



ICAO

INTERNATIONAL CIVIL AVIATION ORGANIZATION

A UN SPECIALIZED AGENCY



Asia/Pacific

Seamless ANS Plan

Draft Version 3.1.8

Seamless ANS Plan....

- Developed in response to the *Kansai Statement* (DGCA/46, October 2009)
- Expectation from harmonization in civil aviation
 - Seamless flight between regions
 - Whole of network secured, transparent, interoperable standards
 - Importance of seamless sky in terms of air traffic management, aviation security and aviation safety
 - Future ATM system of the Asia/Pacific Region including targets and a time schedule

Seamless ANS Plan....

- Asia/Pacific Seamless Air Traffic Management (ATM) Planning Group (APSAPG) -
 - APANPIRG Sub-Group, 2012-2013
 - APANPIRG/22 (2011)
Decision 22/56 – Establishment of Asia/Pacific Seamless ATM Planning Group
- Asia/Pacific Seamless ATM Plan Version 1.0
APANPIRG/24 (2013)
- Current version: Asia/Pacific Seamless ANS Plan version 3.0
APANPIRG/30 (2019)

Seamless ANS Plan....

- Update cycle nominally three years
 - Version 1.0 2013
 - Version 2.0 2016
 - Version 3.0 2019
- Update cycle revised (more later)

Initial Consideration for Plan Update

- 2022/2023 Update Process (APANPIRG/33)
 - Secretariat editorial review and inclusion of new elements
 - Circulation to State POCs for comment/feedback
 - Circulation to APANPIRG Sub-Groups
 - Workshop activity if necessary
 - Final Draft to APANPIRG/34

Initial Consideration for Plan Update

- Rationalize and simplify to the extent possible ✓
- Removal of information considered:
 - Redundant ✓
 - Duplicated
 - Initial explanation of now well-understood concepts
 - Any others?
- Simplify the structure of the Performance Improvement Plan ✗
 - Remove PARS/PASL
 - Replace with *Regional ANS Capability* Phases
 - Any other wording proposal?

Existing structure to be retained. Text to be rationalized/updated

Initial Consideration for Plan Update

- | | | | |
|--|---|---|---|
| • PASL and PARS concept merged into Regional ANS Capability phases. | ✗ | • Seamless ANS Principles retained | ✓ |
| • ANSP Human Performance section deleted | ✗ | • Scope and Objective section reorganized to include background information | ✗ |
| • R&D section moved to Appendix | ✗ | • (NANP Template added as an Appendix | ✗ |
| • Old redundant appendices such as Kansai Statement, Capacity expectations, ANC 12 recommendations removed | | • APAC CNS, Strategies added as an Appendix | ✗ |

Existing structure to be retained. Text to be rationalized/updated




Initial Consideration for Plan Update

- PASL and PARS concept merged into **Regional ANS Capability** phases.
- ANSP Human Performance section deleted
- R&D section moved to Appendix
- Old redundant sections such as Kansai, Capacity expectation, INC 12 recommendations removed
- Search and Principles
- Search and Objective section reorganized to include background information
- (NANP Template added as an Appendix
- APAC CNS, Strategies added as an Appendix

Existing structure to be retained.
Text to be rationalized/updated

Existing structure to be retained. Text to be rationalized/updated

Initial Consideration for Plan Update

- Refrain from introduction of new *Regional Elements*, except where absolutely necessary 
- Focus on APAC Regional Prioritization of ASBUs 
- Keep in mind NCLB
 - Priority 1 regional elements should be achievable for all (most?) 
 - Priority 1 should focus on regional seamless ANS

Organization of Document

- Scope and Objectives
- Executive Summary
- Abbreviations
- Current Status of implementation
- APAC Seamless ANS Plan considerations
- Performance Improvement Plan
- Milestones
- Appendices (TBC)
 - Beijing Declaration (To be replaced by Delhi Declaration after September 2023)
 - Seamless ANS Principles
 - NANP Template
 - Capacity Expectations
 - APSAP Reporting Form

