



International Civil Aviation Organization

**Third Meeting of the ICAO Asia/Pacific Seamless ATM Planning Group  
(APSAPG/3)**

Chennai, India, 21-25 January 2013

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**Agenda Item 2: Review Outcomes of Related Meetings**

**SEAMLESS ATM PACIFIC IMPLEMENTATION**

(Presented by New Zealand)

**SUMMARY**

This paper presents information on the implementation of seamless ATM in the Pacific and South Pacific regions. The paper details a range of ATM and CNS capacity enhancements which have been implemented or are being implemented through cooperation of States particularly within the Informal South Pacific ATM Coordination Group (ISPACG). This paper identifies the principles applied which could be used for the development of the Asia Pacific Seamless Plan.

This paper relates to –

**Strategic Objectives:**

- A: *Safety – Enhance global civil aviation safety*
- C: *Environmental Protection and Sustainable Development of Air Transport – Foster harmonized and economically viable development of international civil aviation that does not unduly harm the environment*

**Global Plan Initiatives:**

- GPI-1 Flexible use of airspace
- GPI-2 Reduced vertical separation minima
- GPI-3 Harmonization of level systems
- GPI-4 Alignment of upper airspace classifications
- GPI-5 RNAV and RNP (Performance-based navigation)
- GPI-6 Air traffic flow management
- GPI-7 Dynamic and flexible ATS route management
- GPI-8 Collaborative airspace design and management
- GPI-9 Situational awareness
- GPI-10 Terminal area design and management
- GPI-11 RNP and RNAV SIDs and STARs
- GPI-12 Functional integration of ground systems with airborne systems
- GPI-16 Decision support systems and alerting systems
- GPI-17 Data link applications
- GPI-21 Navigation systems
- GPI-22 Communication infrastructure
- GPI-23 Aeronautical radio spectrum

## **1. INTRODUCTION**

1.1 The principles and implementation of Seamless ATM rely on cooperation and interaction of States to a common outcome developing and improving the ATM system.

1.2 The first two meetings of the ICAO Asia/Pacific Seamless ATM Planning Group (APSAPG) included several papers from several States and industry groups reinforcing the Seamless ATM principles and detailing the success of several sub-regional projects.

1.3 It is important to note that Seamless ATM implementation is already in progress within the Asia/Pacific region at different levels and what the APSAPG is looking to achieve is a coordinated plan for future regional development.

1.4 The following information is presented to identify the Seamless ATM work undertaken in both the Pacific and South Pacific Informal ATC Planning Groups.

## **2. DISCUSSION**

### ISPACG

2.1 The Informal South Pacific ATC Coordinating Group (ISPACG) was established by multilateral agreement between Australia, Fiji, Tahiti, New Zealand, Papua New Guinea, Chile and the United States.

2.2 The purpose of ISPACG is to promote a cost effective South Pacific Air Traffic Services aviation environment that is responsive to change, meets the needs of the aviation industry, is economically sustainable and maintains or enhances present levels of safety.

2.3 In the conduct of the activities of the ISPACG, the forum applies the following principles:

- Promote an ATS system that is responsive to and meets the needs of our customers.
- Ensure that the introduction of new technology and procedures maintains or enhances the present levels of safety.
- Harmonize ATS practices and procedures consistent with regional and global activity.
- Undertake activities and provide outputs that are cost effective and efficient for both customers and service providers.
- Promote advantages in new technology where benefits can be derived.
- Achieve a cooperative customer/service provider relationship.
- To promote a cost effective South Pacific Air Traffic Services aviation environment that is responsive to change, meets the needs of the aviation industry, is economically sustainable and maintains or enhances present levels of safety.

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ISPACG SEAMLESS ATM PLANNING

2.4 A Capacity Enhancement Table was initially developed for the ISPACG member states to guide development and coordinate work to get the required ATM improvements. The intent was to identify procedures or capabilities deemed as desirable in pursuit of the ISPACG principles and track activities towards implementation.

2.5 Noting the increased focus on Seamless ATM, ISPACG have further developed the process with the addition in early 2012 of a simple Seamless ATM status chart for the Pacific Flight Information Regions (FIRs). The Seamless ATM chart is attached as **Appendix A** and shows excellent progress in system development especially for Anchorage, Auckland, Brisbane, Nadi and Oakland Flight Information Regions. Please note that this chart is still in development and some of the data has not yet been verified.

2.6 The intent of the chart is to clearly identify the progress of States in the implementation of the required attributes to implement Seamless ATM s And This work is essential in the identification of system gaps and areas for development which then allows States to coordinate and work together to address these gaps with implementation and development plans tracked via the adapted Capacity Enhancement Table. The Capacity Enhancement Table is attached as **Appendix B**.

2.7 The other key is use of User Preferred Routes (UPRs) which are key components of capacity and effectiveness improvements. Appendix C contains the Pacific UPR city pair information and Appendix D the ISPACG UPR information. **Appendix C** and **Appendix D** provide information on User Preferred Route Planning.

2.8 These charts will be further developed at the next meeting of ISPACG in Auckland, New Zealand, from 27 February to 1 March 2013.

APSAPG

2.9 The work by ISPACG is an example of Seamless ATM principles and actions being undertaken and progressing to benefit the ATM system. The Draft Asia Pacific Seamless ATM Plan, which we will be reviewing and developing at this meeting, needs to build on the work of sub-regional groups such as ISPACG, South East Asia and Bay of Bengal Sub-regional ADS-B Implementation Working Group (SEA/BOB ADS-B WG) and the Bangkok-Singapore Whole-Flight Collaborative Decision Making (Whole-Flight CDM) initiative.

2.10 The excellent work by sub-regional groups and industry groups needs to be given a framework to work within which the Asia Pacific Seamless ATM Plan will provide.

