



INTERNATIONAL CIVIL AVIATION ORGANIZATION

A United Nations Specialized Agency

PBN Airspace Design Workshop

ATS Route and Waypoint Implementation

**Asia and Pacific Regional Sub-Office
Beijing, China**

Learning Objectives

- ❖ **By the end of this presentation, you will understand:**
 - **Promulgation process for ATS routes and waypoints**
 - **Principle on ATS route designation**
 - **Waypoint designation method**
 - **APAC Basic Air Navigation Plan (BANP) ATS Route Amendment Process**

Promulgation Process

❖ ATS route and Waypoints



Promulgation Process

❖ Agreement between Administrations

- Determine route specifications
 - Navigational capability required
 - Alignment, and spacing from other ATS routes
 - Technical details: LS, ALT, tracks, distances
- Industry Consultation
- Plan implementation date
 - Common implementation date in AIP of all participating administrations
 - Aeronautical Information Regulation and Control (AIRAC) date

Promulgation Process

❖ Implementation Data Planning

- ICAO Doc 9673 - Asia/Pacific Region Basic Air Navigation Plan (BANP)
- **Proposal for Amendment (PFA)** to the BANP to be approved by ICAO Council
 - for any ATS route forming part of the regional network of ATS routes (i.e. ATS routes used by international traffic).
- PFA to BANP **should be jointly submitted** by proposing States

Promulgation Process

❖ Implementation Data Planning (Cont')

- ICAO Doc 9673 - Asia/Pacific Region Basic Air Navigation Plan (BANP)
- Proposing States **should allow absolute minimum 8 weeks for approval** by Council
 - 2 – 4 weeks for circulation to ICAO HQ for technical review/comment
 - 4 weeks (minimum) for circulation to other States and international organizations
 - If no objections from States/IOs, usually 2 – 4 weeks for consideration by council
- Historically, PfAs received by **Regional Office** require re-working before circulation (= one or more more weeks....)

Promulgation Process

❖ Implementation Data Planning (Cont')

➤ Promulgation in AIP

- Amendments introducing “**Major Changes**” in AIP are required to be effective on AIRAC dates.
- Implementation of new ATS routes = “major change”
- ✓ ICAO Doc 8126 – Aeronautical Information Services Manual
- **AIRAC cycle = 28 days**
- Annex 15 Advance notification requirements

6.2 Provision of information in paper copy form

6.2.1 Information provided under the AIRAC system in paper copy form shall be distributed by the AIS unit **at least 42 days** in advance of the effective date with the objective of reaching recipients at least 28 days in advance of the effective date.

Promulgation Process

❖ Implementation Data Planning (Cont')

➤ AIRAC Effective Dates (Doc 8126)

Table 2-1 Schedule of AIRAC effective dates, 2009-2018

<i>2014</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>
9 January	8 January	7 January	5 January	4 January
6 February	5 February	4 February	2 February	1 February
6 March	5 March	3 March	2 March	1 March
3 April	2 April	31 March	30 March	29 March
1 May	30 April	28 April	27 April	26 April
29 May	28 May	26 May	25 May	24 May
26 June	25 June	23 June	22 June	21 June
24 July	23 July	21 July	20 July	19 July
21 August	20 August	18 August	17 August	16 August
18 September	17 September	15 September	14 September	13 September
16 October	15 October	13 October	12 October	11 October
13 November	12 November	10 November	9 November	8 November
11 December	10 December	8 December	7 December	6 December

Promulgation Process

❖ Implementation Data Planning (Cont')

➤ Implementation in AIP

- Annex 15 Advance notification requirements

6.3 Provision of information as electronic media

6.3.2 Information provided as electronic media, concerning the circumstances listed in Appendix 4, Part 1, shall be distributed/made available by the AIS unit so as to reach recipients **at least 28 days** in advance of the AIRAC effective date.

