Second Meeting of the Air Navigation System Implementation Group (ANSIG/2)

Cairo, Egypt, 6-8 December 2016

Hashemite Kingdom of Jordan

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Planning & Studies Director of ANSP

Outline

- JORDAN ANSP National ASBU Implementation Plan
- Status of ASBU Implementation
- Lessons Learned
- Challenges
- Recommendations
- Outlook 2020

Jordan ANSP ASBU Implementation Plan

- Aligned with ANSP Strategic Plan
- No funding, low Commitment –> one board member
- Priorities based on easy, fast and low resources to implement such as ACDM and DATM
- To get funding through Ministry of Planning

Status of ASBU Implementation

Status of ASBU Implementation

B0 – APTA: Optimization of Approach Procedures including vertical guidance				
Elements	**Applicability**	**Status**	**Action Plan/Timelines**	**Remarks**
States' PBN Implementation Plans	State	100% implemented	Since 2013	North runway (2) ends under rehabilitation Flight procedures under construction
LNAV	All RWYs Ends at International Aerodromes	all 8 of 8	Since 2013	
LNAV/VNAV	All RWYs Ends at International Aerodromes	100% 7 of 8 due to criteria limitation at OJAQ 19	Since 2013	

Status of ASBU Implementation

B0-SURF: Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)				
Elements	**Applicability**	**Status**	**Action Plan/Timelines**	**Remarks**
A-SMGCS Level 1	As per the MID Air Navigation Strategy	No airport implement Surface Surveillance No Conflict prediction and/or detection all are painted taxiway centerline and guidance signs	No Plans	Requirements and needs are not feasible CRM meeting discussed the issue Oct. 2016
A-SMGCS Level 2	As per the MID Air Navigation Strategy	Just OJAI fixed taxiway center line lights NO equipage with cooperative transponder system	No Plans	ANSP and OJAI was approached by TERMA to do free Feasibility Study but delayed

Status of ASBU Implementation

B0 – ACDM: Improved Airport Operations through Airport-CDM				
Elements	**Applicability**	**Status**	**Action Plan/Timelines**	**Remarks**
A-CDM	As per the MID Air Navigation Strategy	OJAI has started the process Internal Marketing for the Project Implementation into phases OJAQ has expressed its willing ANSP: internal marketing , Radar database exchange project	*OJAI :* Aug. 2016 OJAQ: No plans *ANSP* : No plans	Participating in CANSO workshop flight approach status, interfacing with RADAR database

Status of ASBU Implementation

B0 – FICE: Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration				
Elements	**Applicability**	**Status**	**Action Plan/Timelines**	**Remarks**
AMHS capability	State	Capable	Implemented based on IP	2007
AMHS Impl. /interconnection	State	Inter Con.: 5 AMHS Intra Con.: 2	To convert 3-4 AFTN to AMHS in 2017	Inter AFTN: 2 Intra AFTN: 27
Impl. of AIDC/OLDI between adjacent ACCs	ACC(s)	Capable	No plans	Initiative with Cairo Discussions with Jeddah

Status of ASBU Implementation

B0 – DATM: Service Improvement through Digital Aeronautical Information Management				
Elements	**Applicability**	**Status**	**Action Plan/Timelines**	**Remarks**
National AIM Roadmap	State	Roadmap was developed	2015 - 2019	• Connected to EAD March 2014
AIXM	State	Repository database was installed	Feb. 2015	• Procedure design • E-charting
eAIP	State	Partially used through EAD	2017-2018	EAD to be replaced
QMS	State	Fully implemented with ISO certificate	Yearly audit program	Certificate is validated yearly
WGS-84	ENR AD TMA GUND	Enroute: Yes Aerodromes: Yes Terminal: Yes Geoid Undulation: Yes	1 Jan 1998 1 Jan 1998 1 Jan 1998 5 July 2005	
eTOD	Area 1 Terrain Area 1 Obstacle Area 4 Terrain Area 4 Obstacle	Area1 and Area4 to be updated, eTOD installation	2017 2017-2018	Area4 for OJAI with North Runway project Others within Airport certification

Status of ASBU Implementation

B0 – AMET: Meteorological information supporting enhanced operational efficiency and safety				
Elements	**Applicability**	**Status**	**Action Plan/Timelines**	**Remarks**
SADIS 2G or Secure SADIS FTP	State	Secure SADIS FTP	since end of 2014	SAIDS station before 2014
QMS	State	Under processing	2017	

Status of ASBU Implementation

B0 – FRTO: Improved Operations through Enhanced En-Route Trajectories				
Elements	**Applicability**	**Status**	**Action Plan/Timelines**	**Remarks**
Flexible use of airspace (FUA)	State	Not implemented	No Plans	
Flexible routing	State	Not implemented	No Plans	

Status of ASBU Implementation

B0 – ACAS: ACAS Improvements				
Elements	**Applicability**	**Status**	**Action Plan/Timelines**	**Remarks**
State Regulation on carriage of ACAS (TCAS v7.1)	State	Regulated	Initiated 2010 amended 2016	JCAR Ops1 JCAR 1.688

