International Civil Aviation Organization

Performance Based Navigation/Global Navigation Satellite System Task Force (PBN/GNSS TF)

Fifth Meeting
(Cairo, Egypt, 15 - 17 April 2013)

Agenda Item 4: MID Regional PBN Implementation Plan and Guidance Materials

REVIEW AND UPDATE NAVIGATION PART OF MID AIR NAVIGATION PLAN

(Presented by the Secretariat)

SUMMARY

This paper provides an update on the progress achieved to evolve from the current MID Basic ANP and FASID (Doc 9708) to a new web based format eANP, review the Navigation FASID Tables, related to PBN/GNSS TF and update the group on the latest developments in the Global and Regional Air Navigation Plans.

Action by the meeting is at paragraph 3.

REFERENCES

- AN-Conf/12 Draft Report
- MIDANPIRG/13 Report

1. INTRODUCTION

1.1 The Regional Planning and Implementation process is facilitated through formulation of Regional Air Navigation Plans (ANPs) which are developed and maintained through the Planning and Implementation Regional Groups (PIRGs).

1.2 The electronic copy of the MID Basic ANP and FASID (Doc 9708) is available on the ICAO MID Website at: http://legacy.icao.int/mid/midanpirg/edocs/index.html. However, it was highlighted that a more up-to-date version encompassing the latest proposals for amendments related to ATS Routes (ATS 1 Table) and an updated ATS 1 Chart is available on the ICAO GIS portal. The meeting noted that the version of the MID Basic ANP and FASID available on the ICAO MID website, will be updated using the version available on the ICAO GIS portal http://gis.icao.int/ANP/.

2. DISCUSSION

2.1 The meeting may wish to note that, MIDANPIRG/13 recalled that MIDANPIRG/12, through Decision 12/49, recognized the need for a complete review of both the content and format of the MID Basic ANP and FASID. The need to evolve the current ANPs to a new web-based format (eANPs) was also underlined

2.2 The meeting may wish to note that MIDANPIRG/13 noted that a similar work has been carried out in the European Region. The meeting further noted that a Task Force has been established in Europe for the development of the AIM Parts of the EUR ANP.

2.3 Based on the outcome of the EUR ANP AIM Task Force and the review carried out by the AIS/MAP TF/6, the ATM/SAR/AIS SG/12 and the CNS/ATM/IC SG/6 Meetings, the MIDANPIRG/13 Meeting endorsed the AIM Parts of the MID ANP, under Conclusion 13/11: *ENDORSEMENT OF THE AIM PARTS OF THE MID BASIC ANP AND FASID*

2.4 ICAO has developed the eANPs as an online system for maintaining, storing and displaying information contained in the regional ANPs. In July 2011, the amendment process was automated to further reduce the process time within ICAO. But despite these improvements, the challenge remained to keep the paper-based regional ANPs updated, particularly in view of continuous air navigation technological developments.

2.5 To simplify its introduction, all procedures that apply to the current paper-based ANPs will continue for the eANPs. However, to make full use of the online system, ICAO will continue to simplify the workflows related to the amendment process, and related to the data within the eANP, to increase the efficiency, accuracy, and accessibility in maintaining the narrative and data in the ANPs.

2.6 As part of the eANPs project, the CNS, AIM, AOP and MET FASID tables in Volume II will be standardized and harmonized across all regions and aligned with ASBU methodology.

2.7 The provisional plan for the transition to the eANPs is as follows:

- New Basic ANP Parts (including the AIM Part) to be sent to ICAO HQ by 31 October 2012 for upload on the GIS website and presentation to the AN-Conf/12.
- On the basis of the comments received during the Conference, ICAO Secretariat to review and update the revised Basic ANP and FASID Parts of eANPs, by 1 February 2013.
- Regional Offices to develop and circulate Proposal for Amendments with revised Basic ANP and FASID Parts of eANP by 1 June 2013.
- eANPs are officially launched and ready for use Effective 1 July 2013.

2.8 In the same vein the MIDANPIRG/13 Meeting agreed to the establishment of an Ad-hoc Working Group tasked with the development of a revised version of the MID ANP (both Basic ANP and FASID), in accordance with MIDANPIRG Decision 12/49 and agreed accordingly to the following Decision, it is planned that ANP WG hold its First Meeting in Cairo, Egypt, 27 - 29 May 2013 and Invitation Letter AN 9/2.2-13/086 dated 27 March 2013 was sent.

DECISION 13/32: ESTABLISHMENT OF THE MID AIR NAVIGATION PLAN AD-HOC WORKING GROUP (ANP WG)

That, the MID Air Navigation Plan Ad-hoc Working Group (ANP WG) be established to fulfill the requirements set up by MIDANPIRG through Decision 12/49.

2.9 The meeting may wish to note that the *Global Air Navigation Plan* (Doc 9750, GANP) and its supporting concepts including the ASBUs, the technology roadmaps and a regional planning framework and associated metrics, along with the importance of adequate frequency spectrum to support the ASBUs, were discussed during the AN-Conf/12, and the following Recommendations accepted by the conference:

Recommendation 1/1 – The draft Fourth Edition of the Global Air Navigation Plan (Doc 9750, GANP)

That, States:

a) agree in-principle, with the inclusion of high level policy principles and other proposed improvements made at this conference, with the updated draft Fourth Edition of the GANP;

b) should have the opportunity to provide any final comments on the updated draft GANP to ICAO before it is considered by the ICAO Assembly in 2013;

That, ICAO:

c) convene a symposium in 2014 where interested stakeholders will be invited to join together to provide end-to-end system demonstrations of new Air Traffic Management (ATM) concepts;

d) develop financial policies which support efficient acquisition and implementation of global air navigation services infrastructure and aircraft equipage;

e) taking a total systems and performance-based approach, create a Standards and Recommended Practices development plan for the Aviation System Block upgrades including the establishment of agreed global priorities between the different blocks and modules;

f) define a stable and efficient process for endorsement by the 38th Session of the Assembly, for updating the GANP that ensures stability in module timelines for any future updates; and

g) ensure that the nature and status of the planning information in the various documents pertaining to the GANP are consistent and complete and allow due account to be taken of the inputs from ATM research, development and deployment programmes.

Recommendation 1/2 – Implementation

That, ICAO:

a) through its Regional Offices, provide guidance and practical assistance to States and Regions and Sub-Regions when they decide to implement individual blocks or modules of the ASBUs;

b) establish a group and improved mechanism for interregional cooperation to ensure harmonization of ATM; and

c) assist States and regions in training and capacity-building towards implementation of the relevant modules of the Aviation System Block upgrades.

2.10 With regard to Regional Air Navigation Plans (ANPs) and for the process of aligning the regional ANPs with the GANP, AN-Conf/12 agreed that PIRGs should focus initially on implementing ASBU Block 0 Modules and finalize the development of their ASBU aligned regional plans by May 2014. Furthermore, as a means of interregional harmonization for ASBU implementation, AN-Conf/12 agreed to use the various means available to address impediments, including the All Planning and Implementation Regional Group (ALLPIRG) Meetings. In this regard, the AN-Conf/12 welcomed the proposal of ICAO to convene an ALLPIRG Meeting in March 2013. In order to identify and resolve any roadblocks for ASBU implementation, the an-Conf/12 encouraged States and PIRGs to use the Air Navigation Report Form (ANRF) which was developed to identify such issues. These templates were explained in details during the Special Implementation Project (SIP) Workshop On Preparations for An-Conf/12 – ASBU Methodology held at the ICAO MID Regional office (Cairo, 30 September - 4 October 2012**).**

2.11 The meeting may wish to note that the current Regional ANP are no longer reflect the requirements and mostly being capturing and updating of the existing infrastructure/facilities, accordingly they were no longer achieving the full expected results, and there is a need to revise them to keep pace with the ASBU developments, and the outcome of the Twelfth Air Navigation Conference (AN-Conf/12).

2.12 The meeting is further updated on the outcome of the AN-Conf/12 in that ANC-Conf/12 agreed to the following Recommendation concerning the Regional performance framework – planning methodologies after discussions in the relevant committee:

Recommendation 6/1 – Regional performance framework – planning methodologies and Tools

That States and PIRGs:

a) develop and maintain regional air navigation plans consistent with the Global Air Navigation Plan;

b) finalize the alignment of regional air navigation plans with the Fourth Edition of the Global Air Navigation Plan by May 2014;

c) focus on implementing aviation system block upgrade Block 0 Modules on the basis of operational requirements, recognizing that these modules are ready for deployment;

d) use the electronic regional air navigation plans as the primary tool to assist in the implementation of the agreed regional planning framework for air navigation services and facilities;

e) consider how the continuous monitoring approach to safety oversight maps to the evaluation of Member States' safety oversight capabilities concerning aviation system block upgrades;

f) involve regulatory and industry personnel during all stages of planning and implementation of aviation system block upgrade modules;

g) develop action plans to address the identified impediments to air traffic management modernization as part of aviation system block upgrade planning and implementation activities;

That, ICAO:

h) review the current amendment process to the Regional Air Navigation Plans(ANPs) and recommend improvements to increase efficiencies related to the approval and maintenance of the data in the regional ANPs;

i) develop guidance material, on the basis of best practices employed worldwide, for the regional/local deployment of new ATM technologies, required procedures, operational approvals and continue to support States in the implementation of the aviation system block upgrades;

j) identify the issues, funding, training and resource requirements necessary to support a safety framework that would lay the foundation for successful implementation the aviation system block upgrades;

k) develop an outreach strategy to address the economic and institutional impediments to implementation of the aviation system block upgrades; and

l) develop a mechanism for sharing of best practices for the aviation system block upgrade implementation.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) review and update the Navigation FASID tables in the MID FASID at **Appendix A** to this working; taking into consideration examples in **Appendices B** and **C** to this working

b) encourage States to support the work of the ANP WG;

c) encourage States to develop ANRF as per para 2.10; and

d) encourage States share best practices for the Aviation System Block upgrade implementation.

MID FASID - CNS **E 4-0-1**

Part IV

COMMUNICATIONS - NAVIGATION - SURVEILLANCE (CNS)

1. Introduction

1.1 The standards, Recommended Practices and Procedures to be applied are as listed in Part IV - CNS of the basic MID ANP. The material in this Part complements that contained in Part I - BORPC of the MID ANP and should be taken into consideration in the overall planning processes for the MID Region.

1.2 This Part contains a detailed description/list of the facilities and/or services to be provided to fulfill the basic requirements of the Plan and are as agreed between the provider and user States concerned. Such agreement indicates a commitment on the part of the State(s) concerned to implement the requirement(s) specified. This element of the FASID, in conjunction with the MID Basic ANP, is kept under constant review by the MIDANPIRG in accordance with its schedule of management, in consultation with user and provider States and with the assistance of the ICAO Middle East Regional Office, Cairo.

1.3 States concerned should take urgent action to implement the main COM centres and trunk circuits of AFTN plan described in FASID Table CNS 1A, and implement/promulgate, as soon as practicable, the tributary centres and circuits of the AFTN plan in co-ordination with the States responsible for the corresponding main COM centres

1.4 States, as a matter of urgency should take action to implement the ATS direct speech plan. Adequate backup facility shall be provided to insure the continuity of the circuit. (FASID Table CNS 1D)

1.5 Where other than dedicated bilateral links are used by the MID-ATN Network, the priority of implementation, should ensure high availability, in restoration of service and appropriate levels of security.

1.6 States are encouraged to deploy digital and high-speed links, as part of overall improvement of current ground-to-ground communications and provision of an infrastructure that would facilitate the transition to ATN

1.7 States should implement ATN routers and communication links in accordance with ATN Plan Table CNS 1C – ATN Plan.

1.8 taking into account that the use of global communications, navigation and surveillance systems is based on assigning exclusive aircraft addresses composed of 24-bit for ACAS, ELT, SSR Mode S, and ATN with VDL, AMSS and other functionality, MID States to apply the procedure established by ICAO to identify aircraft assigned 24-bit aircraft addresses in accordance with Annex 10,

Volume III, Part I, Chapter 9, Global plan for the allocation, assignment and application of aircraft addresses which has the list of assigned addresses to MID States.

2. Table of contents

2.3.1 Table CNS 4 - Surveillance Systems

Appendix A to table CNS 4 shows the allocated IC code for the Mode S Radar.

Chart CNS 4 - Radar facilities

TABLE CNS 1A - RATIONALIZED AFTN PLAN FOR MID REGION

(All circuits should be implemented using LTT)

EXPLANATION OF THE TABLE

Column:

1 The AFTN Centers/Stations of individual State are listed alphabetically. Each circuit appears twice in the table.

2 Category of circuit

M – Main trunk circuit connecting Main AFTN communication centers.
T – Tributary circuit connecting Main AFTN center and tributary center.
S – AFTN circuit connecting an AFTN Station to an AFTN center.

3 and **7** Type of circuit provided

LTT/a – Landline teletypewriter, analogue (eg. cable, microwave)
LTT/d – Landline teletypewriter, digital (eg. cable, microwave)
LDD/a – Landline data circuit, analogue (eg. cable, microwave)
LDD/d – Landline data circuit, digital (eg. cable, microwave)
SAT/ad – Satellite link, with/ a for analogue or d for digital

4 and **8** Circuit signaling speed, current or planned in bits/s

5 and **9** Circuit protocols, current or planned

6 and **10** Data transfer code (syntax), current or planned.

