INTERNATIONAL CIVIL AVIATION ORGANIZATION

TWENTY FIFTH MEETING OF THE ASIA/PACIFIC AIR NAVIGATION PLANNING AND IMPLEMENTATION REGIONAL GROUP (APANPIRG/25)

Kuala Lumpur, Malaysia, 8 – 11 September 2014

Agenda Item 3: Performance Framework for Regional Air Navigation Planning and Implementation

3.0: Regional and National Performance Framework

U.S. IMPLEMENTATION OF THE AVIATION SYSTEM BLOCK UPGRADES (ASBU) BLOCK 0 MODULES

(Presented by the United States of America)

SUMMARY

This paper presents information on the United States' implementation status of the ICAO Aviation System Block Upgrades (ASBUs) in support of the Global Air Navigation Plan (GANP). It describes efforts to promote knowledge and implementation of the ASBUs in the Asia-Pacific region.

1. INTRODUCTION

1.1 The Global Air Navigation Plan (GANP) and the Aviation System Block Upgrades (ASBUs) concept and documents were developed to provide the framework and strategic direction for a global and harmonised aviation system. With endorsement and approval from the 12th Air Navigation Conference and the 38th Assembly, the GANP and ASBUs provide the strategic direction and define measurable operational improvements for the next 15 years and include key civil aviation policy principles to assist ICAO Regions, sub-regions and States with the preparation and implementation of their air navigation plans.

2. INFORMATION ON U.S. ASBU BLOCK 0 IMPLEMENTATION STATUS

2.1 With the GANP and ASBUs now in place, the United States and other Member States are addressing the steps toward implementation. The objective of this working paper is to provide the U.S. implementation status of the ASBUs in support of the GANP. To date, the United States has implemented all of the modules in Block 0, either across the National Airspace System (NAS) or at select locations.

2.2 The Tables provided below show the list of ASBU Block 0 modules and their Elements to be implemented. The FAA has identified 47 Elements for the 18 Block 0 modules. For each Performance Improvement Area (PIA) table, the first column shows the module acronyms. The second column describes the Elements and the last column presents the FAA's implementation status. We note that our status on these modules and elements may be in different stages of implementation.

Table 1 describes the PIA 1, Airport Operations. PIA 1 consists of 5 modules and 15 Elements.

PIA 1: Airport Operations		
B0 Module	**Elements**	**Status**
WAKE	1: 6-category wake vortex separation	Implemented
	2: Increasing aerodrome arrival operational capacity	Implemented
	3: Increasing aerodrome departure operational capacity	Implemented
APTA	1: APV with Baro VNAV	Implemented
	2: APV with SBAS(WAAS)	Implemented
	3: APV with GBAS	Implemented
SURF	1: International aerodromes with at least one cooperative surface surveillance system such as Surface Movement Radar, Secondary Surveillance Radar Mode S, ADS-B, and/or Multilateration	Implemented
	2: International aerodromes with a cooperative transponder systems on vehicles	Implemented
	3: Alerting	Implemented
ACDM	1: International aerodromes with Airport CDM	Implemented
	2: Certified international aerodromes	Implemented
	3: International aerodromes with Rescue and Fire Fighting equipment as per Annex 14	Implemented
RSEQ	1: AMAN and time-based metering	Implemented
	2: Departure management	Implemented
	3: Point merge	N/A

Table 1: Implementation Status of PIA 1 - Airport Operations

Table 2 describes the PIA 2, Globally Interoperable Systems and Data. PIA 2 consists of 3 modules and 14 Elements.