Existing structure to be retained. Text to be rationalized/updated

Existing Seamless ANS Plan V3.0	FUTURE RESTRUCTURE?
Scope of the Plan	Scope, Development and Objectives of the Plan
Plan Objectives and Development	
Executive Summary	Executive Summary
Abbreviations and Acronyms	Abbreviations and Acronyms
Background Information	
Current Situation	APAC Regional ANS Implementation – Current Status
	APAC ANS Plan Considerations
Performance Improvement Plan	Performance Improvement Plan
Research and Future Development Possibilities	
Milestones, Timelines, Priorities and Actions	Milestones, Timelines, Priorities and Actions
Appendices	Appendices
	Research and Future Development Possibilities

Existing structure to be retained. Text to be rationalized/updated

Existing Seamless ANS Plan V3.0	FUTURE RESTRUCTURE
Scope of the Plan	Scope, Development and Objectives of the Plan
Plan Objectives and Development	
Executive Summary	Exe
Abbreviations and Acronyms	Ab
Background Information	
Current Situation	AP
	AP
Performance Improvement Plan	Per
Research and Future Development Possibilities	
Milestones, Timelines, Priorities and Actions	Mi
Appendices	Ap
	Research and Future Development Possibilities

FUTURE PROJECT:

Restructure

and

Migration to Regional ANP

VOL III

Section 7

Performance Improvement Plan

Draft Version 3.1.8

Section 7 – Performance Improvement Plan

- The core of the Seamless ANS Plan
- Performance expectations in implementation phases
 - **Phase II** – expected implementation by **07 November 2019**
 - Includes non-implemented Phase 1 (2015) ‘elements’
 - **Phase III** – expected implementation by **03 November 2022**
 - **Phase IV** – expected implementation by **27 November 2025**
 - *New elements proposed – aligned with ASBU Block 1*
 - **Phase V** – expected implementation by **23 November 2028**
 - *New phase – aligned with ASBU Block 2*

Section 7 – Performance Improvement Plan

- **ASBU Block 2 modules not yet considered** (subject to agreement)
- ACAS-B2/1-2; - Safety? ATM SG?
- APTA-B2/1-3; - CNS SG
- ASUR-B2/1-2; - CNS SG
- CSEP-B2/1-3; - ATM SG
- DAIM-B2/3-5; - ATM SG
- GADS-B2/1-4;- ATM SG? Safety?
- NAVS-B2/1-3;- CNS-SG
- NOPS-B2/7-8;- ATM SG
- OPFL-B2/1;- ATM SG
- TBO-B2/2;- ATM SG
- WAKE-B2/1-2;- ATM SG

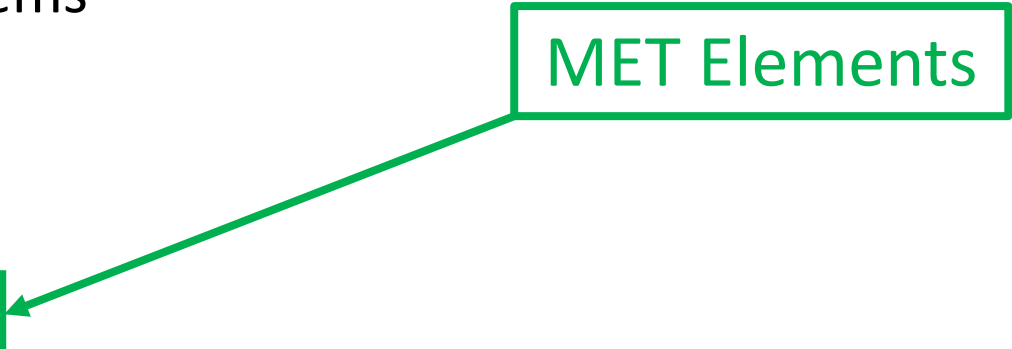
Section 7 – Performance Improvement Plan

- **Phase II** – expected implementation by **07 November 2019**
 - Includes non-implemented Phase 1 (2015) ‘elements’
- **Phase III** – expected implementation by **03 November 2022**
- Retained
 - Unavailability of reporting mechanism since 2019.
 - Regionally implemented elements may be considered for removal at 2026 update
 - Regionally non-implemented elements may be considered for migration into Phase IV (or later) at 2026 update

