International Civil Aviation Organization

Runway and Ground Safety Working Group

Second Meeting (RGS WG/2)
(Cairo, Egypt, 19-21 May 2015)

Agenda Item 3: Coordination between RASG-MID and MIDANPIRG in the area of Aerodrome Safety

DEVELOPMENT OF THE NEW MID AIR NAVIGATION PLAN (MID eANP)

(Presented by the Secretariat)

SUMMARY

This paper presents the MID eANP VOL I, II and III, parts related to AOP.

Action by the meeting is at paragraph 3.

REFERENCES

- ANP WG/2 Report

1. INTRODUCTION

1.1 The 12th Air Navigation Conference (AN-Conf/12) agreed to Recommendation 6/1 [Regional performance framework – planning methodologies and tools] regarding the alignment of Regional Air Navigation Plans (ANP) with the Fourth Edition of the Global Air Navigation Plan (GANP) (Doc 9750).

1.2 The ICAO Council approved the new eANP Template (Volumes I, II and III) and corresponding procedure for amendment on 18 June 2014 (202nd session, fourth meeting).

2. DISCUSSION

2.1 The meeting may wish to note that the ANP data related to the air navigation facilities and services can be classified as stable, dynamic or flexible. Accordingly, the new eANP is composed of three Volumes, as follow:

a) Volume I should contain stable plan elements, the amendment of which require approval by the Council, related to:

1) assignment of responsibilities;

2) mandatory requirements subject to regional agreement; and/or

3) additional requirements specific to the Region which are not covered in SARPs.

Note. — The following is a non-exhaustive list of such elements:
Flight Information Regions (FIR) Boundaries (table and charts), Search and Rescue Regions (SRR) Boundaries (table and charts), Volcanic Ash Advisory Centres (VAAC), Tropical Cyclone Advisory Centres (TCAC), Volcano Observatories (VO).

b) Volume II should contain dynamic plan elements, the amendment of which does not require approval by the Council (approval is by regional agreement involving the relevant PIRG), related to:

1) assignment of responsibilities;

2) mandatory requirements subject to regional agreement; and/or

3) additional requirements specific to the region which are not covered in SARPs.

Note. — The following is a non-exhaustive list of such elements:
major traffic flows; ATS route network; Meteorological Watch Offices (MWO); Secondary Surveillance Radar (SSR) codes; five-letter name-codes; VOLMET broadcasts.

c) Volume III should contain dynamic/flexible plan elements providing implementation planning guidance for air navigation systems and their modernization taking into consideration emerging programmes such as the ASBUs and associated technology roadmaps described in the GANP. The ANP Volume III would also include appropriate additional guidance, particularly with regard to implementation, to complement the material contained in the ANP Volumes I and II. The amendment of Volume III would not require approval by the Council (approval of Part II is under the responsibility of the relevant PIRG).

2.2 The meeting may wish to recall that MIDANPIRG/14, through Decision 14/24, agreed that the development of the MID eANP based on the Council-approved ANP Template, be included in the work programme of the different MIDANPIRG subsidiary bodies and the relevant Parts of the MID eANP be presented, as soon as available, to MIDANPIRG/15 for endorsement.

2.3 The ANP WG/2 meeting (Cairo, Egypt, 16-18 December 2014) reviewed and updated VOL I, II and III of the MID eANP, consolidated by the Secretriate based on the Council approved Template. In this respect, the meeting agreed that the Secretariat follow-up with the States for the provision of their inputs to be incorporated in the final version, which will be presented to MIDANPIRG/15 for endorsement.

2.4 Final version of the MID eANP VOL I, II and III, parts related to AOP, consolidated by the secretariat considering all comments/inputs from States, are at **Appendices A, B** and **C**. Proposal for Amendment for the MID eANP would be issued by the ICAO MID Regional Office soon after its endorsement by MIDANPIRG/15.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the development and progress of the MID eANP; and

b) review and advise the ICAO MID Regional Office of any comment/update to the MID eANP, parts related to AOP, as at **Appendices A, B** and **C**.

APPENDIX A

MID AIR NAVIGATION PLAN

VOLUME I

May 2015

MID AIR NAVIGATION PLAN

VOLUME I

TABLE OF CONTENTS

MID ANP, VOLUME I

PART II – AERODROMES / AERODROME OPERATIONS (AOP)

1. INTRODUCTION

1.1 This part of the MID ANP constitutes the agreed regional requirements considered to be the minimum necessary for effective planning and implementation of aerodromes operations (AOP) facilities and services in the MID Region and complements the provisions of ICAO SARPs and PANS related to AOP. It contains stable plan elements related to the assignment of responsibilities to States for the provision of aerodrome facilities and services within the Region in accordance with Article 28 of the *Convention on International Civil Aviation* (Doc 7300) and mandatory requirements related to the AOP facilities and services to be implemented by States in accordance with regional air navigation agreements.