ITA-2 – International Telegraph alphabet No.2 (5-unit Baudot code).
IA-5 – International Alphabet No.5 (ICAO 7-unit code)
CBI – Code and Byte Independency (ATN compliant)

11 Target date of implementation TBD – To be determined

12 Remarks , VPN (Virtual Private Network)

Table CNS 1A – AFTN Plan

State/Station	Cat	Current				Planned				Target date of implementation	Remarks
		Type	Signaling Speed	Protocol	Code	Type	Signaling Speed	Protocol	Code		
1	2	3	4	5	6	7	8	9	10	11	12
BAHRAIN											
BAHRAIN	M										
ABU DHABI	M		64 – 9.6 kbps	CIDIN	IA-5			AMHS	CBI	3rd QTR 2012	
BEIRUT	T		9600 bps	CIDIN	IA-5	SAT/d					Bahrain ready
DOHA	M		64 – 9.6 kbps	None	IA-5						
JEDDAH	T		64 – 9.6 kbps	CIDIN	IA-5			AMHS	CBI	3rd QTR 2012	
KABUL	M		--								
KUWAIT	M		64 – 9.6 kbps	None	IA-5						
MUSCAT	M		~~300 baud~~ 9.6kbps	None	IA-5		64k bps			3rd QTR 2012	
SINGAPORE	M		9600 bps	None	IA-5		64k bps	AMHS	CBI	3rd QTR 2012	
TEHRAN	M		64 – 9.6 kbps	None	IA-5						
EGYPT											
CAIRO	M										
AMMAN	M		64/9.6	None	IA-5					2010	
ATHENS	T		64/9.6	CIDIN	IA-5					2010	
BEN GURION	M		64/9.6	None	IA-5					2010	
BEIRUT	M		9600	CIDIN	IA-5					2010	
JEDDAH	T		128/9.6	CIDIN	IA-5		128 K			2010	
KHARTOUM	M		9600	None	IA-5					2010	
NAIROBI	M		9600	None	IA-5					2010	
TUNIS	M		64/9.6	None	IA-5					2010	Backup
TRIPOLI	M		64/19.2	None	IA-5						
TRIPOLI	M		9600	None	IA-5					2010	
DAMASCUS	M		64/9.6	None	IA-5						

State/Station	Cat	Current				Planned				Target date of implementation	Remarks
		Type	Signaling Speed	Protocol	Code	Type	Signaling Speed	Protocol	Code		
1	2	3	4	5	6	7	8	9	10	11	12
IRAN TEHRAN BAHRAIN KABUL KUWAIT ABU-DHABI	 M T M		 64 Kbps - 64 Kbps	 None None	 IA-5 IA-5	 SAT/d					Bahrain ready
IRAQ BAGHDAD AMMAN BEIRUT	 T T		 - -	 None None	 IA-5 IA-5						
JORDAN AMMAN BAGHDAD BEIRUT BEN GURION CAIRO DAMASCUS JEDDAH ABU DHABI	 T M T M T M T	 Lease Line VPN	 - - 1200 64 K 64/19.2 64/19.2 2MB	 - - None None None None AMHS	 - - IA-5 AMHS IA-5 ITA-2	 VSAT LL	 - - 64 K	 AMHS AMHS		 2012 Circuit not ops 2012	 PUBLIC INTERNET

State/Station	Cat	Current				Planned				Target date of implementation	Remarks
		Type	Signaling Speed	Protocol	Code	Type	Signaling Speed	Protocol	Code		
1	2	3	4	5	6	7	8	9	10	11	12
KUWAIT											
KUWAIT											
BAHRAIN	M	LDD/d	64/9.6 bps	None	I A-5						
DAMASCUS	T	LDD/a	50 BD	None	ITA-2	LDD/d	64/9.6 kbps		IA-5	July 2012	In progress
BEIRUT	M	LDD/a	100 baud	None	ITA-2	LDD/d	64/9.6 kbps		IA-5	July 2012	In progress
DOHA	M	LDD/a	64/9.6 bps	None	IA- 5						
(EUR)	-										
KARACHI	M	LDD/d	2.4 K	None	ITA-2 ~~5~~						
TEHRAN	M	LDD/d	64/9.6 baud	None	ITA-2 ~~5~~						
BAGHDAD	T	SAT/ad	9.6 bps	None	ITA-2 ~~5~~						
LEBANON											
BEIRUT											
AMMAN	M		-	-	-					2012	
BAGHDAD	T		-	None	-						
BAHRAIN	M		9600	CIDIN	IA-5						
CAIRO	M		9600	CIDIN	IA-5						
DAMASCUS	T		2 x 50 bd	None	ITA-2						
JEDDAH	M		9600	CIDIN	~~ITA-2~~						
KUWAIT	M		100 BD	None	ITA-2						
NICOSIA	M		9600	CIDIN	IA-5						
OMAN											
MUSCAT											
ABU DHABI	T		9600	AMHS							
BAHRAIN	M		300 BD	None	IA-5		9600	AMHS		2012	
MUMBAI	M		9600	None	ITA-5			AMHS		2012	
JEDDAH	M		9600	None	IA-5			AMHS		2012	
SANA'A	T		100 BD	None	ITA-2		9600	IA-5		2012	

State/Station	Cat	Current				Planned				Target date of implementation	Remarks
		Type	Signaling Speed	Protocol	Code	Type	Signaling Speed	Protocol	Code		
1	2	3	4	5	6	7	8	9	10	11	12
QATAR											
DOHA											
BAHRAIN	M		9600	None	IA-5						
KUWAIT	M		100 BD	None	ITA-2						
ABU DHABI	T		9600	AMHS							
SAUDI ARABIA											
JEDDAH											
ADDIS-ABABA	M		9600	None	IA-5						
BAHRAIN	M		64 /9.6	CIDIN	IA-5						
BEIRUT	M		9600	CIDIN	IA-5						
CAIRO	M		128/9.6	CIDIN	IA-5						
MUSCAT	M		300	None	ITA-2		9600			2012	
SANA'A	T		9600	None	IA-5						
AMMAN											
SYRIA											
DAMASCUS											
ATHENS	M		2 X 50	None	ITA-2		9600 bps			2012	
AMMAN	T		64/9.6	None			9600 bps			2012	
BEIRUT	M		2 X 50	None	ITA-2		9600 bps			2012	
CAIRO	M		50 BD	None	ITA-2		9600 bps			2012	
KUWAIT	M		50BD	None	ITA-2		9600 bps			2012	
TEHRAN	T		50BD	None	ITA-2		9600 bps			2012	

State/Station	Cat	Current				Planned				Target date of implementation	Remarks
		Type	Signaling Speed	Protocol	Code	Type	Signaling Speed	Protocol	Code		
1	2	3	4	5	6	7	8	9	10	11	12
UAE											
ABU DHABI											
BAHRAIN	M	LDD/d	64 – 9.6 Kbps	CIDIN	IA-5			AMHS	CBI		
AMMAN	T	LDD/d	2 MB bps	AMHS							Secured VPN
MUSCAT	M	LDD/d	9600 bps	AMHS	IA-5						
QATAR	T	LDD/d	9600 bps	AMHS	IA-5						
TEHRAN	M	LTT/a	100 bps	None	IA-5	SAT/ad	9.6kbps	AMHS	CBI		
YEMEN											
SANA'A											
JEDDAH	M		9600	None	IA-5						
MUSCAT	M		100bps	None	IA-5		9.6kbps			2012	

MID FASID – CNS 1B -

TABLE CNS 1B

MID Aeronautical Message Handling System (AHMS) Implementation Plan

EXPLANATION OF THE TABLE

Column

1 *Name of State*

2 *Date of installation of AMHS – Aeronautical Message Handling System*

3 *Date of operation of AMHS – Aeronautical Message Handling System*

4 *MTA- Message Transfer Agent application*

5 *AFTN/AMHS Gateway*

6 *ATS Message UA-User Agent*

7 *ATS service level*
Basic
Extended

8 *Protocol (IPS, ATN)*
Dual Stack
IPS
OSI

9 *Remarks*

EXPLICATION DU TABLEAU

(To be completed by HQ)

Notes:

- *The MID Region shall use the Europe EUR AMHS Manual EUR Doc 020 and all its Appendices for the implementation of AMHS*
- *Gateways and Interregional connection will be as agreed.*

4-CNS 1B-2 MID FASID – CNS 1B

State	Installation	Operation	MTA Name	AFTN/AMHS Gateway	ATS Message UA	ATS service level	Protocol (IPS, ATN)	Remarks
1	2	3	4	5	6	7	8	9
Bahrain	2009	2011	MTA-OBBI-1	Y	Y	Extended	Dual Stack	Support IPv4 only
Egypt	2008	2011	MTA-HECA-1	Y	N	Extended	Dual Stack	Support IPv4 only
Iran	-	-	-	-	-	-	-	-
Iraq	-	-	-	-	-	-	-	-
~~Israel~~	-	-	-	-	-	-	-	-
Jordan	2008	2010	MTA-OJAM-1	Y	Y	Extended	Dual Stack	Support IPv4 only
Kuwait		-	MTA-OKBK-1	Y	Y	Extended		Support IPv4 only
Lebanon	-	-	-	-	-	-	-	-
Oman	2008	2009	MTA-OOMS-1	Y	Y	Extended		Support IPv4 only
Qatar		-	MTA-OTBD-1	Y	Y			Support IPv4 only
Saudi	2008	2011	MTA-OEJN-1	Y	Y	Extended	Dual Stack	Support IPv4 only
Syria	-	-	-	-	-	-	-	-
UAE	2006	2009	MTA-OMAE-1	Y	Y	Basic		Support IPv4 only
Yemen	-	-	-	-	-	-	-	-

Appendix A to CNS 1B MID Region AMHS addresses

State	**AMHS Address Specification**							
State Name	**Nationality Letters or Designator**	**Country-name attribute**	**ADMD-name attribute**	**PRMD-name attribute**	**Addressing scheme**	**ATN Directory naming-context**	**Organization-name (for CAAS only) single value or reference to the CAAS Table**	**Comments**
Bahrain	OB	XX	ICAO	OB	CAAS		see Table OB	confirmed by SL
Egypt	HE	XX	ICAO	HE	CAAS		HECA	confirmed by SL
Iran (Islamic Republic of)	OI	XX	ICAO	OI	XF			confirmed by SL
Iraq	OR	XX	ICAO	OR	XF			
Israel	LL	XX	ICAO	LL	XF			
Jordan	OJ	XX	ICAO	OJ	CAAS		OJAC	confirmed by SL
Kuwait	OK	XX	ICAO	OK	XF			
Lebanon	OL	XX	ICAO	OL	XF			
Oman	OO	XX	ICAO	OO	XF			
Qatar	OT	XX	ICAO	OT	XF			
Saudi Arabia	OE	XX	ICAO	OE	XF			confirmed by SL
Syrian Arab Republic	OS	XX	ICAO	OS	XF			
UAE	OM	XX	ICAO	OM	~~XF~~ CAAS		OMAE	confirmed by SL
Yemen	OY	XX	ICAO	OY	XF			

TABLE CNS 1C - AERONAUTICAL TELECOMMUNICATION NETWORK

EXPLANATION OF THE TABLE

Column :

1 Name of the States/stations or locations of an ATN Routing Domain

2 ATN applications in end systems (ES) of the State shown in column **1**

AIDC – ATS Inter-facility Data Communication

AMHS – Aeronautical Message Handling System

Note : AMHS/S denotes an AMHS server

3 ATN router type to be implemented at the location shown in Column **1**
BBIS – Backbone Boundary Intermediate System
BIS -- Boundary Intermediate System (router) performing Inter Domain Routing Protocol (IDRP)
IS -- Intermediate System (router) without IDRP

4 ATN Routing Domain Address Prefix

5 AFTN/AMHS gateway to be implemented at the location shown in column **1**

6 List of States routers to be connected with router of column **3**

7 The means of connecting the routers of columns **6** and **3**
DIR- Leased direct circuit

8 Date of implementation of the ATN facilities and applications, listed in columns **2**, **3** and **5**

9 Remarks

EXPLICATION DU TABLEAU
(To be completed by HQ)

TABLE CNS 1C - ATN PLAN

STATE/CENTERS	ATN APPLICATIONS	ATN ROUTER TYPE	ATN RD ADDRESS PREFIX	AFTN/AMHS GATEWAY	CONNECTED WITH ROUTER OF	VIA	IMPLEMENTATION DATE	REMARKS
1	2	3	4	5	6	7	8	9
Bahrain **Bahrain**	AMHS/S AIDC	**BIS**		**X**	**ASIA/PAC** Oman,Saudi Arabia Kuwait,Lebanon Iran, Afganistan Qatar,UAE			
EGYPT **Cairo**	AMHS/S AIDC	**BIS**		**X**	**AFI, EUR** Israel, Jordan, Lebanon, Athena Saudi Arabia			
IRAN **Tehran**	AMHS/S AIDC	**BIS**		**X**	Kuwait, Bahrain Afganistan			
IRAQ **Baghdad**	AMHS	IS			Jordan, Lebanon			
~~ISRAEL **Ben Gurion**~~	~~AMHS~~	~~IS~~			~~Jordan, Egypt~~			
JORDAN **Amman**	AMHS/S AIDC	**BIS**		**X**	Egypt,Israel Lebanon,Iraq,Syria			
KUWAIT **Kuwait**	AMHS/S AIDC	**BIS**		**X**	**EUR**, Pakistan, Iran,Qatar,Bahrain, Lebanon			
LEBANON **Beirut**	AMHS/S AIDC	**BIS**		**X**	**EUR** Jordan,Syria Iraq,Kuwait,Bahrain Saudi Arabia,Egypt			
OMAN **Muscat~~/Seeb~~**	AMHS/S AIDC	**BIS**		**X**	**ASIA/PAC** Yemen, Bahrain, UAE, Saudi Arabia			
QATAR **Doha**	AMHS AIDC	IS			Kuwait, Bahrain			
SAUDI ARABIA **Jeddah**	AMHS/S AIDC	**BIS**		**X**	**AFI** Egypt, Lebanon Bahrain,Oman Yemen			

STATE/CENTERS	ATN APPLICATIONS	ATN ROUTER TYPE	ATN RD ADDRESS PREFIX	AFTN/AMHS GATEWAY	CONNECTED WITH ROUTER OF	VIA	IMPLEMENTATION DATE	REMARKS
1	2	3	4	5	6	7	8	9
SYRIA **Damascus**	AMHS	IS			Jordan, Lebanon			
U.A.E **Abu Dhabi**	AMHS/SAIDC	**BIS**		**X**	Bahrain,Oman, Qatar, Jordan, Tehran,Jeddah			Jeddah under test
YEMEN **Sana'a**	AMHS	IS			Oman, Saudi Arabia			

TABLE CNS1C-new

TABLE CNS 1D C ATS DIRECT SPEECH CAPABILITY TO LINK ADJACENT FIC/ACC AND ATS UNITS LOCATED OUTSIDE THE CONTROL AREAS OF THESE FIC OR ACC OR BETWEEN TWR FOR MID REGION

EXPLANATION OF THE TABLE

Column

1 & 2 Terminal stations of the circuits are listed alphabetically by the Terminal I station in country order.

