



## INTERNATIONAL CIVIL AVIATION ORGANIZATION

**TWENTY EIGHTH MEETING OF THE ASIA/PACIFIC  
AIR NAVIGATION PLANNING AND IMPLEMENTATION  
REGIONAL GROUP (APANPIRG/28)**

*Bangkok, Thailand, 11 to 14 September 2017*

**Agenda Item 3: Performance Framework for Regional Air Navigation Planning and Implementation**
**3.3: RASMAG**
**ASIA/PACIFIC REGION READINESS FOR PBCS IMPLEMENTATION**

(Presented by the Secretariat)

**SUMMARY**

This paper presents an assessment of the Asia/Pacific Region's readiness for implementation of Performance-Based Communications and Surveillance supporting performance-based separations by the agreed date of not later than 29 March 2018.

*Strategic Objectives:*

- A: **Safety** – Enhance global civil aviation safety
- B: **Air Navigation Capacity and Efficiency**—Increase the capacity and improve the efficiency of the global aviation system
- E: **Environmental Protection** — minimize the adverse environment effects of civil aviation activities.

**1. INTRODUCTION**

1.1 The Data Link Seminar and Fifth Meeting of the Future Air Navigation Services (FANS) Interoperability Team – Asia (FIT-Asia/5) were held in Bangkok, Thailand, from 02 to 06 May 2016. Outcomes from the Seminar and Meeting included the development of an Asia/Pacific Region Performance-Based Communications and Surveillance (PBCS) transition strategy, and a survey of State readiness to implement Performance-Based Communications and Surveillance (PBCS) supporting the application of performance-based separation minima.

1.2 PBCS provisions in Annex 6 *Operation of Aircraft* and Doc 4444 *Procedures for Air Navigation Services – Air Traffic Management* (PANS-ATM) became applicable from November 2016. The Asia/Pacific Region PBCS Transition Strategy, endorsed under **Conclusion APANPIRG/27/9 – Asia/Pacific Region PBCS Transition Strategy**, urges States that apply or plan to apply performance-based separation minima to implement the ATM system capability to process and use ICAO PBCS flight plan indicators to determine aircraft eligibility for performance-based horizontal separation by not later than 29 March 2018.

1.3 A survey of the status of current and planned implementation of performance-based horizontal separation minima indicates poor preparation for PBCS implementation in the Asia/Pacific Region.

## 2. DISCUSSION

### Survey of Performance-Based Separation Implementation Status

2.1 The survey was circulated to all Asia/Pacific Administrations under State Letter T3/10.1.16 – AP064/16 (ATM) dated 03 June 2016. Only four responses were received.

2.2 FIT-Asia/6 (Bangkok, Thailand, 03 to 05 July 2017) noted that lack of information from States together with the current poor performance of a considerable number of FIT-Asia States in pre-PBCS performance monitoring and reporting, and informal reports of inadequate preparation for the deferred PBCS implementation date of 29 March 2018, indicated the need for follow-up action, and for the results to be prepared for consideration if necessary by APANPIRG/28 in September 2017. **Conclusion RASMAG/22-3: Performance-Based Separation Implementation Survey** refers. The survey was re-circulated to all States under State Letter T 3/8.13.1, T3/10.1.17 – AP072/17 (ATM), dated 13 July 2017. Responses were received from 11 Asia/Pacific Administrations. *Six of the responding Administration* are known to currently apply performance-based separation minima:

*Australia, Bhutan, China, Hong Kong China, Japan, New Zealand, Pakistan, Singapore, Sri Lanka, Thailand and USA.*

2.3 Other States that may currently apply performance-based separation minima but did not respond to the survey include:

*Fiji, France (French Polynesia), India, Indonesia, Malaysia, Maldives, Papua New Guinea, Viet Nam.*

The 11 responses received are summarized in **Attachment A**. The responses received from the six Administrations known to be currently applying performance-based separation minima are summarized in **Attachment B**.

### State Regulator and Aircraft Operator Readiness

2.4 Requirements for the development of PBCS policies and objectives supporting safety oversight of aircraft operator and aircraft system PBCS operations apply to ALL States of Registry. The following survey results are highlighted:

- PBCS Policies and Objectives supporting safety oversight of aircraft operator and aircraft system PBCS operations:
  - Four of the 11 responding Administrations will not be ready to implement by 29 March 2018, including two that do not plan implementation at all.
- Aircraft Operator Readiness:
  - Six of the 11 responding Administrations will not undertake activities to ensure aircraft operator readiness by 29 March 2018, including three that have no plan to conduct these activities at all.
- PBCS monitoring, analysis and reporting – post implementation
  - Seven of the 11 responding Administrations will not be ready to implement PBCS monitoring, analysis and reporting, including five that do not plan implementation at all.