1.2 The dynamic plan elements related to the assignment of responsibilities to States for the provision of the aerodrome facilities and services including the mandatory requirements based on regional air navigation agreements related to the AOP are contained in the MID ANP Volume II Part II - AOP.

1.3 The MID ANP Volume III contains dynamic/flexible plan elements related to the implementation of air navigation systems and their modernization in line with the ICAO Aviation System Block Upgrades (ASBUs) methodology and associated technology roadmaps described in the Global Air Navigation Plan. The ASBU modules are aimed at increasing capacity and improving efficiency of the aviation system whilst maintaining or enhancing safety level, and achieving the necessary harmonization and interoperability at regional and global level. This includes the regionally agreed ASBU modules applicable to the specified ICAO region/sub-region and associated elements/enablers necessary for the monitoring of the status of implementation of these ASBU modules.

Standards and Recommended Practices and Procedures for Air Navigation Services

1.4 The SARPs and PANS and associated guidance material applicable to the provision of AOP are contained in:

a) Annex 14 — *Aerodromes*, Volumes I and II;

b) *Procedures for Air Navigation Services – Aerodromes* (PANS-Aerodromes) (Doc 9981) *(pending final approval)*;

c) *Airport Planning Manual* (Doc 9184);

d) *Aerodrome Design Manual* (Doc 9157);

e) *Airport Services Manual* (Doc 9137);

f) *Manual on Certification of Aerodromes* (Doc 9774);

g) *Assessment, Measurement and Reporting of Runway Surface Conditions* (Cir 329);

h) *Operation of New Larger Aeroplanes at existing aerodromes* (Cir 305);

i) *Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual* (Doc 9830);

j) *Manual of Surface Movement Guidance and Control Systems (SMGCS)* (Doc 9476);

k) *Heliport Manual* (Doc 9261);

l) *Manual on the prevention of runway incursions* (Doc 9870);

m) *Stolport Manual* (Doc 9150);

n) *ICAO Bird Strike Information System Manual* (Doc 9332); and

o) *Manual on Civil Aviation Jet Fuel Supply* (Doc 9977).

2. GENERAL REGIONAL REQUIREMENTS

2.1 Regular aerodromes and their alternates required for international commercial air transport operations should be determined through regional agreements, based on the list of international aerodromes designated by States and the needs of the international commercial flights. Consideration should also be given to the needs of international general aviation flights as identified by user requirements. The alternate aerodromes should be planned/selected, to the greatest practicable extent, from the list of existing regular aerodromes used for international aircraft operations. However, where in specific cases the designation of another aerodrome in close proximity to a regular aerodrome would result in appreciable fuel conservation or other operational advantages, this aerodrome may be designated for use as an alternate aerodrome only. Planning of alternate aerodromes should be made on the basis of the following objectives:

a) to ensure that at least one suitable alternate is available for each international aircraft operation; and

b) to ensure that the facilities at the designated alternate aerodrome(s) are appropriate for the alternate aircraft operations.

2.2 The list of regular and alternate aerodromes (including their designations) required in the Region(s) to serve international civil aviation operations (international scheduled air transport, non-scheduled air transport and general aviation operations) is given in **Table AOP I-1**. Each Contracting State should ensure the provision of aerodrome facilities and services at the international aerodromes under its jurisdiction.

3. SPECIFIC REGIONAL REQUIREMENTS

None.

Table AOP I-1
INTERNATIONAL AERODROMES REQUIRED IN THE MID REGION

EXPLANATION OF THE TABLE

City/Aerodrome: Name of the city and aerodrome, preceded by the location indicator.
Designation: Designation of the aerodrome as:
RS — international scheduled air transport, regular use;
RNS — international non-scheduled air transport, regular use;
AS — international scheduled air transport, alternate use;
ANS — international non-scheduled air transport, alternate use.

Note 1 — when an aerodrome is needed for more than one type of use, normally only the use highest on the above list is shown.
[Example — an aerodrome required for both RS and AS use would only be shown as RS in the list.]
Note 2 — when the aerodrome is located on an island and no particular city or town is served by the aerodrome, the name of the island is included instead of the name of a city.

(PFA for amending AOP Table – Egypt, Iran and Sudan in progress)

Location Indicator	Name of City/Aerodrome	Designation
BAHRAIN		
OBBI	BAHRAIN/Bahrain Intl	RS
EGYPT		
HEAX	ALEXANDRIA/Alexandria Intl	RS
HEBA	ALEXANDRIA/Borg El-Arab Intl	RS
HESN	ASWAN/Aswan Intl	RS
HEAT	ASYUT/Asyut Intl	RS
HECA	CAIRO/Cairo Intl	RS
HEAR	EL ARISH/ El Arish Intl	AS
HEGN	HURGHADA/Hurghada Intl	RS
HELX	L UXOR/Luxor Intl	RS
HEMA	MARSA ALAM/Marsa Alam Intl	RNS
HEPS	PORT SAID/ Port Said Intl	AS
HEOW	SHARK EL OWEINAT/Shark El Oweinat Intl	AS
HESH	SHARM EL SHEIKH/Sharm El Sheikh Intl	RS
HESC	ST. CATHERINE/St Catherine Intl	AS