3 A - indicates ATS requirement for voice communication which should be established within 15 seconds.
D - indicates requirement for instantaneous communications.

4 Type of service specified:

LTF - landline telephone (landline, cable UHF, VHF, satellite).
RTF - radiotelephone

5 DIR - indicates that the circuit shown in Terminal I and II is a direct circuit.
SW C indicates that a direct circuit does not exist and that the requirement is to be provided by switching via the switching centre(s) indicated in column 6.
IDD - International direct dialing by public switch telephone network

6 Location of switching centre(s)

7 Status of Implementation. Following codes are used in this column:

a) I - if the circuit is implemented
b) No indication or mark if the circuit is not implemented and its implementation data is unknown
c) If the circuit is not implemented but its implementation date is available, this date is indicated in brackets.

8 Remarks
*Note.*C *All circuits should be implemented using LTF in MID Region.*

ATS REQUIREMENTS FOR SPEECH COMMUNICATIONS BESOINS ATS DE COMMUNICATIONS VOCALES REQUISITOS ATS PARA COMUNICACIONES ORALES				CIRCUIT CIRCUITO		STATUS OF IMPLEMENTATION ESTADO DE IMMPLANTACION	REMARKS OBSERVATIONS OBSERVACIONES
TERMINAL I TÊTE DE LIGNE I ESTACIÓN TERMINAL I	TERMINAL II TÊTE DE LIGNE II ESTACIÓN TERMINAL II	TYPE TIPO	SERVICE SERVICIO	DIR/SW	TO BE SWITCHED VIA COMMUTATION VIA CONMUTACIÓN POR		
1	2	3	4	5	6	7	8
BAHRAIN							
Bahrain	Emirates ACC	A	LTF	DIR		I	3 LINES
	Dammam	A	LTF	DIR		I	3 LINES
	Doha	A	LTF	DIR		I	3 LINES
	Jeddah	A	LTF	DIR		I	3 LINES
	Kuwait	A	LTF	DIR		I	1 LINE
	Muscat	A	LTF	DIR		I	1 LINE
	Riyadh	A	LTF	DIR		I	2 LINES
	~~Shiraz~~	~~A~~	~~LTF~~				
	Tehran	A	LTF	DIR		I	1 LINE
EGYPT							
Cairo	Amman	A	LTF	DIR		I	
	Athens	A	LTF	DIR		I	
	Jeddah	A	LTF	DIR		I	
	Khartoum	A	LTF				
	Nicosia	A	LTF	DIR		I	
	Tel Aviv	A	LTF	DIR		I	
	Tripoli	A	LTF	DIR		I	
IRAN (ISLAMIC REPUBLIC OF)							
Abadan	Basrah	A	LTF				
	Shiraz	A	LTF	DIR			
Shiraz	Abadan	A	LTF	DIR			
	Bahrain	A	LTF	DIR			
	Basrah	A	LTF				
	Doha	A	LTF	DIR			
	Karachi	A	LTF	DIR			
	Kuwait	A	LTF	DIR			
	Tehran	A	LTF	DIR			
Tehran	Emirates ACC	A	LTF	DIR		I	1I
	Ankara	A	LTF	DIR		I	
	Ashgabat	A	LTF	DIR		I	
	Baghdad	A	LTF				
	Bahrain	A	LTF	DIR		I	
	Baku	A	LTF	DIR		I	
	Basrah	A	LTF				
	Doha	A	LTF	DIR		I	

ATS REQUIREMENTS FOR SPEECH COMMUNICATIONS BESOINS ATS DE COMMUNICATIONS VOCALES REQUISITOS ATS PARA COMUNICACIONES ORALES				CIRCUIT CIRCUITO		STATUS OF IMPLEMENTATION ESTADO DE IMMPLANTACION	REMARKS OBSERVATIONS OBSERVACIONES
TERMINAL I TÊTE DE LIGNE I ESTACIÓN TERMINAL I	**TERMINAL II TÊTE DE LIGNE II ESTACIÓN TERMINAL II**	**TYPE TIPO**	**SERVICE SERVICIO**	**DIR/SW**	**TO BE SWITCHED VIA COMMUTATION VIA CONMUTACIÓN POR**		
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
	Kabul	A	LTF				
	Karachi	A	LTF	DIR		I	
	Kuwait	A	LTF	DIR		I	
	Muscat	A	LTF	DIR		I	
	Shiraz	A	LTF	DIR		I	
	Yerevan/Zvartnots	A	LTF	DIR			
IRAQ							
Baghdad	Amman	A	LTF				
	Ankara	A	LTF				
	Basrah	A	LTF				
	Damascus	A	LTF				
	Jeddah	A	LTF				
	Kuwait	A	LTF				
	Mosul	A	LTF				
	Tehran	A	LTF				
Basrah	Abadan	A	LTF				
	Baghdad	A	LTF				
	Kuwait	A	LTF				
	Shiraz	A	LTF				
	Tehran	A	LTF				
Mosul	Baghdad	A	LTF				
~~**ISRAEL**~~							
~~Tel Aviv~~	~~Amman~~	~~A~~	~~LTF~~				
	~~Cairo~~	~~A~~	~~LTF~~				
	~~Nicosia~~	~~A~~	~~LTF~~				

ATS REQUIREMENTS FOR SPEECH COMMUNICATIONS BESOINS ATS DE COMMUNICATIONS VOCALES REQUISITOS ATS PARA COMUNICACIONES ORALES				CIRCUIT CIRCUITO		STATUS OF IMPLEMENTATION ESTADO DE IMMPLANTACION	REMARKS OBSERVATIONS OBSERVACIONES
TERMINAL I TÊTE DE LIGNE I ESTACIÓN TERMINAL I	TERMINAL II TÊTE DE LIGNE II ESTACIÓN TERMINAL II	TYPE TIPO	SERVICE SERVICIO	DIR/SW	TO BE SWITCHED VIA COMMUTATION VIA CONMUTACIÓN POR		
1	2	3	4	5	6	7	8
JORDAN							
Amman	Baghdad	A	LTF				
	Cairo	A	LTF				
	Damascus	A	LTF				
	Jeddah	A	LTF				
	Tel Aviv	A	LTF				
KUWAIT							
Kuwait	Baghdad	A	LTF				
	Bahrain	A	LTF	DIR		I	
	Basrah	A	LTF				
	Jeddah	A	LTF	DIR		I	
	Shiraz	A	LTF	DIR		I	
	Tehran	A	LTF	DIR		I	
LEBANON							
Beirut	Ankara	A	LTF	DIR		I	
	Damascus	A	LTF	DIR		I	
	Nicosia	A	LTF	DIR		I	
OMAN							
Muscat	Emirates ACC	A	LTF	DIR		I	
	Bahrain	A	LTF	DIR		I	
	Mumbai	A	LTF	DIR		I	
	Jeddah	A	LTF	DIR		I	
	Karachi	A	LTF	DIR		I	
	Salalah	A	LTF	DIR		I	
	Sana'a	A	LTF	DIR		I	
	Tehran	A	LTF	DIR		I	
Salalah	Muscat	A	LTF				
QATAR							
Doha	Emirates ACC	A	LTF	DIR		I	1I + 1
	Bahrain	A	LTF	DIR		I	
	Shiraz	A	LTF	DIR		I	
	Tehran	A	LTF	DIR		I	
SAUDI ARABIA							

ATS REQUIREMENTS FOR SPEECH COMMUNICATIONS BESOINS ATS DE COMMUNICATIONS VOCALES REQUISITOS ATS PARA COMUNICACIONES ORALES				CIRCUIT CIRCUITO		STATUS OF IMPLEMENTATION ESTADO DE IMMPLANTACION	REMARKS OBSERVATIONS OBSERVACIONES
TERMINAL I TÊTE DE LIGNE I ESTACIÓN TERMINAL I	TERMINAL II TÊTE DE LIGNE II ESTACIÓN TERMINAL II	TYPE TIPO	SERVICE SERVICIO	DIR/SW	TO BE SWITCHED VIA COMMUTATION VIA CONMUTACIÓN POR		
1	2	3	4	5	6	7	8
Dammam	Bahrain	A	LTF	DIR		I	
	Jeddah	A	LTF	DIR		I	
	Riyadh	A	LTF	DIR		I	
Jeddah	Addis Ababa	A	LTF				
	Amman	A	LTF	DIR		I	
	Asmara	A	LTF				
	Baghdad	A	LTF				
	Bahrain	A	LTF	DIR		I	
	Cairo	A	LTF	DIR		I	
	Dammam	A	LTF	DIR		I	
	Khartoum	A	LTF				
	Kuwait	A	LTF	DIR		I	
	Muscat	A	LTF	DIR		I	
	Riyadh	A	LTF	DIR		I	
	Sana'a	A	LTF	SW	Via Bahrain	I	
Riyadh	Bahrain	A	LTF	DIR		I	
	Jeddah	A	LTF	DIR		I	
	Dammam	A	LTF	DIR		I	
SUDAN							
Khartoum	Cairo	A	LTF				
	Jeddah	A	LTF				
SYRIAN ARAB REPUBLIC							
Damascus	Amman	A	LTF				
	Ankara	A	LTF				
	Baghdad	A	LTF				
	Beirut	A	LTF	DIR		I	
	Nicosia	A	LTF				

ATS REQUIREMENTS FOR SPEECH COMMUNICATIONS BESOINS ATS DE COMMUNICATIONS VOCALES REQUISITOS ATS PARA COMUNICACIONES ORALES				CIRCUIT CIRCUITO		STATUS OF IMPLEMENTATION ESTADO DE IMMPLANTACION	REMARKS OBSERVATIONS OBSERVACIONES
TERMINAL I TÊTE DE LIGNE I ESTACIÓN TERMINAL I	TERMINAL II TÊTE DE LIGNE II ESTACIÓN TERMINAL II	TYPE TIPO	SERVICE SERVICIO	DIR/SW	TO BE SWITCHED VIA COMMUTATION VIA CONMUTACIÓN POR		
1	2	3	4	5	6	7	8
UNITED ARAB EMIRATES							
Emirates ACC	Abu Dhabi	A	LTF	DIR		I	21
	Al Ain	A	LTF	SW/DIR		I	
	Bahrain	A	LTF	DIR		I	
	Doha	A	LTF	DIR		I	
	Dubai	A	LTF	DIR		I	
	Muscat	A	LTF	DIR		I	
	Tehran	A	LTF	DIR		I	
	Fujariah	A	LTF	DIR		I	
	Ras Al Khaimah	A	LTF	DIR		I	
	Sharjah	A	LTF	DIR		I	
Abu Dhabi	Emirates ACC	A	LTF	SW		I	21
	Al Ain	A	LTF	DIR		I	21
	Dubai	A	LTF	SW		I	21
Al Ain	Emirates ACC	A	LTF	SW		I	21
	Abu Dhabi	A	LTF	DIR		I	21
	Dubai	A	LTF	SW		I	21
Dubai	Emirates ACC	A	LTF	DIR		I	2I + 1
	Abu Dhabi	A	LTF	DIR		I	2I
	Al Ain	A	LTF	SW		I	1I
	Fujairah	A	LTF	DIR		I	1I
	Ras Al Khaimah	A	LTF	DIR		I	1I
	Sharjah	A	LTF	DIR		I	3I
Fujairah	Ras Al Khaimah	A	LTF	DIR		I	1I
	Emirates ACC	A	LTF	DIR		I	1I
Ras Al Khaimah	Emirates ACC	A	LTF	DIR		I	1I
	Dubai						
Sharjah	Emirates ACC						
	Dubai	A	LTF	DIR		I	31

ATS REQUIREMENTS FOR SPEECH COMMUNICATIONS BESOINS ATS DE COMMUNICATIONS VOCALES REQUISITOS ATS PARA COMUNICACIONES ORALES				CIRCUIT CIRCUITO		STATUS OF IMPLEMENTATION ESTADO DE IMMPLANTACION	REMARKS OBSERVATIONS OBSERVACIONES
TERMINAL I TÊTE DE LIGNE I ESTACIÓN TERMINAL I	TERMINAL II TÊTE DE LIGNE II ESTACIÓN TERMINAL II	TYPE TIPO	SERVICE SERVICIO	DIR/SW	TO BE SWITCHED VIA COMMUTATION VIA CONMUTACIÓN POR		
1	2	3	4	5	6	7	8
YEMEN							
Aden	Djibouti	A	LTF				
	Sana'a	A	LTF				
Mukalla	Aden	A	LTF				
	Sana'a	A	LTF				
Sana'a	Aden	A	LTF				
	Addis Ababa	A	LTF				
	Asmara	A	LTF				
	Mumbai	A	LTF				
	Djibouti	A	LTF				
	Jeddah	A	LTF		Via Bahrain	I	
	Mogadishu	A	LTF	DIR			
	Muscat	A	LTF			I	
	Riyan	A	LTF				

TABLE CNS 2 C AERONAUTICAL MOBILE SERVICE

EXPLANATION OF THE TABLE

Column

1 The name of the State and the locations within the same where the service is provided.

2 The required services or functions are provided. Suitable abbreviations for these services or functions are listed below.