2.5 The meeting is reminded that failure to implement policies, objectives, regulations and processes supporting safety oversight, aircraft operator readiness and PBCS monitoring, analysis and reporting may result in adverse consequences for aircraft or aircraft operators registered in their State when operating in airspace where PBCS provisions are implemented. **Conclusion APANPIRG/27/7: PBCS Operator Requirements** and **Draft Conclusion RASMAG/22-4: PBCS Operational Approvals** (WP08) refer.

Readiness of States Applying Performance-Based Separations

2.6 Analysis of the survey responses from six Administrations applying performance-based separation minima revealed *inter alia* the following:

- Proposal for Amendment to ICAO Doc 7030 - Regional Supplementary Procedures for PBCS operations
  - Three of the six Administrations currently applying performance-based separation minima do not intend to submit the necessary Proposals for Amendment to Regional Supplementary Procedures. (WP09 refers).

2.7 The meeting is invited to note that the current Doc 7030 procedures for performance-based separation in airspace over the high seas are not aligned with the provisions of Annex 6 and PANS-ATM, applicable since November 2016. Administrations that plan to continue to apply performance-based separations in such airspace must ensure Doc 7030 support for PBCS operations, in accordance with the Asia/Pacific Region PBCS Transition Strategy.

**3. ACTION BY THE MEETING**

3.1 The Meeting is invited to:

- a) note the information in this paper; and
- b) discuss any relevant matters as appropriate.

— — — — —

**ATTACHMENT A- SUMMARY OF 11 SURVEY RESPONSES RECEIVED**

<b>RED</b> = Concerns ALL States <b>ORANGE</b> = Concerns States Providing Performance-Based Separations					Y	By 29 March 2018	After 29 March 2018	Not Planned
1. Has your State completed any of the following preparations for PBCS implementation?								
PBCS Implementation Task List	Task Group	Task ID	TASK descriptor					
	Group A	<b>A-1</b>	AIP (Prescription of an RCP/RSP specification. Also see B-3 below)	2	5	1	3	
		<b>A-2</b>	PBCS policies, objectives supporting safety oversight of ANSP PBCS operations	2	3	2	4	
		<b>A-3</b>	PBCS policies, objectives supporting safety oversight of Aircraft Operator and Aircraft System PBCS operations	4	3	2	2	
		<b>A-4</b>	Proposal for Amendment to ICAO Doc 7030 - <i>Regional Supplementary Procedures</i> for PBCS operations , if applicable	2	2	1	6	
	Group B	<b>B-1</b>	PBCS Implementation Plan	4	2	1	4	
		<b>B-2</b>	Target dates for PBCS and relevant ATM operations	5	-	2	4	
		<b>B-3</b>	RCP/RSP specifications	5	-	2	4	
		<b>B-4</b>	PBCS awareness	6	-	2	3	
	Group C	<b>C-1</b>	Operational concepts and procedures for PBCS operations	4	1	2	4	
		<b>C-2</b>	ATM automation system changes to use flight plan RCP/RSP indicators	3	2	2	4	
		<b>C-3</b>	ATM automation changes for PBCS monitoring	4	-	2	5	
		<b>C-4</b>	Confirm initial ANSP compliance with RCP/RSP specifications	3	2	2	4	
	Group D	<b>D-1</b>	Aircraft operator readiness	3	2	3	3	
		<b>D-2</b>	Confirm initial operator and/or aircraft type/system compliance with RCP/RSP	3	2	3	3	
	Group E	<b>E-1</b>	PBCS monitoring, analysis and reporting - post implementation	2	2	2	5	