Location Indicator	Name of City/Aerodrome	Designation
HETB	TABA/Taba Int	AS
HEAL	ALAMAIN/Alamain Intl	AS
HESG	SOHAG/Sohag Intl	AS
IRAN, ISLAMIC REPUBLIC OF		
OIKB	BANDAR ABBAS/Bandar Abbas Intl	RS
OIFM	ESFAHAN/Shahid Beheshti Intl	RS
OIMM	MASHHAD/Shahid Hashemi Nejad Intl	RS
OISS	SHIRAZ/Shahid Dastghaib Intl	RS
OITT	TABRIZ/Tabriz Intl	RNS
OIIE	TEHRAN/Imam Khomaini Intl	RS
OIII	TEHRAN/Mehrabad Intl	RS
OIZH	ZAHEDAN/Zahedan Intl	RS
IRAQ		
ORBI	BAGHDAD/Baghdad Intl	RS
ORMM	BASRAH/Basrah Intl	RS
ORER	ERBIL/Erbil Intl	RS
ORSU	SULAYMANIYAH/Sulaymaniyah Intl	RS
ORNI	AL NAJAF/Al Najaf Intl	RNS
ORBM	MOSUL/Mosul Intl	RS
JORDAN		
OJAM	AMMAN/Marka Intl	AS
OJAI	AMMAN/Queen Alia Intl	RS
OJAQ	AQABA/King Hussein Intl	RS

Location Indicator	Name of City/Aerodrome	Designation
KUWAIT		
OKBK	KUWAIT/Kuwait Intl	RS
LEBANON		
OLBA	BEIRUT/ R. B. H - Beirut Intl-	RS
LIBYA		
HLLB	BENGHAZI/Benina	RS
HLLS	SEBHA/Sebha	RS
HLLT	TRIPOLI/Tripoli Intl	RS
OMAN		
OOMS	MUSCAT/ Muscat Intl	RS
OOSA	SALALAH/Salalah	AS
QATAR		
OTBD	DOHA/Doha Intl	RS
OTHH	DOHA/Hamad Intl	RS
SAUDI ARABIA		
OEDF	DAMMAM/King Fahd Intl	RS
OEJN	JEDDAH/King Abdulaziz Intl	RS
OEMA	MADINAH/Prince Mohammad Bin Abdulaziz Intl	RS
OERK	RIYADH/King Khalid Intl	RS

Location Indicator	Name of City/Aerodrome	Designation
SOUTH SUDAN		
HSSJ	JUBA/Juba	RS
SUDAN		
HSKA	KASSALA/Kassala	AS
HSSS	KHARTOUM/Khartoum	RS
HSPN	PORT SUDAN/Port Sudan	RS
SYRIAN ARAB REPUBLIC		
OSAP	ALEPPO/Aleppo Intl	RS
OSLB	LATTAKIA/Bassel Al-Assad Intl	RS
OSDI	DAMASCUS/Damascus Intl	RS
UNITED ARAB EMIRATES		
OMAA	ABU DHABI/Abu Dhabi Intl	RS
OMAD	ABU DHABI/Al Bateen	RNS
OMAL	AL AIN/Al Ain Intl	RS
OMDB	DUBAI/Dubai Intl	RS
OMDW	DUBAI/Al Maktoum Intl	RS
OMFJ	FUJAIRAH/Fujairah Intl	RS
OMRK	RAS AL KHAIMAH/Ras Al Khaimah Intl	RS
OMSJ	SHARJAH/Sharjah Intl	RS
YEMEN		
OYAA	ADEN/Aden Intl	RS
OYHD	HODEIDAH/Hodeidah Intl	RS
OYRN	MUKALLA/Riyan Intl	RS
OYSN	SANA'A/Sana'a Intl	RS

Location Indicator	Name of City/Aerodrome	Designation
OYTZ	TAIZ/Taiz Intl	RS

APPENDIX B

MID AIR NAVIGATION PLAN

VOLUME II

May 2015

MID AIR NAVIGATION PLAN

VOLUME II

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MID ANP, VOLUME II

PART II – AERODROMES / AERODROME OPERATIONS (AOP)

1. INTRODUCTION

1.1 This part of the MID ANP, Volume II, complements the provisions in ICAO SARPs and PANS related to aerodrome design and operations (AOP). It contains dynamic plan elements related to the assignment of responsibilities to States for the provision of AOP facilities and services within a specified area in accordance with Article 28 of the *Convention on International Civil Aviation* (Doc 7300); and mandatory requirements related to AOP facilities and services to be implemented by States in accordance with regional air navigation agreements. Such agreement indicates a commitment on the part of the State(s) concerned to implement the requirement(s) specified.

