OF THE NAM/CAR AIR NAVIGATION IMPLEMENTATION WORKING GROUP (ANI/WG)
AERONAUTICAL INFORMATION MANAGEMENT (AIM) IMPLEMENTATION TASK FORCE
(AIM/TF/03)**

Mexico City, 25 to 28 February 2020

Agenda Item 8: Aeronautical Charts/by GREPECAS Conclusion 18/11 - Charting Deficiency Strategy (RNAV–RNP Procedures – Circ 353)

AERONAUTICAL CHARTS TRANSITION PLANNING FOR RNP APCH IDENTIFICATION

(Presented by the Secretariat)

EXECUTIVE SUMMARY

This Information Paper presents the ICAO’s strategy on the transition of RNP APCH chart identification from RNAV to RNP that was issued in Electronic Bulletin (EB2018/11) and Circular 353. It also provides the RNP APCH implementation status of each State (ANSP) and proposes to develop regional and State transition plan in accordance with AIM capacity.

<i>Strategic Objectives:</i>	<ul style="list-style-type: none">• Safety• Air Navigation Capacity and Efficiency•
<i>References:</i>	<ul style="list-style-type: none">• ICAO Doc 8168, PANS - Aircraft Operations (PANS-OPS),

1. Introduction

1.1 ICAO Doc 8168, PANS - Aircraft Operations (PANS-OPS), Volume II, Amendment 6 (effective on 13 November 2014) introduced a change in chart identification for PBN approaches. For the transitional measures of implementation, it allows States to use both existing and new chart identification until 30 November 2022. In addition, ICAO published Circular 336, Area Navigation (RNAV) to Required Navigation Performance (RNP) Instrument Approach Chart Depiction to provide guidance on the changes of Amendment 6.

1.2 As two types of chart identification for RNP APCH were used, some concerns were raised during the application of new chart identification, namely FMS limitations in terms of both hardware and software changes, and confusion by pilots. As a result of these, ICAO issued the Electronic Bulletin 2017/05 to stop the application of new chart title until a new transition planning guidance material would be available in January 2017.

1.3 As a follow-up of the EB2017/05, ICAO issued Electronic Bulletin EB 2018/11 (5 March 2018) to inform that revised guidance material, Circular 353, Transition Planning for Change to Instrument Flight Procedure Approach Chart Identification from RNAV to RNP was published to support implementation of the new PBN approach chart identification.

2. Discussion

2.1 The purpose of the Circular 353 is to manage the transition of new chart identification efficiently through the coordination among the ICAO Regions. The circular explains key elements to be considered during transition, such as change management, impact assessment (Table 1.), safety management, consultation with global, regional and State stakeholders, and communication planning including NOTAM information, regional circulars and chart legends.

Items	Potential impact
Chart identification/PBN requirement box	(Re-) publication of charts in AIP, Possible changes to automation software
Pilot procedures	Knowledge and training (e.g. pilot bulletins, simulator training, CBT)
ATC procedures (APP, TWR, FIS)	Knowledge and training (e.g. ATCO bulletins and training) prior to chart change
Procedure design software	Software adaptation
Charting house	Re-issue of charts closely coordinated between the State's AIM and charting house. Possible software adaptation required
Aircraft flight manual (AFM)	Amendment of AFM by air operators, if applicable. Regulator may have to issue clarification
Changes to on board the multi-function control and display unit (MCDU)	Possible FMS changes to reflect the change from RNAV to RNP, which cause economic impact. If not changed, discrepancy between display and ATC clearance will happen

Table 1: Potential impact from the change

2.2 For the smooth transition, the ICAO PBN Programme Office in ICAO Headquarters will coordinate regional slot requests submitted by the Regional Offices and sequence them considering the duration needed by the Region. In addition, the PBN Programme Office will develop a communication plan for all stakeholders, provide tools, templates and global transition plan as a regional guidance, develop training material, and develop and maintain a global dashboard.

2.3 ICAO NACC Regional Office will play an important role in the transition process. The Regional Office will work with its member States to develop a draft transition plan and determine a suitable regional as well as a State slot. A State or a group of States (State cluster) will select an unbroken period between AIRAC cycle dates. The slots of State and State cluster will be sequenced in a time order and should not be overlap each other.

2.4 Once the draft plan is developed, this plan is coordinated with the ICAO PBN Programme Office. Various stakeholders should be included in the regional plan development. Regional stakeholders to be consulted include State regulatory authorities, air navigation service providers, airspace users, training organizations, airport authorities, military service providers, charting houses, database providers, instrument procedure design organizations, regional consultation groups (operational and technical), regional organizations and agencies and adjoining ICAO regions. The overall coordination process is in Figure 1.