<b>RED</b> = Concerns ALL States <b>ORANGE</b> = Concerns States Providing Performance-Based Separations				Y	By 29 March 2018	After 29 March 2018	Not Planned
2. Does your State submit data link problem reports to a recognized Central Reporting Agency (CRA)				4	1	-	6
3. Does your State monitor and analyze data link performance in accordance with the following specifications and report the analysis to a recognized FANS Interoperability Team (FIT)?							
Communication Specifications & Interoperability Standards	Normal	RCP240	FANS1/A CPDLC	4	1	2	4
	Alternate	RCP400	SATVOICE	2	1	1	7
		RCP400	HF	2	1	1	7
Surveillance Specifications & Interoperability Standards	Normal	RSP180	FANS1/A ADS-C	4	1	2	4
	Alternate	RSP400	SATVOICE	2	1	1	7
		RSP400	HF	2	-	1	8
4. Has your State implemented or planned to implement the following performance-based horizontal separation minima?							
Navigation Specifications & Applicable ATM Operations	RNAV/RNP	RNAV/RNP 10	50 NM Lateral Separation	5	-	1	4
			50 NM Longitudinal Separation	5	1	-	4
		RNP 4	30 NM Longitudinal Separation	4	-	1	6
			30 NM Lateral Separation	4	-	1	6
			23 NM Lateral Separation	-	1	1	9
		RNP2	30NM Climb-Descend Through	1	-	-	10

.....

**ATTACHMENT B- SUMMARY OF 6 SURVEY RESPONSES FROM STATES APPLYING PERFORMANCE-BASED SEPARATIONS**

<b>RED</b> = Concerns ALL States <b>ORANGE</b> = Concerns States Providing Performance-Based Separations					Y	By 29 March 2018	After 29 March 2018	Not Planned
<b>1. Has your State completed any of the following preparations for PBCS implementation?</b>								
<b>PBCS Implementation Task List</b>	<b>Task Group</b>	<b>Task ID</b>	<b>TASK descriptor</b>					
	Group A	<b>A-1</b>	AIP (Prescription of an RCP/RSP specification. Also see B-3 below)	2	4			
		<b>A-2</b>	PBCS policies, objectives supporting safety oversight of ANSP PBCS operations	2	3	-	1	
		<b>A-3</b>	PBCS policies, objectives supporting safety oversight of Aircraft Operator and Aircraft System PBCS operations	3	2	-	1	
		<b>A-4</b>	Proposal for Amendment to ICAO Doc 7030 - <i>Regional Supplementary Procedures</i> for PBCS operations , if applicable	2	1	-	3	
	Group B	<b>B-1</b>	PBCS Implementation Plan	4	1	-	1	
		<b>B-2</b>	Target dates for PBCS and relevant ATM operations	5	-	-	1	
		<b>B-3</b>	RCP/RSP specifications	5	-	-	1	
		<b>B-4</b>	PBCS awareness	5	-	-	1	
	Group C	<b>C-1</b>	Operational concepts and procedures for PBCS operations	4	1	-	1	
		<b>C-2</b>	ATM automation system changes to use flight plan RCP/RSP indicators	3	2	-	1	
		<b>C-3</b>	ATM automation changes for PBCS monitoring	4	-	-	2	
		<b>C-4</b>	Confirm initial ANSP compliance with RCP/RSP specifications	3	2	-	1	
	Group D	<b>D-1</b>	Aircraft operator readiness	2	3	-	1	
		<b>D-2</b>	Confirm initial operator and/or aircraft type/system compliance with RCP/RSP	2	3	-	1	
	Group E	<b>E-1</b>	PBCS monitoring, analysis and reporting - post implementation	2	2	-	2	

<b>RED</b> = Concerns ALL States <b>ORANGE</b> = Concerns States Providing Performance-Based Separations				Y	By 29 March 2018	After 29 March 2018	Not Planned
2. Does your State submit data link problem reports to a recognized Central Reporting Agency (CRA)				4	1	1	-
3. Does your State monitor and analyze data link performance in accordance with the following specifications and report the analysis to a recognized FANS Interoperability Team (FIT)?							
Communication Specifications & Interoperability Standards	Normal	RCP240	FANS1/A CPDLC	3	1	2	-
	Alternate	RCP400	SATVOICE	2	2	-	2
		RCP400	HF	2	2	-	2
Surveillance Specifications & Interoperability Standards	Normal	RSP180	FANS1/A ADS-C	3	1	2	-
	Alternate	RSP400	SATVOICE	2	2	-	2
		RSP400	HF	2	1	-	3
4. Has your State implemented or planned to implement the following performance-based horizontal separation minima?							
Navigation Specifications & Applicable ATM Operations	RNAV/RNP	RNAV/RNP 10	50 NM Lateral Separation	6	-	-	-
			50 NM Longitudinal Separation	5	1	-	-
		RNP 4	30 NM Longitudinal Separation	4	-	1	1
			30 NM Lateral Separation	4	-	1	1
			23 NM Lateral Separation	-	1	1	4
		RNP2	30NM Climb-Descend Through	1	-	-	5

— END —