Both paper copy form and electronic media:

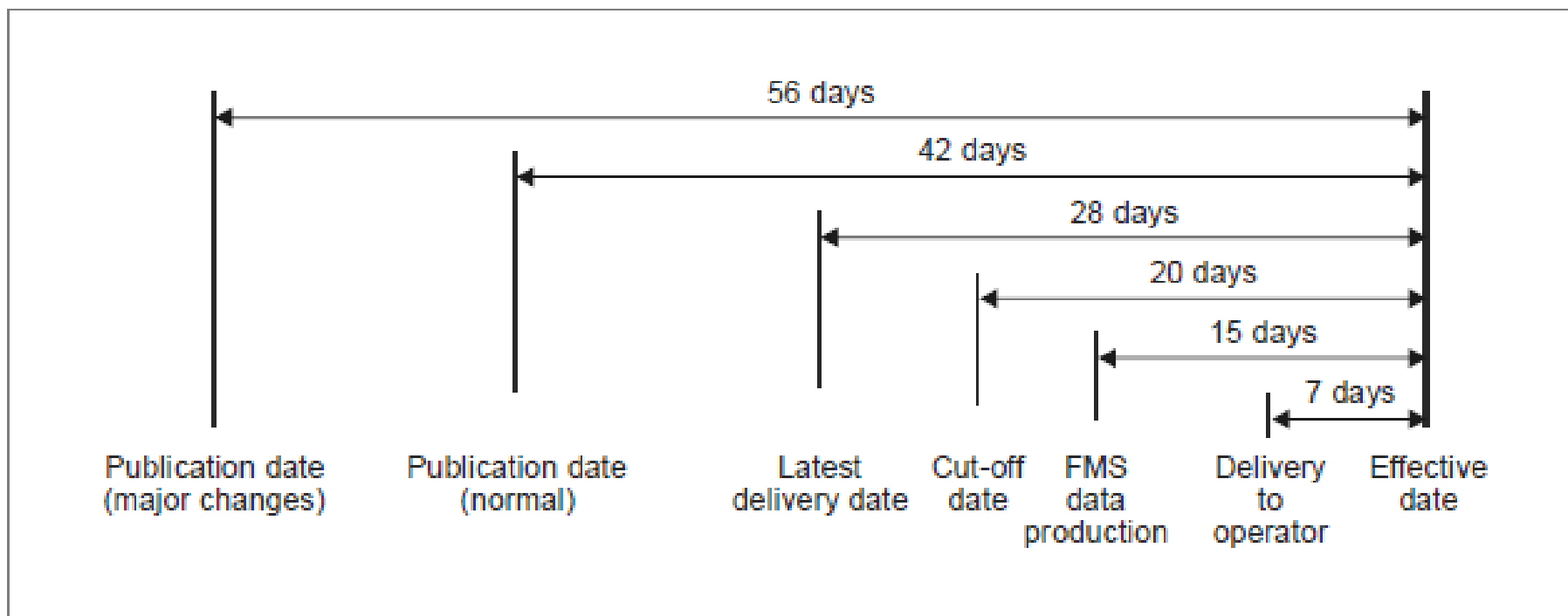
6.3.3 Recommendation.— Whenever major changes are planned and where advance notice is desirable and practicable, information provided either in paper copy form or as electronic media should be distributed/made available **at least 56 days** in advance of the effective date.

Promulgation Process

❖ Implementation Data Planning (Cont')

➤ Implementation in AIP

- Why **56 days** before effective date?