Section 7 – Performance Improvement Plan

- Phases structured into
- **Preferred Aerodrome/Airspace and Route Specifications (PARS)**
- **Preferred Aerodrome/Airspace and Route Specifications (PASL)**
- Retained for the 2023 update
- To be reconsidered for migration to ANP Vol III

Section 7 – Performance Improvement Plan

- Phases structured into
 - **Preferred Aerodrome/Airspace and Route Specifications (PARS)**
 - **Preferred Aerodrome/Airspace and Route Specifications (PASL)**
 - Performance expectations grouped within each phase/PARS/PASL:
 - Aerodrome Operations
 - Terminal Operations
 - Civil-Military Cooperation
 - Unmanned Aircraft Systems
 - ATS Communications
 - ATS Surveillance
 - Air Traffic Management
 - Air Navigation Services
- 
- ```
graph LR; A[MET Elements] --> B[• Air Navigation Services]
```

# Section 7 – Performance Improvement Plan

- Element numbering
  - Currently sequential numbering commencing 7.1
  - Element numbers change at each update
    - Migration of unimplemented elements into the next phase.
  - Proposal to fix element numbers

Plan Section (7), Implementation Phase, Element number within the phase

Examples:

7.2.x, 7.3.x, 7.4.x..... 7.I.x, 7.II.x, 7.III.x..... I.x, II.x, III.x...

# Section 7 – Performance Improvement Plan

- Revised and new .... **PASL Phase IV (Nov 2025) – ALL NEW**

## Aerodrome Operations

7.xx4 Where there is an operational benefit, Remotely operated Aerodrome Air Traffic Services should be implemented, consistent with **RATS B1/1**.

## Air Navigation Services

New MET elements for review/comment

7.xx5 Capability for providing aeronautical meteorological observations, forecast, warning, climatological and historical products (such as aerodrome meteorological forecasts and reports, aerodrome warnings and wind shear warnings) in support of automated decision processes or aids and performance based requirements, involving meteorological information, meteorological information translation, ATM impact conversion and ATM decision support should be enabled, consistent with **AMET-B1/1-3**.

7.xx6 Meteorological information should be disseminated to users consistent with **AMET-B1/1-4**, and in accordance with global and regional guidance material.

# Section 7 – Performance Improvement Plan

- Revised and new .... **PASL Phase V (Nov 2028) – ALL NEW**

7.xx8 All ATC units should be equipped with or be able to interface with communication systems appropriate to support the service provided, consistent with:

- a) **COMI-B2/1 – 3** including Air/Ground ATN/IPS and AeroMACS and Links for non-safety communication; and
- b) **COMS-B2/1 – 3**, including PBCS approved CPDLC, ADS-C and SATVOICE for domestic and procedural airspace.

7.xx9 States should establish SWIM services consistent with **SWIM-B2/1 to B2/5**.

# Section 7 – Performance Improvement Plan

- Revised and new .... **PASL Phase V (Nov 2028) – ALL NEW**

7.xx13 ACCs should enable, where practicable, large-scale cross-border Free Route Airspace in coordination with adjacent FIRs, and enhanced conflict resolution tools consistent with **FRTO-B2/3 – 4**.

7.xx14 ACCs should enable, where practicable, ATFM for cross-border Free Route Airspace in coordination with adjacent FIRs, and enhanced conflict resolution tools consistent with **NOPS-B2/6** and **FRTO-B2/3 – 4**.

7.xx15 All ACCs operating within FIRs where demand may exceed capacity should operate systems that enable, where applicable, collaborative network operations planning, further integration of airport operations and NOPS planning, multi ATFM slot swapping and airspace user priorities consistent with **NOPS-B2/1-5** supporting the integration of time-based management within a flow centric approach, consistent with **TBO-B0/1** and **TBO-B1/1**.

# Section 7 – Performance Improvement Plan

- Revised and new .... **PASL Phase V (Nov 2028) – ALL NEW**

## Air Navigation Services

7.xx16 ATM systems should be supported by:

- a. digitally-based AIM systems in adherence with ICAO and regional AIM planning and guidance material; and
- b. integrated aeronautical information service in a SWIM environment in support of enhanced operational ground and air decision-making processes for all phases of flight;

consistent with **DAIM-B2/1-5**.

