



International Civil Aviation Organization

**The Twenty-Second Meeting of the APANPIRG ATM/AIS/SAR Sub-Group
(ATM/AIS/SAR/SG/22)**

Bangkok, Thailand, 25 – 29 June 2012

Agenda Item 4: Review outcome of relevant meetings

**AERONAUTICAL INFORMATION SERVICES – AERONAUTICAL INFORMATION
MANAGEMENT IMPLEMENTATION TASK FORCE OUTCOMES**

(Presented by the Secretariat)

SUMMARY

This paper presents information from the Seventh Meeting of the Aeronautical Information Services – Aeronautical Information Management Implementation Task Force (AAITF/7) and the International Codes and Routes Designators (ICARD) Seminar (Hanoi, Viet Nam, 13 to 16 March 2012).

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-18 Aeronautical information

GPI-20 WGS-84

1. INTRODUCTION

1.1 The Seventh Meeting of the Aeronautical Information Services – Aeronautical Information Management Implementation Task Force (AAITF/7) and an International Codes and Routes Designators (ICARD) Seminar were held in Hanoi, Viet Nam from 13 to 16 March 2012 at Vietnam Air Traffic Management Corporation (VATM).

1.2 The ICARD Seminar was conducted in order to assist States to manage aeronautical data associated with Five Letter Name Codes (5LNC) and Air Traffic Services (ATS) Routes on 13 March 2012. AAITF/7 was conducted from 14 to 16 March 2012.

1.3 The AAITF/7 meeting and ICARD Seminar were attended by 81 participants from Australia, Bangladesh, Cambodia, China, Hong Kong China, Macao China, India, Indonesia, Japan, Lao PDR, Malaysia, Mongolia, Myanmar, Philippines, Republic of Korea, Singapore, Solomon Islands, Sri Lanka, Thailand, United States, Viet Nam, Jeppesen, JICA and Comsoft. The AAITF/7 meeting developed three (3) Draft Conclusions.

2. DISCUSSION

ICAO AIS-AIM Study Group

2.1 The United States provided an extensive paper that detailed results from the AIS-AIMSG/5, held in Montreal in November 2011, the AIS-AIMSG Ad Hoc Group on AIM Development, and the Ad Hoc Group on Aeronautical Charting, which were held in Brussels in February 2012. Key areas of development included, *inter alia*:

- a) clarification of the electronic Terrain Obstacle Database (eTOD) provisions provided in Annex 15, Amendment 36;
- b) Annex 15, Amendment 37, 38, Procedures for Air Navigation (PANS)-AIM;
- c) the AIM Operational Concept;
- d) clarification of the term ‘fix formation’ in Annex 4 and Annex 15;
- e) guidance material on the Earth Gravitational Model (EGM-96);
- f) updates on Aerodrome Mapping Data in support of Graphical Notice to Airmen (NOTAM);
- g) the Roadmap for the Transition from AIS to AIM¹ update;
- h) progress in coordinating the development of appropriate aerodrome mapping database (AMDB) specifications
- i) promulgation of volcanic ash alerts;
- j) clarification of integrated briefing within a Systems Wide Information Management (SWIM) environment;
- k) matters related to Annex 4, Amendments 57 and 58, particularly related to the data exchange standards (AIXM) in order to support digital charts; and
- l) updates to Chapter 9 of Doc 8126 (AIS Manual); and
- m) ATM staff training guidance.

2.2 After discussion regarding EGM-96 and the later EGM-08 and their relationship to the WGS84 datum, it was clarified that there was no intent to change from WGS-84 in the foreseeable future. It was agreed that any heighting concerns the Asia/Pacific had should be presented to the next meeting of the Study Group, and that the issue should be discussed at future Task Force meetings.

2.3 Volcanic ash advisories were discussed in terms of the best means of presenting such information. It was noted that the United States used airspace terms other than danger areas such as ‘warning areas’. The meeting considered that the use of danger areas for areas proximate to volcanoes² and meteorological hazard forecasts such as SIGMET for the variable airspace volume forecast to contain ash cloud were all that was required at present. It was agreed that this should be made clear to the AIS-AIMSG Ad Hoc Group.