2. GENERAL REGIONAL REQUIREMENTS

2.1 **Table AOP II-1** contains the list of facilities and services to be provided by the State concerned at each aerodrome that is listed in **Table AOP I-1** in Volume I. Table AOP II-1 shows the operational requirements at each aerodrome to be considered in planning the facilities and services for safe and efficient aircraft operations.

Visual aids for low visibility aerodrome operations

2.2 At aerodromes where there is a requirement to conduct low visibility operations, the appropriate visual and non-visual aids should be provided.

Non-precision approach aids

2.3 Where required by the topographic and/or environmental situation of an aerodrome, improved track guidance during departure and/or approach by specific non-visual and/or visual aids should be provided even if such aids would not normally be required in accordance with the SARPs.

Reduced runway declared distances for take-off

Note. — In the following operational requirements the term "intersection" is used to cover both intersection and junction concepts.

2.4 The reduced runway declared distances for take-off, as for those used for full runway declared distances, should consist of take-off run available (TORA), take-off distance available (TODA) and accelerate-stop distance available (ASDA).

2.5 The datum-line from which the reduced runway declared distances for take-off should be determined is defined by the intersection of the downwind edge of the specific taxiway with the runway edge. The loss, if any, of runway length due to alignment of the aircraft prior to take-off should be taken into account by the operators for the calculation of the aircraft's take-off weight.

2.6 Intersections used as intermediate take-off positions should be identified by the "taxiway designator" to which the datum-line of the associated reduced runway declared distance for take-off refers.

2.7 At each international aerodrome, specific minima visibility for take-off should be established, regulating the use of intersection take-off positions. These minima should permit the appropriate ATC unit to maintain a permanent surveillance of the ground movement operations, and the flight crews to constantly secure their position on the manoeuvring area, so as to exclude any potential risk of confusion as

to the identification of the aircraft and intersections used for take-off. The minima should be consistent with the surface movement guidance and control system (SMGCS) provided at the aerodrome concerned.

2.8 The provision of marking and lighting aids together with signs should ensure the safe control and guidance of aircraft towards and at take-off intersections appropriate to the minima visibility criteria retained. At the runway holding position of the associated intersection take-off position, such signs should indicate the runway heading and the remaining TORA in metres.

2.9 At aerodromes regularly used by international commercial air transport, take-offs from runway/taxiway intersections may be justified for the following reasons:

a) runway capacity improvement;
b) taxi routes distances reduction;
c) noise alleviation; and
d) air pollution reduction.

2.10 The appropriate authorities should, upon prior consultation with aircraft operators, agree on the selection of suitable intermediate intersection take-off positions along the runway(s). Accordingly, authorities should determine the reduced runway declared distances for take-off associated with each selected intersection take-off position and establish the specific ATC rules and operational procedures/limitations. Such provisions should be published in the State aeronautical information publications (AIP).

Aerodrome capacity management

2.11 As an integral part of the air navigation system, the aerodrome should provide the needed ground infrastructure including, *inter alia*, lighting; taxiways; runway, including exits; aprons and precise surface guidance to improve safety and to maximize aerodrome capacity in all weather conditions. An efficient aerodrome capacity planning and management should include:

a) reduction of runway occupancy time;
b) the capability to safely manoeuvre in all weather conditions whilst maintaining capacity;
c) precise surface guidance to and from a runway required in all conditions; and
d) availability of information on the position (to an appropriate level of accuracy) and intent of all vehicles and aircraft operating on the movement area for the appropriate ATM community members.

2.12 States should ensure that adequate consultation and, where appropriate, cooperation between airport authorities and users/other involved parties are implemented at all international aerodromes to satisfy the provisions of aerodrome capacity assessment and requirement.

2.13 When international aerodromes are reaching designed operational capacity, a better and more efficient utilization of existing runways, taxiways and aprons is required. Runway selection procedures and standard taxi routes at aerodromes should ensure an optimum flow of air traffic with a minimum of delay and a maximum use of available capacity. They should also, if possible, take account of the need to keep taxiing times for arriving and departing aircraft as well as apron occupancy time to a minimum. The airport collaborative decision making (A-CDM) concept should be implemented to improve airport capacity as early as possible.

Aerodrome capacity assessment and requirement

2.14 The declared capacity/demand condition at aerodromes should be periodically reviewed in terms of a qualitative analysis for each system component and, when applicable, the result of the qualitative assessment upon mutual agreement be used for information.

2.15 The future capacity/demand, based on a forecast for the next five years, should be agreed upon after close cooperation between aerodrome authorities and affected users.

2.16 Operators should consult with aerodrome authorities when future plans indicate a significant increased requirement for capacity resulting in one of the elements reaching a limiting condition.

2.17 Aerodrome capacity should be assessed by aerodrome authorities in consultation with the parties involved for each component (terminal/apron/aircraft operations) using agreed methods and criteria for level of delays.

2.18 Where restrictions in aerodrome capacity are identified, a full range of options for their reduction or removal should be evaluated by the aerodrome authority, in close cooperation with the operators and other involved parties. Such options should include technical/operational/procedural and environmental improvements and facility expansion.

