INTERNATIONAL CIVIL AVIATION ORGANIZATION

REPORT OF THE FIRST MEETING OF THE COMMUNICATION NAVIGATION AND SURVEILLANCE SUB-GROUP

CNS SG/1

(Cairo, 03 – 05 December 2007)

The views expressed in this Report should be taken as those of the MIDANPIRG Communication Navigation and Surveillance Sub-Group and not of the Organization. This Report will, however, be submitted to the MIDANPIRG and any formal action taken will be included in the Report of the MIDANPIRG.

Approved by the Meeting

The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of ICAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontier or boundaries.

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CNS SG/1
History of the Meeting

PART I - HISTORY OF THE MEETING

1. PLACE AND DURATION

1.1 The First Meeting of the MIDANPIRG Communication Navigation and Surveillance Sub-Group (CNS SG/1) was held at ICAO Middle East Regional Office, Cairo, 03 – 05 December 2007.

2. OPENING

2.1 Mr. M. Khonji ICAO Regional Director, welcomed all the delegates to Cairo. He indicated that this Sub-Group is established as a result of the split of the CNS/MET Sub-Group into two separate groups CNS and MET. Mr. Khonji gave brief information on the Aeronautical Communication Infrastructure Seminar held in Jeddah, also he highlighted to the meeting the Global Air Navigation Plan Initiatives with regard to CNS. He brought to the attention of the meeting ICAO move towards the Performance Based SARPS and the recent amendment to ICAO ANNEX 10 that simplifies Annex 10 by replacing some 1500 system specific provisions for the AMSS with approximately 150 performance-oriented SARPS that are mainly of generic nature and not tied to a specific technology. Mr. Khonji wished the meeting every success in its deliberations.

3. ATTENDANCE

3.1 The meeting was attended by a total of twenty-nine (29) participants, which included delegates from eight (8) States. The list of participants is as at **Attachment A** to the report.

4. OFFICERS AND SECRETARIAT

4.1 The meeting elected Mr. Ali Ahmed Mohamed from Bahrain as the chairperson who chaired the meeting. Mr. Raza Gulam, Regional Officer, Communications Navigation and Surveillance (CNS) from the ICAO Middle East Cairo Office, was Secretary of the meeting assisted by Mr. Robert Witzen Technical Officer CNS Headquarters.

5. LANGUAGE

5.1 The discussions were conducted in English. Documentation was issued in English.

6. AGENDA

6.1 The following Agenda was adopted:

Agenda Item 1: Adoption of the Provisional Agenda and Election of Chairman and Vice Chairman for the Sub-Group

Agenda Item 2: Follow-up the MIDANPIRG Conclusions and Decisions relevant to CNS planning and implementation

Agenda Item 3: Review and update of AFTN CIDIN Directory and CNS part of MID ANP and FASID

Agenda Item 4: Monitoring and Follow-up CNS Deficiencies in the MID Region

Agenda Item 5: Latest Developments in CNS

Agenda Item 6: Review and update of CNS projects in the MID Region

Agenda Item 7: ADS/CPDLC activities in the MID Region

Agenda Item 8: Other CNS activities

Agenda Item 9: Future Work Programme

Agenda Item 10: Any other business

7. CONCLUSIONS AND DECISIONS – DEFINITION

7.1 The Sub-Group records its actions in the form of Draft Conclusions and Draft Decisions for further action and adoption by the MIDANPIRG as its Conclusions and Decisions with the following significance:

a) **Conclusions** deal with matters which, in accordance with the Group's terms of reference, merit directly the attention of States on which further action will be initiated by ICAO in accordance with established procedures; and

b) **Decisions** deal with matters of concern only to the MIDANPIRG and its contributory bodies.

7.2 In the same context, the Sub-Group can record its actions in the form of Conclusions and Decisions where no further action is required by the MIDANPIRG or already authorized by MIDANPIRG.

8. LIST OF DRAFT CONCLUSIONS AND DECISIONS

DRAFT CONCLUSION 1/1: FUTURE SUPPORT FOR ICAO POSITION WITH REGARD TO WRC

DRAFT CONCLUSION 1/2: IMPLEMENTATION OF THE RATIONALIZE AFTN PLAN

DRAFT CONCLUSION 1/3: MID REGION RESERVE BAND FOR AMS DATA LINKS

DRAFT CONCLUSION 1/4: NATIONAL CNS PLAN

DRAFT CONCLUSION 1/5: PROJECT MANAGEMENT METHODOLOGY

CNS SG/1
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DRAFT CONCLUSION 1/6:	IMPLEMENTATION OF AMHS
DRAFT CONCLUSION 1/7:	DEFAULT MID REGION NETWORK PROTOCOL
DRAFT CONCLUSION 1/8:	ESTABLISHMENT OF AN INTERNET PROTOCOL SUITE (IPS) WORKING GROUP
DRAFT CONCLUSION 1/9:	MID VSAT PROJECT FINALIZATION
DRAFT CONCLUSION 1/10:	MID REGION STRATEGY FOR THE IMPLEMENTATION OF ADS-B
DRAFT DECISION 1/11:	REVISED TOR AND WORK PROGRAMME OF THE CNS SUB-GROUP

PART II: REPORT ON AGENDA ITEMS

REPORT ON AGENDA ITEM 1: ADOPTION OF THE PROVISIONAL AGENDA AND ELECTION OF CHAIRPERSON/VICE CHAIRPERSON

1.1 The meeting was presented with the Provisional Agenda and was informed that the Provisional Agenda was established in support of the ICAO Strategic Objectives 2005-2010. The Provisional Agenda focuses on issues related to different technical and implementation issues that require appropriate performance monitoring and action planning.

1.2 After review the meeting adopted the Agenda as shown in paragraph 6 of the History of the Meeting.

1.3 The meeting unanimously elected Mr. Ali Ahmed Mohamed from Bahrain as Chairperson and Mr. Ahmed O. Al Omari from Saudi Arabia as Vice Chairperson for the CNS Sub-Group.

REPORT ON AGENDA ITEM 2: FOLLOW-UP ON MIDANPIRG CONCLUSIONS AND DECISIONS RELEVANT TO CNS PLANNING AND IMPLEMENTATION

2.1 Under this Agenda Item, the meeting recalled that the MIDANPIRG/10 meeting held in Doha, Qatar, 15-19 April 2007, raised concern about the large number of current MIDANPIRG Conclusions and Decisions, and was of view that the review of these Conclusions/Decisions consumed a lot of time. Accordingly, the MIDANPIRG was of view that each MIDANPIRG subsidiary body should review the Conclusions/Decisions related to its Terms of Reference (TOR) and decide whether to maintain, remove or replace the Conclusions/Decisions with more up-to-date ones.

2.2 The meeting noted that the new working methodology adopted by MIDANPIRG/10 by which follow-up actions plan is required and had become part of each meeting of MIDANPIRG and its subsidiary bodies.

2.3 Based on the above, the meeting reviewed the list of all the MIDANPIRG Conclusions/Decisions related to the CNS Sub-Group and identified those Conclusions/Decisions requiring action by the meeting, including a detailed review under the appropriate agenda items.

2.4 Concerning Conclusion 10/17 *" Survey Relative to the Improper Handling of FPLs and Associated ATS Messages"* the meeting was informed that for State letter 320 dated 21 September 2006 (Bahrain, Egypt, Kuwait, Libya, Pakistan, Saudi Arabia and UAE) had replied and for the second State letter 256 dated 19 July 2007 that had standard survey reply form (Egypt, Jordan, and, UAE) replied. The meeting noted that the number of complains were reduced by the appropriate action taken by States in correcting the procedures for the handling of flight plans. It is anticipated that the upgrade of the systems in the Region, would contribute to the reduction of this problem.

2.5 The meeting was updated by UAE that problems still exists with flight plans initiated from Iraq and Afghanistan for which Iraq acknowledged and informed that this is because of the communication problems and remedial actions plans and that installation of VSAT Stations are in progress. However, the meeting agreed that a follow-up State letter be sent by the ICAO MID Regional Office Cairo to Afghanistan.

2.6 With particular regard to Conclusion 10/14 "*Establishment of an Integrated Initial FPL Processing System (IFPS) in the MID Region* ". Bahrain updated the meeting about the status of integrated FPL Processing System (IFPS) project in the MID Region advising that the financial study is proceeding and will be presented when complete to the appropriate forum. It was also brought to the attention of the meeting that only five States provided the focal point of contacts as at **Appendix 2A** to the report on Agenda Item 2, and the meeting was of the view that the work to be continued with these focal points and requested that all States provide their focal point to be able to support the project.

2.7 The meeting was of the view that the MID States continue their support to the ICAO position for the next WRC scheduled for 2011 and agreed that States who had not yet nominated their experts in the Ad-Hoc Action Group as at **Appendix 2B** and interested to participate in the group activities are encouraged to nominate their experts and accordingly, decided to replace MIDANPIRG 10/67 with the following updated Draft Conclusion:

DRAFT CONCLUSION 1/1: FUTURE SUPPORT FOR ICAO POSITION WITH REGARD TO WRC

That,

a) MID States are to participate in the Ad-Hoc Action Group for the support of Aeronautical Frequency Bands and to nominate their experts;

b) the Ad-Hoc Action Group for the support of Aeronautical Frequency Bands is to follow-up the developments related to ICAO position regarding future ITU World Radiocommunication Conferences in order to highlight areas of interest to the MID States; and

c) MID States Civil Aviation Authorities, experts participate with their appropriate ministerial delegations in the drafting of the national radio plans in the support of ICAO position.

2.8 The meeting was appraised that WRC 07 agreed with most of the element of the ICAO position, mainly the allocation of frequency band for the future communication system and the protection of MLS band. This was achieved with the support of different Regional Telecom. Organization who were educated on the ICAO position through the civil aviation representative.

2.9 The meeting noted the follow-up actions taken by the Secretariat and States on current MIDANPIRG Conclusions and Decisions relevant to the CNS field attached at **Appendix 2C** to the report on Agenda Item 2.

CNS SG/1

Appendix 2A to the Report on Agenda Item 2

IFPS FOCAL POINTS

No	Name	Full Address	Email Address	Office Number	Mobile Number	Fax Number	Role
1	Mr. Fathi Ebrahim Al Thawadi	Ministry of Transportation Civil Aviation Affair P.O.Box 586 BAHRAIN	fathi@caa.gov.bh	(973) 17 329 153	(973) 396 766 14	(973) 17 321 992	
2	Mr. Mohsen Lotfy Elagaty	National Air Navigation Services Company (NANSC) Cairo Air Navigation Center (CANC) Cairo Airport Road - EGYPT	mohselelagaty@yahoo.com	(202) 2265 0743	(2010) 623 922	(202) 2267 1056	
3	Mr. Ramezanali Ziaee Gravi	Iranian Airport Company AIS Mehrabad Int'l Airport P.O.Box 11798 13445 Tehran -IRAN	ais_iran@airport.ir	(9821) 6602 5108	(9819) 127090876	(9821) 4464 9269	
4	Mr. Khodakarami Mohammad	Iranian Airport Company AIS Mehrabad Int'l Airport P.O.Box 11798 13445 Tehran -IRAN	MKHD4444@yahoo.com	(9821) 6603 6241	(9819) 123908196	(9821) 6603 6241	
5	Mr. Al Jammoul	Rafic Hariri Beirut Int'l Airport Beirut 3rd Floor - LEBANON	ais@beirutairport.gov.lb	(961-1) 629 067	(961-70) 913 440	(961-1) 629 023	
6	Mr. Nizar Al Khatib	Syrian Civil Aviation Authority 1, Al Najmeh Square P.O.Box 6257 - Damascus Syrian Arab Republic	dgca@net.sy	(963-11) 223 2201	(963-932) 30 1919	(963-11) 331 5547	
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Appendix 2B to the Report on Agenda Item 2

AD-HOC FOCAL POINTS

No	Name	Full Address	Email Address	Office Number	Mobile Number	Fax Number	Role
1	Mr. Mohamed Ali Saleh	Ministry of Transportation Civil Aviation Affair P.O.Box 586 BAHRAIN	masaleh@caa.gov.bh	(973) 17 321 187	(973) 3962 2202	(973) 17 321 992	
2	Eng. Galal Mohamed Ibrahim	National Air Navigation Services Company (NANSC) Cairo Air Navigation Center (CANC) Cairo Airport Road Cairo - EGYPT	galalibrahim@nansceg.org	(202) 267 8539	(2012) 717 3348	(202) 26685279	
3	Mr. Abdul Salam A. Al-shaikh	General Authority of Civil Aviation P.O.Box 15441 Jeddah 21444 SAUDI ARABIA	aaalshaikh@engineer.com	(966-2) 6717717	(966-50) 450 3558	(966-2) 671 9041	
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CNS SG/1
Appendix 2C to the Report on Agenda Item 2

FOLLOW-UP TO MIDANPIRG/10 CONCLUSION/DECISIONS - ACTION PLAN

CONC/DEC NO. --- STRATEGIC OBJECTIVE	TITLE OF CONCLUSION/ DECISION	TEXT OF CONCLUSION/DECISION	FOLLOW-UP ACTION	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
Conc 10/7 D	MID Basic ANP and FASID (Doc 9708)	That, with a view to have the final version of the MID BASIC ANP and FASID (Doc 9708) published prior to 31 December 2007: a) the ICAO MID Regional Office, on behalf of MIDANPIRG, initiate all necessary Amendment Proposals to the MID Basic ANP and FASID, prior to 31 May 2007, in order to update the AIS, AOP, ATM, CNS and MET regional requirements and reflect the changes made to the FASID Tables; and b) ICAO allocate sufficient resources and higher priority for the publication of Doc 9708 in English and Arabic versions, incorporating all approved Amendments.	Process Amendments Proposals to the MID Basic ANP and FASID Finalize and publish the approved version of Doc 9708	ICAO	- Amendment Proposal issued - Amendment Proposal approved and incorporated in the final version of Doc 9708	Jun. 2007 Dec. 2007	Amendment proposal sent
Conc 10/13 A, C, D, E	MID Region Strategy for the Implementation of the Global Plan Initiatives (GPIs)	That, the MID Region Strategy for the implementation of the Global Plan Initiatives (GPIs) is adopted as at **Appendix 5.1C** to the Report on Agenda Item 5.1.	Implementation of Strategy	ICAO; States; MIDANPIRG Subsidiary bodies	- Feedback from States National Plans Status of implementa-tion of GPIs	Sept 2008	On going

CONC/DEC NO. --- STRATEGIC OBJECTIVE	TITLE OF CONCLUSION/ DECISION	TEXT OF CONCLUSION/DECISION	FOLLOW-UP ACTION	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
Conc 10/14 A, C, D, E	Implementation of Work Programme in support of Strategic Performance Objectives	That, in support of the evolution from a systems-based approach to a performance-based approach to planning and implementation of air navigation, the following projects are to be reflected in the MID Region implementation plan: a) improvement of the MID ATS route structure (FUA, dynamic and flexible ATS route management, improved Civil/Military coordination, etc); b) enhancement of MID States' TMA management; c) MID RMA operations continuity; d) support of the introduction and implementation of SMS in the MID States; e) development of MID States' contingency plans; f) improvement of the quality and efficiency of aeronautical information services provided by MID States; g) provision of eTOD by MID States; h) establishment of Initial FPL Processing System (IFPS) in the MID Region; i) implementation of ATN in the MID Region; j) improvement of communication infrastructure;	Follow up progress on each project	ICAO States MIDANPIRG Subsidiary bodies	- Feed back on each project	Sept 2008	On going