ACC-L	Area control service for flights up to FL 250
ACC-SR-I	Area radar control service up to FL 250
ACC-SR-U	Area radar control service up to FL 450
ACC-U	Area control service up to FL 450
AFIS	Aerodrome flight information services
APP-L	Approach control service for flights below FL 120
APP-I	Approach control service for flights below FL 250
APP-PAR	Precision approach radar service up to FL 40
APP-SR-I	Surveillance radar approach control service up to FL 250
APP-SR-L	Surveillance radar approach control service up to FL 120
APP-SR-U	Surveillance radar approach control service up to FL 450
APP-U	Approach control service for flights up to FL 450
ATIS	Automatic terminal information service
D-ATIS	Data link-automatic terminal information service.
CLRD	Clearance delivery
FIS	Flight information service
VHF-ER GP	VHF-Extended range Facility providing VHF or HF en-route general purpose system (GPS) communication. These facilities provide air-ground radiotelephony for all categories of messages listed in Annex 10, Volume II, 5.1.8. This

	system of communication is normally indirect, i.e. exchanged through the intermediary of a third person who is usually a communicator at an aeronautical slation.
SMC	Surface movement control up to limits of aerodrome

Country and location	Service or function	VHF voice	VHF data	HF voice	HF data	Satellite voice	Satellite data	Mode S	Remarks
1	2	3	4	5	6	7	8	9	10
BAHRAIN									
OBBB BAHRAIN FIR	ACC-SR-U ACC-SR-I VOLMET	~~2~~ 6 1 1		6					 150
OBBI BAHRAIN/Bahrain Intl	APP-SR-I TWR SMC D-ATIS	~~1~~ 2 1 2 1							80 25 AD (GP) 150
EGYPT									
HEAX ALEXANDRIA/Alexandria Intl	TWR	1							25
HEBA ALEXANDRIA/Borg El Arab Intl	TWR APP-SR-I ACC-SR-U	1 1 1							25 60 150
HESN ASWAN/Aswan Intl	TWR APP-SR-I ACC-SR-U	1 1 1							25 60 150
HECC CAIRO FIR	ACC-U- ER ACC-SR-U-ER ACC-SR-I-ER VOLMET	4 6 2 1							 ER ER ER (100)
HECA CAIRO/Cairo Intl	APP-SR-I TWR SMC ATIS	3 3 1 1							80 25 AD 150
HEAR EL ARISH/El Arish Intl.	TWR APP-SR-I ACC-SR-U	1 1 1							25 60 150
HEGN HURGHADA/Hurghada Intl	TWR APP-SR-I ACC-SR-U SMC	1 1 1 1							25 60 150 AD
HELX LUXOR/Luxor Intl	TWR APP-SR-I ACC-SR-U SMC	1 1 1 1							25 60 150 AD
HESH SHARM EL SHEIKH/Sharm El Sheikh Intl	TWR APP-SR-I ACC-SR-U	1 1 1							25 60 150
HESC ST. CATHERINE/St. Catherine Intl	TWR	1							25

Country and location	Service or function	VHF voice	VHF data	HF voice	HF data	Satellite voice	Satellite data	Mode S	Remarks
1	2	3	4	5	6	7	8	9	10
HETB TABA/Taba Intl	TWR APP-SR-I ACC-SR-U	1 1 1							25 60 150
IRAN, ISLAMIC REPUBLIC OF									
OIAA ABADAN	TWR SMC ATIS	1 1 1							25 AD 150
OIAW AHWAZ	APP-I TWR SMC ATIS	1 1 1 1							75 25 AD 150
OIKB BANDAR ABBASS/Bandar Abbass	APP-I TWR SMC ATIS	1 1 1 1							75 25 AD 150
OIBB BUSHEHR	APP-I TWR SMC ATIS	1 1 1 1							75 25 AD 150
OIFM ESFAHAN/Shahid Beheshti	APP-SR-I TWR SMC ATIS	1 1 1 1							75 25 AD 150
OIBK KISH ISLAND OISL LAR	TWR SMC ATIS TWR SMC	1 1 1 1 1							25 AD 150 25 AD
OIMM MASHHAD/Shahid Hashemi Nejad Inlt.	APP-SR-I TWR SMC ATIS	1 1 1 1							75 25 AD 150
OIKR RAFSANJAN	TWR SMC ATIS	1 1 1							25 AD 150
OIGG RASHT	TWR SMC ATIS	1 1 1							25 AD 150
OINZ SARI	TWR SMC ATIS	1 1 1							25 AD 150

Country and location	Service or function	VHF voice	VHF data	HF voice	HF data	Satellite voice	Satellite data	Mode S	Remarks
1	2	3	4	5	6	7	8	9	10
OISX SHIRAZ	ACC-SR-U FIS-U VOLMET	18 1 1		MID1 MID2					ER 250
OISS SHIRAZ/ Shahid Dastghaib Intl.	APP-SR-I TWR SMC ATIS	1 1 1 1							75 25 AD 150
OITT TABRIZ/Tabriz	APP-SR-I TWR SMC ATIS	1 1 1 1							75 25 AD 150
OIIX TEHRAN	ACC-SR-U FIS-U VOLMET	24 1 1		MID1 MID2					250
OIIE TEHRAN/Iman Khomaini Intl	APP-SR-I TWR SMC ATIS	1 1 1 1							75 25 AD 150
OIII TEHRAN/Mehrabad Intl	APP-SR-I TWR SMC ATIS	1 1 1 1							75 25 AD 150
OIYY YAZD	TWR SMC ATIS	1 1 1							25 AD 150
OIZH ZAHEDAN/ Zahedan Intl	APP-I TWR SMC ATIS	1 1 1 1							75 25 AD 150
IRAQ ORBS BAGHDAD	ACC-U	2							2 FIRs
ORBI BAGHDAD/Baghdad Intl	APP-SR-U APP-U TWR SMC ATIS	2 1 1 2 1							100 100 25 AD 150
ORMM BASRAH	ACC-U ACC-SR-U	1 4							150 150
ORMM BASRAH/Basrah Intl	APP-SR-U	1							100

Country and location	Service or function	VHF voice	VHF data	HF voice	HF data	Satellite voice	Satellite data	Mode S	Remarks
1	2	3	4	5	6	7	8	9	10
	TWR SMC ATIS	1 2 1							25 AD 150
ORER ERBIL/Erbil Intl									
ORSU SULAYMANIYAH/Sulaymaniyah Intl									
ORNI AL NAJAF/Al najaf Intl									
~~**ISRAEL**~~ ~~LLET ELIAT/Eliat Intl~~	~~APP-L~~ ~~TWR~~ ~~ATIS~~	~~1~~ ~~1~~ ~~1~~							~~50~~ ~~25~~ ~~150~~
~~LLOV OVDA/Ovda Intl~~	~~APP-SR-L~~ ~~TWR~~	~~1~~ ~~1~~							~~50~~ ~~25~~
~~LLTA TEL-AVIV~~	~~ACC-SR-U~~ ~~ACC-SR-I~~ ~~ACC-SR-L~~	~~2~~ ~~3~~ ~~2~~							~~150~~ ~~100~~ ~~50~~
~~LLBG TEL-AVIV/Ben Gurion Intl~~	~~APP-SR-I~~ ~~APP-SR-I~~ ~~APP-SR-L~~ ~~APP-L~~ ~~TWR~~ ~~SMC~~ ~~ATIS~~	~~1~~ ~~1~~ ~~1~~ ~~1~~ ~~1~~ ~~1~~ ~~1~~							~~100~~ ~~TMA~~ ~~50~~ ~~50~~ ~~25~~ ~~AD~~ ~~150~~
JORDAN OJAC AMMAN	ACC-SR-U ACC-SR-I ACC-U	3 3 3							180 80 FIR
OJAM AMMAN/Marka Intl	TWR SMC	1 1							25 AD
OJAI AMMAN/Queen Alia	APP-L TWR SMC ATIS	1 1 1 1							50 25 AD 150
OJAQ AQABA/Aqaba Intl.	APP-SR-I TWR SMC	2 1 1							75 25 AD
KUWAIT OKAC KUWAIT	ACC-SR-U	2							200
OKBK KUWAIT/Kuwait Intl	APP-SR-I TWR SMC	2 1 2							100 25 AD

Country and location	Service or function	VHF voice	VHF data	HF voice	HF data	Satellite voice	Satellite data	Mode S	Remarks
1	2	3	4	5	6	7	8	9	10
LEBANON OLBB BEIRUT	ACC-U ACC-SR-I ACC-SR-U	2 1 1							CTA 75 75
OLBA BEIRUT/ R. B. H - Beirut Intl	APP-L APP-I APP-SR-I APP-SR-L VOLMET TWR SMC ATIS	1 1 1 1 1 1 1 1							75 75 75 50 FIR 25 AD 150
OLKA KLELATE/Rene Mouawad	APP TWR SMC	1 1 1							50 25 AD
OMAN OOMM MUSCAT	ACC-SR-U FIS-L VOLMET	2 1 2							FIR 240 FIR
OOMS MUSCAT/Muscat	APP-SR-I TWR SMC ATIS	2 1 1 1							75 25 AD 150
OOSA SALALAH/Salalah	APP-SR-I TWR SMC ATIS	2 1 1 1							75 25 AD 150
QATAR OTBD DOHA/Doha Intl	APP-SR-I TWR SMC ATIS	2 1 1 1							75 25 AD 150
OTHH DOHA/New Doha Intl (Future – 2010)									
SAUDI ARABIA OEDF DAMMAM/King Fahd Intl	APP-SR-U APP-SR-I TWR SMC ATIS	1 2 1 2 1							150 75 25 AD(CD) 150
OEJD JEDDAH	ACC-U ACC-SR-U	1 16							FIR FIR (ER
OEJN JEDDAH/King AbdulAziz Intl	APP-SR-U APP-SR-I TWR SMC ATIS	1 2 2 3 1							150 75 25 AD(CD) 150

Country and location	Service or function	VHF voice	VHF data	HF voice	HF data	Satellite voice	Satellite data	Mode S	Remarks
1	2	3	4	5	6	7	8	9	10
OEMA MADINAH/Prince Mohamed Bin Abdulaziz Intl	APP-I APP-L TWR	1 2 1							50 75 25
	SMC ATIS	1 11							AD 150
OERK RIYADH/King Khalid Intl	APP-SR-U APP-SR-I TWR SMC ATIS	2 2 2 3 1							150 75 25 AD(CD) 150
SYRIAN ARAB REPUBLIC OSAP ALEPPO/Aleppo Intl.	APP-L TWR	1 1							50 25
OSIT DAMASCUS	FIS-U ACC-U	1 2							FIR FIR
OSDI DAMASCUS/Damascus Intl	APP-SR-U APP-U TWR SMC	1 2 1 1							80 150 25 AD
OSLK BASSEL AL-ASSAD/Lattakia	APP-L TWR	1 1							50 25
UNITED ARAB EMIRATES OMAE ABU DHABI	ACC-SR-U APP-L	~~5~~ 20 2							FIR
OMAA ABU DHABI/Abu Dhabi Intl	APP-SR-I TWR SMC ATIS	2 1 1 1							75 25 AD 150
OMDB DUBAI/Dubai Intl	APP-SR-I TWR SMC ATIS	2 1 1 1							75 25 AD 150
OMDW DUBAI /Al Maktoum									
OMFJ FUJAIRAH/Fujairah Intl	APP-L TWR	1 1							50 25
OMSJ SHARJAH/Sharjah Intl	APP-L TWR	1 1							50 25
OMAL AL AIN/Al Ain Intl	APP-L TWR	1 1							50 25

Country and location	Service or function	VHF voice	VHF data	HF voice	HF data	Satellite voice	Satellite data	Mode S	Remarks
1	2	3	4	5	6	7	8	9	10
YEMEN OYAA ADEN/Aden Intl	 APP-U TWR SMC	 1 1 1							 150 25 AD
OYHD HODEIDAH/Hodeidah	 APP-U TWR SMC	 1 1 1							 150 25 AD
OYAR MUKALLA Mukalla	 APP-U TWR SMC	 1 1 1							 150 25 AD
OYSC SANA'A	ACC-SR-U ACC-SR-I	1 1							400 200
OYSN SANA'A/Sanaa Intl	APP-SR-U APP-SR-I TWR SMC ATIS	1 1 1 1 1							150 75 25 AD 150
OYTZ TAIZ/Ganad	TWR SMC	1 1							25 AD

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TABLE CNS 3 C **RADIO NAVIGATION AIDS (MID REGION)**
TABLA CNS 3 C **AYUDAS PARA LA RADIONAVEGACIÓN (REGIÓN MID)**

EXPLANATION OF THE TABLE

Column

1 Name of the country, city and aerodrome and, for en-route aids, the location of the installation.

2 The designator number and runway type:

NPA C non-precision approach
PA-1 C precision approach runway, Category I
PA-2 C precision approach runway, Category II
PA-3 C precision approach runway, Category III

3 The functions carried out by the aids appear in columns 4 to 8 and 10 to 12:

A/L C Approach and landing
T C Terminal
E C En-route

4 ILS C Instrument landing system. Roman numeral I and II indicate the acting category of the ILS, I, II or III. (I) indicates that the facility is implemented

The letter "D" indicates a DME requirement to serve as a substitute for a marker beacon component of an ILS

Note.- Indication of category refers to the standard of facility performance to be achieved and maintained in accordance with pertinent specifications in ICAO Annex 10 and not to the specifications of the ILS equipment itself, which are not necessarily the same.