2.19 At many aerodromes, airspace capacity has influence on the aerodrome capacity. If the declared capacity of a specified airspace has influence on aerodrome operations, this should be indicated and action undertaken to reach a capacity in this airspace corresponding to the aerodrome capacity.

2.20 The possibility of overcoming capacity limitations should also take the use of other aerodromes in the vicinity into consideration.

Closure of regular aerodromes

2.21 When a regular aerodrome is to be closed, States should ensure that sufficient alternate aerodromes remain open to provide for the safety and efficiency of aircraft approaching the regular aerodrome that may be required to divert to an alternate.

Scheduling aerodrome maintenance

2.22 States, when planning major aerodrome maintenance work that would affect the regularity of international aircraft operations, should consider the need to notify aircraft operators sufficiently in advance prior to undertaking the scheduled work.

3. SPECIFIC REGIONAL REQUIREMENTS

None.

Table AOP II-1 – REQUIREMENTS AND CAPACITY ASSESSMENT

EXPLANATION OF THE TABLE

Note: Columns 3 to 5 for physical characteristics relate to runways and taxiways. The physical characteristics of taxiways and aprons should be compatible with the aerodrome reference code (Column 3) and appropriate for the runways with which they are related.

Column

1 Name of the city and aerodrome, preceded by the location indicator.

Note 1— When the aerodrome is located on an island and no particular city or town is served by the aerodrome, the name of the island is included instead of a city.

Designation of the aerodrome as:
RS — international scheduled air transport, regular use;
RNS — international non-scheduled air transport, regular use;
AS — international scheduled air transport, alternate use; and
ANS — international non-scheduled air transport, alternate use.

2 Required rescue and firefighting service (RFF). The required level of protection expressed by means of an aerodrome RFF category number, in accordance with Annex 14, Volume I, 9.2.

3 Aerodrome reference code (RC). The aerodrome reference code for aerodrome characteristics expressed in accordance with Annex 14, Volume I, chapter 1. The code letter or number within an element selected for design purposes is related to the critical aeroplane characteristics for which the facilities are provided.

4 Runway Designation numbers

5 Type of each of the runways to be provided. The types of runways, as defined in Annex 14, Volume I, Chapter 1, are:
NINST — non-instrument runway;
NPA — non-precision approach runway;
PA1 — precision approach runway, Category I;
PA2 — precision approach runway, Category II;
PA3 — precision approach runway, Category III.

6 Remarks. Additional information including critical design aircraft selected for determining RC, critical aircraft selected for determining the RFF category and critical aircraft for pavement strength. Only one critical aircraft type is shown if it is used to determine all the above three elements: otherwise different critical aircraft types need to be shown for different elements.

City/Aerodrome/Designation		RFF category	Physical characteristics			Remarks
			RC	RWY No.	RWY type	
1		2	3	4	5	6
BAHRAIN						
OBBI	BAHRAIN/Bahrain Intl	10	4E	12 R 30 L	NPA NPA	
RS				12 L 30 R	PA 1 PA 1	

City/Aerodrome/Designation	RFF category	Physical characteristics			Remarks
		RC	RWY No.	RWY type	
1	2	3	4	5	6
EGYPT					
HEAX ALEXANDRIA/ Alexandria Intl	7	4C	04	NPA	
			22	NPA	
RS					
			18	NPA	
			36	NPA	
HEBA ALEXANDRIA / Borg El -Arab Intl	8	4E	14	PA1	
			32	PA	
RS					
HESN ASWAN/Aswan Intl	9	4E	17	NPA	
			35	PA1	
RS					
HEAT ASYUT/Asyut Intl	7	4C	13	PA2	
RS			31	PA	
HEAZ CAIRO/Almaza Intl	4	3C	18	PA1	
ANS			36	PA	
			05	NINST	
			23	NINST	
HECA CAIRO/Cairo Intl	9	4E	05L	PA2	
RS			23R	PA2	
		4F	05C	PA2	
		4E	23C	PA2	
			05R	PA2	
			23L	PA2	
		4D	16	NINST	
			34	NINST	
HEAR EL-ARISH/El-Arish Intl	7	4C	16	NPA	
AS			34	NPA	
HEGN HURGADA/Hurghada Intl	9	4E	16	NPA	
			34	PA2	
RS					