CONC/DEC NO. --- STRATEGIC OBJECTIVE	TITLE OF CONCLUSION/ DECISION	TEXT OF CONCLUSION/DECISION	FOLLOW-UP ACTION	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
		k) implementation of GNSS; l) implementation of Certification of aerodromes and SMS at aerodromes in the MID Region; m) preparedness to accommodate NLAs at some existing/new aerodromes in the MID Region; n) support the establishment and implementation of Runway surface pavement maintenance programme in the MID Region; o) enhancement of Runway incursion prevention programme; and p) enhancement of surface movement guidance and control systems (SMGCS) at MID Aerodromes.					
Conc 10/15 A/D/E	MID Region Strategy for the Implementation of ADS-B	That, a) MID States, in collaboration with the airspace users, are encouraged to develop and implement ADS-B trials programme, when cost-benefit models warrant it; and b) the Strategy at **Appendix 5.1D** to the Report on Agenda Item 5.1 is endorsed as the MID Region Strategy for the implementation of ADS-B.	Implementation of Strategy Follow-up of ADS-B trials activity	Users Service providers; ICAO CNS SG/2 CNS/ATM/IC SG	- Feedback from States on ADS-B trials - Report of the CNS/ATM/IC SG/4 meeting - Report CNS SG/2	Sept 2008 Sept 2008 Nov. 2008	On going

CONC/DEC NO. --- STRATEGIC OBJECTIVE	TITLE OF CONCLUSION/ DECISION	TEXT OF CONCLUSION/DECISION	FOLLOW-UP ACTION	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
Conc 10/16 A/D/E	FANS 1/A Activities in the MID Region	That, MID States, in coordination with users, are encouraged to implement FANS 1/A (ADS-C/CPDLC) as an interim solution, until a fully ATN compliant ADS/CPDLC system is made available.	Follow-up trials, demonstrations and implementation activities	States Users Data link service providers	- FANS 1/A Trials and Feed Back from States on FANS 1/A activities	Sept 2008	On going
Conc 10/17 D	Survey Relative to the Improper Handling of FPLs and Associated ATS Messages	That, a) the methodology for the identification of causes of improper handling of FPLs and associated ATS messages at **Appendix 5.1E** to the Report on Agenda Item 5.1 is endorsed; and b) MID States are to carry out a survey relative to the improper handling of FPLs and associated ATS messages based on this methodology for a period of at least one month.	Carryout survey and analyze results	ICAO States CNS/SG/1 CNS/ATM/IC ATM/SAR/AIS	- State Letter - Survey Replied - Analysis of Result	Jun. 2007 Sept. 2007 Dec. 2007	Completed
Conc 10/18 D	Establishment of an Integrated Initial FPL Processing System (IFPS) in the MID Region	That, a) MID States designate their IFPS focal points and send their contact details to the ICAO MID Regional Office prior to 31 May 2007; b) the IFPS focal points participate in the finalization of the feasibility study for the implementation of an IFPS in the MID Region, to be finalized by Bahrain; and	Designate focal points Follow up the progress on the finalization of the Study Coordination with EUROCONTROL	States ICAO Bahrain CNS SG/1 CNS/ATM/IC SG	- State Letter - Updated list of focal points - Regulatory framework definition - Study finalized	Jun. 2007 Sept 2007 Sept 2008 TBD	State letter sent List available Ongoing

CONC/DEC NO. --- STRATEGIC OBJECTIVE	TITLE OF CONCLUSION/ DECISION	TEXT OF CONCLUSION/DECISION	FOLLOW-UP ACTION	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
		c) coordination be carried out with EUROCONTROL with a view to benefit from their experience and expertise in the implementation of an IFPS, including the development of a regulatory framework.					
Conc 10/63	Organization of Communication Infrastructure Seminar	That, MID States: a) support ICAO MID Regional Office in organizing Communication Infra-structure Seminar/Workshop during year 2007 by hosting this event; and b) participate in the Seminar/Workshop by sending their appropriate experts.	Seminar Agenda Hosting State defined Participate in event	ICAO ICAO/States States	- Final Agenda - Participants list - Seminar recommenda-tion	Aug. 2007 Sept. 2007 Nov. 2007	Complete
Conc 10/64	Implementation of IPS Based ATN	That, MID States: a) consider the developments towards an IPS based ATN internet and to take these into account when considering developing plans for upgrading the aeronautical communications infrastructure; and b) update the ICAO MID Regional Office with their ATN and AMHS Plans.	Follow up development at ACP States Plans prepared States AMHS addressing	ICAO States	- IPS based ATN documentatio n - States updated Plans - Updated AMHS register	Sept 2007 Sept 2007 Sept 2007	

CONC/DEC NO. --- STRATEGIC OBJECTIVE	TITLE OF CONCLUSION/ DECISION	TEXT OF CONCLUSION/DECISION	FOLLOW-UP ACTION	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
Conc 10/65	Terms of Reference of the Ad-Hoc Action Group	That, the Terms of Reference and Work Programme of the Ad-Hoc Action Group is adopted as, at **Appendix 5.5A** to the Report on Agenda Item 5.5.	Follow-up work programme	States Ad-Hoc Action Group	- Updated list of experts - Group Report	Jun. 2007 Sept 2007	State letter sent list available
Conc 10/66	Support ICAO Position for WRC 07	That, MID States: a) support ICAO position during the ITU WRC 07; and b) Civil Aviation Authorities, aviation experts participate with their national delegations to the ITU, WRC 07.	States delegate expert Support to experts	States ICAO HQ	- Sufficient CA experts - Coordination during WRC	Oct. 2007	Complete
Conc 10/67	Future Support for ICAO Position with Regard to WRC	That, a) the Ad-Hoc Action Group for the support of Aeronautical Frequency Bands; is to follow-up the developments related to ICAO position regarding future ITU in order to highlight it to the MID States; and b) MID States Civil Aviation Authorities, experts participate with their appropriate ministerial delegations in the drafting of the national radio plans in the support of ICAO position.	Follow up developments	Ad-hoc Action Group CNS SG/2	- Ad-Hoc Action Group reports	Nov. 2008	On going
Conc 10/68	MID VSAT Project Finalization	That, in order to expedite the implementation of the MID VSAT Project, concerned MID States commit themselves to the project, by signing the Memorandum of Understanding (MOU) leading to form a	MOU ready	ICAO HQ States CNS SG/2	- Draft MOU - CNS SG/2 Report	Sept 2007 Nov. 2008	MOU ready Ongoing

CONC/DEC NO. --- STRATEGIC OBJECTIVE	TITLE OF CONCLUSION/ DECISION	TEXT OF CONCLUSION/DECISION	FOLLOW-UP ACTION	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
		structure for managing the MID VSAT Project.					
Dec 10/69 D	Dissolving the CNS/MET Sub-Group and establishment of a CNS Sub-Group and a MET Sub-Group	That, a) the CNS/MET Sub-Group is dissolved; and b) a separate CNS Sub-Group and a separate MET Sub-Group are established.	Conduct CNS SG/1 and MET SG/1 meetings and follow up work programmes	ICAO States	- CNS SG/1 Report - MET SG/1 Report	Sept 2007 July 2008	Complete
Dec 10/70 D	Dissolution of the AFS/ATN Task Force	That, the AFS/ATN Task Force is dissolved and its work programme is to be incorporated in to that of CNS Sub-Group.	TF dissolved Work programme carry out	CNS SG/1	- CNS SG/1 Report	Sept. 2007	Complete
Conc. 10/76 D	Enhancement of MID Region's Air Navigation Deficiency Database	That, ICAO MID Regional Office provide searching feature for the MID Air Navigation Deficiency database on the website.	Implement the conclusion	ICAO MID Office	- Searching feature for MID AN Def. Database is provided	TBD	On going

CONC/DEC NO. --- STRATEGIC OBJECTIVE	TITLE OF CONCLUSION/ DECISION	TEXT OF CONCLUSION/DECISION	FOLLOW-UP ACTION	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
Conc. 10/77 A	Elimination of Air Navigation Deficiencies in the MID Region	That, a) MID States review their respective lists of identified deficiencies, define their root causes and forward an action plan for rectification of outstanding deficiencies to the ICAO MID Regional Office; b) MID States increase their efforts to overcome the delay in mitigating air navigation deficiencies identified by MIDANPIRG and explore ways and means to eliminate deficiencies; c) MID States experiencing difficulties in financing the elimination of safety-related deficiencies may wish to take advantage of the funding opportunity offered by the International Financial Facility for Aviation Safety (IFFAS); d) users of air navigation facilities and services in the MID Region report to the ICAO MID Regional Office when the remedial action on a deficiency has been taken, and	Follow-up implementation of the conclusion	States ICAO Users IFFAS	- Concerned States eliminate their air navigation deficiencies	Nov. 2008	Ongoing

CONC/DEC NO. --- STRATEGIC OBJECTIVE	TITLE OF CONCLUSION/ DECISION	TEXT OF CONCLUSION/DECISION	FOLLOW-UP ACTION	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
		e) ICAO continues to provide assistance to States for the purpose of rectifying deficiencies; and when required, States request ICAO assistance through Technical Co-operation Programme and/or Special Implementation Projects (SIP).					
Dec 10/84 A, D	Change of Air Navigation Safety Working Group to Air Navigation Safety Sub-Group	That, a) the Air Navigation Safety Working Group (ANS WG) is changed to Air Navigation Safety Sub-Group (ANS SG); and b) the Terms of Reference and Work Programme of the ANS Sub-Group are updated accordingly.	Update of MIDANPIRG Procedures Handbook & TOR	ICAO	- Changing Group name and approval of TOR	Apr. 2007	Complete

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REPORT ON AGENDA ITEM 3: REVIEW AND UPDATE OF AFTN/CIDIN DIRECTORY AND CNS PART OF MID ANP AND FASID

3.1 Under this Agenda Item, the meeting reviewed the AFTN/CIDIN Directory and participants were reminded that the directory needs to be kept updated on regular basis. Bahrain, Egypt, Iraq, Saudi Arabia and Syria provided updates for inclusion in the directory during the meeting.

3.2 The meeting was informed that Eurocontrol – CFMU is going to replace its current AFTN location indicators (EBBD and LFPY) by new ones (EUCH and EUCB respectively).

3.3 Particular attention was brought to MID COM centers which have in its routing table an entry for each country code belonging to the E region. These COM centres should either add another entry with two characters ("EU") or two entries with four characters each ("EUCH, "EUCB"). In any case, the new entries should be routed to the gateway centre in that region towards the E region.

3.4 The meeting received information from Saudi Arabia on the establishment of a bilateral circuit between Jeddah and Nicosia and noted that it is functioning satisfactorily, in this context the meeting noted that many other bilateral circuits exist which are also not part of the rationalized plan, however these circuits are required operationally until the rationalized plan is implemented.

3.5 The meeting noted with concern the delay in the implementation of rationalized plan and consequently agreed to the following Draft Conclusion:

DRAFT CONCLUSION 1/2: IMPLEMENTATION OF THE RATIONALIZE AFTN PLAN

That MID States,

a) are urged to complete the implementation of MID Rationalized AFTN Plan; and

b) having difficulties in completing the implementation, to report to the ICAO MID Regional Office.

3.6 The meeting agreed to revise the rationalized AFTN Plan, taking into considerations the Region progress towards the implementation of the ATN and the improvements in most of the MID region centers.

3.7 The meeting was informed that many communication difficulties with the AFI Region exists and will be overcome through the implementation of the NAFISAT and was further updated by the participating States, that VSAT equipment are already received and installation is in progress.

3.8 Bahrain updated the meeting of their intention to install a VSAT link with Afghanistan as this is the only available solution for the implementation of a communication link between these two States. The meeting was reminded of the benefits of integration of the VSAT networks.

3.9 The meeting reiterated the benefits of using high speed digital circuits links that will facilitate the transition to ATN and agreed that MID States are encouraged to continue using high speed circuits between MID States centers using the state of art digital technology.

3.10 The meeting noted that the process of updating the AFTN/CIDIN directory during the CNS SG meetings is not very practical and hence agreed that future updates be forwarded to ICAO MID Regional Office within one week of the change. This procedure will save the meeting valuable time necessary for concentration on the planning the implementation aspects.

3.11 The updated AFTN/CIDIN directory along with the latest revised information is at **Appendix 3A** to the report on Agenda Item 3.

Updating of CNS Tables of MID ANP and FASID

3.12 Under this Agenda Item the meeting was invited to note that MID Basic Air Navigation Plan (ANP) is a planning document and need not necessarily reflect the existing facilities and services. The facilities and services shown in the document represent those, which will be needed for a reasonable planning of approximately 5 years. Therefore these documents are not to be used for operational purposes.

3.13 The attention of the meeting was drawn to the procedure for the amendment of the Basic ANP as approved by the Council on 25 February 1998, and that for the amendment of the FASID, as approved by the Council on 26 February 1997, that form part of the Introduction of MID Basic ANP (Doc. 9708, Volume I).

3.14 The meeting was presented with the last amended Draft MID FASID IV - CNS tables on 24 September 2007 as contained at **Appendix 3B** to the report on Agenda Item 3.

3.15 The meeting noted that there are many upgrades and installation of new CNS systems and was reminded of the operational requirements that need to be fulfilled through the implementation of these systems. The meeting was of the view that significant projects related to CNS are to be reflected in the MID ANP/FASID. Accordingly, the meeting agreed that MID States provide information on their development Plans in the area of CNS for the next 5 years for up-dating MID ANP/FASID (Doc 9708).

3.16 The meeting agreed that all ATN related planning material is to be incorporated in the *ANP/FASID* and urged States to provide their relevant information in order to complete the plan and to update the MID ATN documents. The meeting agreed that this task to be carried out by the establishment of an IPS Working Group as reflected in Agenda item 5, and proposal for the amendment of MID ANP FASID CNS be prepared by MID Regional Office when sufficient information are made available.

3.17 The meeting agreed to reserve VHF frequency band 136 – 137 MHz as regional strategy for AMS for data link communication in view of the fact that it is within the aim of MID Region to implement air/ground data links; consequently, the meeting agreed to the following Draft Conclusion:

DRAFT CONCLUSION 1/3: MID REGION RESERVE BAND FOR AMS DATA LINKS

That, in view of the MID Region progress on the implementation of air-ground data links, VHF frequency band 136 MHz to 137 MHz is to be reserved for AMS data link communication usage only.

INTERNATIONAL CIVIL AVIATION ORGANIZATION
MIDDLE EAST OFFICE

Routing Directory for AFTN and CIDIN Centres in the MID Region

Version 0.2 -October 2006

Table of COM Centres

(listed in alphabetical order by COM Centre location indicator)

Location Indicator	Located	State	Table name
HECA	Cairo	Egypt	HECA
OAKB	Kabul	Afganistan	OAKB
OBBI	Bahrain	Bahrain	OBBI
OEJD	Jeddah	Saudi Arabia	OEJD
OIII	Tehran	Iran	OIII
OJAM	Amman	Jordan	OJAM
OKBK	Kuwait	Kuwait	OKBK
OLBA	Beirut	Lebanon	OLBA
OMAE	Abu Dhabi	U.A.E.	OMAE
OOMS	Muscat	Oman	OOMS
OPKC	Karachi	Pakistan	OPKC
ORBI	Bagdad	Iraq	ORBI
OSDI	Damascus	Syria	OSDI
OTBD	Doha	Qatar	OTBD
OYSN	Sanaa	Yemen	OYSN

(listed in alphabetical order by State name)

State	Location Indicator	Located	Table name
Afganistan	OAKB	Kabul	OAKB
Bahrain	OBBI	Bahrain	OBBI
Egypt	HECA	Cairo	HECA
Iran	OIII	Tehran	OIII
Iraq	ORBI	Bagdad	ORBI
Jordan	OJAM	Amman	OJAM
Kuwait	OKBK	Kuwait	OKBK
Lebanon	OLBA	Beirut	OLBA
Oman	OOMS	Muscat	OOMS
Pakistan	OPKC	Karachi	OPKC
Qatar	OTBD	Doha	OTBD
Saudi Arabia	OEJD	Jeddah	OEJD
Syria	OSDI	Damascus	OSDI
U.A.E.	OMAE	Abu Dhabi	OMAE
Yemen	OYSN	Sanaa	OYSN

1. Explanation of the Tables

(Remark: All tables show examples and do not reflect the real situation)

1.1. Information (COM Centre Characteristic Table)

The COM Centre Characteristic Table gives an overview about operational, technical and administrative information of the COM Centre itself.