An asterisk (*) *indicates that the ILS requires a Category II signal quality, but without reliability and availability provided by redundant equipment and automatic changeover.*

5 Radio beacon localizer, be it associated with an ILS or to be used as an approach aid to an aerodrome.

6 Radiotelemetrical equipment. When an "X" appears in column 6 in line with the VOR in column 7, this indicates the need that the DME be installed at a common site with the VOR.

7 VOR VHF omnidirectional radio range.

8 NDB – Non Directional Beacon

9 The distance and altitude to which signal protection of the VOR or VOR/DME are required, indicated in nautical miles (NM) and in thousands of feet.

10, 11, 12 GNSS-global navigation satellite system (includes GBAS and SBAS).

LNAV lateral Navigation using GNSS

LNAV/VNAV Lateral with Vertical Navigation

GBAS (ground-based augmentation system) implementation planned to be used in precision approach and landing CATI,
CATII, CAT III.

SBAS (Satellite-based augmentation system) implementation planned to be used for route navigation, for terminal, for non precision approach and landing. An “X” indicates service availability,; exact location of installation will be determined.

Note.- GPS receiver is under standard rules and ABAS (aircraft-based augmentation system)

13 **Remarks**

Note.- Columns 5 to 12 use the following symbols:

X- Required but not implemented
XI- Required and implemented

TABLE CNS 3

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS			REMARKS OBSERVACIONES
									GPS	LNAV	LNAV/VNAV	
1	2	3	4	5	6	7	8	9	10	11	12	13
BAHRAIN												
BAHRAIN/Bahrain Intl	12R NPA 30L NPA				X I X I	X I X I						
	12L PA 2 1 30R PA 2 1	A/L A/L	II (I) II (I)	X	XI XI	XI XI		300/45		I I		
EGYPT												
EL-ARISH/ El-Arish Int'l	16 NPA 34 NPA	A/L			XI	XI		150/45				
ASYUT/ Asyut Int'l	13 NPA 31 NPA	A/L E			XI	XI		200/45		I I		
ALEXANDRIA/ Alexandria Intl	04 PA 1 22 NPA	A/L E	I*		XI XI	XI XI	XI	100/45 150/45		I I		
	18 NPA 36 NPA											
ALEXANDRIA/ Borg El Arab Int'l	32 PA 1 14 NPA	A/L T	I* (I) D	X	XI	XI	XI	100/45		I		
CAIRO/ Almaza Int.	18 NPA 36 NPA	A/L					XI	25/45				
	05 NINST 23 NINST											

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS			REMARKS OBSERVACIONES
									GPS	LNAV	LNAV/VNAV	
1	2	3	4	5	6	7	8	9	10	11	12	13
CAIRO/Cairo Intl	05R PA 2 23R PA 2	A/L A/L	II II(I)	X X	XI	XI		150/45		I I		
	23L PA 2 05L PA 2	A/L A/L T E	II (I) II (I)	X X	XI	XI		200/45		I		
	23C PA 05C PA									I I		
	16 NPA 34 NPA											
HURGHADA/ Hurghada Intl	16 NPA 34 PA 2	A/L T E	I*(I)		XI XI	XI XI		100/45		I I		
LUXOR/ Luxor Intl	02 NPA 20 PA 1	A/L T E	I* (I)		XI XI	XI XI		150/45		I I		
MARSA ALAM/ Marsa Alam Int'l	15 NPA 33 NPA	A/L			XI	XI		150/45				
SHARK EL OWEINAT/ Shark El Oweinat Int'l	01 NPA 19 NPA	L					XI	100/45				
PORT –SAID/ Port –Said Int'l	10 NPA 28 NPA	L			XI	XI		200/45				
ST. CATHERINE/ St. Catherine Intl	17 NPA 35 NINST	L					XI	150/45				
SHARM EL SHEIKH/ Sharm El Sheikh Intl	04L PA1 22R NPA	A/L T E	I (II)	X	XI XI	XI XI	XI	100/45 200/50		I I		
	04R NPA 22L NPA									I I		
ASWAN/ Aswan Intl	17 PA1 35 PA1	A/L T E	II	X	XI XI	XI XI		150/45		I I		

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS			REMARKS OBSERVACIONES
									GPS	LNAV	LNAV/VNAV	
1	2	3	4	5	6	7	8	9	10	11	12	13
TABA/ Taba Int'l	04 NPA 22 NPA	A/L T			X	XI	XI	150/45 100/45		I I		
IRAN, ISLAMIC REPUBLIC OF												
ABADAN	32L PA 1	A/L E	I* (I)		XI	XI		200/45				
AHWAZ	30 PA 1	A/L E	I* (I)		XI	XI		300/45				
ARDABIL	~~31~~ 33 PA 1	A/L E	I* (I)		XI	XI		200/45				
ASALOYEH	30 PA 1	A/L E	I*		XI	XI		300/45				
BANDAR ABBAS/Intl	21L PA1	A/L E	I* (I)		XI	XI		200/45				
BANDAR LENGEH	NPA	A/L E			XI	XI		200/45				
BANDAR MAHSHAHR / MAHSHAHR	NPA	A/L E			XI	XI		300/45				
BIRJAND		E			XI	XI		300/50				
BOJNORD	NINST	E			XI	XI		150/45				
BUSHEHR	30 PA2	A/L E	I*		XI	XI		300/45				
CHAH BAHAR / KONARAK	NPA	A/L E			XI	XI		200/45				
DARBAND		E			XI	XI		300/45				
DEH-NAMAK		E			XI	XI		300/45				
ESFAHAN / Shahid Beheshti Intl	26R PA 1	A/L E	I*(I)		XI	XI		300/45				
HAMADAN	NPA	A/L E			XI	XI		200/45				

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS			REMARKS OBSERVACIONES
									GPS	LNAV	LNAV/VNAV	
1	2	3	4	5	6	7	8	9	10	11	12	13
ILAM	NPA	A/L E			XI	XI		300/45				
IRAN-SHAHR	NPA	A/L E			X	X		300/45				
JAM/TOHID	NPA	A/L			XI	XI		300/45				
KARAJ / PAYAM	NPA	A/L			XI	XI		200/45				
KERMAN	34 PA1	A/L E	I*(I)		XI	XI		200/45				
KERMANSHAH / Shahid Ashrafi Esfahani	29 PA1	A/L E	I* (I)		XI	XI		300/45				
KHARK ISLAND /Khark	NPA	A/L E			XI	XI		300/45				
KHORAM ABAD	29 PA 1	A/L E	I*		XI	XI		200/45				
KISH ISLAND	NPA	A/L E			XI	XI		200/45				
MALAYER		E			XI	XI		300/45				
MASHHAD / Shahid Hashemi Nejad Intl	31R PA1	A/L E	I* (I)		XI	XI		300/45				
NOSHAHR	NPA	A/L E			X	X		200/45				
OMIDIYEH	NPA	A/L			XI	XI		200/45				
RASHT	27 PA 1	A/L E	I* (I)		XI	XI		300/45				
SABZEVAR	NPA	A/L E			XI	XI		300/45				
ANARAK		E			XI	XI		300/45				
SANANDAJ	NPA	A/L E			XI	XI		200/45				
SARI/Dashte-Naz	NPA	A/L E			XI	XI		300/45				

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS			REMARKS OBSERVACIONES
									GPS	LNAV	LNAV/VNAV	
1	2	3	4	5	6	7	8	9	10	11	12	13
SAVEH		E			XI	X		300/45				
SHIRAZ / Shahid Dastghaib Intl	29L PA 1	A/L E	I* (I)		XI	XI		300/45		I		
SIRJAN	NPA	A/L E			XI	XI		200/45				
TABRIZ Intl	30R PA 1	A/L E	I* (I)		XI	XI		200/45				
TEHRAN/Imam Khomaini Intl	29R PA 2	A/L	II* (I)		XI	XI		300/45				
TEHRAN/Mehrabad Intl	29L PA 1	A/L E	I* (I)	XI	XI	XI		300/45		I		
UROMIYEH	21 PA1	A/L E	I* (I)		XI	XI		200/45				
YAZD / Shahid Sadooghi	NPA	A/L E			XI	XI		300/45				
ZAHEDAN	35 PA1	A/L E	I* (I)		XI	XI		200/45				
ZANJAN	NPA	E			XI	XI	XI	200/45				
IRAQ												
AIN ZALAH		E			X	X		100/50				
BAGHDAD/ Baghdad Int'l	NINST NINST NINST NINST	A/L A/L A/L A/L E	II (I) II (I) II (I) II (I)	X X X X	X X X X X	X X X X X		200/45	XI XI			
BASRAH/Intl		A/L A/L E	II (I) II (I)	X X	X X	X X		300/45				

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS			REMARKS OBSERVACIONES
									GPS	LNAV	LNAV/VNAV	
1	2	3	4	5	6	7	8	9	10	11	12	13
HASHIMIYA		E			X	X		200/45				
(HADITHA)		E			X	X		100/50				
MANDALY		E										
MOSUL	PA 1	A/L		X	X	X			XI XI			
SAMARA		E			X	X		200/45				
HAWIJA		E			X	X		100/50				
SHATRA		E			X	X		100/50				
~~**ISRAEL**~~												
~~ELAT/Elat~~	~~03 NPA~~ ~~21 NINST~~	~~A/L~~ ~~E~~			~~XI~~ ~~XI~~ ~~X~~	~~XI~~ ~~XI~~ ~~X~~		~~300/45~~				
~~HAIFA/Haifa~~	~~16 NINST~~ ~~34 NINST~~											
~~JERUSALEM/Atarot~~	~~12 NINST~~ ~~30 PA 1~~	~~A/L~~ ~~A/L~~	~~I*~~									
~~METZADA~~		~~E~~			~~X~~	~~X~~		~~150/45~~				
~~NATANIA~~		~~E~~			~~X~~	~~X~~		~~150/45~~				
~~OVDA/Intl~~	~~20R NPA~~ ~~02L NINST~~	~~A/L~~	~~I~~		~~X~~	~~X~~		~~150/50~~		~~XI~~		

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS			REMARKS OBSERVACIONES
									GPS	LNAV	LNAV/VNAV	
1	2	3	4	5	6	7	8	9	10	11	12	13
~~TEL AVIV/Ben Gurion~~	~~03 NPA~~ ~~21 NINST~~ ~~08 NINST~~ ~~26 PA 1~~ ~~12 PA 1~~ ~~30 NPA~~	 ~~A/L~~ ~~A/L~~ ~~A/L~~ ~~E~~ ~~E~~	 ~~I* (I)~~ ~~I* (I)~~	 ~~X~~ ~~X~~	~~XI~~ ~~XI~~ ~~XI~~ ~~XI~~ ~~XI~~ ~~XI~~	~~XI~~ ~~XI~~ ~~XI~~ ~~XI~~ ~~XI~~ ~~X~~ ~~X~~		 ~~150/50~~ ~~200/50~~		 ~~I~~ ~~I~~		
~~TEL AVIV/Sde-Dov~~	~~03 NINST~~ ~~21 NINST~~	~~A/L~~ ~~A/L~~										
~~ZOFAR~~		~~E~~			~~X~~	~~X~~		~~150/45~~				
JORDAN												
AMMAN/MARKA	24 PA 1 06 NPA	A/L A/L	I (I)	XI X	XI	XI	XI	 175/37.5				
AMMAN/Queen Alia	08R NPA 26L PA 2 08L PA 2 26R PA 2	A/L A/L A/L A/L	X II(I) II(I) II(I)	X XI XI XI	X XI XI XI	 XI XI	XI XI XI XI			~~I~~ X ~~I~~ X ~~I~~ X ~~I~~ X	~~I~~ X ~~I~~ X ~~I~~ X ~~I~~ X	
AQABA/ king Hussein	01 PA 1	A/L E	I(I)	XI	XI	XI	X	200/50 200/50		~~I~~	~~I~~	
METSA		E			X	X		150/50				
QATRANEH		E			XI	XI		100/50				
KUWAIT												
KUWAIT/Intl	15R PA 2 33L PA 2 15L PA 2 33R PA 2	A/L A/L A/L A/L T E	II (I) II (I) II (I) II (I)	XI XI	XI XI XI XI XI XI	 XI XI		 300/50 300/50		I I I I		

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS			REMARKS OBSERVACIONES
									GPS	LNAV	LNAV/VNAV	
1	2	3	4	5	6	7	8	9	10	11	12	13
LEBANON												
BEIRUT/Beirut Intl	16 PA 1 17 PA 1 03 PA 1 21 PA1	A/L A/L A/L AL	I* (I) D I* (I) D I* (I) D I* (I) D	X X X X	X I X I X I X I					I I I I		
CHEKKA		E			Xi	XI		150/50				
KHALDE		E/T			Xi	XI		150/50				
BOD		E/T					XI	150				
BAB		E/T					XI	150				
OMAN												
HAIMA		E			X I	X I		200/45				
IZKI		E			X I	X I		200/45				
MARMUL	14 NPA 32 NPA										I I	
MUSCAT/ Intl	08 PA 1 26 PA 1 E	A/L A/L E	I* (I) D I* (I) D		X I X I X I	 X I		 200/45				
SALALAH/Salalah Intl	07 NPA 25 PA 1 E	A/L A/L E	 I* (I) D		~~X I~~ X I X I	~~X I~~ ~~X I~~ X I		 200/45				
SUR		E			X I	X I		200/45				
QATAR												
DOHA/Doha Intl	16 NPA 34 PA 1 E	A/L A/L E	 I* (I)	 X	X X X	X X X		 300/45		 I I		