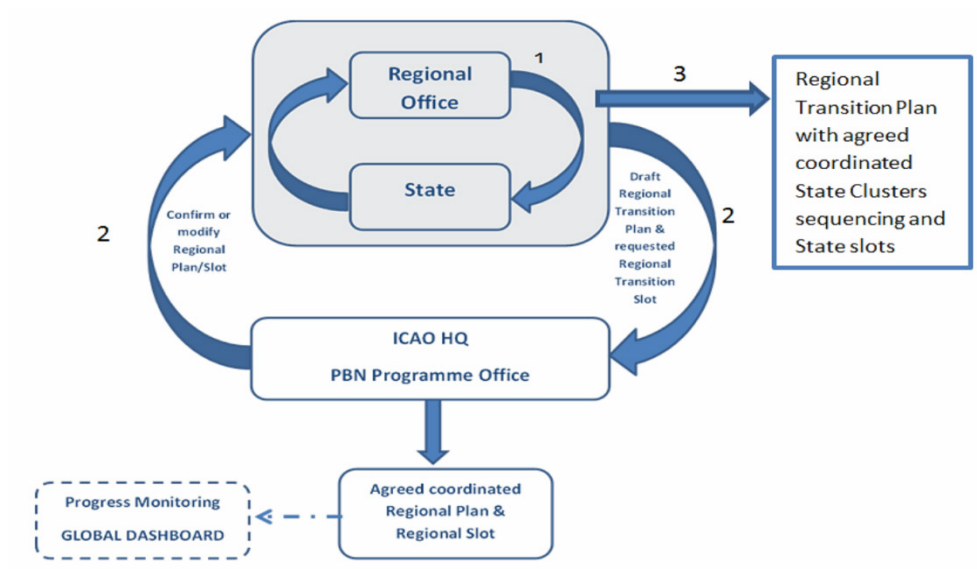


Figure 1: Global, Regional and State Coordination Process

2.5 Within twelve months of circular publication, the ICAO Regional Office is to have developed the outline of its own initial draft of the regional transition plan. The plan will include clustering of States within its region, the sequencing of implementation clusters, and identifying the number of procedures, the required duration and the desired slot timeframe. Stakeholder consultation is required from the outset and early initiation will provide the maximum preparation time.

2.6 Once the regional transition plan is updated and approved by the ICAO PBN Programme Office, States will develop their own transition plan within the slot assigned to them. States should establish their own strategy based on geographical and operational environment, create project team that manage to develop transition plan and implementation, and safety assessment of the chart identification change. Sample tables in Attachment A and Attachment B show the interdependencies between main actor and activities, and the sequencing of main activities respectively.

2.7 Will be developed a brief survey on the published RNP APCH procedures of both international and domestic airports using ICAO iSTAR application. The result will be showed by number of airports of 22 member States, Administrations and Territories that have GNSS-based approach procedures. Among their number of procedures that have the chart identification with RNAV (GNSS), RNAV (GPS), GPS RNAV (GNSS) or GPS, and number of procedures that have RNAV (RNP) chart identification.

2.8 The purpose of the survey will be to see how many RNP APCH procedures are published in the Region and which way will be better to form a State cluster or to divide sub-regional areas. The result will show the percentage of published procedures in the States who have many airports have few published RNP APCH procedures. As the result of the survey show geographical distribution of published procedures, this data can be used as the starting point of discussion on the development of regional transition plan.