1.2. AFTN Routing table

Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	WS	OO		
B	LCNCA	(OE)		
C	LCNCA	(OE)		
D*	OE	OO		
DT	HE	(LCNCA)	HECAA	LCNCA

Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.
OA	WS	OO		
OB	N	N		
OE*	OE	OO		
OED	OED	(OE)		
OI	OI	OM		

Desti-nation First letters of an AFTN address (8 letter address) relevant for the Routeing
D* All destination addresses starting with D except those indicated directly below (DT)
DT Destination addresses starting with DT

Actual Main Actual main outgoing AFTN circuit or CIDIN Ax for this Destination address used actual in the AFTN/CIDIN Centre
WS Represents the outgoing AFTN circuit
LCNCA Defined Exit address (Ax) for the Destination address (Ad) starting with these letters
N Represents the national Routing responsibility

Actual Altn. Alternate outgoing AFTN circuit or CIDIN Ax for this Destination address used if the Main is not available.
(OE) Represents the outgoing AFTN circuit as Alternate
(LCNCA) Defined the Exit address (Ax) as alternate for the Destination address (Ad)
N Represents the national Routing responsibility

(Terms in brackets: For the use of the Exit Address or the AFTN circuit as alternate, co-ordination is required).

Planned Main Planned to replace the Actual Main in the future on a defined date
Planned Altn. Planned to replace the Actual Alternate in the future on a defined date

1.3. CIDIN Routing Table

CIDIN Exit Address	Actual Main VCG	Actual Altn. VCG	Planned Main VCG	Planned Altn. VCG
HECA_	OLBA	LCNC	HECA	OLBA
LCNC_	LCNC	OLBA		

CIDIN Exit Address	Actual Main VCG	Actual Altn. VCG	Planned Main VCG	Planned Altn. VCG

CIDIN Exit Address First four letters of the Exit addresses (Ax) relevant for the selection of connection to be used.

Actual Main VCG Shows the first outgoing direction (main connection path to an adjacent COM Centre) used at first or reaching the Exit centre (Ax). This path is represented by a Virtual Circuit Group (VCG), see 5.4.
Actual Altn. VCG Shows the alternate outgoing direction (main connection path to an other adjacent COM Centre) used in case of unavailability of the main VCG for reaching the Exit centre (Ax). This path is represented by a Virtual Circuit Group (VCG), see 5.4.

(Terms in brackets: For the use of the Actual Alternate VCG, co-ordination is required.)

Planned Main VCG Planned to replace the Actual Main VCG in the future on a defined date.
Planned Altn. VCG Planned to replace the Actual Alternate VCG in the future on a defined date.

1.4. Virtual Circuit Groups (VCG)

Actual VCG	Actual Prim.VC	Actual Secondary VC's		
LCNC	LCNC1			
OLBA	OLBA			

Planned VCG	Planned Prim.VC	Planned Secondary VC's		
HECA	HECA1			
		OLBA		

Actual VCG A Virtual Circuit Group consists of a number of Virtual Circuits (VC) that connect two, and only two CIDIN Centres. A Primary-type VC is always present and a Secondary-type VC is optional. Within this group, the selection of the VC is local matter. VC groups form redundant connections between adjacent CIDIN Centres.

Actual Primary VC Primary Virtual Circuit, established actual either as a PVC (Permanent Virtual Circuit) or SVC (Switched Virtual Circuit). In case of SVC no Secondary Virtual Circuits are recommended.

Actual Secondary VC's Actual Secondary VC's: Secondary Virtual Circuits, established actual either as a set of PVC (Permanent Virtual Circuit) and/or a SVC (Switched Virtual Circuit). There is no maximum limit to the number of PVC's forming a VCG.

Planned Primary VC The planned Primary Virtual Circuit will replace the Actual Primary VC in the future on a planned date.

Planned Secondary VC's The planned Secondary Virtual Circuits will replace the Actual Alternate VC (see below).

1.5. Circuit Characteristics

Situation recorded in Nov 1998		
Link to	Protocol	Capacity (bps)
HECA	AFTN	2 x 2.4k
OLBA	CIDIN	1 x 9.6k
OKBK	AFTN	1 x 300
OOMS	AFTN	1 x 50
VTBB	AFTN	1 x 2.4k

Planned		
Protocol	Capacity(bps)	"O" date
CIDIN	1 x 9.6k	TBD

Link to Connection to the COM Centre represented by the location indicator.

Protocol Protocol used actual on this link (conventional AFTN, AFTN over X.25, CIDIN via PVC or CIDIN via SVC).

Capacity (bps) Actual capacity available (bit per seconds). An asterisk (*) indicates a network connection.

Planned Protocol Protocol planned to be used on the upgraded/new link.

Capacity (bps) Planned capacity of the link (bit per seconds).

"O" date Planned operational date of the upgraded/new link.

OAKB - Kabul - Afghanistan

Information

Operator:	
Phone:	
- -	
Fax:	
Telex:	
Email:	
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Technical operator:	
Phone:	
- -	
Fax:	
Telex:	
Email:	
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Supervisor:	
Name:	
Phone:	
Fax:	
Telex:	
Email:	
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Technical supervisor:	
Name:	
Phone:	
Fax:	
Telex:	
Email:	
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Management:	
Name:	
Phone:	
Fax:	
Telex:	
Email:	
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Postal Address:

CIDIN Entry/Exit Addresses:	
AFTN Ae/Ax:	
AFTN OPM/NM:	
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN		
CIDIN/OPMET		
AIS		
MOTNE		
OPMET		
SITA		

OAKB - Kabul - Afghanistan

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	VI	OI		
B	OI	VI		
C	OI	VI		
D	OI	VI		
E	OI	VI		
F	OI	VI		
G	OI	VI		
H*	OI	VI		
HA				
HC	OI	VI		
HD	OI	VI		
HE	OI	VI		
HH				
HL	OI	VI		
HS	OI	VI		
K	OI	VI		
L*	OI	VI		
LB	OI	VI		
LL				
LT	OI	VI		
M	OI	VI		
N	VI	OI		

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
OA	N	N		
OB	OI	VI		
OE	OI	VI		
OI	OI	VI		
OJ	OI	VI		
OK	OI	VI		
OL	OI	VI		
OM	OI	VI		
OO	OI	VI		
OP	OP	OI		
OR	OI	VI		
OS	OI	VI		
OT	OI	VI		
OY	OI	VI		
P	VI	OI		
R	VI	OI		
S	OI	VI		
T	OI	VI		
U	VT	VI		
V*	VI	OI		
VA	VI	OI		
VE	VI	OI		
VI	VI	OI		
VN	VI	OI		
VO	VI	OI		
W	VI	OI		
Y	VI	OI		
Z	VI	OI		

OAKB - Kabul - Afghanistan

Circuit Characteristics

Situation recorded in March 2001			Planned		
Link	Protocol	Capacity (bps)	Protocol	Capacity (bps)	"O" date

OBBI - Bahrain - Bahrain

Information

Operator:	
Phone:	+973 17321185
- -	+973 17321184
Fax:	+973 17321905
Telex:	+490 9186 AIRCIV BN
Email:	caacomms@bahrain.gov.bh
AFTN:	OBBIYFYX
CIDIN/AFTN:	OBBIM
CIDIN/OPMET:	---
SITA:	BAHAPYF

Technical operator:	
Phone:	+973 17883620
- -	+973 17883621
Fax:	+973 17883461
Telex:	+490 8000
Email:	ns611t@btc.com.bh
AFTN:	OBBIZZZZ
CIDIN/AFTN:	OBBIM
CIDIN/OPMET:	---
SITA:	---

Supervisor:	
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Email:	masaleh@bahrain.gov.bh
AFTN:	OBBIYTYX
CIDIN/AFTN:	OBBIM
CIDIN/OPMET:	---
SITA:	BAHAPYF

Technical supervisor:	
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Email:	ns61@btc.com.bh
AFTN:	OBBIZZZZ
CIDIN/AFTN:	OBBIM
CIDIN/OPMET:	---
SITA:	---

Management:	
Name:	ALI AHMED MOHAMED
Phone:	+973 17321187
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Telex:	9186 AIRCIV BN
Email:	aliahmed@bahrain.gov.bh
AFTN:	OBBIYTYX
CIDIN/AFTN:	OBBIM
CIDIN/OPMET:	--
SITA:	BAHAPYF

Postal Address:
CIVIL AVIATION AFFAIRS
AIR NAVIGATION DIRECTORATE
P.O.BOX: 586
MUHARRAQ
BAHRAIN

CIDIN Entry/Exit Addresses:	
AFTN Ae/Ax:	OBBIA
AFTN OPM/NM:	OBBIM
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN	Yes	
CIDIN/OPMET		
AIS		
MOTNE		
OPMET		
SITA	Yes	

OBBI - Bahrain - Bahrain

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	WS	OO		
B	LCNCA	OE	LCNCA	OLBAA
C	LCNCA	OE	LCNCA	OLBAA
D	OE	OO		
E	LCNCA	OE	LCNCA	OLBAA
F	OE	OO		
G	OE	OO		
H*	OE	OO		
HA	OE	00		
HC	OE	OO		
HD	OE	OO		
HE	OE	OO		
HH	OE	OO		
HL	OE	OO		
HS	OE	OO		
K	LCNCA	OE	LCNCA	OLBAA
L*	LCNCA	OE	LCNCA	OLBAA
LB	LT	LCNCA		
LL				
LT	LT	LCNCA		
M	LCNCA	OE	LCNCA	OLBAA
N	WS	OO		

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
OA	OKBK	OO		
OB	N	N		
OE*	OE	OO		
OED	OED	OE		
OI	OI	OMAEA		
OJ	OE	OLBAA		
OK	OK	OLBAA		
OL	OLBAA	OK		
OM	OMAEA	OO		
OO	OO	OE		
OP	OK	OE		
OR	OLBAA			
OS	OLBAA	OK		
OT	OT	OK		
OY	OE	OO		
P	LCNCA	OE	LCNCA	OLBAA
R	WS	OO		
S	LCNCA	OLBAA	LCNCA	OLBAA
T	LCNCA	OLBAA	LCNCA	OLBAA
U	LC	OE		
V*	WS	OO		
VA	OO	OE		
VE	OO	OE		
VI	OO	OE		
VN	OO	OE		
VO	OO	OE		
W	WS	OO		
Y	WS	OO		
Z	OO	OE		

OBBI - Bahrain - Bahrain

CIDIN Routing Table

CIDIN Exit Address	Actual Main VCG	Actual Altn. VCG	Planned Main VCG	Planned Altn. VCG
HECA	OLLL	LCNC		
LCNC	LCNC	OLLL		
OBBI	LCNC	OLBA		
OLBA	OLLL	LCNC		
OMAE	OMAE			
OEJN	OEJN	LCNC		

CIDIN Exit Address	Actual Main VCG	Actual Altn. VCG	Planned Main VCG	Planned Altn. VCG

CIDIN Virtual Circuit Group

Actual VCG	Actual Prim.VC	Actual Secondary VC's		
LCNC	LCNC1			
OLLL	OLLL1			
OMAE	OMAE1			

Planned VCG	Planned Prim.VC	Planned Secondary VC's		

OBBI - Bahrain - Bahrain

Circuit Characteristics

Situation recorded in October 2006			Planned		
Link	**Protocol**	**Capacity (bps)**	**Protocol**	**Capacity (bps)**	**"O" date**
LCNC	CIDIN	1 x 9.6K			
LTAA	AFTN	1 x 50			
OEDF	AFTN	1 x 50	AFTN	1 x 9.6K	IV/2005
OEJD	CIDIN	1 x 64K			
OIII	AFTN	1 x 300			
OKBK	AFTN	1 x 9.6K			
OLBA	CIDIN	1 x 9.6K			
OMAE	CIDIN	1 x 9.6K			
OOMS	AFTN	1 x 9.6K	AFTN		
OTBD	AFTN	1 x 9.6K			
WSSS	AFTN	1 x 9.6K	AFTN		

HECA - Cairo - Egypt

Information

Operator:	
Phone:	202 6375639
- -	202 2654006
Fax:	202 2678546
Telex:	202 92443 UN
Email:	
AFTN:	HECAYFYX
CIDIN/AFTN:	HECAM
CIDIN/OPMET:	
SITA:	CAIXYYF

Technical operator:	
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- -	202 2657923
Fax:	
Telex:	
Email:	
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Supervisor:	
Name:	
Phone:	202 2678999
Fax:	202 2678546
Telex:	202 92443 UN
Email:	
AFTN:	HECAYFYS
CIDIN/AFTN:	HECAM
CIDIN/OPMET:	
SITA:	CAIXYYF

Technical supervisor:	
Name:	Mohamoud Ramadan
Phone:	202 2675649
Fax:	202 2685294
Telex:	202 92443 UN
Email:	
AFTN:	HECAYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Management:	
Name:	Magdy Abdel Messih Wahba
Phone:	202 2678999
Fax:	202 2680629
Telex:	202 92443 UN
Email:	xramadan@hotmail.com
AFTN:	HECAYTYX
CIDIN/AFTN:	HECAM
CIDIN/OPMET:	
SITA:	CAIXYYT

Postal Address:
National Air Navigation Services
Company
Cairo Air Navigation Centre
Cairo Airport Road
Cairo, Egypt

CIDIN Entry/Exit Addresses:	
AFTN Ae/Ax:	HECAA
AFTN OPM/NM:	HECAM
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN	Yes	
CIDIN/OPMET		
AIS		
MOTNE		
OPMET		
SITA	Yes	

HECA - Cairo - Egypt

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OEJNA	LGGGA		
B	LGGGA	OLBAA		
C	LGGGA	OLBAA		
D	DT	LGGGA		
EB	LGGGA	OLBAA		
ED	LGGGA	OLBAA		
EE	LGGGA	OLBAA		
EF	LGGGA	OLBAA		
EG	LGGGA	OLBAA		
EH	LGGGA	OLBAA		
EI	LGGGA	OLBAA		
EK	LGGGA	OLBAA		
EL	LGGGA	OLBAA		
EN	LGGGA	OLBAA		
EP	LGGGA	OLBAA		
ES	LGGGA	OLBAA		
ET	LGGGA	OLBAA		
EV	LGGGA	OLBAA		
EY	LGGGA	OLBAA		
F*	HK	OEJNA		
FH	LGGGA	OLBAA		
FJ	LGGGA	OLBAA		
G	DT	LGGGA		
H*	HK	OEJNA		
HA	OEJNA	HK		
HC	HK	OEJNA		
HD	OEJNA	HK		
HE	N	N		
HH	HHAS	HK		
HL	HL	DT		
HS	HS	OEJNA		
K	LGGGA	OLBAA		

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
L*	LGGGA	OLBAA		
LA	LGGGA	OLBAA		
LI	LGGGA	OLBAA		
LL	LL	LGGGA		
LM	LGGGA	OLBAA		
M	LGGGA	OLBAA		
N	OEJNA	OLBAA		
OA	OLBAA	LGGGA	OBBIA	
OB	OEJNA	OLBAA	OBBIA	
OE	OEJNA	LGGGA		
OJ	OJ	OE		
OI	OLBAA	LGGGA	OBBIA	
OK	OLBAA	LGGGA		
OL	OLBAA	LGGGA		
OM	OLBAA	LGGGA		
OO	OEJNA	LGGGA		
OP	OLBAA	LGGGA		
OR				
OS	OS	OJ		
OT	OLBAA	LGGGA	OBBIA	
OY	OE	LGGGA		
P	OLBAA	LGGGA		
R	OEJNA	LGGGA	OBBIA	
S	LGGGA	OLBAA		
T	LGGGA	OLBAA		
U	LGGGA	OLBAA		
V	OLBAA	LGGGA	OBBIA	
W	OEJNA	LGGGA	OBBIA	
Y	OEJNA	LGGGA	OBBIA	
Z	OLBAA	LGGGA	OBBIA	