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS			REMARKS OBSERVACIONES
									GPS	LNAV	LNAV/VNAV	
1	2	3	4	5	6	7	8	9	10	11	12	13
SAUDI ARABIA												
AL JOUF	10 NPA	A/L			XI	XI						
	28 NPA	A/L			XI	XI						
	28 PA 1	A/L	I*		XI	XI						
		T			X	X		300/50				
AL SHIGAR		E			XI	XI		300/50				
ARAR	10 NPA	A/L			XI	XI				I		
	28 NPA	A/L			XI	XI				I		
		T			X	X						
		E			XI	XI		300/50				
BAHA	07 NPA	A/L			XI	XI				I		
	25 NPA	A/L			XI	XI				I		
	25 NPA	A/L		X								
	25 PA 1	A/L	I*		XI	XI						
		T			X	X		300/50				
BIR DURB		E			X	X		300/50				
BISHA	18 NPA	A/L			XI	XI				I		
	36 NPA	A/L			XI	XI						
	18 PA1	A/L	I*		X							
		T			X	X						
		E			X	X		300/50				
BOPAN		E			XI	XI		300/50				
DAFINAH		E			XI	XI		300/50				
DAMMAM (King Fahad Intl)	16L PA 1	A/L	I (I)		XI	XI						
	34R PA 1	A/L	I (I)		XI	XI						
	16R PA 1	A/L	I (I)		XI	XI						
	34L PA 1	A/L	I (I)		XI	XI						
		T			XI	XI						
		E			XI	XI		300/50				

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS			REMARKS OBSERVACIONES
									GPS	LNAV	LNAV/VNAV	
1	2	3	4	5	6	7	8	9	10	11	12	13
GASSIM	15 NPA	A/L			XI	XI						
	33 NPA	A/L			XI	XI						
	15 PA 1	A/L	I*		X							
		T			X	X						
		E			X	X		300/50				
					I							
GURIAT	10 NPA	A/L			XI	XI						
	28 NPA	A/L		X								
	28 NPA	A/L			XI	X						
		T			X	X						
		E			X	X		300/50				
HAFR AL-BATIN	16 NPA	A/L			XI	XI						
	34 NPA	A/L			XI	XI						
		T			X	X						
		E			XI	XI		300/50				
HAIL	18 NPA	A/L			XI	XI						
	36 NPA	A/L			XI	XI						
	18 PA 1	A/L	I *		X							
		T			X	X						
		E			X	X		300/50				
HALAIFA		E			XI	XI		300/50				
JEDDAH/King Abdul Aziz Intl	16R PA 2	A/L	II (I)		XI	XI				I		
	34L PA 2	A/L	II (I)		XI	XI				I		
	16L PA 1	A/L	I* (I)		XI	XI				I		
	34R PA 1	A/L	I* (I)		XI	XI				I		
	16C PA 2	A/L	II (I)		XI	XI				I		
	34C PA2	A/L	II (I)		XI	XI				I		
		T			XI	XI						
		E			XI	XI		300/50				
JUBAIL	17 NPA	A/L				X						
	35 NPA	A/L				X						
	35 PA 1	A/L	I*		X							
		T			X			300/50				

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS			REMARKS OBSERVACIONES
									GPS	LNAV	LNAV/VNAV	
1	2	3	4	5	6	7	8	9	10	11	12	13
MADINAH/Prince	17 PA 1	A/L	I*		XI	XI						
Mohammad Bin Abdulaziz	35 PA 1	A/L	I*	X	XI	XI						
	36 PA 1	A/L	I*	X	XI	XI						
	18 NPA	A/L			XI	XI						
		T			XI	XI						
		E			XI	XI		300/50				
MAGALA		E			XI	XI		300/50				
RABIGH		E			XI	XI		300/50				
						I						
RAFHA	11 NPA	A/L			XI	XI						
	29 NPA	A/L			XI	XI						
		T			X	X						
		E			XI	XI		300/50				
RAGHBA		E			XI	XI		300/50				
RIYADH/King Khalid Intl	15L PA 1	A/L	I* (I)		XI	XI						
	33R PA 1	A/L	I* (I)		XI	XI						
	15R PA 1	A/L	I* (I)		XI	XI						
	33L PA 1	A/L	I* (I)		XI	XI						
		T			XI	XI						
		E			XI	XI		300/50				
TURAIF	10 NPA	A/L			XI	XI						
	28 NPA	A/L			XI	XI						
		T			X	X						
		E			XI	XI		300/50				
WADI AL-DAWASIR	10 NPA	A/L			XI	XI				I		
	28 NPA	A/L			XI	XI				I		
	10 PA 1	A/L	I*		XI							
		T			X	X						
		E			XI	XI		300/50				
WEDJH	15 NPA	A/L			XI	XI						
	33 NPA	A/L			XI	XI				I		
	33 NPA	A/L		X								
	33 PA 1	A/L	I*									
		T			X	X						
		E			XI	XI		300/50				

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS			REMARKS OBSERVACIONES
									GPS	LNAV	LNAV/VNAV	
1	2	3	4	5	6	7	8	9	10	11	12	13
YENBO	10 NPA 28 NPA 28 PA 1	A/L A/L A/L T E	 I* 	 	XI XI XI X XI	XI XI X XI	 	 300/50	 	 I I 	 	
SYRIAN ARAB REPUBLIC												
ALEPPO/Neirab	27 ~~N~~ PA2	A/L E	 	X 	 	X X	 	 150/50	 	 	 	
DAMASCUS/Intl	05L ~~N~~PA2 23R PA ~~1~~ 2 05R ~~N~~PA2	A/L A/L A/L E	 I* (I) 	 X 	X X X X	X X X X	 	 150/50	 	 	 	
KARIATAIN		E			X	X		150/50				
LATAKIA/Bassel -Al- Assad	17 NPA	A/L		X	X	X						
TANF		E				X		160/40				
UNITED ARAB EMIRATES												
ABU DHABI/Abu Dhabi Intl	13 PA 1 31 PA 3	A/L A/L E	I* (I) III (I) 	 	X I X I X I	X I X I X I	 	 300/45	 	I I 	 	
AL AIN/Al Ain Intl	01 PA 1 19 NPA	A/L A/L E	I*	 	X I X I X I	X I X I X I	 	 300/45	 	 	 	

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS			REMARKS OBSERVACIONES
									GPS	LNAV	LNAV/VNAV	
1	2	3	4	5	6	7	8	9	10	11	12	13
DUBAI/Dubai Intl	12L PA 3	A/L	III (I)		X I	X I				I		
	30R PA 3	A/L	III (I)		X I	X I				I		
	12R PA 2	A/L	II (I)		X I	X I						
	30L PA 2	A/L	II (I)		X I	X I						
		E			X I	X I		300/45				
FUJAIRAH/Fujairah Intl	11 NPA	A/L			X I	X I				I		
	29 PA 1	A/L	I* (I)		X I	X I				I		
		T			X I	X I		40/25				
RAS AL KHAIMAH/Ras al Khaimah Intl	16 NPA	A/L		X	X I	X I						
	34 PA 1	A/L	I* (I)	X								
SHARJAH/Sharjah Intl	12 NPA	A/L			X I	X				I		
	30 PA 1	A/L	I* (I)	X I	X I	X				I		
		E				X I		300/45				
YEMEN												
ADEN/Intl	08 NPA	A/L			X	X						
	26 PA 1	A/L	I* (I)	X	X	X						
		E			X	X		300/50				
AL-GHAIDAH		E			X	X		300/50				
HODEIDAH	03 NPA	A/L		X	X	X						
	21 NPA	A/L		X	X	X						
		E			X	X		200/45		I		
MUKALALA/Intl	06 NPA	A/L			X	X						
	24 NPA	A/L			X	X						
		E			X	X		300/50				
SANA'A/Intl	18 PA 1	A/L	I* (I)	X	X	X I						
	36 NPA	A/L			X	X I						
		E			X	X I		200/45				

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS			REMARKS OBSERVACIONES
									GPS	LNAV	LNAV/VNAV	
1	2	3	4	5	6	7	8	9	10	11	12	13
SIYUN		E			X	X		150/45				
TAIZ/Intl	01 NPA 19 NPA	A/L A/L E		X X	X X X	X X X		200/45				

Table CNS 4 - SURVEILLANCE SYSTEMS

EXPLANATION OF THE TABLE

Column

1 Name of country and location of the facility or FIR

2 Geographical area

3 Air Traffic Services Units served by the facility or FIR

4 PSR - Primary Surveillance Radar

5 Coverage of Primary Surveillance Radar in nautical miles

6 Coverage of Primary Surveillance Radar and Modes implemented will be indicated within Brackets, namely Modes A, C & S

7 Coverage of Secondary Surveillance radar in nautical miles

8 ADS-B- Automatic Dependent Surveillance Broadcast *

9 ADS-C - Automatic Dependent Surveillance Contract

10 SMR- Surface Movement Radar

11 PRM - Precision Runway Monitor

12 Multirateration

13 Remarks

Note:
The following codes are used in columns 4,6,8-12

I - Required and implemented for column 6,
I stands for implementation using conventional SSR while
MI stands for implementation using Monopulse SSR

X- Required but implementation status not determined

N - Required but not implemented

A - Existing facility provided to supplement or substitute the requirement

F - Future Plan

< - Year planned commissioning year to be used as appropriate in conjunction with AF@ & AN@

> - Year planned decommissioning year to be used as appropriate in conjunction with AA@ & AI@.

• *Under development*

TABLE CNS 4- SURVEILLANCE SYSTEMS

Country/Location	GA	ATS Units Served	PSR	Coverage of SSR (NM	SSR (A/C/S)	Coverage of SSR (NM)	ADS-B	ADS-C	SMR	PRM	Remarks
1	2	3	4	5	6	7	8	9	10	11	12
BAHRAIN											
Bahrain		Bahrain ACC Bahrain APP Bahrain ACC Bahrain APP	I	80	MI(A/C) F(A/C/S)	250 250					Mode S will be implemented in 2012
EGYPT											
Cairo		Cairo ACC Cairo APP Cairo APP/TMA	I I F<2002	200 70 60	MI(A/C) I(A/C) MF (A/C)	250 100 250					Mode S Implemented In Four Airports
Hurghada		Hurghada ACC Hurghada ACC Hurghada APP	I I I	 60	MI(A/C) MI(A/C)	250 250					
Mersa Matruh		Mersa Matruh ACC			MI(A/C)	250					
Aswan		Aswan ACC Aswan ACC Aswan APP	I F<2002 <2002	 60	MI(A/C) MF(A/C)	250 250					
Asyut		Asyut ACC		250	MI(A/C)	250					
Luxor		Luxor ACC Luxor APP	 I	 60	MI(A/C)	250					
Sharm El Sheikh		Sharm El Sheikh ACC Sharm El Sheikh APP	 I	 60	MI(A/C)	250					
Borg El Arab		Borg El Arab ACC Borg El Arab APP	 F<2002	 60	F (A/C) < 2002	250					
El Arish		El Arish ACC El Arish APP	 F<2002	 60	F (A/C) < 2002	250					
Taba		Taba ACC Taba APP	 F<2002	 60	F (A/C) < 2002	250					

Country/Location	GA	ATS Units Served	PSR	Coverage of SSR (NM	SSR (A/C/S)	Coverage of SSR (NM)	ADS-B	ADS-C	SMR	PRM	Remarks
1	2	3	4	5	6	7	8	9	10	11	12
IRAN											
Shiraz		Shiraz APP	I	80	I (A/C/S)	250					
Tehran / Mehrabad		Mehrabad APP	I	80	I (A/C/S)	250					
Ahwaz		Tehran ACC			MI(A/C/S) < 2000	250					
Iran Shahr		Tehran ACC			F (A/C/S) < 2002	250					
Jiroft		Tehran ACC			MI(A/C/S) < 2001	250					
Lar		Tehran ACC			MI(A/C/S) < 2001	250					
Mashhad		Tehran ACC			MI(A/C/S) < 2001	250					
Draz-now (Gorgan)		Tehran ACC			MI(A/C/S) < 2002	250					
Tabas		Tehran ACC			MI(A/C/S) < 2002	250					
Tabriz		Tehran ACC			MI(A/C/S) < 2000	250					
Tehran/Kushke Bazm		Tehran ACC			MI(A/C/S) < 1999	250					ADS-A installed and available in Tehran ACC
Zanjan		Tehran ACC			MI(A/C/S) < 2001	250					
IRAQ											
Baghdad		Baghdad APP	I	60	~~I~~MI(A/C)	250					Mode S is planed
Basrah		Basrah ACC Basrah APP	I	80	MI(A/C/S) I	250					In Baghdad

Country/Location	GA	ATS Units Served	PSR	Coverage of SSR (NM	SSR (A/C/S)	Coverage of SSR (NM)	ADS-B	ADS-C	SMR	PRM	Remarks
1	2	3	4	5	6	7	8	9	10	11	12
~~ISRAEL~~											
~~Tel Aviv~~		~~Tel Aviv ACC~> ~~Ben Gurion APP~~	~~I~> ~~I~		~~I~> ~~I~						
JORDAN											
Amman		Amman ACC	I	80	MI(A/C/)	250					
KUWAIT											
Kuwait		Kuwait ACC	I	80	MI(A/C/)	250					
LEBANON											Implemented Mode S
Beirut		Beirut ACC Beirut APP Beirut TWR	I	60	MI(A/C/)	250					
OMAN											
Muscat		Muscat ACC Muscat APP	I	100	I	250					
Salalah		Salalah ACC Salalah APP	I	100	I	250					
Jaalan Bani Bu Ali		Muscat ACC			I	250					
Wudam Al-Sahil		Muscat ACC			I	250					
Ras Al-Hadd		Muscat ACC			I	250					
Duqm		Muscat ACC			I	250					
Qiroon Hayreeti		Muscat ACC			I	250					
QATAR											
Doha		Doha ACC Doha APP	I		I						
SAUDI ARABIA											
Abha		Jeddah ACC			I	200					}
Afif		Jeddah ACC			I	200					} KSA is providing
AL Kharj		Jeddah ACC			I	200					} radar coverage } to all KSA
Badanah		Jeddah ACC			I	200					} airspace } (Jeddah FIR),
Dammam		Dammam APP	I	100	MI	200					} with the } exception of the
Dhahran		Jeddah ACC			I	200					} “Empty Quarter”