2.11 To achieve the framework and development required in the dynamic Asia Pacific Region there needs to be performance objectives, progress metrics and co-operation between States. This cooperation cannot be limited to in neighbouring States but must allow States across the region to cooperate, learn from and partner with each other to provide an interoperable and Seamless ATM system for Asia Pacific and eventually globally.

**3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) note the information contained in this paper; and
- b) discuss the ISPACG work in the context of developing the Asia Pacific Seamless ATM Plan.

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## Appendix B – ISPACG Capacity Enhancement

Enhancement	Action With	Estimated Completion	Date Completed	Notes
<b>Implement 50NM Lateral Separation</b>				
Chile	DGAC - Chile		TBD	ADS aircraft only
PNG	ASL of PNG			Planned with RNP10
<b>Implement 50NM Longitudinal Separation</b>				
Chile	DGAC - Chile		TBD	ADS aircraft only
PNG	ASL of PNG			Planned with RNP10
<b>Implement 30NM Lateral Separation</b>				
PNG	ASL of PNG			No identified plans
Tahiti	SEAC Tahiti			2015-2019
<b>Implement 30NM Longitudinal Separation</b>				
PNG	ASL of PNG			No identified plans
Tahiti	SEAC Tahiti			2015-2019
<b>Implement UPRs</b>				
<b>Implement DARP</b>				
Australia	Airservices	2014		Limited capability now, to be able to process completely by message exchange 2014
PNG	ASL of PNG			No identified plans
Solomon Islands				See Australia
Tahiti	SEAC Tahiti		Jun-12	Accept DARPs. Unable to initiate
<b>Application of Tactical Lateral Offsets for Climb &amp; Descent</b>				
Australia	Airservices	N/A		Amended routes may be issued at controller discretion to facilitate climb and descent clearances
Fiji	AFL	Q3 2013		.
PNG	ASL of PNG	N/A		
Solomon Islands				See Australia
Tahiti	SEAC Tahiti	N/A		

Enhancement	Action With	Estimated Completion	Date Completed	Notes
<b>Implement AIDC Messaging with Neighbouring FIRS for Co-ordination</b>				
PNG	ASL of PNG	2014-2015		
<b>Implementation of AIDC Upgrades</b>				
PNG	ASL of PNG	2014-2015		
<b>Introduce an Integrated ATC System Including ADS-C/CPDLC</b>				
PNG	ASL of PNG	2014-15		
<b>Implement ADS-B</b>				
Fiji	AFL	4Q of 2013		Implementation will provide coverage for Fiji domestic airspace. Mandate for all Fiji registered aircraft to be ADSB-Out equipped by Dec 2013. Planned Participation in ADS-B ITP 2H 2012
New Zealand	Airways	2018		Initial implementation QN/AA complete for operational testing. Industry consultation underway for national surveillance program with implementation expected to commence from 2013. Participating in ADS-B ITP Trial 2H 2012
PNG	ASL of PNG	2014-2015		
Solomon Islands				See Australia
Tahiti	SEAC Tahiti			Study completed. No identified plans
United States	FAA	2013		Domestic – separating ADS-B aircraft to ADS-B aircraft by May 2010 / all ground stations in place / mandate for all aircraft to be ADSB out equipped by 2020. Oceanic – ADS-B ITP Flight trials in 2011
<b>Terminal Procedures</b>				
Australia	Airservices	2013		METRON
Fiji	AFL	2013		
New Zealand	Airways	Aug-12		CAM in place. AMAN development underway
PNG	ASL of PNG			No identified plans
Solomon Islands				See Australia

Enhancement	Action With	Estimated Completion	Date Completed	Notes
<b>Flight Management Computer Waypoint Reporting - FMC WPR</b>				
Fiji	AFL	2-Jun-11		FMC WPR is available for ANZ A320 flights between New Zealand and Nadi, NZ and New Caledonia/Vanuatu in Oct 2011
Solomon Islands				See Australia
Tahiti	SEAC Tahiti			No identified plans
United States	FAA			Currently, there are no plans to implement FMC WPR

### Appendix C - User Preferred Routes City Pair

UPR CITY PAIR OR REGION	Anchorage FIR	Auckland FIR	Brisbane (Honiara & Nauru UTAs)	Fukuoka FIR	Manila FIR	Nadi FIR	Oakland Oceanic FIR	Port Moresby FIR	Santiago FIR	Tahiti FIR	Ujung Pandang FIR
North America - South Pacific		X	X			X	X			X	
Japan - Oceania		X	X	X		X	X	X		X	
Hawaii - South Pacific		X	X			X	X			X	
Japan - Hawaii				X			X				
North America - RTE	X						X				
PACOTS Track 14/15				X			X				
PACOTS Track H/I	X			X			X				
PACOTS Track K	X			X			X				
PACOTS Track 1	X			X			X				
PACOTS Track 3	X			X			X				
PACOTS Track F											



## Appendix D - User Preferred Routes ISPACG Region

<b>UPR Status State</b>	<b>ANSP</b>	<b>Restrictions</b>
Australia	Airservices	UPRs available for RNP10, HF equipped aircraft operating on generic city pairs. <a href="#">Refer to the Airservices website</a>
Chile	DGAC - Chile	Full UPR capability
Fiji	AFL	Unless otherwise stated, up to the defined Control Area boundaries for the applicable destination aerodrome within the Nadi FIR.
New Zealand	Airways	Full UPR capability
PNG	ASL of PNG	UPR currently restricted east of G205
Solomon Islands		See Australia
Tahiti	SEAC Tahiti	Partial implementation YSSY/YMML/NZAA-KLAX. They have implementation for all aircraft except for LanChile for flights operating to Easter island which must have data link. SATCOM experimentation in progress with LAN