HECA - Cairo - Egypt

CIDIN Routing Table

CIDIN Exit Address	Actual Main VCG	Actual Altn. VCG	Planned Main VCG	Planned Altn. VCG
HECA_				
LGGG_	LGGG	OLBA		
OLBA_	OLBA	LGGG		
OEJN	OEJN	LGGG		

CIDIN Exit Address	Actual Main VCG	Actual Altn. VCG	Planned Main VCG	Planned Altn. VCG

CIDIN Virtual Circuit Group

Actual VCG	Actual Prim.VC	Actual Secondary VC's		
LGGG	LGGG1			
OLBA	OLBA1			
OEJN	OEJN1			

Planned VCG	Planned Prim.VC	Planned Secondary VC's		

HECA - Cairo - Egypt

Circuit Characteristics

Situation recorded in October 2006			Planned		
Link	**Protocol**	**Capacity (bps)**	**Protocol**	**Capacity (bps)**	**"O" date**
DTTC	AFTN	1 x 100	AFTN	1 x 1200	2005
HKNA	AFTN	1 x 50	AFTN	9.6K	2006
HLLT	AFTN	1 x 50			
HSSS	AFTN	1 x 50			
LGGG	CIDIN	1 x 9.6 K			
LLBG	AFTN	1 x 50			
OEJD	CIDIN	1 x 9.6 K			
OJAM	AFTN	1 x 9.6 K			
OLBA	CIDIN	1 x 9.6 K			
OSDI	AFTN	1 x 50			
HHAS	AFTN	1 X 2400			

OIII - Tehran - Iran

Information

Operator:	
Phone:	0098 21-91022325
- -	
Fax:	0098 21-6025101
Telex:	213889 EPD IR
Email:	
AFTN:	OIIIYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	THRXTYF

Technical operator:	
Phone:	0098 21-91022330
- -	
Fax:	0098 21-6025101
Telex:	213889 EPD IR
Email:	
AFTN:	OIIIYTYC
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	THRXTYF

Supervisor:	
Name:	Abutaleb Mosaie
Phone:	0098 21-9122330
Fax:	0098 21-6025101
Telex:	213889 EPD IR
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AFTN:	OIIIYTYC
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	THRXTYF

Technical supervisor:	
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Fax:	0098 21-6025101
Telex:	213889 EPD IR
Email:	AFTN@IRAFTN.COM
AFTN:	OIIIYTYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	THRXTYF

Management:	
Name:	Gholamali Barzegari Naeini
Phone:	0098 21-6036645
Fax:	0098 21-6025101
Telex:	213889 EPD IR
Email:	AFTN@ARAFTN.COM
AFTN:	OIIIYTYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	THRXTYF

Postal Address:
Civil Aviation Organization
P.O. Box 1798, 13445
Mehrabad Intl Airport
Tehran
Islamic Republic of Iran

CIDIN Entry/Exit Addresses:	
AFTN Ae/Ax:	
AFTN OPM/NM:	
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN		
CIDIN/OPMET		
AIS		
MOTNE		
OPMET	Yes	
SITA	Yes	

OIII - Tehran - Iran

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OB	OP	OB	OP
B	LT	OB	LT	OB
C	LT	OB	LT	OB
D	OK	OB	OB	OK
E	LT	OB	LT	OB
F	OK	OB	OB	OK
G	OK	OB	OB	OK
H	OK	OB	OB	OK
K	LT	OB	LT	OB
L	LT	OB	LT	OB
LC	OB	OM	OB	OK
M	LT	OB	LT	OB
N	OB	OP	OB	OP

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
OA	OK	OP	OP	OK
OB	OB	OM	OB	OM
OE	OB	OM	OB	OM
OI	N	N	N	N
OJ	OS	OB	OS	OB
OK	OK	OB	OK	OB
OL	OB	OK	OB	OK
OM	OM	OB	OM	OB
OO	OB	OP	OB	OK
OP	OP	OK	OP	OK
OR	OK	OB	OK	OB
OS	OS	OB	OS	OK
OT	OB	OK	OB	OK
OY	OB	OM	OB	OK
P	OK	OB	OK	OB
R	OB	OK	OB	OK
S	LT	OB	LT	OB
T	LT	OB	LT	OB
U	LT	OB	OB	OK
V	OK	OB	OP	OK
VA	OK	OB	OP	OK
VI	OK	OB	OP	OK
VN	OK	OB	OP	OK
VO	OK	OB	OP	OK
W	OB	OP	OB	OP
Y	OB	OP	OB	OP
Z	OK	OB	OP	OK

OIII - Tehran - Iran

Circuit Characteristics

Situation recorded in April 2004			Planned		
Link	**Protocol**	**Capacity (bps)**	**Protocol**	**Capacity (bps)**	**"O" date**
LTAA	AFTN	1 x 50	AFTN	9.6K	2004
OBBI	AFTN	1 x 300	AFTN	9.6K	2004
OKBK	AFTN	1 x 100	AFTN	9.6K	2004
OMAE	AFTN	1 x 100			
OPKC	AFTN	1 x 200			
OSDI	AFTN	1 x 50			

ORBI - Bagdad - Iraq

Information

Operator: Ali Hussain Naser	
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- -	
Fax:	
Telex:	
Email:	
AFTN:	ORBIYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Technical operator: Basema Jaleel	
Phone:	+ 9641 8132480
- -	
Fax:	
Telex:	
Email:	ibiap1@yahoo.com
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Supervisor:	
Name:	Khitam A . Hassen
Phone:	+ 964 7901 511049
Fax:	
Telex:	
Email:	kh_hassen61@yahoo.com
AFTN:	ORBIYTYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Technical supervisor:	
Name:	Eman Zeedan(Director)
Phone:	+ 964 7901484525
Fax:	
Telex:	
Email:	imzen29@yahoo.com
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Management:	
Name:	
Phone:	
Fax:	
Telex:	
Email:	
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Postal Address:

CIDIN Entry/Exit Addresses:	
AFTN Ae/Ax:	Yes
AFTN OPM/NM:	
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN		
CIDIN/OPMET		
AIS		
MOTNE		
OPMET		
SITA		

ORBI - Bagdad - Iraq

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OK			OI
B	OK			OI
C	OK			OI
D	OK			OI
E	OK			OI
F	OK			OI
G	OK			OI
H	OK			OI
K	OK			OI
L*	OK			OI
LL				
M	OK			OI
N	OK			OI

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
OA	OK			OI
OB	OK			OI
OE	OK			OI
OI	OK			OI
OJ	OK			OI
OK	OK			OI
OL	OK			OI
OM	OK			OI
OO	OK			OI
OP	OK			OI
OR	OK			OI
OS	OK			OI
OT	OK			OI
OY	OK			OI
P	OK			OI
R	OK			OI
S	OK			OI
T	OK			OI
U	OK			OI
V	OK			OI
W	OK			OI
Y	OK			OI
Z	OK			OI

ORBI - Bagdad - Iraq

Circuit Characteristics

Situation recorded in October 2006			Planned		
Link	Protocol	Capacity (bps)	Protocol	Capacity (bps)	"O" date
OKBK	AFTN	9.6K			

OJAM - Amman - Jordan

Information

Operator:	Mona al - Nadaf
Phone:	+9626 4891401/3261
- -	
Fax:	
Telex:	
Email:	ALNADAF@YAHOO.COM
AFTN:	OJAMYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	AMMXYYA

Technical operato	Targrred Ghazi
Phone:	+962 6 4891401/3263
- -	
Fax:	
Telex:	
Email:	
AFTN:	OJAMYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Supervisc	Marwan A. Qadome
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Fax:	+ 962 6 4891653
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AFTN:	OJAMYTYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	AMMXYYA

Technical supervi	Marwan Badawi
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Telex:	
Email:	
AFTN:	OJAMYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Management:	Nader A. Kaled
Name:	Nader A.Kaled
Phone:	4891401133260
Fax:	
Telex:	
Email:	aftn_am@yahoo.com
AFTN:	OJAMYTYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Postal Address:
Civil Aviation Authority
P.O.Box 7547
Amman -Jordan

CIDIN Entry/Exit Addresses:	
AFTN Ae/Ax:	Yes
AFTN OPM/NM:	
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN		
CIDIN/OPMET		
AIS		
MOTNE		
OPMET		
SITA		

OJAM - Amman - Jordan

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OE	HE		
B	OS	HE		
C	OS	HE		
D	HE	OS		
E	OS	HE		
F	HE	OS		
G	HE	OS		
H*	HE	OL		
HE	HE	OS		
HL	HE	OS		
HS	HE	OE		
K	OS	HE		
L*	OS	HE		
LC	OS	HE		
LL	HE	HE		
LT	OS	HE		
M	OS	HE		
N	OE	HE		

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
OA	OE	HE		
OB	OE	HE		
OE	OE	HE		
OI	OS	OE		
OJ	N	N		
OK	OE	HE		
OL	HE	OS		
OM	OE	HE		
OO	OE	HE		
OP	OE	HE		
OR	OR	OS		
OS	OS	HE		
OT	OE	HE		
OY	OE	HE		
P	OS	HE		
R	OE	HE		
S	OS	HE		
T	OS	HE		
U	OS	HE		
V*	OE	HE		
VA	OE	HE		
VE	OE	HE		
VI	OE	HE		
VN	OE	HE		
VO	OE	HE		
W	OE	HE		
Y	OE	HE		
Z	HE	OS		

OJAM - Amman - Jordan

Circuit Characteristics

Situation recorded in March 2005			Planned		
Link	Protocol	Capacity (bps)	Protocol	Capacity (bps)	"O" date
HECA	AFTN	1 x 9.6 K			
OEJD	AFTN	1 x 19.2 K			
ORBI	AFTN	1 x 50			
OSDI	AFTN	1 x 50			
LLBG	AFTN	1.2 K			

OKBK - Kuwait - Kuwait

Information

Operator:	
Phone:	
- -	
Fax:	
Telex:	
Email:	
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Technical operator:	
Phone:	
- -	
Fax:	
Telex:	
Email:	
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Supervisor:	
Name:	Mr. Al-Asqah, Mohammed
Phone:	+ (965) 473 2489
Fax:	+ (965) 472 1286
Telex:	
Email:	
AFTN:	OKBKYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Technical supervisor:	
Name:	Mr. Al-Jarrah, Dawood
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Fax:	+ (965) 431 9232
Telex:	
Email:	
AFTN:	OKBKYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Management:	
Name:	Mr. Al-Fozan, Fozan
Phone:	+ (965) 476 0421
Fax:	+ (965) 431 9232
Telex:	
Email:	cvnedd@quality.net
AFTN:	OKBKYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Postal Address:

CIDIN Entry/Exit Addresses:	
AFTN Ae/Ax:	
AFTN OPM/NM:	
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN		
CIDIN/OPMET		
AIS		
MOTNE		
OPMET		
SITA		

OKBK - Kuwait - Kuwait

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OP	OB		
B	LI	OL		
C	LI	OL		
D	OL	OB		
E	LI	OL		
F	OB	OL		
G	OL	OB		
H*	OL	OB		
HE	OL	OB		
HL	OL	OB		
HS	OL	OB		
K	LI	OL		
L*	LI	OL		
LC	OL	LI		
LL				
LT	LI	OL		
M	LI	OL		
N	OP	OB		

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
OA	OP	OB		
OB	OB	OL		
OE	OB	OL		
OI	OI	OB		
OJ	OL	OB		
OK	N	N		
OL	OL	OB		
OM	OB	OL		
OO	OB	OL		
OP	OP	OB		
OR	OR	TBD		
OS	OS	OL		
OT	OT	OB		
OY	OB	OL		
P	LI	OL		
R	OP	OB		
S	LI	OL		
T	LI	OL		
U	LI	OL		
V*	OP	OB		
VA	OP	OB		
VE	OP	OB		
VI	OP	OB		
VN	OP	OB		
VO	OP	OB		
W	OP	OB		
Y	OP	OB		
Z	OP	OB		

OKBK - Kuwait - Kuwait

Circuit Characteristics

Situation recorded in March 2005			Planned		
Link	**Protocol**	**Capacity (bps)**	**Protocol**	**Capacity (bps)**	**"O" date**
LIII	AFTN	1 x 100	X.25	1 X 64k	4th Q-2005
OBBI	AFTN	1 X 9.6 K			
OIII	AFTN	1 x 100	AFTN	1 X 9.6K	4th Q-2005
OLBA	AFTN	1 x 100	AFTN	1 X 9.6K	TBD
OPKC	AFTN	1 x 2.4k	AFTN	1 X 9.6K	TBD
OSDI	AFTN	1 x 50			
OTBD	AFTN	1 x 100	AFTN	1 X 9.6K	TBD
ORBI	AFTN	1 X 9.6K			

OLBA - Beirut - Lebanon

Information

Operator:	
Phone:	+ 961 1 628161
- -	
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Telex:	
Email:	hatemh@beirutairport.gov.lb
AFTN:	OLBAYFYX
CIDIN/AFTN:	OLBAM
CIDIN/OPMET:	OLBAYMYX
SITA:	

Technical operator:	
Phone:	
- -	
Fax:	
Telex:	
Email:	
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Supervisor:	
Name:	Chawki Hatem
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Fax:	+961 1 629035
Telex:	
Email:	
AFTN:	OLBAYFYX
CIDIN/AFTN:	OLBAM
CIDIN/OPMET:	OLBAYMYX
SITA:	

Technical supervisor:	
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Telex:	
Email:	msaad@beirutairport.gov.lb
AFTN: OLBAYTYX	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Management:	
Name:	Chawki Hatem
Phone:	+961 1 628150
Fax:	+961 1 629035
Telex:	
Email:	
AFTN:	OLBAYTYX
CIDIN/AFTN:	OLBAM
CIDIN/OPMET:	OLBAYMYX
SITA:	

Postal Address:
Beirut International Airport
Telecom Department
Beirut-Lebanon

CIDIN Entry/Exit Addresses:	
AFTN Ae/Ax:	OLBAA
AFTN OPM/NM:	OLBAM
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN	Yes	
CIDIN/OPMET		
AIS	Yes	
MOTNE		
OPMET	Yes	
SITA	Yes	

OLBA - Beirut - Lebanon

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OBBIA	OE		
B	LCNCA	HECAA		
C	LCNCA	HECAA		
D	HECAA	LCNCA		
E	LCNCA	HECAA		
F	OE	HECAA		
G	HECAA	OE		
H	HECAA	OE		
K	LCNCA	HECAA		
L*	LCNCA	HECAA		
LL				
LT	LCNCA	HECAA		
M	LCNCA	HECAA		
N	OK	OE		

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
OA	OK	OE		
OB	OBBIA	OE		
OE	OE	OBBIA		
OI	OBBIA	OK		
OJ	HECAA	OE		
OK	OK	OBBIA		
OL	N	N		
OM	OBBIA	OE		
OO	OBBIA	OE		
OP	OK	OBBIA		
OR	OR	OS		
OS	OS	HECAA		
OT	OBBIA	OK		
OY	OE	OBBIA		
P	LCNCA	HECAA		
R	OBBIA	OE		
S	LCNCA	HECAA		
T	LCNCA	HECAA		
U	LCNCA	HECAA		
V*	OK	OBBIA		
VA	OK	OBBIA		
VE	OK	OBBIA		
VI	OK	OBBIA		
VN	OK	OBBIA		
VO	OK	OBBIA		
W	OBBIA	OK		
Y	OBBIA	OE		
Z	OK	OE		