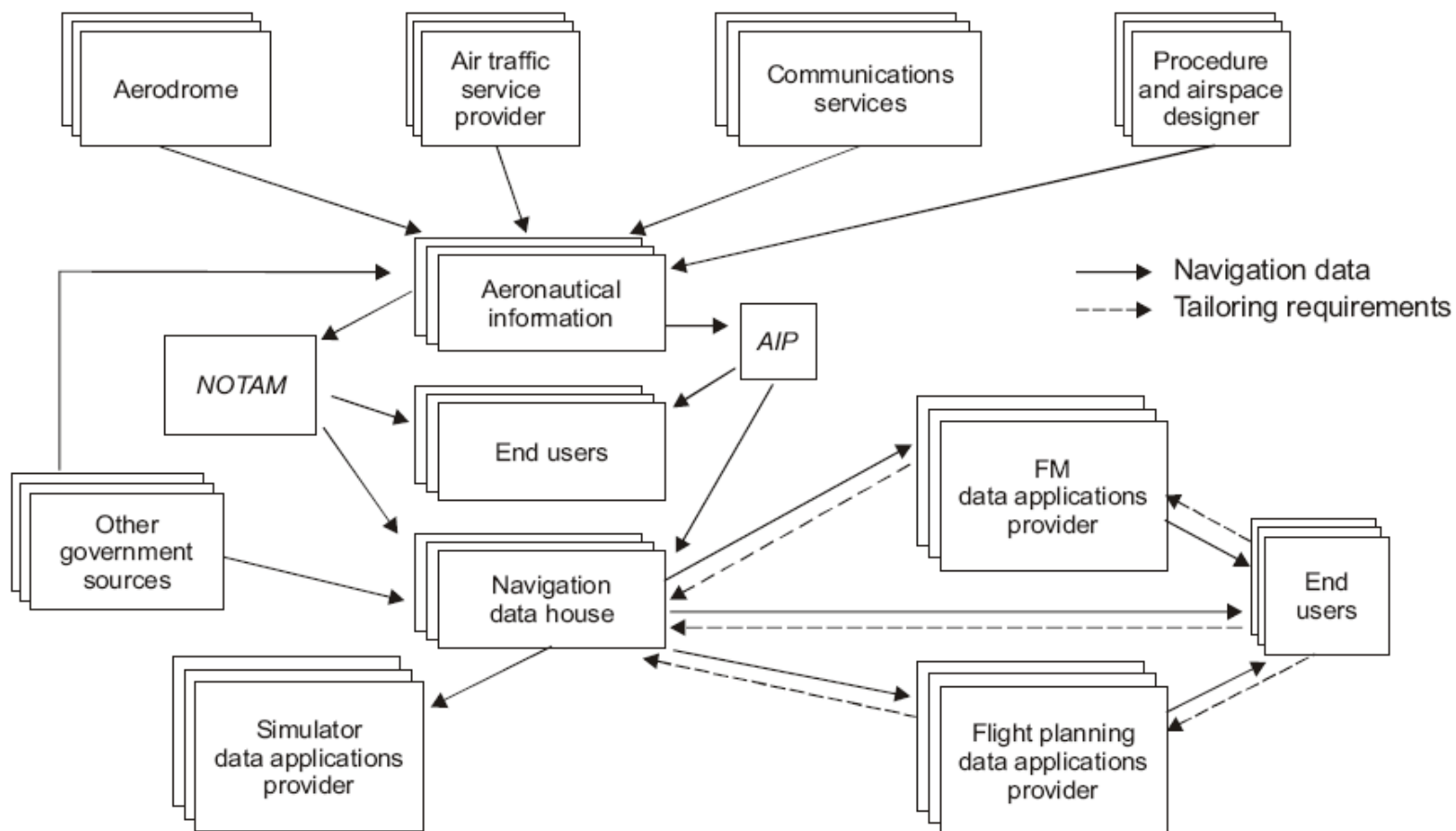


ICAO Doc 8126 – AIS Manual, Figure 2-2. Processing cycle for airborne navigation databases

Promulgation Process

❖ Implementation Data Planning (Cont')

➤ Data Chain (Doc 9613 Figure 1-Att B-1)



Promulgation Process

❖ Implementation Data Planning (Cont')

Planning Considerations	
Implementation Activity	Days
Consultation/Agreement between Administrations (<i>estimated</i>)	(28)
BANP PfA preparation (Administrations, ICAO RO – <i>estimated/historical</i>)	(21)
BANP PfA submission, circulation and ICAO Council approval	84
Preparation of AIP Amendment (<u>Consult your AIS provider early</u> - <i>estimated</i>)	(14)
Publication of AIP Amendment in advance of effective AIRAC date	56
Total (<i>estimated</i>)	203

This is a representative example.

- **Additional days may be required** if the PfA is queried/objected by States, IOs or the ICAO Council
- **Fewer days may be required** if the PfA is well-prepared, and if AIP amendment preparation is conducted in parallel to PfA processing.

Promulgation Process

❖ ATS Route Designator

➤ Annex 11 Appendix 1

- The Basic designator : one letter + 1 ~ 999
- Selection of one letter
 - ✓ A, B, G, R : regional ATS route network, non-RNAV
 - ✓ L, M, N, P : regional ATS route network, RNAV
 - ✓ H, J, V, W : no regional ATS route network, non-RNAV
 - ✓ Q, T, Y, Z : no regional ATS route network, RNAV
- States' requirements for designators **shall be notified to the Regional Offices of ICAO for coordination.**
- Email request to ICAO Bangkok Office (apac@icao.int)
 - ✓ Purpose (e.g. new ATS route from X to Y)
 - ✓ Specify whether RNAV or Non-RNAV
 - ✓ RNP specification **not** required when requesting a designator.