City/Aerodrome/Designation		RFF category	Physical characteristics			Remarks
			RC	RWY No.	RWY type	
1		2	3	4	5	6
HELX	LUXOR/Luxor Intl	9	4E	02	NPA	
	RS			20	PA1	
HEMA	MARSA ALAM/ Marsa Alam Intl	7	4C	15	NPA	
				33	NPA	
	RNS					
HEPS	PORT-SAID/ Port-Said Intl	6	4C	10	NPA	
				28	NPA	
	AS					
HEOW	SHARK EL OWEINAT/ Shark El Oweinat Intl	5	4C	01	NPA	
				19	NINST	
	AS					
HESH	SHARM EL-SHEIKH/ Sharm El Sheikh Intl	9	4E	04L	PA1	
				22R	NPA	
				04R	NPA	
	RS			22L	NPA	
HESC	ST. CATHERINE/St. Catherine Intl	7	3C	17	NPA	
				35	NINST	
	AS					
HETB	TABA/Taba Intl	7	4E	04	PA2	
	AS			22	NINST	
IRAN, ISLAMIC REPUBLIC OF						
OIKB	BANDAR ABBAS/Bandar Abbas Intl	8	4D	03R	NPA	
				21L	PA1	
	RS			03L	NINST	
				21R	NINST	
OIFM	ESFAHAN/Shahid Beheshti Intl	9	4E	08L	NPA	
				26R	PA1	
	RS			08R	NPA	
				26L	NPA	

City/Aerodrome/Designation		RFF category	Physical characteristics			Remarks
			RC	RWY No.	RWY type	
1		2	3	4	5	6
OIMM	MASHHAD/Shahid Hashemi Nejad Intl RS	9	4D	13L 31R 13R 31L	NPA PA1 NPA NPA	
OISS	SHIRAZ/Shiraz Intl RS	9	4D	11R 29L 11L 29R	NINST PA1 NINST NPA	
OITT	TABRIZ/Tabriz Intl RNS	9	4D	12L 30R 12R 30L	NPA PA1 NINST NINST	
OIIE	TEHRAN/Imam Khomaini Intl RS	9	4E	11L 29R	NPA PA2	
OIII	TEHRAN/Mehrabad Intl RS	9	4E	11R 29L 11L 29R	NPA PA1 NPA NPA	
OIZH	ZAHEDAN/ Zahedan Intl RS	8	4D	17 35	NINST PA1	
IRAQ						
ORBI	BAGHDAD/Baghdad Intl RS	8	4E	15R 33L 15L 33R	PAI PA2 NINST PA1 PA1 NINST PA1/ NINST	
ORMM	BASRAH/Basrah Intl RS	8	4E	14 32	NINST NINST PA2	
ORER	ERBIL/Erbil Intl RS	7	4C	15 33	PA1 NINST	

City/Aerodrome/Designation	RFF category	Physical characteristics			Remarks
		RC	RWY No.	RWY type	
1	2	3	4	5	6
ORSU SULYMANIYAH/ Sulaymaniyah Intl RS	9	4E	31 13	PA1 PA1	
ORNI Al Najaf/Al Najaf Intl RNS	8	4D	28 10	NP1	
JORDAN					
OJAM AMMAN/Marka Intl ANS	8	4C	06 24	NPA PA1	
OJAI AMMAN/Queen Alia Intl RS	9	4E	08R 26L 08L 26R	NPA PA2 PA 2 PA 2	
OJAQ AQABA/ King Hussein Intl RS	9	4E	01 19	PA1 NPA PA1	
KUWAIT					
OKBK KUWAIT/Kuwait Intl RS	9	4E	15R 33L 15L 33R	PA2 PA2 PA2 PA2	
LEBANON					
OLBA BEIRUT/R. B. H - Beirut Intl RS	9	4E	03 21 16 34 17 35	PA1 PA1 PA1 NINST PA1 NINST	
LIBYA					
HLLB BENGHAZI/Benina RS	8	4D 4C	15L 33R 15R 33L	PA1 NPA NPA PA1	

City/Aerodrome/Designation		RFF category	Physical characteristics			Remarks
			RC	RWY No.	RWY type	
1		2	3	4	5	6
HLLS	SEBHA/Sebha	7	4C	13	PA1	
	RS			31	NPA	
				06		
				24		
HLLT	TRIPOLI/Tripoli Intl	8	4E	09	PA1	
	RS			27	PA2	
				18		
				36		
OMAN						
OOMS	MUSCAT/Muscat Intl	9	4E	08	PA1	
	RS			26	PA1	
OOSA	SALALAH/Salalah	9	4E	07	NPA	
				25	PA1	
QATAR						
OTBD	DOHA/Doha Intl	9	4E	16	NPA	
	RS			34	PA1	
OTHH	DOHA/Hamad Intl	10	4F	16L	PA2	
	RS			34R	PA2	
				16R	PA2	
				34L	PA2	
SAUDI ARABIA						
OEDF	DAMMAM/Kind Fahid Intl	9	4E	16L	PA2	
				34R	PA2	
	RS				PA2	
				16R	PA2	
				34L	PA2	
OEJN	JEDDAH/King Abdulaziz Intl	9	4E	16R	PA2	
				34L	PA2	
	RS			16C	PA2	
				34C	PA2	
				16L	PA1	
				34R	PA1	