¹ Based on the AIS-AIM Operational Concept, evolving to align with the Aviation System Block Upgrades (ASBUs).

² It was noted that New Zealand had developed Volcanic Hazard Zones (VHZ) for the purpose of containing hazardous airspace near volcanoes, which acted like danger areas except at night and Instrument Meteorological Conditions (IMC), so that the danger from volcanic ballistic ejecta may be visible.

2.4 The following key milestones for AIS-AIM development were targeted as follows:

- Q1/2012: Secretariat review of TOD Manual, AIS Manual V3;
- Q2/2012: Secretariat review of the AIM Training Manual, Quality Manual, and Manual on Public Usage of the Internet;
- Q3/4 2012: Charting Manual update, WGS-84 Manual (accuracy & heighting);
- November 2013: Annex 15 Amendment 37 applicable;
- November 2014: Finalised Amendment 38; and
- November 2016: Annex 15 Amendment 38 applicable & PANS-AIM introduced, Completion of AIS-AIMSG work program.

Annex 15 Promulgation Compliance

2.5 Regarding short-notice changes in aeronautical data, the APANPIRG/22 Chairman had noted that a small aeronautical data change could have a global effect on other systems, and urged States to comply with appropriate aeronautical promulgation standards.

2.6 IATA presented information on issues associated with the promulgation of AIS changes that required update of the various aviation global databases critical to safe operations. IATA stated that changes and their promulgation must be made in a timely manner to ensure current accurate information is available to all aviation stakeholders.

2.7 The meeting noted that ICAO guidance was available, which stated that promulgation via the Aeronautical Information Regulation and Control (AIRAC) cycle was preferred, unless extenuating circumstances existed. This guidance included the following references:

- a) **Annex 15, Appendix 4** – holding and approach procedures, arrival and departure procedures, noise abatement procedures and any other pertinent ATS procedures the following information must be notified by AIRAC;
- b) **Doc 8126/ Aeronautical Information Services Manual, paragraph 2.6.3** – implementation dates other than AIRAC effective dates must not be used for pre-planned, operationally significant changes requiring cartographic work and/or updating of navigation databases;
- c) **Doc 7910/ Location Indicators Para E3** – Location Indicators once assigned should only be amended after paying due regard to the worldwide repercussions of such changes upon all users of the communication services, should be promulgated by NOTAM or Aeronautical Information Publication/Package (AIP) as far in advance of the effective date as practicable.

2.8 IATA reflected on several recent regional examples of non-adherence to ICAO standards and recommended procedures and/or quality and accuracy of information in respect of location indicator and ATS routes, noting the adverse effect this had on aviation systems. Japan noted that the purpose of AIRAC was to provide enough lead time so that all stakeholders could update their databases, including Flight Management Systems (FMS) and relevant manuals prior to the change.

2.9 The meeting had extensive discussion on this matter. Jeppesen advised that the 7 day time frame required in the ICAO guidance at the end of the supply chain was an absolute minimum to allow the aircraft operators to deploy the data changes. The meeting noted that aeronautical information should be published 28 days before the effective date for normal changes, but in the case of major changes such as airspace or airport changes, the lead time should be 56 days.

2.10 It was revealed that Annex 15 did not specify lead times for promulgation of Doc 7910 *Location Indicators* changes. The Study Group representatives present agreed to convey the need for Location Indicator changes to be considered for 56 day promulgation lead time.

2.11 The meeting discussed the possible reasons for the systemic issues and noted that project planning that took into account AIM issues should be an automatic part of a State's responsibilities under their Safety Management System (SMS) requirements. The main reasons for the failure of some administrations to adhere to Annex 15 lead times appeared to be:

- Poor planning and coordination between change originators such as Air Traffic Management (ATM), resulting in AIS units receiving information for promulgation less than the required time before its effective date; and
- AIS units not being empowered to decline to promulgate information which did not comply with Annex 15 requirements.