Promulgation Process

❖ Waypoint Names

➤ Annex 11

3.1 Where a significant point is required at a position not marked by the site of a radio navigation aid, and is used for ATC purposes, it shall be designated by **a unique five-letter pronounceable “name-code”**. This name-code designator then serves as the name as well as the coded designator of the significant point.

3.5 States' requirements for unique five-letter pronounceable name-code designators **shall be notified to the Regional Offices of ICAO for coordination.**

Promulgation Process

❖ Waypoint Names (Cont')

➤ PANS-OPS (Doc 8168, Vol II, Part III, Section 5, Chapter 1)

1.6.1 Waypoints used in support of RNAV SIDs, STARs and instrument approach procedures shall be designated by **either a unique, five-letter, pronounceable “name-code” or a five-alphanumeric name-code.**

- **Unique five-letter, pronounceable “name-code** : final waypoint of a SID, initial waypoint of a STAR, common waypoint for TMA and procedures, ATC purpose, etc.
- **Five-alphanumeric name-code**
 - ✓ Airport designator + no more than three numbers
 - ✓ Convention and rules should be published in the AIP
 - ✓ Should be listed as terminal waypoints in the AIP
 - ✓ ATC should not use it to re-route aircraft from en-route

Promulgation Process

❖ Waypoint Names (Cont')

➤ International Codes and Route Designators (ICARD)

- Result of collaborative efforts by EUROCONTROL and the ICAO EUR/NAT Regional Office.
- Now available for all ICAO States.
- Is **the sole global source** of unique, pronounceable 5-letter name codes (5LNC) marking significant points not associated with a radio-navigation aid.
- Ensures global allocation of 5LNC in compliance with Annex 11

➤ Challenges for the use of ICARD

- Increasing NEED for 5LNCs for PBN implementation
- Number of sound like conflicts increased -safety issue
- Difficulties in finding available, pronounceable, non-sound like and non-visual confusion 5LNCs within 500NM radius
- Verification of the requested code in Jeppesen (Jeppview) may be required to avoid creation of duplicates

Promulgation Process

- ❖ **Waypoint Names (Cont')**
 - **International Codes and Route Designators (ICARD)**
 - Accessible through the **ICAO Secure Portal**
<http://portal.icao.int>
 - Provides the facility for States **to notify the Regional Offices of ICAO for coordination of unique five-letter pronounceable name codes (Annex 11).**