OLBA - Beirut - Lebanon

Circuit Characteristics

Situation recorded in April 2004			Planned		
Link	**Protocol**	**Capacity (bps)**	**Protocol**	**Capacity (bps)**	**"O" date**
HECA	CIDIN	1 x 9.6K			
LCNC	CIDIN	1 x 9.6K			
OBBI	CIDIN	1 x 9.6K			
OEJD	AFTN	1 x 100	AFTN	1 x 9.6K	2005
OKBK	AFTN	1 x 100	AFTN	1 x 9.6K	2005
OSDI	AFTN	2 x 50			
ORBI	AFTN	1 x 50			

OLBA - Beirut - Lebanon

CIDIN Routing Table

CIDIN Exit Address	Actual Main VCG	Actual Altn. VCG	Planned Main VCG	Planned Altn. VCG
OLBA_	OLBA	(LCNC)		
LCNC_	OLBA	(OBBI)		
OBBI_	OLBA	HECA		

CIDIN Exit Address	Actual Main VCG	Actual Altn. VCG	Planned Main VCG	Planned Altn. VCG

CIDIN Virtual Circuit Group

Actual VCG	Actual Prim.VC	Actual Secondary VC's		
HECA	HECA1			
LCNC	LCNC1			
OBBI	OBBI1			

Planned VCG	Planned Prim.VC	Planned Secondary VC's		

OOMS - Muscat - Oman

Information

Operator:	Mushal Abdul Aziz
Phone:	968 519209/332
- -	
Fax:	968 510617
Telex:	5418 DGCAOMAN ON
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AFTN:	OOMSYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Technical operator: Ahmed Issa	
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- -	
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Email:	ahmedissa@dgcam.gov.om
AFTN:	OOMSYTYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Supervisor:	
Name:	Akhtar Kareem Al-Balu
Phone:	968 519260
Fax:	968 510617
Telex:	5418 DGCAOMAN ON
Email:	aircomms@dgcam.gov.om
AFTN:	OOMSYTYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Technical supervisor:	
Name:	Mohd Hamed Al-Mauly
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Email:	mody07@hotmail.com
AFTN:	OOMSYTYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Management:	
Name:	Ali Humaid Al-Adawi
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Fax:	968 519930
Telex:	5418 DGCAOMAN ON
Email:	alialadawi@dgcam.gov.com
AFTN:	OOMSYTYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Postal Address:
P.O. BOX 1
Postal Code 111
Seeb Int. Airport
Sultanate of Oman

CIDIN Entry/Exit Addresses:	
AFTN Ae/Ax:	
AFTN OPM/NM:	
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN		
CIDIN/OPMET		
AIS	Yes	
MOTNE		
OPMET		
SITA		

OOMS - Muscat - Oman

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OB	VA		
B	OB	OE		
C	OB	OE		
D	OE	OB		
E	OB	OE		
F	OE	VA		
G	OE	OB		
H	OE	VA		
K	OB	OE		
L* EX. LL	OB	OE		
M	OB	OE		
N	OB	VA		
OA	OB	OMA		
OB	OB	OMA		
OE	OE	OB		
0I	OB	OMA		
OJ	OE	OB		
OK	OB	OE		
OL	OB	OE		
OM	OMA	OB		
OO	N	N		
OP	VA	OB		
OR	OB	OE		
OS	OE	OB		
OT	OB	OMA		
OY	OY	OE		
P	OB	VA		
R	OB	VA		
S	OB	OE		
T	OB	OE		
U	VA	OE		
V*	OB	VA		
VA	VA	OB		
VE	VA	OB		
VI	VA	OB		
VN	VA	OB		
VO	VA	OB		
W	OB	VA		
Y	OB	VA		
Z	VA	OB		

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.

OOMS - Muscat - Oman

Circuit Characteristics

Situation recorded in April 2004			Planned		
Link	**Protocol**	**Capacity (bps)**	**Protocol**	**Capacity (bps)**	**"O" date**
OBBI	AFTN	1 x 300		9.6k	04/05
OEJD	AFTN	1 x 300		9.6k	04/05
OMAE	AFTN	1 x 50	AFTN	9.6k	04/05
OYSN	AFTN	1 x 100		9.6k	04/05
VABB	AFTN	1 x 300	AFTN (X.25)	9.6k	04/05

OPKC - Karachi - Pakistan

Information

Operator:	
Phone:	92-21-45791943
- -	45797232
Fax:	92-21-9218216
Telex:	29336 CAA PK
Email:	
AFTN:	OPKCYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	OPKCYZYX
SITA:	

Technical operator:	
Phone:	92-21-45791944
- -	45797519
Fax:	
Telex:	29336 CAA PK
Email:	
AFTN:	OPKCYFYT
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Supervisor:	
Name:	Mr. Fasihuzzaman
Phone:	92-21-9218242
Fax:	92-21-9218216
Telex:	29336 CAA PK
Email:	
AFTN:	OPKCYTYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Technical supervisor:	
Name:	Mr. Nadeem Sharif Pasha
Phone:	92-21-9218174
Fax:	
Telex:	29336 CAA PK
Email:	Ctoqiap@sat.net.pk
AFTN:	OPKCYTYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Management:	
Name:	Air Cdre Qamaruddin
Phone:	92-21-9218732
Fax:	92-21-9218733
Telex:	29534 DG CAA PK
Email:	q-uddin@yahoo.Com
AFTN:	OPHQZXCM
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Postal Address:
Comm-Ops branch, HQ.CAA
Technical Devision
Terminal-1
QIAP, Karachi-75200
Pakistan

CIDIN Entry/Exit Addresses:	
AFTN Ae/Ax:	
AFTN OPM/NM:	
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN		
CIDIN/OPMET		
AIS	Yes	
MOTNE		
OPMET	Yes	
SITA		

OPKC - Karachi - Pakistan

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	VA	-		
B	OK	-		
C	OK	OI		
D	OK	-		
E	OK	OI		
F	OK	-		
G	OK	-		
H	OK	-		
K	OK	OI		
L*	OK	0I		
LL				
LT	OI	OK		
M	OK	OI		
N	VA	OI		

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
OA	OA	-		
OB	OK	OI		
OE	OK	-		
OI	OI	-		
OJ	OK	OI		
OK	OK	-		
OL	OK	-		
OM	OK	OI		
OO	OK	OI		
OP	N	N		
OR	OK	-		
OS	OI	-		
OT	OK	OI		
OY	OK	OI		
P	VA	-		
R	VA	-		
S	OK	OI		
T	OK	OI		
U	OI	OK		
V*	VA	-		
VN	ZB	VA		
W	VA	-		
Y	VA	-		
Z	ZB	VA		

OPKC - Karachi - Pakistan

Circuit Characteristics

Situation recorded in October 2004			Planned		
Link	**Protocol**	**Capacity (bps)**	**Protocol**	**Capacity (bps)**	**"O" date**
OIII	AFTN	1 x 200	AFTN	2.4K	End 2004
OKBK	AFTN	2.4K			
ZBBB	AFTN	1 x 50	AFTN	2.4K	End 2004
VABB	AFTN	1 x 200			
OAKB	AFTN (VSAT)	1 x 2400			

OTBD - Doha - Qatar

Information

Operator:	
Phone:	00974 4656220/268
- -	00974 4622510
Fax:	00974 4621052
Telex:	
Email:	
AFTN:	OTBDYFYX
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	DOHXYYF

Technical operator:	
Phone:	
- -	
Fax:	
Telex:	
Email:	
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Supervisor:	
Name:	Mr. Ahmed Al-Mannai
Phone:	00974 4622510
Fax:	00974 4622052
Telex:	
Email:	ahmedalmannai@caa.gov.qa
AFTN:	
CIDIN/AFTN:	OTBDYTYX
CIDIN/OPMET:	
SITA:	DOHXYYF

Technical supervisor:	
Name:	Mr.Said Othman Baywazir
Phone:	00974 465500
Fax:	00974 4622620
Telex:	
Email:	saeed@caa.gov.qa
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Management:	
Name:	
Phone:	
Fax:	
Telex:	
Email:	
AFTN:	
CIDIN/AFTN:	
CIDIN/OPMET:	
SITA:	

Postal Address:
Civil Aviation Authority
P.O.Box 3000
Doha Qatar

CIDIN Entry/Exit Addresses:	
AFTN Ae/Ax:	
AFTN OPM/NM:	
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN		
CIDIN/OPMET		
AIS		
MOTNE		
OPMET		
SITA		

OTBD - Doha - Qatar

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OB	OK		
B	OB	OK		
C	OB	OK		
D	OB	OK		
E	OB	OK		
F	OB	OK		
G	OB	OK		
H	OB	OK		
K	OB	OK		
L*	OB	OK		
LL				
M	OB	OK		
N	OB	OK		

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
OA	OB	OK		
OB	OB	OK		
OE	OB	OK		
OI	OK	OB		
OJ	OB	OK		
OK	OB	OK		
OL	OB	OK		
OM	OB	OK		
OO	OB	OK		
OP	OK	OB		
OR	OK	OB		
OS	OB	OK		
OT	N	N		
OY	OB	OK		
P	OB	OK		
R	OB	OK		
S	OB	OK		
T	OB	OK		
U	OB	OK		
V	OB	OK		
W	OB	OK		
Y	OB	OK		
Z	OB	OK		

OTBD - Doha - Qatar

Circuit Characteristics

Situation recorded in March 2005			Planned		
Link	Protocol	Capacity (bps)	Protocol	Capacity (bps)	"O" date
OBBI	AFTN	1 x 300			
OKBK	AFTN	1 x 100			

OEJD - Jeddah - Saudi Arabia

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SITA:	

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SAUDI ARABIA

CIDIN Entry/Exit Addresses:	
AFTN Ae/Ax:	OEJNA
AFTN OPM/NM:	OEJNM
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN	Yes	
CIDIN/OPMET	No	
AIS	No	
MOTNE	No	
OPMET	No	
SITA	No	

OEJD - Jeddah - Saudi Arabia

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OBBIA	OO		
B	LCNCA	OBBIA		
C	LCNCA	OBBIA		
D	HECAA	LCNCA		
E	LCNCA	OBBIA		
F	HA	HECAA		
G	HECAA	LCNCA		
H*	HA	HECAA		
HECAA	HECAA	LCNCA		
HL	HECAA	LCNCA		
HS	HS	HECAA		
K	LCNCA	OBBIA		
L*	HECAA	LCNCA		
LCNCA	LCNCA	OBBIA		
LK	LCNCA	OBBIA		
LL				
LT	OBBIA	OO		
M	HECAA	LCNCA		
N	OBBIA	OO		

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
OA	OBBIA	OO		
OBBIA	OBBIA	OO		
OE	N	N		
OI	OBBIA	OO		
OJ	OJ	HECAA		
OK	OBBIA	OO		
OL	OL	HECAA		
OM	OBBIA	OO		
OO	OO	OBBIA		
OP	OO	OBBIA		
OR	OL	HECAA		
OS	OL	HECAA		
OT	OBBIA	OO		
OY	OYS	OO		
P	OBBIA	OO		
R	OBBIA	00		
S	HECAA	LCNCA		
T	HECAA	LCNCA		
U	LCNCA	OBBIA		
V*	OBBIA	OO		
VA	OO	OBBIA		
VE	OO	OBBIA		
VI	OO	OBBIA		
VN	OO	OBBIA		
VO	OO	OBBIA		
W	OBBIA	OO		
Y	OBBIA	OO		
Z	OO	OBBIA		

OEJD - Jeddah - Saudi Arabia

Circuit Characteristics

Situation recorded in October 2006			Planned		
Link	**Protocol**	**Capacity (bps)**	**Protocol**	**Capacity (bps)**	**"O" date**
HAAB	AFTN	1 x 50			
OJAM	AFTN	1 x 19.2 K			
OBBI	CIDIN	1 x 64 K			
OLBA	AFTN	1 x 100	AFTN	1 x 300	2005
HECA	CIDIN	1 x 64 K			
HSSS	AFTN	1 x 50			
OOMS	AFTN	1 x 300			
LCNC	CIDIN	9.6 K			
OYSN	AFTN	1 x 100			

OEJD - Jeddah - Saudi Arabia

CIDIN Routing Table

CIDIN Exit Address	Actual Main VCG	Actual Altn. VCG	Planned Main VCG	Planned Altn. VCG
HECA_	HECA			
LCNC_	LCNC	OBBI		
OBBI_	OBBI	LCNC		

CIDIN Exit Address	Actual Main VCG	Actual Altn. VCG	Planned Main VCG	Planned Altn. VCG

CIDIN Virtual Circuit Group

Actual VCG	Actual Prim.VC	Actual Secondary VC's		
HECA	HECA1			
LCNC	LCNC1			
OBBI	OBBI1			

Planned VCG	Planned Prim.VC	Planned Secondary VC's		

OSDI - Damascus - Syria

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CIDIN/OPMET:	
SITA:	

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CIDIN Entry/Exit Addresses:	
AFTN Ae/Ax:	
AFTN OPM/NM:	
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN		
CIDIN/OPMET		
AIS		
MOTNE		
OPMET		
SITA		

OSDI - Damascus - Syria

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OI	HE		
B	LG	HE		
C	LG	HE		
D	HE	LG		
E	LG	HE		
F	HE	LG		
G	HE	LG		
H	HE	LG		
K	LG	HE		
L*	LG	HE		
LL				
M	LG	HE		
N	HE	LG		

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
OA	OI	HE	OI	OH
OB	OI	OK		
OE	OJ	OK	OJ	HE
OI	OI	OK	OI	OK
OJ	OJ	HE		
OK	OK	OI		
OL	OL	HE		
OM	OI	OK		
OO	OI	OK		
OP	OI	OK		
OR	OR	OJ	OR	OJ
OS	N	N	N	N
OT	OI	OK	OI	OK
OY	OJ	HE		
P	LG	HE		
R	HE	LG	OK	OL
S	LG	HE		
T	LG	HE		
U	LG	HE		
V	OI	OK		
W	HE	OI	OK	OI
Y	OI	OK		
Z	HE	LG	OK	OI

OSDI - Damascus - Syria

Circuit Characteristics

Situation recorded in October 2006			Planned		
Link	**Protocol**	**Capacity (bps)**	**Protocol**	**Capacity (bps)**	**"O" date**
HECA	AFTN	1 x 50	AFTN	300	2004
LGGG	AFTN	2 x 50	AFTN	300	2004
OIII	AFTN	1 x 50	AFTN	300	2005
OJAM	AFTN	1 x 50	AFTN	300	2004
OKBK	AFTN	1 x 50	AFTN	300	2005
OLBA	AFTN	2 x 50	AFTN	1.2K	2004
ORBI	AFTN	1 x 50	AFTN	300	2004
SITA	AFTN	1 X 50	AFTN	300	

OMAE - Abu Dhabi - U.A.E.

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SITA:	

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CIDIN/OPMET:	
SITA:	

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CIDIN Entry/Exit Addresses:	
AFTN Ae/Ax:	OMAEA
AFTN OPM/NM:	OMAEYPYX
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN	Yes	
CIDIN/OPMET		
AIS		
MOTNE		
OPMET		
SITA		

OMAE - Abu Dhabi - U.A.E.