2.12 Acknowledging the serious and systemic nature of this issue, the meeting agreed to the Draft Conclusion 7/1 for the ATM/AIS/SAR Sub-Group's endorsement and APANPIRG's approval:

AAITF Draft Conclusion 7/1: Annex 15 Promulgation Requirements Compliance

That, States should be urged to recognise the importance of Annex 15 compliance in respect of aeronautical data affected by major projects, by:

- a) establishing formal coordination between change originators and Aeronautical Information Service (AIS) units to ensure appropriate planning and that promulgation requirements were taken into account; and
- b) empowering AIS personnel to decline requests that did not comply with Annex 15, except for urgent corrections, emergencies, and matters of national security.

Promulgation of ATS Route Designators

2.13 The meeting discussed appropriate procedures and associated policy for promulgating ATS route designators. It had earlier been brought to ICAO's attention that two Asia/Pacific States had designated domestic ATS routes using an inappropriate alphanumeric code that included a zero ('0') as the first number (V001-V029 and V10-V021).

2.14 Given the problems that a leading zero before any one or two digit number presented to automated systems, the Regional Office had implemented policy that three route numbers should be used, not one or two, and that the use of a zero ('0') should not be used as the first number.

Asia/Pacific AIM Implementation

2.15 The Secretariat presented a paper detailing the responses and an analysis of the AIM Implementation Survey conducted in 2011. It was recognised by the meeting that the survey had been a valuable exercise. Notwithstanding this, the Chair suggested that with the AIS-AIM Transition Table (**Attachment A**) now providing a good overview of progress, there was no need to conduct a survey in 2012.

2.16 The meeting considered the progress of implementation to date, noting that the AIM Transition Table and the survey indicated that implementation had been inconsistent, and that many administrations had not progressed beyond Phase 1. Australia commented that according to the AIS-AIM Roadmap, Phase 1 was intended to be complete by November 2010 (Phase 2 by November 2013 and Phase 3 November 2016). Of the 43 administrations indicated, only 10 had achieved the four Phase 1 elements, and only four had indicated implementation of Phase 1 plus five of the nine Phase 2 elements, including P17-Electronic AIP (India, Japan, New Zealand and Singapore).