Country/Location	GA	ATS Units Served	PSR	Coverage of SSR (NM	SSR (A/C/S)	Coverage of SSR (NM)	ADS-B	ADS-C	SMR	PRM	Remarks
1	2	3	4	5	6	7	8	9	10	11	12
Hail		Jeddah ACC			I	200					Mode S will be implemented
Jeddah		Jeddah APP	I	100	I	200					
Nariya		Jeddah ACC			I	200					
Qaisumah		Jeddah ACC			I	200					
Raffina		Jeddah ACC			I	200					
Raghdan		Jeddah ACC			I	200					
Riyadh		Riyadh APP	I	100	MI	200					
Salbuk		Jeddah ACC			I	200					
Sharurah		Jeddah ACC			I	200					
Sulayel		Jeddah ACC			I	200					
Tabuk		Jeddah ACC			I	200					
Taif		Jeddah ACC			I	200					
Turaif		Jeddah ACC			I	200					
Wejh		Jeddah ACC			I	200					
SYRIA											
Damascus		Damascus ACC			I						
UNITED ARAB EMIRATES											
Abu Dhabi		Emirates ACC Bahrain ACC			MI(A/C)	200					
Abu Dhabi		Abu Dhabi APP Emirates ACC			AF<2001	200					Replacement MSSR
Abu Dhabi		Abu Dhabi APP Abu Dhabi TWR	AF2004 AF2003	125					X		Replacement PSR
Al Ain		Al Ain APP	AF2004	80		200					

Country/Location	GA	ATS Units Served	PSR	Coverage of SSR (NM	SSR (A/C/S)	Coverage of SSR (NM)	ADS-B	ADS-C	SMR	PRM	Remarks
1	2	3	4	5	6	7	8	9	10	11	12
		Abu Dhabi APP Emirates ACC									
Dubai		Dubai APP Emirates ACC Dubai TWR	I	80	MI(A/C)	150			I		
Dubai		Emirates ACC Dubai APP			AF<2004	250					New project
Emirates ACC		Emirates ACC					I				MLAT/WAN installed
Fujairah		Fujairah APP			MI(A/C)	250					
Ras Al Khaimah		Ras Al Khaimah APP Emirates ACC	I	80	X / S						
Sharjah		Emirates ACC Dubai APP Ras Al Khaimah APP		256	A/C	256	I				
Tarif		Emirates ACC ~~Bahrain ACC~~ ~~Muscat ACC~~ Abu Dhabi APP			F(A/C) <2001	240					New project
Yasat Al Safli Qseewrah Umm Al Quwain Al Yahar		Emirates ACC					I				
YEMEN											
Aden Mukalla Sana'a		Aden APP Mukalla APP Sana'a APP	F		I(A/C) I(A/C) I(A/C)						

Code Allocation Status for Bahrain

MODE S Interrogator Code Allocations as of 06 May 2010 (Cycle 10)

Mode S Station		ALLOCATED CODE			OPERATOR	REFERENCE/REMARKS
		II	SI	Effective Date		
BAHRAIN						

Code Allocation Status for Egypt

MODE S Interrogator Code Allocations as of 06 May 2010 (Cycle 10)

Mode S Station		ALLOCATED CODE			OPERATOR	REFERENCE/REMARKS
		II	SI	Effective Date		
EGYPT						
Aswan ERR		02		ad hoc 17/03/2009	NANSC	MICA/ALLOC461
Asyut ERR		03		ad hoc 17/03/2009	NANSC	MICA/ALLOC462
Cairo ERR		11		ICAC 12 7/04/2011	NANSC	MICA/ALLOC630
Hurghada ERR		05		ad hoc 17/03/2009	NANSC	MICA/ALLOC464
Mersa Matruh ERR		06		ad hoc 17/03/2009	NANSC	MICA/ALLOC465

Code Allocation Status for Iran

MODE S Interrogator Code Allocations as of 06 May 2010 (Cycle 10)

Mode S Station		ALLOCATED CODE			OPERATOR	REFERENCE/REMARKS
		II	SI	Effective Date		
IRAN						

Code Allocation Status for Iraq

MODE S Interrogator Code Allocations as of 06 May 2010 (Cycle 10)

Mode S Station		ALLOCATED CODE			OPERATOR	REFERENCE/REMARKS
		II	SI	Effective Date		
IRAQ						

Code Allocation Status for Jordan

MODE S Interrogator Code Allocations as of 06 May 2010 (Cycle 10)

Mode S Station		ALLOCATED CODE			OPERATOR	REFERENCE/REMARKS
		II	SI	Effective Date		
JORDAN						

Code Allocation Status for Kuwait

MODE S Interrogator Code Allocations as of 06 May 2010 (Cycle 10)

Mode S Station		ALLOCATED CODE			OPERATOR	REFERENCE/REMARKS
		II	SI	Effective Date		
KUWAIT						

Code Allocation Status for Lebanon

MODE S Interrogator Code Allocations as of 06 May 2010 (Cycle 10)

Mode S Station		ALLOCATED CODE			OPERATOR	REFERENCE/REMARKS
		II	SI	Effective Date		
LEBANON						
Baysour		02		23/04/2009	DGCA	MICA/ALLOC467

Code Allocation Status for Oman

MODE S Interrogator Code Allocations as of 06 May 2010 (Cycle 10)

Mode S Station		ALLOCATED CODE			OPERATOR	REFERENCE/REMARKS
		II	SI	Effective Date		
OMAN						
Muscat		11		Ad-hoc, 29/06/2010	DGMAN	MICA/ALLOC615

Code Allocation Status for Qatar

MODE S Interrogator Code Allocations as of 06 May 2010 (Cycle 10)

Mode S Station		ALLOCATED CODE			OPERATOR	REFERENCE/REMARKS
		II	SI	Effective Date		
QATAR						

Code Allocation Status for Saudi Arabia

MODE S Interrogator Code Allocations as of 06 May 2010 (Cycle 10)

Mode S Station		ALLOCATED CODE			OPERATOR	REFERENCE/REMARKS
		II	SI	Effective Date		
SAUDI-ARABIA						
Madinah		04		Ad-hoc, 17/03/2010	GACA	MICA/ALLOC529
Rafha		05		Ad-hoc, 17/03/2010	GACA	MICA/ALLOC530
Turaif		10		Ad-hoc, 17/03/2010	GACA	MICA/ALLOC531
Al-Jouf		08		ICAC 11,21/10/2010	GACA	MICA/ALLOC567
Al-Wejah		01		ICAC 11,21/10/2010	GACA	MICA/ALLOC568
Gassim		03		ICAC 11,21/10/2010	GACA	MICA/ALLOC569
Hail		02		ICAC 11,21/10/2010	GACA	MICA/ALLOC570
KAIA		08		ICAC 11,21/10/2010	GACA	MICA/ALLOC571
TABUK		06		ICAC 11,21/10/2010	GACA	MICA/ALLOC572
ABHA		02		ICAC 12,07/04/2011	GACA	MICA/ALLOC631
BAHA		06		ICAC 12,07/04/2011	GACA	MICA/ALLOC632

KFIA		**08**		**ICAC 12,07/04/2011**	**GACA**	**MICA/ALLOC633**
KKIA		**01**		**ICAC 12,07/04/2011**	**GACA**	**MICA/ALLOC634**
QAISUMAH		**06**		**ICAC 12,07/04/2011**	**GACA**	**MICA/ALLOC635**
SODA		**11**		**ICAC 12,07/04/2011**	**GACA**	**MICA/ALLOC636**
Training Station		**09**		**Ad-hoc, 02/03/2011**	**GACA**	**MICA/ALLOC644**
AFIF		**10**		**ICAC 13,22/09/2011**	**GACA**	**MICA/ALLOC674**
HARAD		**11**		**ICAC 13,22/09/2011**	**GACA**	**MICA/ALLOC675**
Khayber		**07**		**ICAC 13,22/09/2011**	**GACA**	**MICA/ALLOC676**
Sharurah		**08**		**ICAC 13,22/09/2011**	**GACA**	**MICA/ALLOC677**
Shaybah		**07**		**ICAC 13,22/09/2011**	**GACA**	**MICA/ALLOC678**
Wadi Al-Dawasir		**07**		**ICAC 13,22/09/2011**	**GACA**	**MICA/ALLOC679**

Code Allocation Status for Syria
MODE S Interrogator Code Allocations as of 06 May 2010 (Cycle 10)

Mode S Station		**ALLOCATED CODE**			**OPERATOR**	**REFERENCE/REMARKS**
		II	**SI**	**Effective Date**		
SYRIA						

Code Allocation Status for UAE
MODE S Interrogator Code Allocations as of 06 May 2010 (Cycle 10)

Mode S Station		**ALLOCATED CODE**			**OPERATOR**	**REFERENCE/REMARKS**
		II	**SI**	**Effective Date**		
EMIRATES						

Code Allocation Status for Yemen
MODE S Interrogator Code Allocations as of 06 May 2010 (Cycle 10)

Mode S Station		**ALLOCATED CODE**			**OPERATOR**	**REFERENCE/REMARKS**
		II	**SI**	**Effective Date**		
YEMEN						

PBN/GNSS TF/5-WP/7
APPENDIX B

SAMPLE

Format for the CNS/4b table proposal

SWITZERLAND					
BERNE (LSZB)	14	CAT I	ILS	in service	
		APV SBAS		2013	
LES EPLATURES	24	CAT I	ILS	in service	
(LSGC)		APV SBAS		in service	
GENEVE (LSGG)	O5	CAT I	ILS	in service	
		APV Baro VNAV		2015/2016	
	23	CAT III	ILS	in service	
		APV Baro VNAV		2015/2016	
GRENCHEN	25	APV SBAS		2013	
(LSZG)					

		RWY	Type	Precision		LNAV	LNAV/VNAV	LP	LPV	RNP AR
				xLS	CAT					
SWITZERLAND										
LSZB	BERNE	14	Non Instrument	ILS	I	-	-	-	2013	-
		32	Non Instrument	-		2014	-	2014	-	-
LSGC	LES EPLATURES	6	Non Instrument	-		2015	-	2015	-	-
		24	Non Instrument	ILS	I	-	-	-	In service	-
LSGG	GENEVE	5	Instrument	ILS	I	-	2015/2016	-	-	-
		23	Instrument	ILS	III	-	2015/2016	-	-	-
LSGS	SION	7	Non Instrument	-		-	-	-	-	-
		25	Non Instrument	ILS	I	-	-	2018	-	-

APPENDIX C

MID REGION TMAs PROCEDURES PLAN

Int'l Aerodrome	RWY	Approach								SID		STAR		Remarks
		Precision		VOR or NDB	LNAV	LNAV / VNAV	RNP AR	LP	LPV	Conventional	RNAV	Conventional	RNAV	
		xLS	CAT											
BAHRAIN														
OBBI	12L	ILS	I	VORDME	Y	-	-	-	-	-	Y	-	Y	
	30R	ILS	I	VORDME	Y	-	-	-	-	-	Y	-	Y	
EGYPT														
HEAX	04	-	-	VORDME	Y	-	-	-	-	-	-	-	Y	
	18	-	-	-		-	-	-	-	-	-	-		
	22	-	-	VORDME	Y	-	-	-	-	-	-	-	Y	
	36	-	-	VORDME	-	-	-	-	-	-	-	-	-	
HEBA	14	-	-	-	-	-	-	-	-	-	-		-	
	32	ILS	I	-	Y	-	-	-	-	-	Y	-	-	
HESN	17	-	-	VORDME	Y	-	-	-	-	-	Y	-	Y	
	35	ILS	I	VORDME	Y	-	-	-	-	-	Y	-	Y	
HEAT	13	-	-	-	Y	-	-	-	-	-	Y	-	Y	
	31	ILS	I	VORDME	Y	-	-	-	-	-	Y	-	Y	
HECA	05L	ILS	I	VORDME	Y	-	-	-	-	-	-	-	-	
	05C	ILS	II	VORDME	Y	-	-	-	-	-	-	-	-	
	05R	ILS	I	-	-	-	-	-	-	-	-	-	-	
	23L	ILS	I	VORDME	-	-	-	-	-	-	-	-	-	
	23C	ILS	II	VORDME	Y	-	-	-	-	-	-	-	-	
	23R	ILS	I	VORDME	Y	-	-	-	-	-	-	-	-	
HEAR	16	-	-	-	-	-	-	-	-	-	-	-	-	
	34	-	-	VORDME	-	-	-	-	-	-	-	-	-	
HEGN	16	-	-	VORDME	Y	-	-	-	-	-	Y	-	Y	
	34	ILS	I	VORDME	Y	-	-	-	-	-	Y	-	Y	