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OBBIA	OO		
B	OBBIA	OO		
C	OBBIA	OO		
D	OBBIA	OO		
E	OBBIA	OO		
F	OBBIA	OO		
G	OBBIA	OO		
H	OBBIA	OO		
K	OBBIA	OO		
L*	OBBIA	OO		
LL				
LT	OBBIA	OO		
M	OBBIA	OO		
N	OBBIA	OO		

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
OA	OBBIA	OO		
OB	OBBIA	OO		
OE	OBBIA	OO		
OI	OI	OBBIA		
OJ	OBBIA	OO		
OK	OBBIA	OI		
OL	OBBIA	OO		
OM	N	N		
OO	OO	OBBIA		
OP	OO	OBBIA		
OR	OBBIA	OI		
OS	OBBIA	OI		
OT	OBBIA	OI		
OY	OO	OBBIA		
P	OBBIA	OO		
R	OBBIA	OO		
S	OBBIA	OO		
T	OBBIA	OO		
U	OBBIA	OO		
V*	OBBIA	OO		
VA	OO	OBBIA		
VE	OO	OBBIA		
VI	OO	OBBIA		
VN	OO	OBBIA		
VO	OO	OBBIA		
W	OBBIA	OO		
Y	OBBIA	OO		
Z	OO	OBBIA		

OMAE - Abu Dhabi - U.A.E.

Circuit Characteristics

Situation recorded in September 2004			Planned		
Link	**Protocol**	**Capacity (bps)**	**Protocol**	**Capacity (bps)**	**"O" date**
OBBI	CIDIN	1 x 9.6K			
OIII	AFTN	1 x 100			
OOMS	AFTN	1 x 50	AFTN	9.6K	04/05

OYSN - Sanaa - Yemen

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AFTN OPM/NM:	
OPMET Ae/Ax:	
OPMET OPM/NM:	

Other:	

Functions:		
Conv. AFTN	Yes	
CIDIN/AFTN		
CIDIN/OPMET		
AIS		
MOTNE		
OPMET		
SITA		

OYSN - Sanaa - Yemen

AFTN Routing Table

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A	OO	OE		
B	OO	OE		
C	OO	OE		
D	OO	OE		
E	OO	OE		
F	OE	OO		
G	OE	OO		
H	OE	OO		
K	OO	OE		
L*	OO	OE		
LL				
M	OO	OE		
N	OO	OE		

Destination	Actual Main	Actual Altn.	Planned Main	Planned Altn.
OA	OO	OE	same	same
OB	OO	OE		
OE	OE	OO		
OI	OO	OE		
OJ	OO	OE		
OK	OO	OE		
OL	OE	OO		
OM	OO	OE		
OO	OO	OE		
OP	OO	OE		
OR	OO	OE		
OS	OO	OE		
OT	OO	OE		
OY	N	N		
P	OO	OE		
R	OO	OE		
S	OO	OE		
T	OO	OE		
U	OO	OE		
V	OO	OE		
W	OO	OE		
Y	OO	OE		
Z	OO	OE		

OYSN - Sanaa - Yemen

Circuit Characteristics

Situation recorded in July 2003			Planned		
Link	Protocol	Capacity (bps)	Protocol	Capacity (bps)	"O" date
OEJD	AFTN	1 x 100	AFTN	300/2400	01-01-2005
OOMS	AFTN	1 x 100	AFTN	300/2400	01-01-2005

End of Table

Doc 9708

MIDDLE EAST REGION

FACILITIES AND SERVICES IMPLEMENTATION DOCUMENT (FASID)

DOCUMENT SUR LA MISE EN OEUVRE DES INSTALLATIONS ET SERVICES

DOCUMENTO SOBRE LAS INSTALACIONES Y SERVICIOS

FIRST EDITION - ÉDITION - EDICIÓN

(Draft 2007 TEXT NOT EDITED)

NOT TO BE USED FOR OPERATIONAL PURPOSES
NE PAS UTILISER POUR L'EXPLOITATION
NO DEBE USARSE PARA FINES DE OPERACIONES

INTERNATIONAL CIVIL AVIATION ORGANIZATION
ORGANISATION DE L'AVIATION CIVILE INTERNATIONALE
ORGANIZACIÓN DE AVIACIÓN CIVIL INTERNACIONAL

RECORD OF AMENDMENTS
INSCRIPTION DES AMENDEMENTS
LISTA DE ENMIENDAS

No. NE Núm.	Date of amendment Date de l'amendement Fecha de la enmienda	Date entered Date d'inscription Fecha de anotación	Entered by Inscrit par Anotada por	No. NE Núm.	Date of amendment Date de l'amendement Fecha de la enmienda	Date entered Date d'inscription Fecha de anotación	Entered by Inscrit par Anotada por

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Las denominaciones empleadas en esta publicación y la forma en que aparecen presentados los datos que contiene no implican, de parte de la OACI, juicio alguno sobre la condición jurídica de ninguno de los países, territorios, ciudades o áreas, o de sus autoridades, ni respecto de la delimitación de sus fronteras o límites.

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1. INTRODUCTION

1.1 This second volume of the Air Navigation Plan (ANP) constitutes the MID Facilities and Services Implementation Document (FASID) accompanies the Basic MID ANP. The background to the publication of air navigation plans in two volumes (Basic ANP and FASID) is explained in the introduction of the MID Basic ANP. This FASID may only be amended according to the procedure approved by the ICAO Council as shown in the introductory part of the MID Basic ANP and also at Attachment A

1.2 This FASID contains the details of the facilities and services to be provided in order to fulfil 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. The elements of the FASID are kept under constant review by the MID Air Navigation Planning and Implementation Regional Group (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 Offices in Cairo. Most of the contents of the FASID originate from recommendations of the MID/RAN/3 (1984) meeting and ASIA/PAC/RAN3 meeting (1993) as well as from MIDANPIRG conclusions

1.3 The Standards, Recommended Practices and Procedures to be a applied and related guidance material for each Part of the FASID (i.e. GEN, AOP, CNS, ATM, MET, SAR and AIS) are as listed in the equivalent parts of the Basic ANP. The BORPC in Part I of the MID Basic ANP is also taken into consideration in the overall planning processes for the MID Region.

TABLE 2-6: INTER-REGIONAL TRAFFIC BETWEEN MIDDLE EAST AND AFRICA

(TOP 25 CITY PAIRS RANKED BY 2000 DEPARTURES)

City Codes	City Pairs Departures	2000	2010	2015
CAIJED	**Cairo-Jeddah**	4673	5866	6413
CAIKWI	**Cairo-Kuwait**	2094	2430	2554
CAIRUH	**Cairo-Riyadh**	1854	2590	2988
DXBNBO	**Dubai-Nairobi**	1775	2757	3354
BEYCAI	**Beirut-Cairo**	1774	2755	3352
CAIDXB	**Cairo-Dubai**	1586	1841	1935
AMMCAI	**Amman-Cairo**	1500	2016	2226
CAIDOH	**Cairo-Doha**	1347	1846	2109
CAITLV	**Cairo-Tel Aviv**	1077	1406	1567
JEDKRT	**Jeddah-Khartoum**	1047	1215	1277
AUHCAI	**Abu Dhabi-Cairo**	966	1403	1650
CAISAH	**Cairo-Sanaa**	858	1176	1343
CAIDMM	**Cairo-Damman**	840	1151	1315
ALYJED	**Alexandria-Jeddah**	834	1235	1431
CAIDAM	**Cairo-Damascus**	764	978	1080
BAHCAI	**Bahrain-Cairo**	756	1119	1297
CMNJED	**Casablanca-Jeddah**	733	1138	1385
ADDJED	**Addis Ababa-Jeddah**	726	976	1104
DXBJNB	**Dubai-Johannesburg**	720	1173	1462
ASMJED	**Asmara-Jeddah**	714	1163	1449
JEDJIB	**Jeddah-Djibouti**	629	977	1188
KWILXR	**Kuwait-Luxor**	596	899	1078
CAIGZA	**Cairo-Gaza**	580	795	908
KRTRUH	**Khartoum-Riyadh**	519	806	981
	TOTAL TOP 25	**28962**	**39709**	**45446**
	OTHER	16274	22275	25370
	TOTAL	**45236**	**61984**	**70816**

TABLE 2-7: INTER-REGIONAL TRAFFIC BETWEEN MIDDLE EAST AND ASIA/PACIFIC

(TOP 25 CITY PAIRS RANKED BY 2000 DEPARTURES)

City Codes	City Pairs Departures	2000	2010	2015
DXBKHI	**Dubai-Karachi**	5297	9486	12107
BOMDXB	**Bombay-Dubai**	3197	4732	5621
BOMMCT	**Bombay-Muscat**	2132	3311	3838
DXBSIN	**Dubai-Singapore**	1888	3381	4315
CMBDXB	**Colombo-Dubai**	1481	1896	2093
BKKDXB	**Bangkok-Dubai**	1449	1855	2048
KHIMCT	**Karachi-Muscat**	1445	1850	2042
JEDKHI	**Jeddah-Karachi**	1398	1790	1976
DACDXB	**Dhaka-Dubai**	1337	2968	4066
AUHBOM	**Abu Dhabi-Bombay**	1317	1686	1861
AUHKHI	**Abu Dhabi-Karachi**	1214	1554	1716
DELDXB	**Delhi-Dubai**	1128	1591	1845
DXBPEW	**Dubai-Peshawar**	1107	3438	5537
BOMKWI	**Bombay-Kuwait**	1084	1529	1773
DXBLHE	**Dubai-Lahore**	1070	2775	4270
BOMRUH	**Bombay-Riyadh**	998	2473	3634
MAAMCT	**Madras-Muscat**	998	3100	4992
DXBMLE	**Dubai-Male**	994	3087	4972
DXBISB	**Dubai-Islamabad**	900	2555	3932
MCTTRV	**Muscat-Trivandrum**	897	1461	1778
BAHBOM	**Bahrain-Bombay**	883	2742	4417
DACRUH	**Dhaka-Riyadh**	855	2656	4277
BOMDMM	**Bombay-Damman**	840	1577	2061
DMMKHI	**Damman-Karachi**	823	1545	2019
BOMSHJ	**Bombay-Sharjah**	808	1665	2282
	TOTAL TOP 25	**35540**	**66703**	**89470**
	OTHER	50778	95328	122298
	TOTAL	**86318**	**162031**	**211768**

25° 30° 35° 40° 45° 50° 55° 60° 65° 70° 75°

40° 35° 30° 25° 20° 15° 10°

Syrian Arab Republic
Lebanon
Israel
Jordan
Egypt
Iraq
Kuwait
Saudi Arabia
Bahrain
Qatar
United Arab Emirates
Oman
Yemen
Islamic Republic of Iran
Afghanistan

ALEPPO/Aleppo Intl
BASSEL AL-ASSAD/Lattakia
BEIRUT/Beirut Intl
DAMASCUS/Damascus Intl
HAIFA
TEL AVIV/Sde Dov
TEL AVIV/Ben Gurion
JERUSALEM/Jerusalem
AMMAN/Marka Intl
AMMAN/Queen Alia
ALEXANDRIA/Alexandria Intl
PORT SAID/Port Said Intl
EL ARISH/El Arish Intl
ALEXANDRIA/Borg El Arab Intl
CAIRO/Almaza Intl
CAIRO/Cairo Intl
OVDA/Ovda Intl
AQABA/Aqaba Intl
TABA/Taba Intl
EILAT/Eilat
ST. CATHERINE/St. Catherine Intl
SHARM EL SHEIKH/Sharm El Sheikh Intl
HURGHADA/Hurghada
ASYUT/Asyut Intl
LUXOR/Luxor
MARSA ALAM/Marsa Alam Intl
ASWAN/Aswan Intl
SHARK EL OWEINAT/Shark El Oweinat Intl
MADINAH/Prince Mohammad Bin Abdulaziz
RIYADH/King Khalid Intl
JEDDAH/King Abdulaziz Intl
TABRIZ/Tabriz Intl
BAGHDAD/Baghdad Intl
BASRAH/Basrah Intl
KUWAIT/Kuwait Intl
DAMMAN/King Fahd Intl
BAHRAIN/Bahrain Intl
DOHA/Doha Intl
BANDAR ABBAS/Bandar Abbas Intl
SHARJAH/Sharjah Intl
RAS AL KHAIMAH/Ras Al Khaimah Intl
DUBAI/Dubai Intl
FUJAIRAH/Fujairah Intl
ABU DHABI/Abu Dhabi Intl
AL AIN/Al Ain Intl
MUSCAT/Seeb Intl
SALALAH/Salalah
SANA'A/Sana'a Intl
HODEIDAH/Hodeidah
MUKALLA/Riyan
TAIZ/Ganad
ADEN/Aden Intl
TEHRAN/Mehrabad Intl
TEHRAN/Imam-Khomaini Intl
ESFAHAN/Esfahan Shahid Beheshti
SHIRAZ/Shahid Dastghaib Intl
MASHHAD/Shahid Hashemi Nejad Intl
KABUL/Kabul
KANDAHAR/Kandahar
ZAHEDAN/Zahedan Intl

LEGEND

AERODROMES REQUIRED FOR REGULAR USE BY INTERNATIONAL SCHEDULED AIR TRANSPORT	(RS)	
AERODROMES REQUIRED FOR ALTERNATE USE BY INTERNATIONAL SCHEDULED AIR TRANSPORT	(AS)	
AERODROMES REQUIRED FOR REGULAR USE BY INTERNATIONAL NON-SCHEDULED AIR TRANSPORT	(RNS)	
AERODROMES REQUIRED FOR ALTERNATE USE BY INTERNATIONAL NON-SCHEDULED AIR TRANSPORT	(ANS)	

International boundaries shown on this map do not imply official endorsement or acceptance by ICAO.

Appendix A

Part IV

COMMUNICATIONS - NAVIGATION - SURVEILLANCE (CNS)

INTRODUCTION

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.

2. This Part contains a detailed description/list of the facilities and/or services to be provided to fulfil 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.

3. States concerned should take urgent action to implement the main COM centres and trunk circuits of the new rationalized AFTN plan described in FASID Table CNS 1, and implement/promulgate, as soon as practicable, the tributary centres and circuits of the new rationalized AFTN plan in co-ordination with the States responsible for the corresponding main COM centres (MID/3 Rec. 5/37LIM MID (COM/MET/RAC Rec 6/6).

4. 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 (MID/8 Con.8/42).

5. States, as a matter of urgency should take action to implement the ATS direct speech plan. (FASID Table CNS 1C).

AERONAUTICAL FIXED SERVICE (AFS)

(FASID Tables CNS-1, 1A,1B and 1C, Charts CNS-1, 2 and 3)

Table CNS 1-Rationalized AFTN Plan

Chart CNS 1-Rationalized AFTN Centres and Circuits

Table CNS 1A - Designated AFTN Circuits required for international operations that should be retained until the Rationalized Plan in table CNS 1 is implemented.

The guidance material for ATN transition adopted by MIDANPIRG is a living document which provides technical guidance for regional transition planning, primarily focusing on ATN initial ground-to-ground application (MID/8 Dec. 8/43).