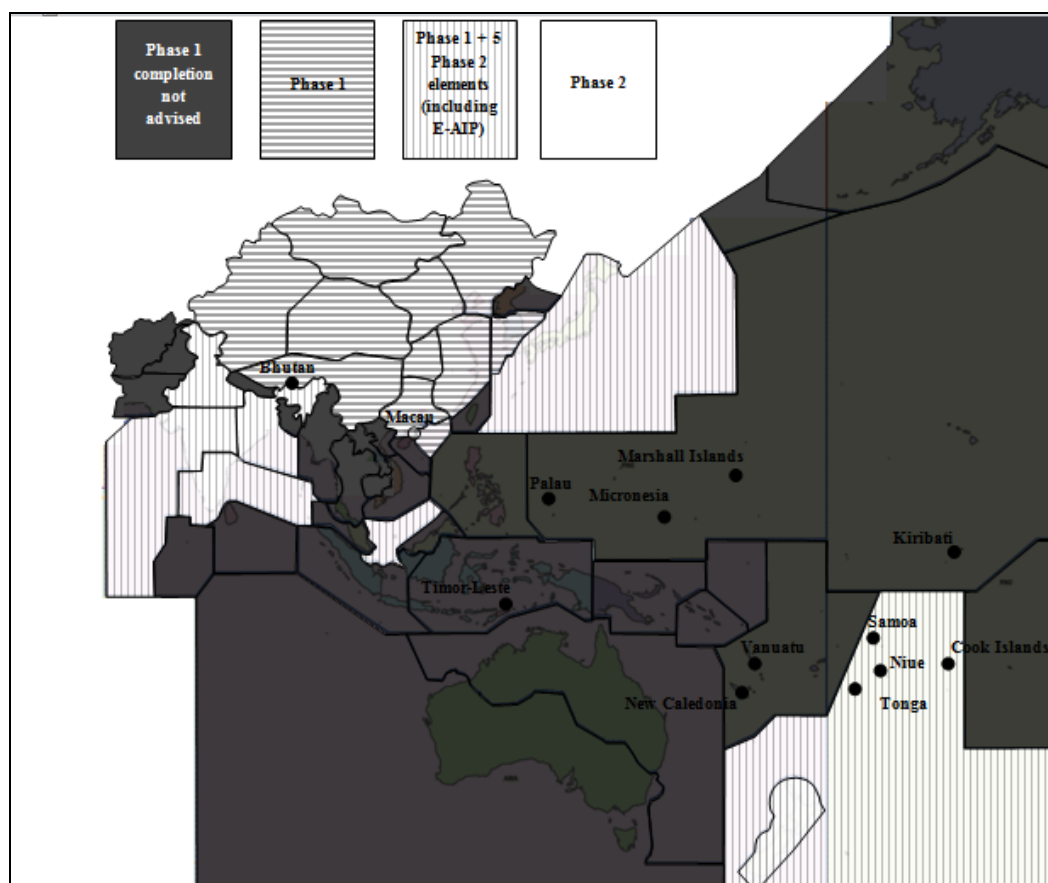


Figure 1: Asia/Pacific AIM Implementation Progress

2.17 Given the slow progress of implementation in many States thus far (**Figure 1**), it was suggested that the Task Force place a much greater emphasis on individual State planning to achieve AIM transition as soon as practicable. The meeting agreed to the following Draft Conclusion 7/2 for the ATM/AIS/SAR Sub-Group’s endorsement and APANPIRG’s approval:

AAITF Draft Conclusion 7/2: AIS-AIM Transition State Plans

That, States should develop a basic plan that identified when all the Aeronautical Information Service – Aeronautical Information Management (AIS-AIM) Transition elements in the AIS-AIM Roadmap would be completed, and submit these plans to the Asia/Pacific Regional Office prior to 1 January 2013.

State Implementation Progress

2.18 The Civil Aviation Administration of China (CAAC) announced with the publishing of AIP China Amendment Nr.13/11 (15 December 2011) that China had completed implementation of WGS-84. The meeting congratulated China for this achievement as it involved extensive data updates. The Solomon Islands also advised that their transition to WGS84 had been completed on 31 January 2011. The Secretariat stated that this would allow the closure of the APANPIRG deficiencies related to WGS-84, and that the AIS-AIM Transition Table had been updated accordingly.

2.19 India presented information on their implementation of automated AIS, noting the extensive programs being implemented for AIM. Indonesia advised that using manual AIS methods, pre-flight information services at Soekarno-Hatta (Jakarta) required about 1,500 copies of paper Pre-Flight Information Bulletin (PIB) per day. Automated AIS would be rolled out to all aerodrome AIS units to enable users to access PIB via the Internet. Integrated Aeronautical Information System (IAIS) and Electronic Charting were installed at the Soekarno-Hatta AIS Unit on 1 February 2012.

2.20 Japan provided extensive information on their transition from AIS to AIM, in support of the Collaborative Actions for Renovation of Air Traffic Systems (CARATS) programme. Detailed information on the effect of eTOD changes from Amendment 33 to 36 was also provided, including cost differentials and the use of a GIS database to introduce eTOD.

2.21 Mongolia explained that significant progress had been made in the transition towards AIM guided by the AIM Implementation Plan of Mongolia. The paper advised that in preparation for the implementation of Doc 4444 Amendment 1, software changes to the eAIS system which managed and processed flight plan and ATS message data at Chinggis Khaan International Airport (ZMUB) would be implemented in 2012. Mongolia planned to establish an electronic terrain and obstacle database to be used as the data source for development of flight procedures, obstacle limitation in aerodrome area and production of aeronautical charts.