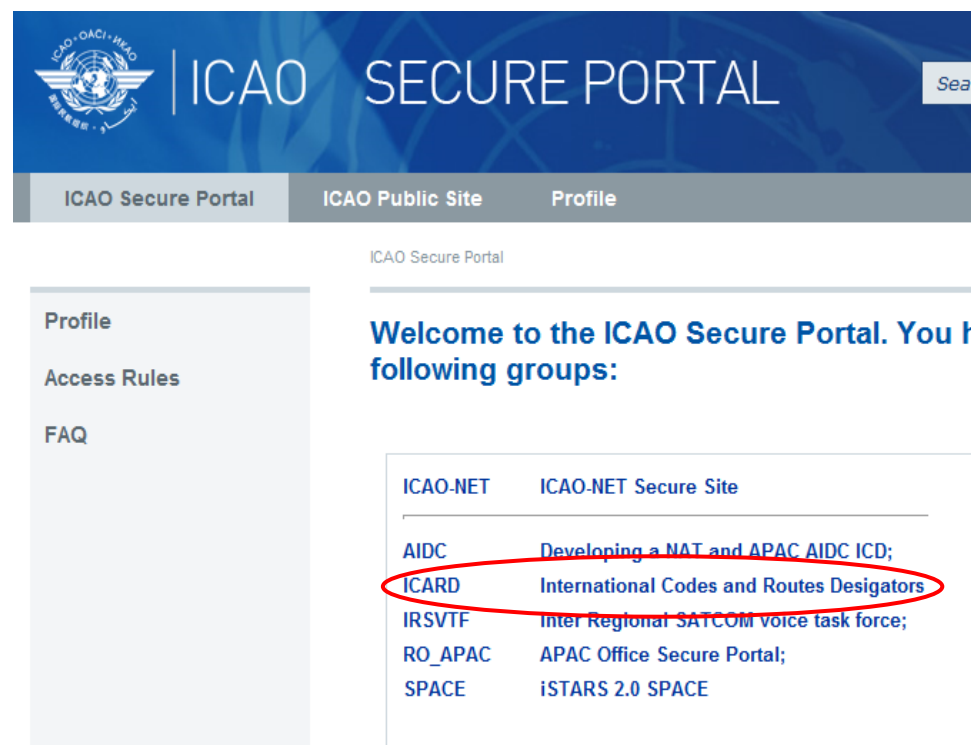
Promulgation Process

❖ Waypoint Names (Cont')

➤ International Codes and Route Designators (ICARD)

- Accessible Each State must **have at least 2 ICARD_5LNC_PLANNERS**
- Contact Regional Office for further information

apac@icao.int

A screenshot of the ICAO Secure Portal website. The header includes the ICAO logo and the text 'ICAO SECURE PORTAL'. Below the header is a navigation bar with links for 'ICAO Secure Portal', 'ICAO Public Site', and 'Profile'. The main content area shows a welcome message: 'Welcome to the ICAO Secure Portal. You have the following groups:'. Below this is a table listing various groups and their descriptions. The 'ICARD' group is circled in red.

ICAO-NET	ICAO-NET Secure Site
AIDC	Developing a NAT and APAC AIDC ICD;
ICARD	International Codes and Routes Designators
IRSVTF	Inter Regional SATCOM voice task force;
RO_APAC	APAC Office Secure Portal;
SPACE	iSTARS 2.0 SPACE

Promulgation Process

- ❖ **Asia/Pacific Region Basic Air Navigation Plan**
 - **ICAO Doc 9673 Asia/Pacific Air Navigation Plan**
 - **Vol I – Basic Air Navigation Plan (BANP)**
 - **Includes definition of ATS routes** that form part of the regional network of ATS routes.
 - **Vol II – Facilities and Services Implementation Document (FASID)**



Promulgation Process

❖ Asia/Pacific Region Basic Air Navigation Plan

➤ ICAO Doc 9673

- Accessible through the ICAO Secure Portal
- The plan of ATS routes as shown in **Table ATS 1** forms the ATS route network for the ASIA/PAC regions.

Doc 9673



Asia and Pacific Regions

Air Navigation Plan

Volume I, Basic ANP

Not to be used for operational purposes

First edition – 2006

International Civil Aviation Organization

Promulgation Process

❖ ICAO Asia/Pacific Region ATS Route Catalogue

- **Supplements the BANP**, providing more up to date information, to develop and maintain the ATS route network in the APAC region
- **Updated annually** by APANPIRG
- Available on the Asia/Pacific Regional Office website

ASIA/PACIFIC REGION ATS ROUTE CATALOGUE



INTERNATIONAL CIVIL AVIATION ORGANIZATION
ASIA/PACIFIC REGIONAL OFFICE

VERSION 13
11 September 2014

Promulgation Process

❖ BANP ATS Route Amendment Process

- Template and Guidance Material
- ICAO Asia/Pacific Regional Office website:
- <http://www.icao.int/apac/Pages/default.aspx>

❖ Promulgation in State AIP

- **After approval of BANP PfA by ICAO Council**
- **Common effective date** in AIPs of all affected States
- Promulgation in accordance with Annex 15 advance notification requirements
- ✓ **56 days before effective AIRAC date**



North American
Central American
and Caribbean
(NACC) Office
Mexico City

South American
(SAM) Office
Lima

ICAO
Headquarters
Montreal

Western and
Central African
(WACAF) Office
Dakar

European and
North Atlantic
(EUR/NAT) Office
Paris

Middle East
(MID) Office
Cairo

Eastern and
Southern African
(ESAF) Office
Nairobi

Asia and Pacific
(APAC) Office
Bangkok

Asia and Pacific
Regional Sub-Office
Beijing (APAC RSO)

Questions?



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Central African
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Thank You