Table CNS 1B - ATN Plan

Table CNS 1C - ATS speech circuits plan

Chart CNS 2 - ATS direct speech circuits

Chart CNS 3 - Coverage of the Satellite Distribution System for WAFS Products (SADIS)

AERONAUTICAL MOBILE SERVICE (AMS) AND AERONAUTICAL MOBILE SATELLITE SERVICE (AMSS)

(FASID Table CNS-2, Chart CNS-4)

Table CNS 2 - Aeronautical mobile service

Appendix A to table CNS 2 indicates the geographical separation for co-channel VHF assignments

Appendix B to table CNS 2 contains the VHF frequency utilization plan

Table CNS 2A indicates the form of harmful interference report

Table CNS 2B – VHF Coverage in the Region

Chart CNS 4- HF en route radiotelephony network

Appendix to Chart CNS 4 indicates the ITU allotment area

AERONAUTICAL RADIO NAVIGATION SERVICE

(FASID Table CNS 3, Chart CNS 5 and 6)

Table CNS 3 - Table of radio navigation aids

Appendix to table CNS 3 shows the geographic separation criteria for VOR, VOR/DME and ILS installations

Chart CNS 5 - En-route radionavigation aids

Chart CNS 6 - Aids to final approach and landing

SURVEILLANCE SERVICE

(FASID Table CNS 4, chart CNS 7)

Table CNS 4 - Surveillance Systems

Chart CNS 7 - Radar facilities

TABLE CNS 1A - RATIONALIZED AFTN PLAN FOR MID REGION
TABLEAU CNS 1A - PLAN DU RSFTA RATIONALISÉ POUR LA RÉGION MID
TABLA CNS 1A - PLAN RACIONALIZADO DE LA AFTN PARA LA REGIÓN MID

(All circuits should be implemented using LTT)
(Tous les circuits doivent être mis en oeuvre sous forme de circuits LTT)
(Todos los circuitos deben llevarse a la práctica en forma de circuitos 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

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											
ABU DHABI	T		9600 bps	CIDIN	IA-5						
BEIRUT	M		9600 bps	CIDIN	IA-5						
DOHA	T		200 baud	None	ITA-2		9600 bps			2007	
JEDDAH	M		9600 bps	None	ITA-2		64k bps			2007	
KABUL	T		-				9600 bps			2007	
KUWAIT	M		9600 bps	None	ITA-2						
MUSCAT/SEEB	M		300 baud	None	IA-5						
SINGAPORE	M	LTT	200 baud	None	IA-5		9600 bps			2007	
TEHRAN	M		300 baud	None	IA-5						
EGYPT											
CAIRO											
AMMAN	M		9600 bps	None	ITA-2						
ATHENS	M		9600 bps CIDIN	CIDIN	IA-5						
BEN GURION	T		50 baud	None	ITA-2						
BEIRUT	M		9600 bps CIDIN	CIDIN	IA-5						
JEDDAH	M		9600 bps CIDIN	CIDIN	IA-5						
KHARTOUM	T		50 baud	None	ITA-2		9600 bps			2008	
NAIROBI	M		50 baud	None	ITA-2		2400 bps				
TUNIS	M		100 baud	None	ITA-2		1200 bps				

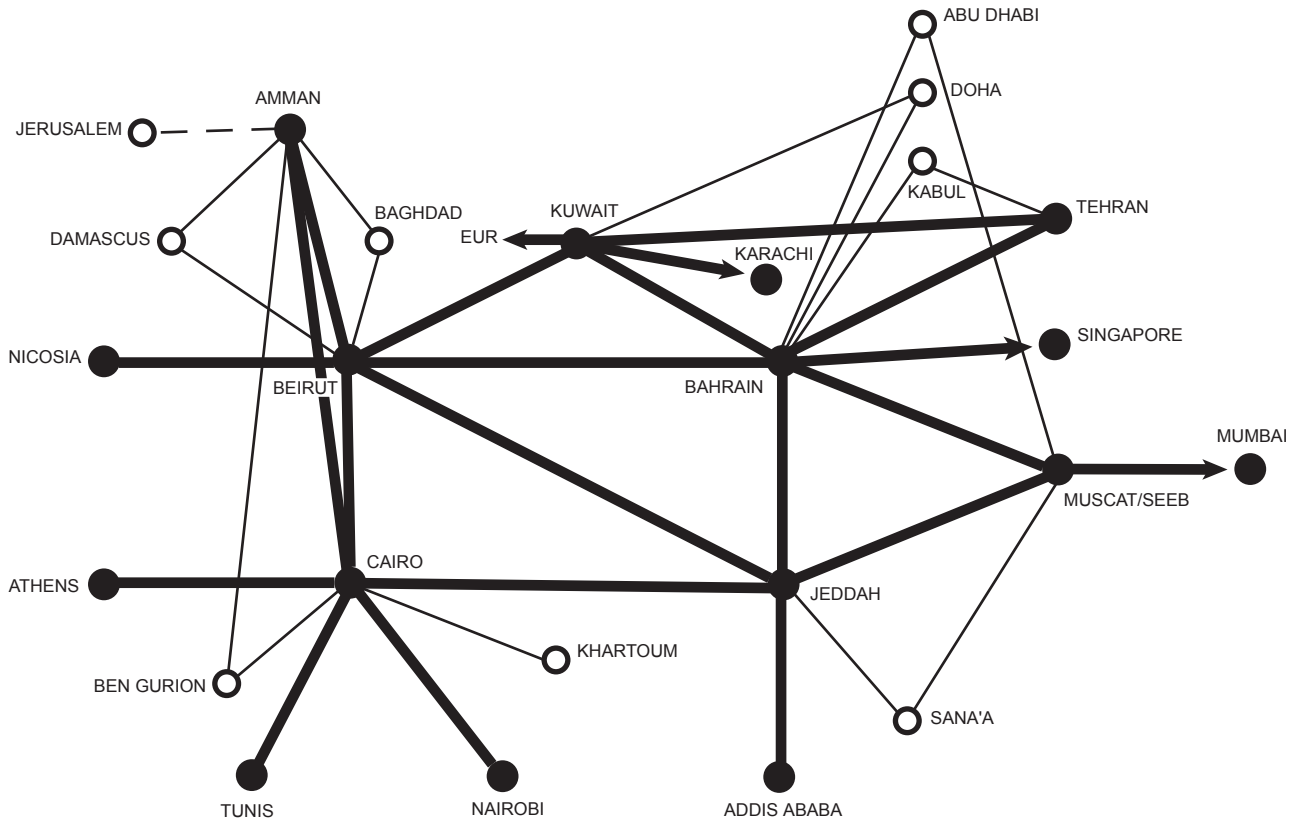
State/Station	Cat	Current				Planned				Target date of implementation	Remarks
		Type	Signaling Speed	Protocol	Code	Type	Signaling Speed	Protocol	Code		
1	2	3	4	5	6	7	8	9	10	11	12
IRAN											
TEHRAN											
BAHRAIN	M		300 baud	None	IA-5						
KABUL	T		-				9600 bps			2008	
KUWAIT	M		100 baud	None	ITA-2		300 baud			2007	
JORDAN											
AMMAN											
BAGHDAD	T		-	None	ITA-2		9600 bps			2008	
BEIRUT	M		-								
BEN GURION	T		1200 bps								
CAIRO	M		9600 bps	None	ITA-2						
DAMASCUS	T		50 baud	none	ITA-2						
JERUSALEM	S										
JEDDAH	T		19.2K bps								
KUWAIT											
KUWAIT											
BAHRAIN	M		9600 bps	None							
BEIRUT	M		100 baud	None			200 baud				
DOHA	T		100 baud	None							
(EUR)	-		100 baud	None							
KARACHI	M		2.4 K	None							
TEHRAN	M		100 baud	None							
BAGHDAD	T		9600 bps	None							

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
LEBANON											
BEIRUT											
AMMAN	M		-								
BAGHDAD	T		50 baud	None	ITA-2						
BAHRAIN	M		9600 bps	CIDIN	IA-5						
CAIRO	M		9600 bps	CIDIN	IA-5						
DAMASCUS	T		100 baud	None	ITA-2						
JEDDAH	M		100 baud	None	ITA-2		200 baud				
KUWAIT	M		100 baud	None	ITA-2		300 baud				
NICOSIA	M		9600 bps	CIDIN							
OMAN											
MUSCAT/SEEB											
ABU DHABI	T		50 baud	None			200 baud				
BAHRAIN	M		300 baud	None							
MUMBAI	M		300 baud	None			9600 bps	X25			
JEDDAH	M		300 baud	None							
SANA'A	T		100 baud	None							
SAUDI ARABIA											
JEDDAH											
ADDIS-ABABA	M		50 baud	None							
BAHRAIN	M		9600 bps	None							
BEIRUT	M		100 baud	None			9600 bps			2008	
CAIRO	M		9600 bps	CIDIN							
MUSCAT/SEEB											
SANA'A	M		300 baud	None							
	T		100 baud	None							

RATIONALIZED AFTN PLAN FOR MID REGION SHOWING MAIN AFTN CENTRES AND TRIBUTARY CONNECTIONS
PLAN DU RSFTA RATIONALISÉ POUR LA RÉGION MID (CENTRES RSFTA PRINCIPAUX ET LES LIAISONS TRIBUTAIRES)
PLAN RACIONALIZADO DE LA AFTN PARA LA REGIÓN MID (CENTROS PRINCIPALES AFTN Y ENLACES TRIBUTARIOS)
خطة مرشدة لشبكة اتصالات الطيران الثابتة لاقليم الشرق الأوسط تبين المراكز الرئيسية لشبكة اتصالات الطيران الثابتة ووصلاتها الرافدة

MID FASID

CHART CNS 1A



LEGEND LÉGENDE CLAVE شرح		
MAIN AFTN COM CENTRE CENTRE DE COMMUNICATION RSFTA PRINCIPAL CENTRO PRINCIPAL COM AFTN مركز اتصالات رئيسي لشبكة اتصالات الطيران الثابتة		●
TRIBUTARY AFTN COM CENTRE CENTRE DE COMMUNICATION RSFTA TRIBUTAIRE CENTRO TRIBUTARIO COM AFTN مركز اتصالات رافد لشبكة اتصالات الطيران الثابتة		○
MAIN CIRCUIT CIRCUIT PRINCIPAL CIRCUITO PRINCIPAL دائرة رئيسية	(M)	━━━
TRIBUTARY CIRCUIT CIRCUIT TRIBUTAIRE CIRCUITO TRIBUTARIO دائرة رافدة	(T)	———
AFTN CIRCUIT CONNECTING AN AFTN STATION TO AN AFTN CENTER CIRCUIT DU RSFTA RELIANT UNE STATION DU RSFTA À UN CENTRE DU RSFTA CIRCUITO AFTN QUE CONECTA UNA ESTACIÓN AFTN CON UN CENTRO DE COMUNICACIONES AFTN دائرة شبكة الاتصالات الثابتة للطيران التي تربط محطة للشبكة المذكورة بمركز لتلك الشبكة	(S)	— —

TABLE CNS 1B — AERONAUTICAL FIXED TELECOMMUNICATION NETWORK (MID)
TABLEAU CNS 1B — RÉSEAU DU SERVICE FIXE DES TÉLÉCOMMUNICATIONS AÉRONAUTIQUES (MID)
TABLA CNS 1B — RED DE TELECOMUNICACIONES FIJAS AERONÁUTICAS (MID)

DESIGNATED CIRCUITS REQUIRED FOR INTERNATIONAL OPERATIONS
UNTIL THE RECOMMENDED FACILITIES ARE OPERATING SATISFACTORILY

Note 1.— The intraregional circuits designated in this table should be retained until the new AFTN plan in Table CNS 1 (MID) is implemented.

Note 2.— The interregional circuits designated in this table should be retained subject to and pending the implementation of rationalized AFTN plans in adjacent regions.

EXPLANATION OF THE TABLE

Column

1 The terminal stations of individual circuits. The circuits are listed alphabetically by the Terminal I station. Each circuit is listed once only; Terminal I is always the station which is first alphabetically within the circuit.

2 Type of operation specified:

LTT = landline teletypewriter (landline, cable, VHF, UHF or SHF)
MAS = manual A1 simplex

EXPLICATION DU TABLEAU

(To be completed by HQ)

CIRCUITOS DESIGNADOS NECESARIOS PARA LAS OPERACIONES INTERNACIONALES
HASTA EL MOMENTO EN QUE LAS INSTALACIONES RECOMENDADAS
FUNCIONEN DE MANERA SATISFACTORIA

Nota 1.— Los circuitos interregionales designados en esta tabla deberían mantenerse hasta que se lleve a la práctica el nuevo plan AFTN que es objeto de la Tabla CNS 1 (MID).

Nota 2.— Los circuitos interregionales designados en esta tabla deberían mantenerse a reserva de la puesta en práctica de los planes de la AFTN racionalizada en las regiones adyacentes y en espera de esta puesta en práctica.

EXPLICACIÓN DE LA TABLA

Columna

1 Las estaciones terminales de cada circuito. Los circuitos se enumeran por orden alfabético de las estaciones terminales I. Los circuitos se enumeran solamente una vez; la estación terminal I es siempre la primera estación en orden alfabético, dentro del circuito.

2 Tipo de operación especificada:

LTT = teletipo de línea alámbrica (línea alámbrica, cable, VHF, UHF o SHF)
MAS = simplex manual A1

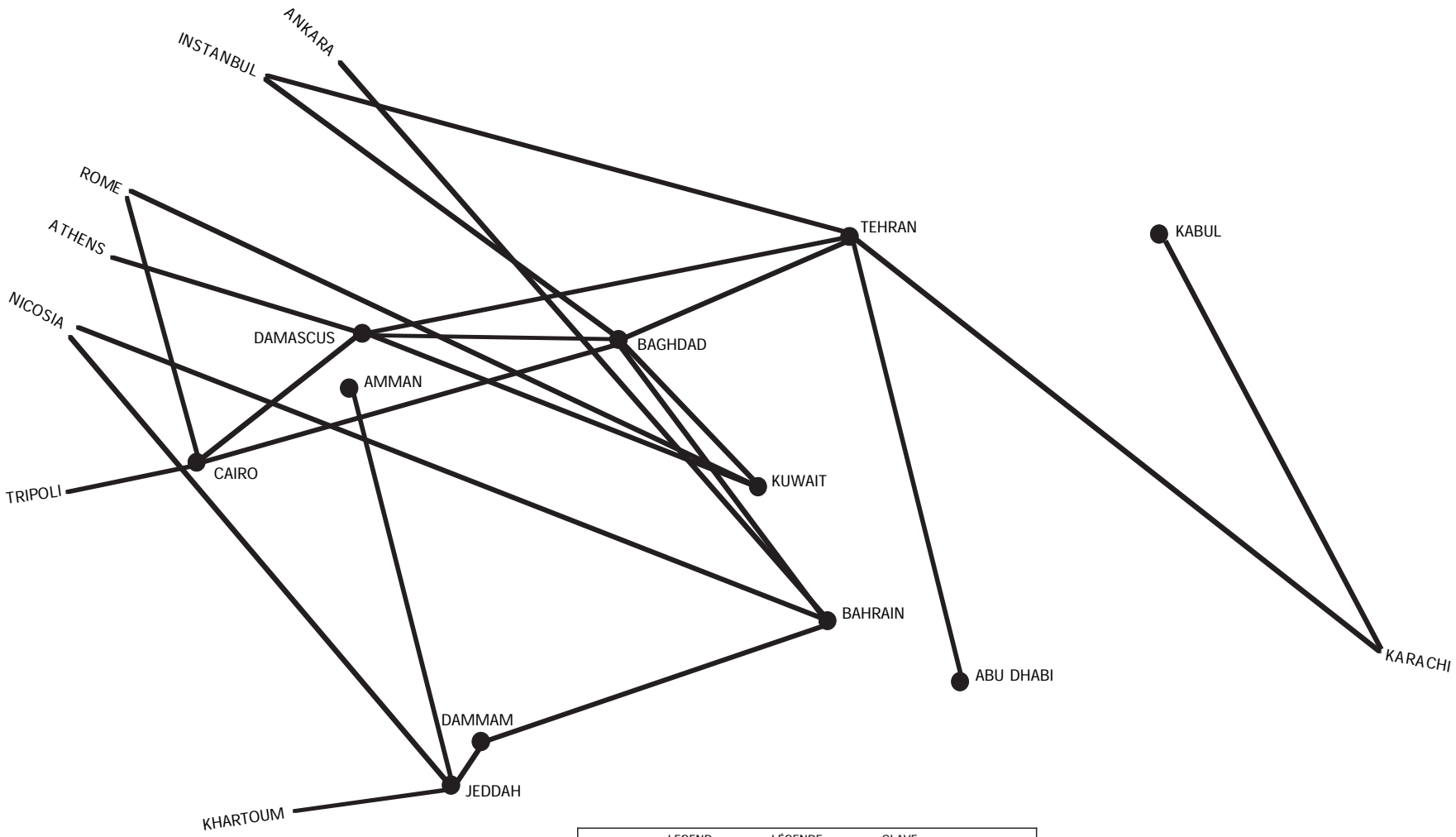
TBL_CNS1B.exp Final.doc

Locations/Lugares Terminal I Est. terminal I Terminal II Est. terminal II	Service Servicio
1	2
ABU DHABI	
TEHRAN	LTT
AMMAN	
JEDDAH	LTT
BAGHDAD	
BAHRAIN	LTT
CAIRO	LTT
DAMASCUS	LTT
ISTANBUL	LTT
KUWAIT	LTT
BAHRAIN	
ANKARA	LTT
DAMMAM	LTT
NICOSIA	LTT
CAIRO	
DAMASCUS	LTT
ROME	LTT
TRIPOLI	LTT
DAMASCUS	
ATHENS	LTT
KUWAIT	LTT
TEHRAN	LTT
DAMMAM	
JEDDAH	LTT
JEDDAH	
KHARTOUM	LTT
NICOSIA	LTT
KABUL	
KARACHI	LTT
KUWAIT	
ROME	LTT
TEHRAN	
ANKARA	LTT
KARACHI	LTT