City/Aerodrome/Designation		RFF category	Physical characteristics			Remarks
			RC	RWY No.	RWY type	
1		2	3	4	5	6
OEMA	MADINAH/Prince Mohammad Bin Abdulaziz Intl RS	8	3D 4E	17 35 18 36	PA1 PA1 NPA PA1	
OERK	RIYADH/King Khalid Intl RS	9	4E	15L 33R 15R 33L	PA1 PA1 PA1 PA1	
SOUTH SUDAN						
HSSJ	JUBA/Juba RS	6	4C	13 31	PA1 NINST	
SUDAN						
HSKA	KASSALA/Kassala AS	7	4D	02 20	NINST NINST	
HSSS	KHARTOUM/Khartoum RS	8	4D	18 33	PA1 NPA	
HSPN	PORT SUDAN/Port Sudan Intl RS	6	4C	18 36	NPA PA1	
SYRIAN ARAB REPUBLIC						
OSAP	ALEPPO/Aleppo Intl RS	7	4D	09 27	PA2 PA2	
OSLK	LATTAKIA /Bassel AL-Assad Intl RS	5	4D	17 35	NPA NPA	
OSDI	DAMASCUS/ Damascus Intl RS	8	4E	05L 23R 05R 23L	PA2 PA2 PA2 PA2	

City/Aerodrome/Designation		RFF category	Physical characteristics			Remarks
			RC	RWY No.	RWY type	
1		2	3	4	5	6
UNITED ARAB EMIRATES						
OMAA	ABU DHABI/Abu Dhabi Intl	10	4E	13 R	PA1	
				31 L	PA3	
	RS					
		10	(will be upgraded to 4F 2010)	13 L	PA 3	
				31 R	PA 3	
OMAL	AL AIN/Al Ain Intl	9	4E	01	PA1	
	RS			19	NPA	
OMDB	DUBAI/Dubai Intl	10	4F	12L	PA3	
	RS			30R	PA3	
				12R	PA1	
				30L	PA1	
OMFJ	FUJAIRAH/Fujairah Intl	9	4E	11	NPA	
	RS			29	PA1	
OMRK	RAS AL KHAIMAH /Ras Al Khaimah Intl	9	4E	16	NPA	
				34	PA1	
	RS					
OMSJ	SHARJAH/Sharjah Intl	9	4E	12	PA1	
	RS			30	PA2	
OMDW	DUBAI/Al Maktoum Int'l	10	4F	12L	PA3	
	RS			30R	PA3	
	(Future 2009 - 2012)					
		10		12R	PA3	
				30L	PA3	
YEMEN						
OYAA	ADEN/Aden Intl	9	4E	08	NPA	
	RS			26	PA1	
OYHD	HODEIDAH/ Hodeidah Intl	9	4E	03	NPA	
	RS			21	NPA	
OYRN	MUKALLA/Riyan Intl	9	4E	06	NPA	
	RS			24	NPA	

City/Aerodrome/Designation		RFF category	Physical characteristics			Remarks
			RC	RWY No.	RWY type	
1		2	3	4	5	6
OYSN	SANA'A/Sana'a Intl RS	9	4E	18	PA1	
				36	NPA	
OYTZ	TAIZ/ Taiz Intl RS	9	4E	01	NPA	
				19	NPA	

APPENDIX C

MID AIR NAVIGATION PLAN

VOLUME III

May 2015

MID AIR NAVIGATION PLAN

VOLUME III

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B0-SURF: Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)

Description and purpose

Basic A-SMGCS provides surveillance and alerting of movements of both aircraft and vehicles on the aerodrome thus improving runway/aerodrome safety. ADS-B information is used when available (ADS-B APT).

Main performance impact:

KPA- 01 – Access and Equity	KPA-02 – Capacity	KPA-04 – Efficiency	KPA-05 – Environment	KPA-10 – Safety
Y	Y	Y	Y	Y

Applicability consideration:

A-SMGCS is applicable to any aerodrome and all classes of aircraft/vehicles. Implementation is to be based on requirements stemming from individual aerodrome operational and cost-benefit assessments. ADS-B APT, when applied is an element of A-SMGCS, is designed to be applied at aerodromes with medium traffic complexity, having up to two active runways at a time and the runway width of minimum 45 m.

B0-SURF: Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)			
Elements	***Applicability***	**Performance Indicators/Supporting Metrics**	**Targets**
A-SMGCS Level 1*	OBBI, HECA, OIII, OKBK, OOMS, OTBD, OTHH, OEDF, OEJN, OERK, OMDB, OMAA, OMDW	Indicator: % of applicable international aerodromes having implemented A-SMGCS Level 1 Supporting Metric: Number of applicable international aerodromes having implemented A-SMGCS Level 1	70% by Dec. 2017
A-SMGCS Level 2*	OBBI, HECA, OIII, OKBK, OOMS, OTBD, OTHH, OEJN, OERK, OMDB, OMAA, OMDW	Indicator: % of applicable international aerodromes having implemented A-SMGCS Level 2 Supporting Metric: Number of applicable international aerodromes having implemented A-SMGCS Level 2	50% by Dec. 2017

**Reference: Eurocontrol Document – "Definition of A-SMGCS Implementation Levels, Edition 1.2, 2010".*

TABLE B0-SURF (A-SMGCS Level 1-2)

EXPLANATION OF THE TABLE

Column

1 Name of the State

2 Name of City/Aerodrome and Location Indicator

3 Status of implementation of A-SMGCS Level 1, where:
Y – Yes, implemented
N – No, not implemented

4 Status of implementation of A-SMGCS Level 2, where:
Y – Yes, implemented
N – No, not implemented

5 Action plan — short description of the State's Action Plan with regard to the implementation of A-SMGCS Level 1-2, especially for items with "N".