Int'l Aerodrome	RWY	Approach								SID		STAR		Remarks
		Precision		VOR or NDB	LNAV	LNAV / VNAV	RNP AR	LP	LPV	Conventional	RNAV	Conventional	RNAV	
		xLS	CAT											
HELX	02	-	-	VORDME	Y	-	-	-	-	-	Y	-	Y	
	20	ILS	I	VORDME	Y	-	-	-	-	-	Y	-	Y	
HEMA	15	-	-	VORDME	-	-	-	-	-	-	-	-	-	
	33	-	-	VORDME	-	-	-	-	-	-	-	-	-	
HEPS	10	-	-	VORDME	-	-	-	-	-	-	-	-	-	
	28	-	-	-	-	-	-	-	-	-	-	-	-	
HEOW	01	-	-	NDB	-	-	-	-	-	-	-	-	-	
	19	-	-	-	-	-	-	-	-	-	-	-	-	
HESH	04L	ILS	I	VORDME	Y	-	-	-	-	-	Y	-	Y	
	04R	-	-	VORDME	Y	-	-	-	-	-	Y	-	Y	
	22L	-	-	VORDME	Y	-	-	-	-	-	Y	-	Y	
	22R	-	-	VORDME	Y	-	-	-	-	-	Y	-	Y	
HESC	17	-	-	NDB	-	-	-	-	-	-	-	-	-	
	35	-	-	NDB	-	-	-	-	-	-	-	-	-	
HETB	04	ILS	I	VORDME	Y	-	-	-	-	-	Y	-	Y	
	22	-	-	VORDME	Y	-	-	-	-	-	Y	-	Y	
HEAL	13	-	-	VORDME	Y	-	-	-	-	-	-	-	-	
	31	-	-	VORDME	Y	-	-	-	-	-	-	-	-	
HESG	15	-	-	VORDME	-	-	-	-	-	-	-	-	-	
	33	-	-	VORDME	-	-	-	-	-	-	-	-	-	
I.R. IRAN														
OIKB	03L	-	-											
	03R	-	-	VORDME / NDB	-	-	-	-	-	Y	-	Y	-	
	21L	ILS	I	VORDME / NDB	-	-	-	-	-	Y	-	Y	-	

Int'l Aerodrome	RWY	Approach								SID		STAR		Remarks
		Precision		VOR or NDB	LNAV	LNAV / VNAV	RNP AR	LP	LPV	Conventional	RNAV	Conventional	RNAV	
		xLS	CAT											
	21R	-	-	-	-	-	-	-	-	-	-	-	-	
OIFM	08L	-	-	VORDME / NDB	-	-	-	-	-	Y	-	Y	-	
	08R	-	-	VORDME / NDB	-	-	-	-	-	Y	-	Y	-	
	26L	-	-	VORDME / NDB	-	-	-	-	-	Y	-	Y	-	
	26R	ILS	I	VORDME / NDB	-	-	-	-	-	Y	-	Y	-	
OIMM	13L	-	-	VORDME	-	-	-	-	-	Y	-	Y	-	
	13R	-	-	VORDME	-	-	-	-	-	Y	-	Y	-	
	31L	-	-	VORDME / NDB	-	-	-	-	-	Y	-	Y	-	
	31R	ILS	I	VORDME / NDB	-	-	-	-	-	Y	-	Y	-	
OISS	11L	-	-	-	-	-	-	-	-	Y	-	-	-	
	11R	-	-	-	-	-	-	-	-	Y	-	-	-	
	29L	ILS	I	VORDME / NDB	-	-	-	-	-	Y	-	Y	-	
	29R	-	-	VORDME / NDB	-	-	-	-	-	Y	-	Y	-	
OITT	12L	-	-	-	-	-	-	-	-	Y	-	Y	-	
	12R	-	-	-	-	-	-	-	-	-	-	-	-	
	30L	-	-	-	-	-	-	-	-	-	-	-	-	
	30R	ILS	I	VORDME	-	-	-	-	-	Y	-	Y	-	
OIIE	11L	ILS	I	VORDME / NDB	-	-	-	-	-	Y	-	Y	-	
	11R	-	-	VORDME / NDB	-	-	-	-	-	Y	-	Y	-	
	29L	-	-	VORDME	-	-	-	-	-	Y	-	Y	-	

Int'l Aerodrome	RWY	Approach								SID		STAR		Remarks
		Precision		VOR or NDB	LNAV	LNAV / VNAV	RNP AR	LP	LPV	Conventional	RNAV	Conventional	RNAV	
		xLS	CAT											
	29R	ILS	II	VORDME / NDB	-	-	-	-	-	Y	-	Y	-	
OIII	11L	-	-	VORDME	-	-	-	-	-	Y	-	Y	-	
	11R	-	-	VORDME	-	-	-	-	-	Y	-	Y	-	
	29L	ILS	I	VORDME	-	-	-	-	-	Y	-	Y	-	
	29R	-	-	-	-	-	-	-	-	Y	-	Y	-	
OIZH	17	-	-	-	-	-	-	-	-	Y	-	-	-	
	35	ILS	I	VORDME	-	-	-	-	-	Y	-	Y	-	
IRAQ														
ORBI	15L	ILS	I	VORDME	-	-	-	-	-	Y	-	-	-	
	15R	-	-	-	-	-	-	-	-	Y	-	-	-	
	33L	-	-	-	-	-	-	-	-	Y	-	-	-	
	33R	ILS	I	VORDME	-	-	-	-	-	Y	-	-	-	
ORMM	14	-	-	VORDME	-	-	-	-	-	-	-	-	-	
	32	ILS	I	VORDME	-	-	-	-	-	-	-	-	-	
ORER	18	ILS	II	-	-	-	-	-	-	Y	-	Y	-	
	36	ILS	I	-	-	-	-	-	-	Y	-	-	-	
ORSU	13	ILS	I	VOR	-	-	-	-	-	Y	-	Y	-	
	31	ILS	I	VOR	-	-	-	-	-	Y	-	Y	-	
ORNI	10	-	-	-	-	-	-	-	-	-	-	-	-	
	28	ILS	I	VOR	-	-	-	-	-	-	-	-	-	
ORBM	-	-	-	--	-	-	-	-	-	-	-	-	-	NO DATA
JORDAN														
OJAM	06	-	-	-	-	-	-	-	-	Y	-	Y	-	
	24	ILS	I	VORDME / NDB	-	-	-	-	-	Y	-	Y	-	

Int'l Aerodrome	RWY	Approach								SID		STAR		Remarks
		Precision		VOR or NDB	LNAV	LNAV / VNAV	RNP AR	LP	LPV	Conventional	RNAV	Conventional	RNAV	
		xLS	CAT											
OJAI	08L	ILS	I	NDB DME	-	-	-	-	-	Y	-	Y	-	
	08R	-	-	NDB DME	-	-	-	-	-	Y	-	Y	-	
	26L	ILS	II	VOR / NDB	-	-	-	-	-	Y	-	Y	-	
	26R	ILS	I	VORDME / NDB	-	-	-	-	-	Y	-	Y	-	
OJAQ	01	ILS	I	VORDME	-	-	-	-	-	Y	-	-	-	
	19	-	-	-	-	-	-	-	-	Y	-	-	-	
KUWAIT														
OKBK	15L	ILS	II	-	Y	Y	-	-	-	-	Y	-	Y	
	15R	ILS	II	VORDME	Y	Y	-	-	-	-	Y	-	Y	
	33L	ILS	II	VORDME	Y	Y	-	-	-	-	Y	-	Y	
	33R	ILS	II	-	Y	Y	-	-	-	-	Y	-	Y	
LEBANON														
OLBA	03	ILS	I	VORDME	Y	-	-	-	-	Y	-	Y	Y	
	16	ILS	I	VORDME	Y	-	-	-	-	-	-	Y	Y	
	17	ILS	I	VORDME / NDB	Y	-	-	-	-	Y	-	Y	Y	
	21	-	-	-	Y	-	-	-	-	Y	-	Y	Y	
	34	-	-	-	-	-	-	-	-	Y	-	Y	-	
	35	-	-	-	-	-	-	-	-	Y	-	Y	-	
OMAN														
OOMS	08R	ILS	I	VORDME	-	-	-	-	-	Y	-	-	-	
	26L	ILS	I	VORDME	-	-	-	-	-	Y	-	-	-	
OOSA	07	-	-	VORDME	-	-	-	-	-	Y	-	-	-	
	25	ILS	I	VORDME	-	-	-	-	-	Y	-	-	-	
QATAR														

Int'l Aerodrome	RWY	Approach								SID		STAR		Remarks
		Precision		VOR or NDB	LNAV	LNAV / VNAV	RNP AR	LP	LPV	Conventional	RNAV	Conventional	RNAV	
		xLS	CAT											
OTBD	15	ILS	I	VORDME	Y	-	-	-	-	-	-	-	-	
	33	ILS	II/III	VORDME	Y	Y	-	-	-	-	-	-	-	
OTHH	16L	ILS	I	VORDME	-	-	-	-	-	-	-	-	-	
	16R	-	-	-	-	-	-	-	-	-	-	-	-	
	34L	-	-	-	-	-	-	-	-	-	-	-	-	
	34R	ILS	I	VORDME	-	-	-	-	-	-	-	-	-	
SAUDI ARABIA														
OEDF	16L	ILS	II	VORDME	-	-	-	-	-	Y	-	-	-	
	16R	ILS	II	VORDME	-	-	-	-	-	-	-	-	-	
	34L	ILS	II	VORDME	-	-	-	-	-	-	-	-	-	
	34R	ILS	II	VORDME	-	-	-	-	-	Y	-	-	-	
OEJN	16L	ILS	I	VORDME	Y	-	-	-	-	Y	-	-	Y	
	16C	ILS	II	-	Y	-	-	-	-	Y	-	-	Y	
	16R	ILS	II	-	Y	-	-	-	-	Y	-	-	Y	
	34L	ILS	II	-	Y	-	-	-	-	Y	-	-	Y	
	34C	ILS	II	VORDME	Y	-	-	-	-	Y	-	-	Y	
	34R	ILS	I	VORDME	Y	-	-	-	-	Y	-	-	Y	
OEMA	17	ILS	I	VORDME	-	-	-	-	-	Y	-	-	-	
	18	-	-	VORDME	-	-	-	-	-	Y	-	-	-	
	35	ILS	I	VORDME	-	-	-	-	-	Y	-	-	-	
	36	ILS	I	VORDME	-	-	-	-	-	Y	-	-	-	
OERK	15L	ILS	I	VORDME	-	-	-	-	-	Y	-	-	-	
	15R	ILS	I	-	-	-	-	-	-	Y	-	-	-	
	33L	ILS	I	-	-	-	-	-	-	Y	-	-	-	
	33R	ILS	I	VORDME	-	-	-	-	-	Y	-	-	-	
SYRIA														

Int'l Aerodrome	RWY	Approach								SID		STAR		Remarks
		Precision		VOR or NDB	LNAV	LNAV / VNAV	RNP AR	LP	LPV	Conventional	RNAV	Conventional	RNAV	
		xLS	CAT											
OSAP	09	-	-	VORDME	-	-	-	-	-	Y	-	Y	-	
	27	ILS	II	VORDME / NDB	-	-	-	-	-	Y	-	Y	-	
OSLK	17	ILS	I	VORDME / NDB	-	-	-	-	-	Y	-	Y	-	
	35	-	-	-	-	-	-	-	-	-	-	-	-	
OSDI	05L	-	-	VOR	-	-	-	-	-	Y	-	Y	-	
	05R	ILS	II	VORDME / NDB	-	-	-	-	-	Y	-	Y	-	
	23L	-	-	VORDME / NDB DME	-	-	-	-	-	Y	-	Y	-	
	23R	ILS	II	VORDME	-	Y	-	-	-	Y	-	Y	-	
UNITED ARAB EMIRATES														
OMAA	13L	ILS	II	-	-	-	Y	-	-	-	Y	-	Y	
	13R	ILS	I	VOR	-	-	Y	-	-	-	Y	-	Y	
	31L	ILS	II/III	VOR	-	-	Y	-	-	-	Y	-	Y	
	31R	ILS	II	-	-	-	Y	-	-	-	Y	-	Y	
OMAD	13	-	-	VORDME	Y	-	-	-	-	Y	-	-	-	
	31	ILS	I	VORDME	Y	-	-	-	-	Y	-	-	-	
OMAL	01	ILS	I	VOR	-	-	-	-	-	-	-	-	-	
	19	-	-	VOR	-	-	-	-	-	-	-	-	-	
OMDB	12L	ILS	II/III	VOR	-	Y	-	-	-	-	Y	-	Y	
	12R	ILS	I	VOR	-	Y	-	-	-	-	Y	-	Y	
	30L	ILS	I	-	-	Y	-	-	-	-	Y	-	Y	
	30R	ILS	II/III	VOR	-	Y	-	-	-	-	Y	-	Y	
OMDW	12	ILS	II/III	-	-	Y	-	-	-	-	Y	-	Y	
	30	ILS	II/III	-	-	Y	-	-	-	-	Y	-	Y	
OMFJ	11	-	-	-	-	-	-	-	-	-	Y	-	-	

Int'l Aerodrome	RWY	Approach								SID		STAR		Remarks
		Precision		VOR or NDB	LNAV	LNAV / VNAV	RNP AR	LP	LPV	Conventional	RNAV	Conventional	RNAV	
		xLS	CAT											
	29	ILS	I	VOR	-	-	-	-	-	-	Y	-	-	
OMRK	16	-	-	VOR	-	-	-	-	-	-	-	-	-	
	34	ILS	I	VOR	-	-	-	-	-	Y	-	-	-	
OMSJ	12	ILS	I	-	-	Y	-	-	-	-	Y	-	Y	
	30	ILS	II	-	-	Y	-	-	-	-	Y	-	Y	
YEMEN														
OYAA	08	ILS	I	VORDME	-	-	-	-	-	Y	-	Y	-	
	26	-	-	VORDME	-	-	-	-	-	Y	-	Y	-	
OYHD	03	-	-	VOR	-	-	-	-	-	-	-	-	-	
	21	-	-	VOR / NDB	Y	-	-	-	-	-	-	-	Y	
OYRN	06	-	-	-	-	-	-	-	-	-	-	-	-	
	24	-	-	VORDME	-	-	-	-	-	-	-	-	-	
OYSN	18	ILS	I	VORDME	-	Y	-	-	-	Y	Y	Y	Y	
	36	-	-	VOR	-	Y	-	-	-	Y	Y	Y	Y	
OYTZ	-	-	-	-	-	-	-	-	-	-	-	-	-	NO DATA