Status of ASBU Implementation

B0 – CDO: Improved Flexibility and Efficiency in Descent Profiles (CDO)				
Elements	**Applicability**	**Status**	**Action Plan/Timelines**	**Remarks**
PBN STARs	As per the MID Air Navigation Strategy	All airports operate STARs	since **15 Dec 2013**	
International aerodromes/ TMAs with CDO	As per the MID Air Navigation Strategy	CDO implementation at OJAI and OJAM is connected with FUA implementation	CDO at OJAQ is planned in 2018	

Status of ASBU Implementation

B0 – CCO: Improved Flexibility and Efficiency Departure Profiles - Continuous Climb Operations (CCO)				
Elements	**Applicability**	**Status**	**Action Plan/Timelines**	**Remarks**
PBN SIDs	As per the MID Air Navigation Strategy	All airports operate SIDs	Since **15 Dec 2013**	
International aerodromes/ TMAs with CCO	As per the MID Air Navigation Strategy	CCO implementation at OJAI and OJAM is connected with FUA implementation	CCO at OJAQ is planned in 2018	

Other ASBU Block 0 Modules (priority 2) Implemented by the State

Module	Module Title	Status		Remarks
		Yes	No	
B0-WAKE	Increased Runway Throughput through Optimized Wake Turbulence Separation		X	Due runway layout and occupancy time
B0-RSEQ	Improve Traffic flow through Runway Sequencing (AMAN/DMAN)		X	
B0-ASUR	Initial capability for ground surveillance	X		ADS-B is installed but not used or mandated yet due to Academies' aircraft
B0-ASEP	Air Traffic Situational Awareness (ATSA)		X	
B0-OPFL	Improved access to optimum flight levels through climb/descent procedures using ADS-B		X	radar surveillance environment , not procedural using ADS-B
B0-SNET	Increased Effectiveness of Ground-Based Safety Nets	X		At least 10 alerts
B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route		X	No plans due to short distance within Jordan FIR

Outlook 2020

(Status of ASBU Block 0 Modules by 2020)

Module	Module Title	Status by 2020				Remarks
		FI	PI	NI	N/A	
B0-APTA	Optimization of Approach Procedures including vertical guidance	X				
B0-WAKE	Increased Runway Throughput through Optimized Wake Turbulence Separation				X	Due runway layout and occupancy time
B0-RSEQ	Improve Traffic flow through Runway Sequencing (AMAN/DMAN)			X		After 2020 subject to budget allocation
B0-SURF	Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)			X		No plans, Runway is 61 m wide, no ops requirements, no objects blocking, LVP to be used
B0-ACDM	Improved Airport Operations through Airport-CDM		X			No plans, automation committee, radar data exchange project
B0-FICE	Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration		X			2017 work on OLDI initiative with Cairo

Outlook 2020

(Status of ASBU Block 0 Modules by 2020)

Module	Module Title	Status by 2020				Remarks
		FI	PI	NI	N/A	
B0-DATM	Service Improvement through Digital Aeronautical Information Management		X			On going project 2017-2018
B0-AMET	Meteorological information supporting enhanced operational efficiency and safety	X				
B0-FRTO	Improved Operations through Enhanced En-Route Trajectories			X		No plans
B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view			X		Related to ACAC initiative for ATFM
B0-ASUR	Initial capability for ground surveillance			X		MLAT will be installed in 2017 to support south area
B0-ASEP	Air Traffic Situational Awareness (ATSA)				X	

Outlook 2020
(Status of ASBU Block 0 Modules by 2020)

Module	Module Title	Status by 2020				Remarks
		FI	PI	NI	N/A	
B0-OPFL	Improved access to optimum flight levels through climb/descent procedures using ADS-B				X	radar surveillance environment , not procedural using ADS-B
B0-ACAS	ACAS Improvements	X				
B0-SNET	Increased Effectiveness of Ground-Based Safety Nets	X				
B0-CDO	Improved Flexibility and Efficiency in Descent Profiles (CDO)		X			2018
B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route			X		No plans due to short distance within Jordan FIR
B0-CCO	Improved Flexibility and Efficiency Departure Profiles - Continuous Climb Operations (CCO)		X			2018

Challenges

- Top Management Commitment
- Political situation, region disorder effect on aviation
- Economical Situation and funding
- Sudden Situation Change

Lessons Learned

- Collaboration and Coordination (ATFM, FUA, ….)
- Top management buy-in and middle management support
- Recognition that ASBU is a continuous improvement process
- Strong project leader
- Clear, common understanding of what ASBU is and its objectives
- Early involvement of the internal and external stake holders
- Agreement on a joint action plan with clear activities and timelines that is aligned with strategic and national plans

Recommendations

- Have clear objectives and priorities with tangible quick wins
- Create strong project team with representation from across ANSP business
- Engage early with stakeholders
- Do not feel burden just Tailor to the country requirements
- Focus on regional initiatives and projects
- Recognise other countries best practices and the differences

Thank you