6 Remarks

State	City/ Aerodrome Location Indicator	Level 1	Level 2	Action Plan	Remarks
1	*2*	*3*	*4*	*5*	*6*
BAHRAIN	Bahrain/Bahrain Intl (OBBI)	N	N	A-SMGCS Level 1-2 Project is under Execution phase. expected completion on Sep 2015	
EGYPT	Cairo/Cairo Intl (HECA)	N	N		
IRAN	Tehran/Mehrabad Intl (OIII)	N	N		
KUWAIT	Kuwait/Kuwait Intl (OKBK)	N	N		
OMAN	Muscat/Muscat Intl (OOMS)	N	N		
QATAR	Doha/Doha Intl (OTBD)	N	N		
QATAR	Doha/Hamad Intl (OTHH)	N	N		
SAUDI ARABIA	JEDDAH/King Abdulaziz Intl (OEJN)	N	N		
SAUDI ARABIA	RIYADH/King Khalid Intl (OERK)	N	N		
UAE	Abu Dhabi/Abu Dhabi Intl (OMAA)	Y	Y	Level 4 2017	Alert RIMCAS
UAE	Dubai/Dubai Intl (OMDB)	Y	Y	Level 4 2016	Alert RIMCAS
UAE	DUBAI/Al Maktoum Intl (OMDW)	Y	N	Level 4 2018	Alert RIMCAS
Total Percentage		**25**	**17**		

B0 – ACDM: Improved Airport Operations through Airport-CDM

Description and purpose

To implement collaborative applications that will allow the sharing of surface operations data among the different stakeholders on the airport. This will improve surface traffic management reducing delays on movement and manoeuvring areas and enhance safety, efficiency and situational awareness.

Main performance impact:

KPA- 01 – Access and Equity	KPA-02 – Capacity	KPA-04 – Efficiency	KPA-05 – Environment	KPA-10 – Safety
N	Y	Y	Y	N

Applicability consideration:

Local for equipped/capable fleets and already established airport surface infrastructure.

B0 – ACDM: Improved Airport Operations through Airport-CDM			
Elements	***Applicability***	***Performance Indicators/Supporting Metrics***	***Targets***
A-CDM	OBBI, HECA, OIII, OKBK, OOMS, OTBD, OTHH, OEJN, OERK, OMDB, OMAA, OMDW	Indicator: % of applicable international aerodromes having implemented improved airport operations through airport-CDM Supporting metric: Number of applicable international aerodromes having implemented improved airport operations through airport-CDM	40% by Dec. 2017

TABLE B0-ACDM

EXPLANATION OF THE TABLE

Column

1 Name of the State

2 Name of City/Aerodrome and Location Indicator

3 Status of implementation of Apron Management, where:
- Y – Yes, implemented
- N – No, not implemented

4 Status of implementation of ATM-Aerodrome coordination, where:
- Y – Yes, implemented
- N – No, not implemented

5 Terminal & runway capacity is declared, where:
- Y – Yes, declared
- N – No, not declared

6 Action plan — short description of the State's Action Plan with regard to the implementation of B0-ACDM.

7 Remarks

State	City/ Aerodrome Location Indicator	Apron Management	ATM-Aerodrome Coordination	Terminal &runway capacity declared	Action Plan	Remarks
1	*2*	*3*	*4*	*5*	*6*	*7*
BAHRAIN	Bahrain/Bahrain Intl (OBBI)	N	N	N		
EGYPT	Cairo/Cairo Intl (HECA)	N	N	N		
IRAN	Tehran/Mehrabad Intl (OIII)	N	N	N		
KUWAIT	Kuwait/Kuwait Intl (OKBK)	N	N	N		
OMAN	Muscat/Muscat Intl (OOMS)	N	N	N		
QATAR	Doha/Doha Intl (OTBD)	N	N	N		
QATAR	Doha/Hamad Intl (OTHH)	N	N	N		
SAUDI ARABIA	JEDDAH/King Abdulaziz Intl (OEJN)	N	N	N		
SAUDI ARABIA	RIYADH/King Khalid Intl (OERK)	N	N	N		
UAE	Abu Dhabi/Abu Dhabi Intl (OMAA)	N	N	N		
UAE	Dubai/Dubai Intl (OMDB)	N	N	N		
UAE	DUBAI/Al Maktoum Intl (OMDW)	N	N	N		
Total Percentage		**0**	**0**	**0**		