2.22 Viet Nam provided information on their AIS-AIM transition activities, including implementation of a centralized aeronautical database, compatibility and data exchange with other databases, the automation of main functions for the production of the elements of an integrated aeronautical information package, and the facilitation of interoperability with meteorological products and the flight plan management system. Noting that climatologic data and statistics had an increasing relevance to ATM and digital exchange of information SWIM/CDM (Collaborative Decision-Making) concepts, Viet Nam suggested that it was more appropriate if AIS-AIM matters were integrated with MET, and recommended that the ICAO structure should reflect this.

AIM Quality Assurance

2.23 The AAITF/TF/7 meeting discussed the matter of data integrity quality assurance. It was clarified that the specific metrics had been removed from Annex 15, although it was emphasised that there was still a continuing need to ensure data integrity to an acceptable level.

2.24 Of serious concern in terms of AIM implementation progress was the number of States that had not completed the Quality Assurance element of Phase 1 (P-17). After the AAITF/7 meeting, further discussion between the USA and the Regional Office indicated a worldwide need for more guidance on this subject, so an AIM Quality Assurance Seminar for Asia/Pacific States was a possible consideration just prior to the next AAITF meeting. The ATM/AIS/SAR Sub-group is therefore invited to consider a Draft Conclusion to hold an AIM Quality Assurance Seminar in conjunction with the AAITF/8 meeting.

NOTAM Improvements

2.25 The United States presented a summary of the current progress of digital NOTAM (Notice to Airmen) development. Formal notification of ICAO compliant NOTAM format was planned for the end of 2012, and it was estimated that implementation of new NOTAM policy would become effective in 2014, allowing a full year for stakeholder notification.

2.26 The United States was developing airport mapping in support of graphical NOTAM capabilities for automating NOTAM origination that ensured higher quality NOTAM, and eliminated time-consuming third party review. The capability included the potential to display in ICAO and plain language formats with graphical display of images. As of January 2012, digital NOTAM entry capability had been deployed at 50 aerodromes across the USA. In the near future, digital NOTAM entry capability as planned to be deployed at all FAA 30 core aerodromes and metroplex areas (large urban multiple aerodrome centres).

Electronic Terrain Obstacle Databases

2.27 The U.S. Code of Federal Regulations provided for the mandatory reporting of any proposed construction, anywhere in the United States where the ultimate height above ground level will exceed 200ft (61m) or affect aerodrome Obstacle Identification Surfaces (OIS). The reported construction data was used by the FAA to determine any adverse effect upon the navigable airspace. However, reported data was generally not of high quality in terms of horizontal and vertical accuracy as it did not meet the accuracy requirement of Annex 15. To rectify the adverse effects on the design of PBN procedures the FAA had begun to resurvey existing recorded obstacles to improve the accuracy of information over a wide area, using survey methods that included airborne Light Detection and Ranging (LIDAR).

2.28 It was noted that many Asia/Pacific States did not have the resources to engage in this level of technology, or the regulations requiring construction reporting. In these cases the primary means of ensuring the provision of relevant construction activity information was considered to be the development of strong relationships between airports and the local planning and construction authorities.

2.29 Thailand stated that there was confusion about the terms digital and electronic in defining e-AIPs. The meeting noted that digital in the AIP context meant information extracted from a database. Jeppesen advised that the AISAIMSG was looking at whether Standards and Recommended Practices needed to be amended to clarify the difference between eAIP and digital AIP. Australia stated that the Study Group must consider that AIP has two purposes: aeronautical data, and the promulgation of legal requirements.

ICARD Seminar

2.30 An ICARD Seminar was conducted on Tuesday, 13 March 2012, prior to AAITF/7 meeting. The objective of the Seminar was to give APAC States the opportunity to optimally utilise the ICARD system to designate 5LNC to support ATS route development and implementation of Performance-Based Navigation (PBN).

2.31 The ICARD Seminar provided direct assistance to numerous Asia/Pacific States present, and as a result, nine administrations successfully registered for ICARD, bringing the total number of Asia/Pacific users to 26 (in 2011 there were 12). These administrations were: Cambodia, India, Indonesia, Macao China, Myanmar, the Philippines, Sri Lanka, the Solomon Islands and Viet Nam. States are urged to have a minimum of two ICARD users.