New MET elements for review/comment

7.xx17 Integrated Aeronautical meteorological observations, in support of enhanced ATM and airport decision making process, particularly in the near term should be established consistent with **AMET-B2/1-3**.

7.xx18 Integrated meteorological information service in the SWIM environment in support of enhanced operational ground and air decision-making processes, particularly in the planning phase and near-term should be implemented consistent with **AMET-B2/4**.



# Sections 1 – 6 and 8 – 9

- **Section 1 – SCOPE of the Plan**
- Mostly editorial, and changes to support new Phase V
- New document review cycle
  - Seamless ANS Plan in the year following each ICAO Assembly

# Sections 1 – 6 and 8 – 9

## • Section 1 – SCOPE of the Plan

### Asia Pacific Document Review Cycle



# Sections 1 – 6 and 8 – 9

## • Section 1 – SCOPE of the Plan

1.12 The review of the Plan during 2019 ~~deletes~~ ~~deleted~~ reference ~~to~~ Phase I as Phase II commenced in November 2019, although the uncompleted elements from Phase I were moved to Phase II. The implementation dates of Phase II PARS and PASL items align with the GANP Block 1 ~~implementation~~, whereas Phase III is a mid-Block update ~~scheduled for 2022~~.

x.xx Due to the unavailability of an implementation reporting mechanism since 2019, Phase II elements are retained in this version of the Plan. With the expected availability of an updated reporting mechanism from 2023/2024, it is envisaged that uncompleted elements from Phase II will be incorporated in Phases ~~II and III~~ ~~will be incorporated~~ in the 2026 update of the Plan.

1.13 The ~~2019~~ 2023 update of the Plan introduces new ASBU Block 1 modules ~~in Phase IV,~~ and Block 2 modules in Phase V. ~~Phase III and Phase IV~~ of the PARS and PASL implementation framework will also be referenced.

# Sections 1 – 6 and 8 – 9

- **Section 2 – Plan Objectives and Development**
- Minor editorial, and changes to support new Phase V

x.xx      The planned migration of this Plan into the Regional Air Navigation Plan Volume III may require a review of the PARS/PASL structure.

# Sections 1 – 6 and 8 – 9

- **Section 3 – Executive Summary**

- Minor editorial
- Reference to COVID-19 impact
- Requires update of some economic and traffic data and figures
- Removal of some superfluous information
- Reference to the ICAO APAC Ministerial Conference 2018
  - Beijing Declaration

- **Section 4 – Abbreviations and Acronyms**

- To be reviewed

# Sections 1 – 6 and 8 – 9

- **Section 5 – Background Information**

- Minor editorial
- Removal of some superfluous information
- Addition of new ASBU elements in the priority table (priority tbc)
- Human Performance
  - Retained (had been considered for removal)
- Civil-military retained
- UAS information updated
  - Removes reference to regional guidance (to be recommended for retirement)

# Sections 1 – 6 and 8 – 9

- **Section 6 – Current Information**
- Minor editorial
- Retention of 2019 information pending resumption of implementation reporting
- Removal of some potentially redundant/superfluous information

# Sections 1 – 6 and 8 – 9

- **Section 8 – Research and Future Development Possibilities**
- Minor editorial
- Reference to Space-based ADS-B
  
- **Section 9 – Milestones, Timelines, Priorities and Actions**
- Removal of information now incorporated in ANP Vol II
- Minor editorial



# Sections 1 – 6 and 8 – 9

- **Appendices**
- Appendix A - Kansai Statement replaced by Beijing Declaration
- Appendix B – AN-Conf/12 recommendations – proposed delete
- Appendix B – Seamless ANS Principles (prev. Appendix C)
- Appendix C – Capacity expectations (prev. Appendix D) retain  
(WP28 proposed delete)
- Appendix D – List of References (prev. Appendix E) review and retain.

# Next Steps

- Circulation to State POCs
- Potential online meeting
  - Initial review
- ATM/SG/11 (2 – 6 October 2023)
- Potential workshop
- APANPIRG/34 (December 2023)
  
- Update Dependent on input from ATM/SG SWGs) and others

# Action by the Meeting

- Review and provide feedback to the Secretariat on the proposed revision of the Seamless ANS Plan



Thank You!