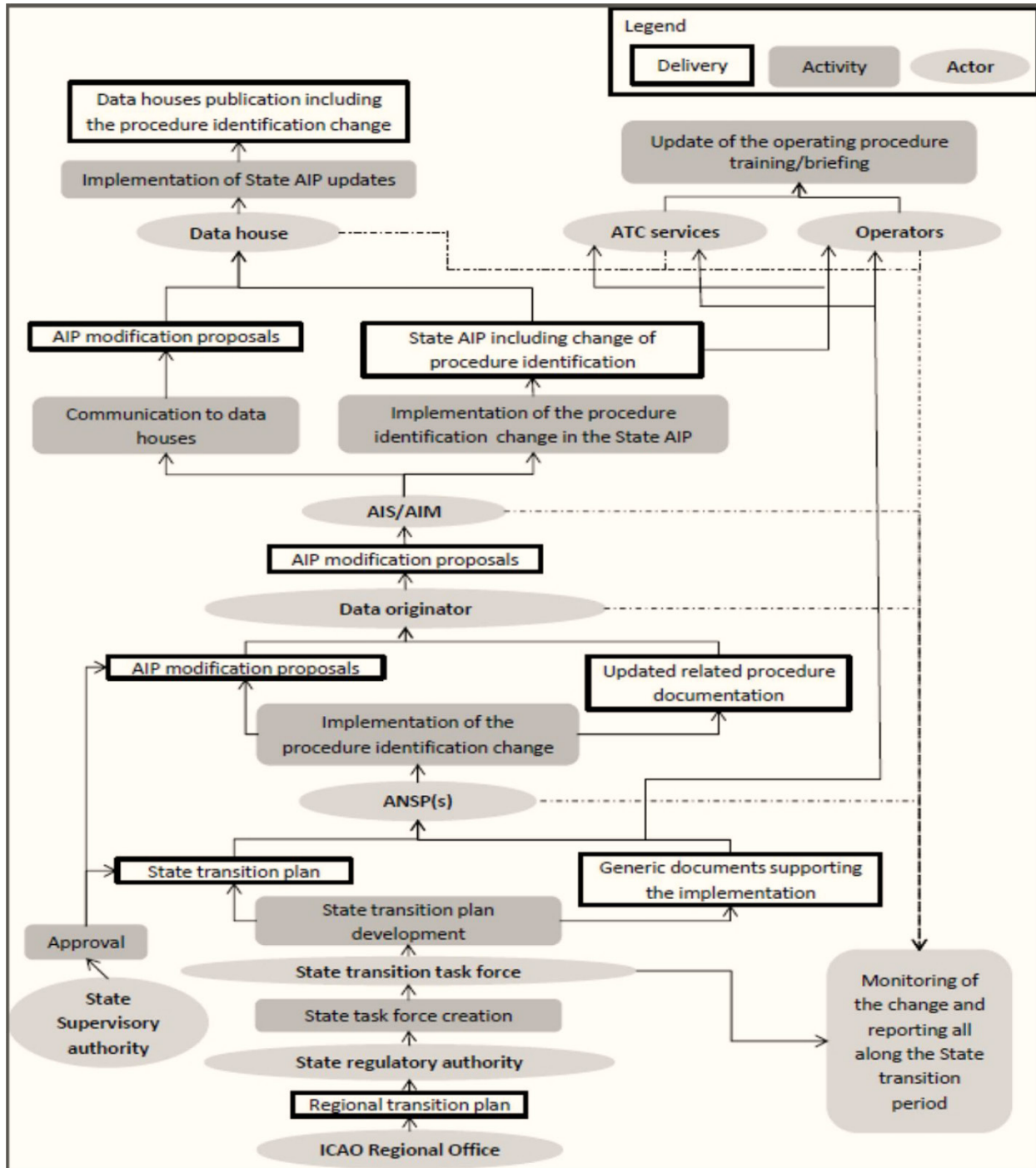
2.9 In addition, as the number of published procedures may not represent the actual one of each State accurately because of the method of survey and limited information available, States are requested to provide their actual number of published RNP APCH procedures before the discussion on the development of regional transition plan.

2.10 As mentioned in paragraph 2.1 and 2.5, it affects various areas and needs to be consulted with many regional stakeholders when regional transition plan is developed. Especially, AIM Task Force (AIM TF) is a good forum to examine States' AIM and Chart publication capability and capacity. In addition, it may coordinate with commercial charting houses and aeronautical data service providers for their capacity of RNP APCH chart identification change at one AIRAC cycle.

2.11 In addition, the ATM coordination groups will be a good platform to discuss the RNP APCH chart identification transition, such as the selection of common transition date and distribution of sub-regional workload. These Regional groups will also be used as a State cluster to develop a common transition plan and transition time slot

APPENDIX A

Example of interactions between the main actors and activities (Cir. 353 Table C-1)



APPENDIX B

Example of the sequence of main activities (Cir. 353 Table C-2)

	2018				2019			
Months								
Quarter	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Regional transition plan								
State Transition Task Force creation								
State transition plan development								
National transition plan								
Generic documents supporting the implementation								
Implementation of the procedure identification change by ANSP(s)								
AIP modification proposals								
Updated related procedure documentation								
Implementation of the procedure identification change by AIS								
Communication to Data houses								
State AIP including the procedure identification change								
Implementation of State AIP updates by Data houses								
Data Houses IAC charts including change of chart identification								
Update of the pilot/ATCO operating procedure								
Pilot/ ATCO Training/briefing								
Monitoring and reporting								