2.32 A list of current ICARD 5LNC Planners is provided at **Attachment B**.

Annex 11 Issues Related to Designation of Waypoint Codes

2.33 During the ICARD Seminar there was considerable discussion regarding duplicated 5LNCs and procedures for amendment of waypoints, which clarified that Annex 11 required that each code had to be unique. Notwithstanding this, the United States advised that there were many duplicated codes within their system and worldwide, so logic checks were written into their software to ensure there were no safety issues and to bring the pilot into the decision-making process. The Seminar noted that there was worldwide pressure on the number of waypoint codes available, especially with the implementation of new PBN procedures.

2.34 In response to a question about FMS functionality, Jeppesen advised that some FMS had logic which enabled identification of duplicated codes, but this was not universal. Jeppesen also noted that accidents had occurred in the past because of duplicated waypoint confusion. Moreover, the meeting acknowledged that ATM systems should have the same logic assessment.

2.35 In addition, Seminar delegates noted that the strict requirement to change a code even if, for example, the amendment was only a very minor nature en-route was not how many States interpreted this requirement. Jeppesen confirmed that the key issue for organizations that processed aeronautical data was not the change in waypoint coordinates, but that any change should occur on an AIRAC cycle date. It was agreed that when an ATS route designation was amended, this should not affect the 5LNCs unless the route was amended in terms of its geographical position.

2.36 The meeting agreed to the following Draft Conclusion 7/3 for the ATM/AIS/SAR Sub-Group's endorsement and APANPIRG's approval:

AAITF Draft Conclusion 7/3: Duplication and Amendment of 5LNC

Recognising that with the increasing use of Five Letter Name Codes (5LNC), it was not practical to avoid any duplication of 5LNC worldwide, and that States often used discretion in managing both duplications and minor changes of waypoint position that may not strictly be in accordance with the provisions of Annex 11, Appendix 1, ICAO is requested to consider:

- a) reviewing and updating Annex 11 to ensure its provisions related to 5LNC are appropriate; and
- b) development of standards for Flight Management Systems (FMS) that ensure logic checks of inputted waypoints that are duplicated are highlighted to pilots.

Runway End Wing Bars Description in ICAO Annex 14 And 15 Issue

2.37 China described a possible discrepancy between Annex 14 (Aerodromes) and Annex 15 regarding runway wing bars. According to ICAO Annex 15 and Doc 8126, wing bars were installed with runway end lights (Annex 15 Appendix 1, Part 3, AD 2.14 and Doc 8126 Chapter 5 Appendix, Part 3, AD 2.14). However, according to Annex 14 and in actual runway lighting configurations, China stated that wing bars were only applicable to runway thresholds and no wing bars are required for runway ends. The Secretariat undertook to discuss this matter with ICAO Headquarters.

Conference of Directors General of Civil Aviation

2.38 The 47th Conference of Directors General of Civil Aviation Asia and Pacific Regions (DGCA/47, 10 to 14 October 2011, New Caledonia) meeting, agreed to the following Action Item:

Action Item 48/7

To promote AIM implementation in the Asia-Pacific, the Conference urges ICAO to look into:

- a) *developing an Asia Pacific AIM Implementation Plan to ensure seamless transition to AIM and inter-operability;*
- b) *providing States with Guidance Material on electronic Terrain and Obstacle Data (eTOD) implementation until ICAO specifications on electronic terrain and obstacle data are developed;*
- c) *establishing a website as a means of tracking the implementation status of States and Administration; and*
- d) *establishing a central database of aeronautical information that is available to ATM users.*

2.39 In formulating this Action Item, the Directors General may have considered it necessary to create a separate regional implementation plan to support the implementation of Seamless ATM, which has at its core interoperability. The Asia/Pacific Seamless ATM Planning Group (APSAPG) was already tasked with the creation of an Asia/Pacific Seamless ATM Plan, which included AIM (Aviation System Block Upgrade Module B0-30). While having laudable intent, a separate regional AIM implementation plan to the Asia/Pacific Seamless ATM Plan might be confusing. In any event, the development of individual State AIM implementation plans coupled with the AIM Transition Table was an effective means of motivating and tracking AIM progress.