PIA 2: Globally Interoperable Systems and Data		
B0 Module	**Elements**	**Status**
FICE	1: ATS units with AIDC	Implemented
	2: Implementation of AMHS/IPS	Implemented
DAIM	1: Implementation of AIXM	Implemented
	2: Implementation of eAIP	Implemented
	3: Implementation of Digital NOTAM	Implemented
	4: Implementation of WGS-84	Planning
	5: Implementation of eTOD	Implemented
	6: Implementation of QMS for AIM	Implemented
AMET	1: WAFS	Implemented
	2: IAVW	Implemented
	3. Tropical cyclone watch	Implemented
	4. Aerodrome warnings	Implemented
	5. Wind sheer warnings and alerts	Implemented
	6. SIGMET and other operational meteorological (OPMET) information	Implemented

Table 2: Implementation Status of PIA 2 - Globally Interoperable Systems and Data

Table 3 describes the PIA 3, Optimum Capacity and Flexible Flights. PIA 3 consists of 7 modules and 13 Elements.

PIA 3: Optimum Capacity and Flexible Flights		
B0 Module	**Elements**	**Status**
FRTO	1: Airspace planning	Implemented
	2: Flexible use of airspace (FUA) Time segregated airspaces are available for civil operations in the State	Implemented
	3: Flexible routing	Implemented
NOPS	1: ATS units using ATFM services	Implemented
ASUR	1: International aerodromes with ADS-B implemented	Implemented
	2: Multilateration system implemented	Implemented
ASEP	1: ATSA-AIRB	Implemented
	2: ATSA-VSA	Implemented
OPFL	1: Aircraft used ITP	Implemented
ACAS	1: Aircraft with ACAS logic V7.1	Implemented
SNET	1: Short Term Conflict Alert implementation (STCA)	Implemented
	2: Area Proximity Warning (APW)/ Minimum Safe Altitude Warning (MSAW)	Implemented
	3: Medium Term Conflict Alert (MTCA)	Implemented

Table 3: Implementation Status of PIA 3 - Optimum Capacity and Flexible Flights

Table 4 describes the PIA 4, Efficient Flight Path. PIA 4 consists of 3 modules and 5 Elements.

PIA 4: Efficient Flight Path		
B0 Module	**Elements/Indicator**	**Status**
CDO	1: International aerodromes with CDO implemented	Implemented
	2: International aerodromes/TMAs with PBN STARs implemented	Implemented
TBO	1: Number of ADS-C/CPDLC procedures available over oceanic and remote areas	Implemented
CCO	1: International aerodromes with CCO implemented	Implemented
	2: International aerodromes with PBN SIDs implemented	Implemented

Table 4: Implementation Status of PIA 4 - Efficient Flight Path

3. U.S. PROMOTION OF ASBUS IN ASIA-PACIFIC

3.1 The Civil Aviation Authority of Singapore (CAAS) and the FAA conducted a workshop on ASBU implementation August 19-20, 2014 at Nanyang Technological University's ATM Research Institute (ATMRI) in Singapore. Speakers at the workshop included representatives from CAAS, FAA, ATMRI, Changi Airport Group, Singapore Airlines, IATA, IFATCA, IFALPA, and SEACG.

3.2 The purpose of the workshop was to share information related to ASBU implementation with other States in the Asia-Pacific region. Topics discussed included:

a. ASBU implementation priorities based on regional needs;
b. Using ASBUs to deliver operational benefits;
c. Reporting on ASBU implementation status;
d. CAAS ATM master plan;
e. U.S. plans for ASBU implementation; and
f. Related ATM research and development work.

3.3 A similar workshop was conducted on August 27, 2014 in Tokyo, Japan. The workshop was jointly hosted by the Civil Aviation Bureau, Japan (JCAB) and the FAA and supported by the Japan Air Navigation Systems for Overseas Association (JANSOA). Attendees included personnel from JCAB as well as Japanese aviation industry.

4. CONCLUSION

4.1 In order to coordinate the modernization of the global air navigation system, it is important to have a harmonised plan for aviation regulators, operators and industry to follow. The planning, development, training and implementation of a globally harmonised system are contingent on a framework that includes scalable plans and provides operational, economic, and safety benefits.

5. ACTION BY THE MEETING

5.1 The Meeting is invited to:

a) note the contents of this Working Paper; and

b) support efforts that promote the regional implementation of the ASBUs.

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