2.40 Regarding eTOD, the AIS-AIMSG Ad Hoc Group on AIM Development, and the Ad Hoc Group on Aeronautical Charting (Brussels, February 2012) have provided clarification on the Annex 15 eTOD provisions, and the TOD Manual was being amended to incorporate this.

2.41 It should be noted that the AIM Transition Table tracking State implementation status is provided on the Asia/Pacific Regional Office website under 'APAC e-Documents'.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) discuss and endorse AAITF Draft Conclusion 7/1, regarding Annex 15 Promulgation Requirements Compliance;
- c) discuss and endorse AAITF Draft Conclusion 7/2, regarding AIS-AIM Transition State Plans;
- d) discuss and endorse AAITF Draft Conclusion 7/3, regarding Duplication and Amendment of 5LNC;
- e) discuss the development of a Draft Conclusion to support an AIM Quality Assurance Seminar in conjunction with the AAITF/8 meeting;
- f) urge Asia/Pacific administrations that are not using ICARD to do so;
- g) discuss DGCA/48 Action Item 48/7; and
- h) discuss any relevant matters as appropriate.

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State AIS AIM Transition Table

Phase 1

- P-03 — AIRAC adherence monitoring
- P-04 — Monitoring of States' differences to Annex 4 and Annex 15
- P-05 — WGS-84 implementation
- P-17 — Quality

Phase 2

- P-01 — Data quality monitoring
- P-02 — Data integrity monitoring
- P-06 — Integrated aeronautical information database
- P-07 — Unique identifiers
- P-08 — Aeronautical information conceptual model
- P-11 — Electronic AIP
- P-13 — Terrain
- P-14 — Obstacles
- P-15 — Aerodrome mapping

Phase 3

- P-09 — Aeronautical data exchange
- P-10 — Communication networks
- P-12 — Aeronautical information briefing
- P-16 — Training
- P-18 — Agreements with data originators
- P-19 — Interoperability with meteorological products
- P-20 — Electronic aeronautical charts
- P-21 — Digital NOTAM

Date Last Amended: 23 May 2012

	Phase 1 Consolidation (Am. 36 November 2010)				Phase 2 Going Digital (Amendment 37 November 2013)								Phase 3 Information Management (Amendment 38 November 2016)								
	P-03	P-04	P-05	P-17	P-01	P-02	P-06	P-07	P-08	P-11	P-13	P-14	P-15	P-09	P-10	P-12	P-16	P-18	P-19	P-20	P-21
Afghanistan										Link											
Australia	√	√	√	90%	80%	√	√	√	60%	Link	√	75%				10%	60%			90%	5%
Bangladesh	√	√	25%							Link											
Bhutan										Link											
Brunei Darussalam																					
Cambodia	√	√	√																		
China	√	√	√	√													√			√	
Hong Kong, China	√	√	√	√	√	√				Link	10%	10%					20%				
Macao, China	√	√	√	√						Link											
Cook Islands																					
DPR Korea			√																		
Fiji	√	√	√				√	√				√	√		√	√	√				
India	√	√	√	√	√	√	√	√	√	Link		√									
Indonesia	√	√	√		50%	50%	20%			50%					80%		60%	20%	10%	20%	
Japan	√	√	√	√	80%	80%	√	√	√	Link	20%	20%		20%	20%	60%	80%	√		20%	20%
Kiribati																					
Lao PDR	√	√	25%																		
Malaysia	√	√	√	10%						Link											
Maldives										Link											
Marshall Islands																					
Micronesia																					
Mongolia	√	√	√	√	80%	80%	30%	√	√	Link	10%	10%		60%	10%	50%	90%	√			
Myanmar	√	√	√				20%			Link	20%	20%				10%				25%	
Nauru																					
Nepal																					
New Zealand	√	√	√	√	√	√	√	√	75%	Link	√	80%	15%	80%							
Niue (NZ)																					
Pakistan	√	√	√									√		√	√	√		√			√
Palau										Link											
Papua New Guinea	√	√	√	90%				√								10%					
Philippines	√	√	40%	√	√	√	√	√	√	Link											
Republic of Korea	√	√	√	√	80%					Link										40%	90%
Samoa																					
Singapore	√	√	√	√	√	√	√	√		Link				√	√	√	√	√		√	
Solomon Islands			√																		
Sri Lanka	√	√	90%	90%						Link					10%	25%	15%	25%			
Thailand	√	√	80%	10%						Link											
Timor Leste			√							Link											
Tonga																					
Vanuatu										Link											
Viet Nam	√	√	√	25%	50%	50%	50%		√					√	√		70%	50%			
USA ¹	√			√	√		√	√	√	Link	√	√	√	√	√					√	√
France ²										Link											

% means the percentage progress towards achievement of the element

¹ Includes American Samoa, Guam, Johnston, Kingman, Midway, Mariana, Palmyra, Wake

² Includes French Polynesia, New Caledonia, Wallis and Futuna Islands

E-AIP Internet Addresses

Afghanistan	http://www.motca.gov.af/
Australia	http://www.airservicesaustralia.com/
Bangladesh	http://www.caab.gov.bd/adinfo/adinfo0.html
Bhutan	http://www.dca.gov.bt/aip
Brunei Darussalam	
Cambodia	
China	
Hong Kong, China	http://www.hkatc.gov.hk
Macao, China	http://www.aacm.gov.mo
Cook Islands	
DPR Korea	
Fiji	
India	http://www.aai.aero/public_notices/AIP_INDIA_MAIN.jsp
Indonesia	
Japan	https://aisjapan.mlit.go.jp
Kiribati	
Lao PDR	
Malaysia	http://aip.dca.gov.my/
Maldives	http://www.aviainfo.gov.mv
Marshall Islands	
Micronesia	
Mongolia	http://ais.mcaa.gov.mn/index.php?lang=en
Myanmar	http://www.ais.gov.mm
Nauru	
Nepal	
New Zealand	http://www.aip.net.nz/
Niue (NZ)	
Pakistan	
Palau	http://www.faa.gov/air_traffic/publications/atpubs/AIP/aip.pdf
Papua New Guinea	
Philippines	http://ats.caap.gov.ph
Republic of Korea	E-AIP Republic of Korea http://ais.casa.go.kr/eAIPRoot/Operations/history-en-GB.html
Samoa	
Singapore	http://www.caas.gov.sg/caas/en/Regulations/Aeronautical_Information/AIP/index.html
Solomon Islands	
Sri Lanka	http://www.airport.lk/AIS/AIP%20frameset.htm
Thailand	http://www.aisthai.go.th/webais/download_aip.php
Timor Leste	http://www.gov.east-timor.org/CAA/index.html
Tonga	
Vanuatu	http://www.airports.vu/Pilots%20&%20Aircraft%20Operators/aip.htm
Viet Nam	
USA	http://www.faa.gov/air_traffic/publications/atpubs/AIP/aip.pdf
France (Wallis et Futuna, Iles) (French Polynesia)	E-AIP France

Attachment B ICARD Asia/Pacific 5LNC Planners

AAFCENT	AFCENT	Airspace	affora3aairspace@auab.afcent.centcom.mil	Afghanistan
LALBERTS	Alberts	Louise	louise.alberts@airservicesaustralia.com	Australia
SDANVERS	Danvers	Sally	sally.danvers@airservicesaustralia.com	Australia
CSIVORN	sivorn	chhun	ans.ssca@gmail.com	Cambodia
YZHANG001	Zhang	Ying	zhangying@atmb.net.cn	China
ITABAKAUCORO	Tabakaucoro	Ilaitia	ilaitia@caafi.org.fj	Fiji
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The following administrations were undertaking the process of having a 5LNC Planner accepted within the ICARD system:

- Hong Kong China and Macau China;
- Lao PDR;
- Mongolia; and
- Myanmar; and
- Solomon Islands.