AERONAUTICAL FIXED TELECOMMUNICATION NETWORK
RÉSEAU DU SERVICE DES TÉLÉCOMMUNICATIONS AÉRONAUTIQUES
RED DE TELECOMUNICACIONES FIJAS AERONÁUTICAS

MID FASID

CHART CNS 1B



LEGEND	LÉGENDE	CLAVE	
LANDLINE, CABLE FIL, CABLE LINEA TERRESTRE, CABLE		(LTT)	———
AFTN COMMUNICATION CENTRE CENTRE DE COMMUNICATIONS DU AFTN CENTRO DE COMMUNICACIONES AFTN			●

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
Afganistan **Kabul**	AMHS	IS			Iran,Bahrain			
Bahrain **Bahrain**	AMHS/SAIDC	**BIS**		**X**	**ASIA/PAC** Oman,Saudi Arabia Kuwait,Lebanon Iran, Afganistan Qatar,UAE			
EGYPT **Cairo**	AMHS/SAIDC	**BIS**		**X**	**AFI, EUR** Israel, Jordan, Lebanon, Saudi Arabia			
IRAN **Tehran**	AMHS/SAIDC	**BIS**		**X**	Kuwait, Bahrain Afganistan			
IRAQ **Baghdad**	AMHS	IS			Jordan, Lebanon			
ISRAEL **Ben Gurion**	AMHS	IS			Jordan, Egypt			
JORDAN **Amman**	AMHS/SAIDC	**BIS**		**X**	Egypt,Israel Lebanon,Iraq,Syria			
KUWAIT **Kuwait**	AMHS/SAIDC	**BIS**		**X**	**EUR**, Pakistan, Iran,Qatar,Bahrain, Lebanon			
LEBANON **Beirut**	AMHS/SAIDC	**BIS**		**X**	**EUR** Jordan,Syria Iraq,Kuwait,Bahrain Saudi Arabia,Egypt			
OMAN **Muscat/Seeb**	AMHS/SAIDC	**BIS**		**X**	**ASIA/PAC** Yemen, Bahrain, UAE, Saudi Arabia			
QATAR **Doha**	AMHS	IS			Kuwait, Bahrain			
SAUDI ARABIA **Jeddah**	AMHS/SAIDC	**BIS**		**X**	**AFI** Egypt, Lebanon Bahrain,Oman Yemen			
SYRIA **Damascus**	AMHS	IS			Jordan, Lebanon			
U.A.E **Abu Dhabi**	AMHS AIDC	BIS			Bahrain, Oman			
YEMEN **Sana'a**	AMHS	IS			Oman, Saudi Arabia			

TABLE CNS1C-new

TABLE CNS1C-new

TABLE CNS 1D — 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

TABLEAU CNS 1D — MOYENS DE COMMUNICATIONS VOCALES DIRECTES ATS DESTINÉS À RELIER DES FIC/ACC ADJACENTS À DES ORGANES ATS SITUÉS À L'EXTÉRIEUR DES RÉGIONS DESSERVIES PAR CES FIC OU ACC, OU À RELIER DES TOURS DE CONTRÔLE D'AÉRODROME POUR LA RÉGION MID

TABLA CNS 1D — CIRCUITOS ORALES DIRECTOS ATS ENTRE FIC/ACC ADYACENTES Y DEPENDENCIAS ATS FUERA DE LAS ÁREAS DE CONTROL DE ESTOS FIC O ACC O ENTRE TORRES DE CONTROL DE AERÓDROMO PARA LA REGIÓN MID

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 — 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.—All circuits should be implemented using LTF in MID Region.

EXPLICATION DU TABLEAU

Colonne

1 et 2 Stations terminales du circuit. Les circuits sont indiqués dans l'ordre alphabétique des stations terminales I par pays.

3
- A — -Indique un besoin ATS de communications vocales qui devraient être établies en moins de 15 secondes.
- D — -Indique….

4 Type de service spécifié:

LTF — Téléphone par fil (fil, câble, UHF, VHF, satellite).
RTF — Radiotéléphone.
TOLL — Besoin à satisfaire par appel interurbain sur un service interurbain public (TOLL).

5 DIR — Indique que le circuit indiqué aux stations terminales I et II est un circuit direct.
SW — Indique qu'il n'existe pas de circuit direct et que ce besoin doit être satisfait en passant par le centre de communication indiqué dans la colonne 6.

6 Emplacement du ou des centres de commutation.

7 Observations.

Note.— Dans la Région MID, tous les circuits doivent être mis en oeuvre sous forme de circuits LTF.

EXPLICACIÓN DE LA TABLA

Columna

1 & 2 Estaciones terminales del circuito. Los circuitos aparecen en orden alfabético, por estación terminal I y por orden de país.

3 A — Indica el requisito ATS de comunicaciones en fonía que deben establecerse en un lapso de 15 segundos.
D — Indica…..

4 Tipo de servicio especificado:

LTF — Telefonía por circuito terrestre (línea terrestre, cable, UHF, VHF, satélite).
RTF — Radioteléfono
TOOL — El requisito debe satisfacerse recurriendo al servicio público interurbano de teléfonos.

5 DIR — Indica que el circuito que figura en las terminales I y II es un circuito directo.
SW — Indica que no existe circuito directo y que el requisito debe cumplirse mediante conmutación a través del centro o de los centros de conmutación que se indican en la columna 6.

6 Ubicación de los centros de conmutaciones.

7 Observaciones.

Notas.— En la Région MID todos los circuitos deberían implantarse en forma de circuitos 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
AFGHANISTAN							
Kabul	Ashgabat	A	LTF	DIR		I	
	Dushanbe	A	LTF	DIR		I	
	Karachi	A	LTF	DIR		I	
	Lahore	A	LTF				
	Tehran	A	LTF	DIR			
	Peshawar	A	LTF				
ARMENIA							
Yerevan - Zvartnots	Tehran	A	LTF				
BAHRAIN							
Bahrain	Emirates ACC	A	LTF	DIR		I	2I+1
	Dammam	A	LTF	DIR		I	
	Doha	A	LTF	DIR		I	
	Jeddah	A	LTF	DIR		I	
	Kuwait	A	LTF	DIR		I	
	Muscat/Seeb	A	LTF	DIR		I	
	Riyadh	A	LTF	DIR		I	
	Shiraz	A	LTF				
	Tehran	A	LTF	DIR		I	
CYPRUS							
Nicosia	Beirut	A	LTF	DIR		I	
	Cairo	A	LTF	DIR		I	
	Damascus	A	LTF				
	Tel Aviv	A	LTF				
DJIBOUTI							
Djibouti	Aden	A	LTF				
	Sana'a	A	LTF				
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	

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
ERITREA							
Asmara	Jeddah	A	LTF	DIR		I	
	Sana'a	A	LTF				
ETHIOPIA							
Addis Ababa	Jeddah	A	LTF	DIR		I	
	Sana'a	A	LTF				
GREECE							
Athens	Cairo	A	LTF	DIR		I	
INDIA							
Mumbai	Muscat	A	LTF	DIR		I	
	Sana'a	A	LTF				
IRAN (ISLAMIC REPUBLIC OF)							
Abadan	Basrah	A	LTF				
	Shiraz	A	LTF	DIR		I	
Shiraz	Abadan	A	LTF	DIR		I	
	Bahrain	A	LTF	DIR		I	
	Basrah	A	LTF				
	Doha	A	LTF	DIR		I	
	Karachi	A	LTF	DIR		I	
	Kuwait	A	LTF	DIR		I	
	Tehran	A	LTF	DIR		I	
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	
	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			

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
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				
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	

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
OMAN							
Muscat	Emirates ACC	A	LTF	DIR		I	4I
	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				
PAKISTAN							
Karachi	Kabul	A	LTF				
	Muscat	A	LTF	DIR		I	
	Shiraz	A	LTF	DIR		I	
	Tehran	A	LTF	DIR		I	
Lahore	Kabul	A	LTF				
Pasni	Muscat	A	LTF				
Peshawar	Kabul	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							
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	

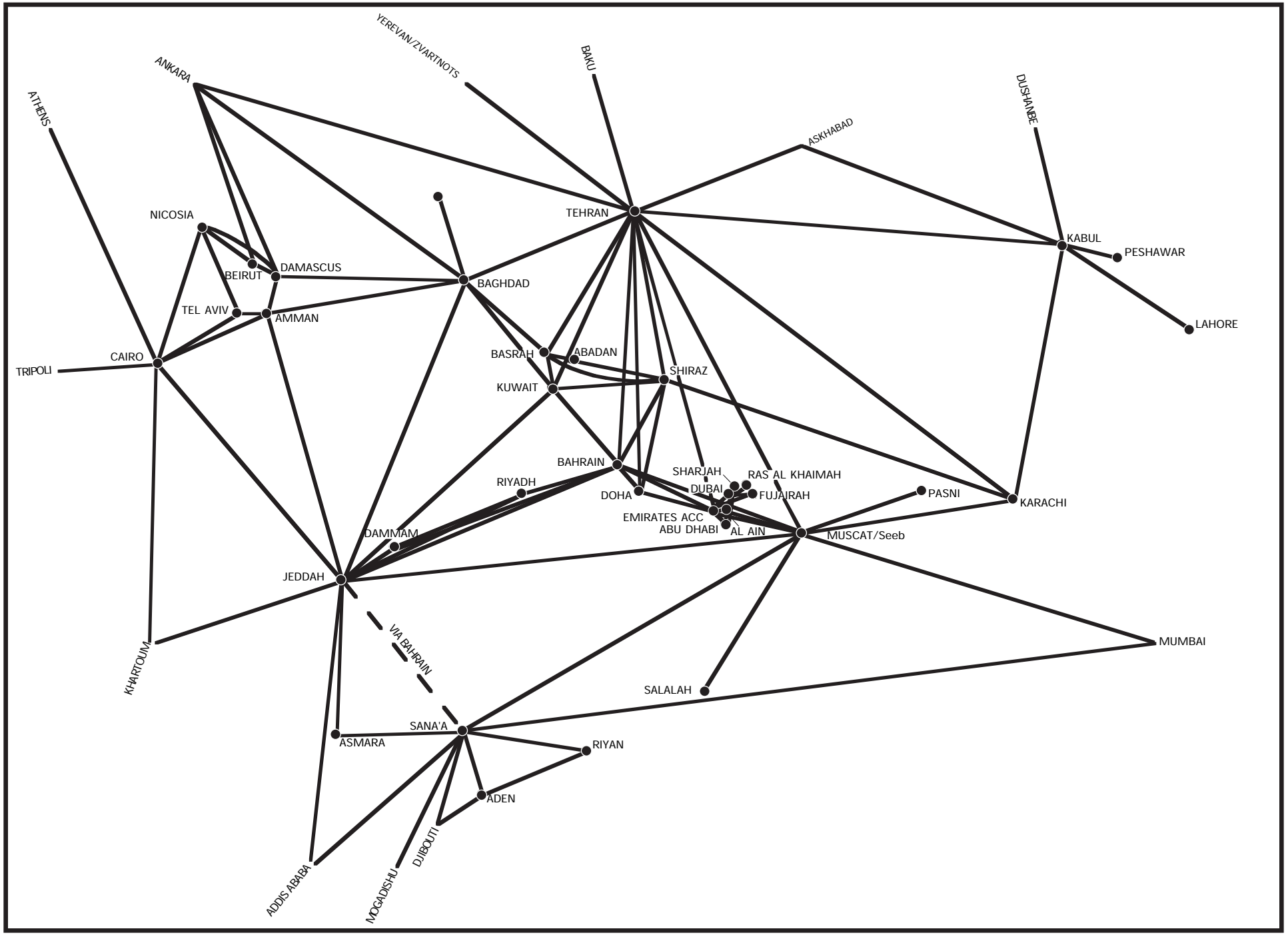
ATS REQUIREMENTS FOR SPEECH COMMUNICATIONS BESOINS ATS DE COMMUNICATIONS VOCALES REQUISITOS ATS PARA COMUNICACIONES ORALES				CIRCUIT CIRCUITO		STATUS OF IMPLEMENTATION ESTADO DE IMMPLANTACION	REMARKS OBSERVATIONS OBSERVACIONES
TERMINAL I TÊTE DE LIGNE I ESTACIÓN TERMINAL I	TERMINAL II TÊTE DE LIGNE 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
						I	
Riyadh	Bahrain	A	LTF	DIR		I	
	Jeddah	A	LTF	DIR		I	
	Dammam	A	LTF	DIR			
SOMALIA							
Mogadishu	Sana'a	A	LTF				
SUDAN							
Khartoum	Cairo	A	LTF				
	Jeddah	A	LTF				
SYRIAN ARAB REPUBLIC							
Damascus	Amman	A	LTF				
	Ankara	A	LTF				
	Baghdad	A	LTF			I	
	Beirut	A	LTF	DIR			
	Nicosia	A	LTF				
TAJIKISTAN							
Dushanbe	Kabul	A	LTF				
TURKEY							
Ankara	Baghdad	A	LTF				
	Beirut	A	LTF	DIR		I	
	Damascus	A	LTF				
	Tehran	A	LTF	DIR		I	
TURKMENISTAN							
Ashgabat	Kabul	A	LTF				
UNITED ARAB EMIRATES							
Emirates ACC	Abu Dhabi	A	LTF	DIR		I	2I
	Al Ain	A	LTF	SW		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	
Abu Dhabi	Emirates ACC	A	LTF	SW		I	2I
	Al Ain	A	LTF	DIR		I	2I
	Dubai	A	LTF	SW		I	2I

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
Al Ain	Emirates ACC	A	LTF	SW		I	2I
	Abu Dhabi	A	LTF	DIR		I	2I
	Dubai	A	LTF	SW		I	2I
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	Dubai	A	LTF	DIR		I	1I
	Emirates ACC	A	LTF	DIR		I	1I
Ras Al Khaimah	Dubai	A	LTF	DIR		I	1I
Sharjah	Dubai	A	LTF	DIR		I	3I
YEMEN							
Aden	Djibouti	A	LTF				
	Sana'a	A	LTF				
Riyan	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	SW	Via Bahrain	I	
	Mogadishu	A	LTF				
	Muscat	A	LTF	DIR		I	
	Riyan	A	LTF				

ATS DIRECT SPEECH CIRCUITS FOR MID REGION
CIRCUITS ATS EN PHONIE DIRECTE POUR LA RÉGION MID
CIRCUITOS ORALES DIRECTOS ATS PARA LA REGIÓN MID

MID FASID

CHART CNS 1D

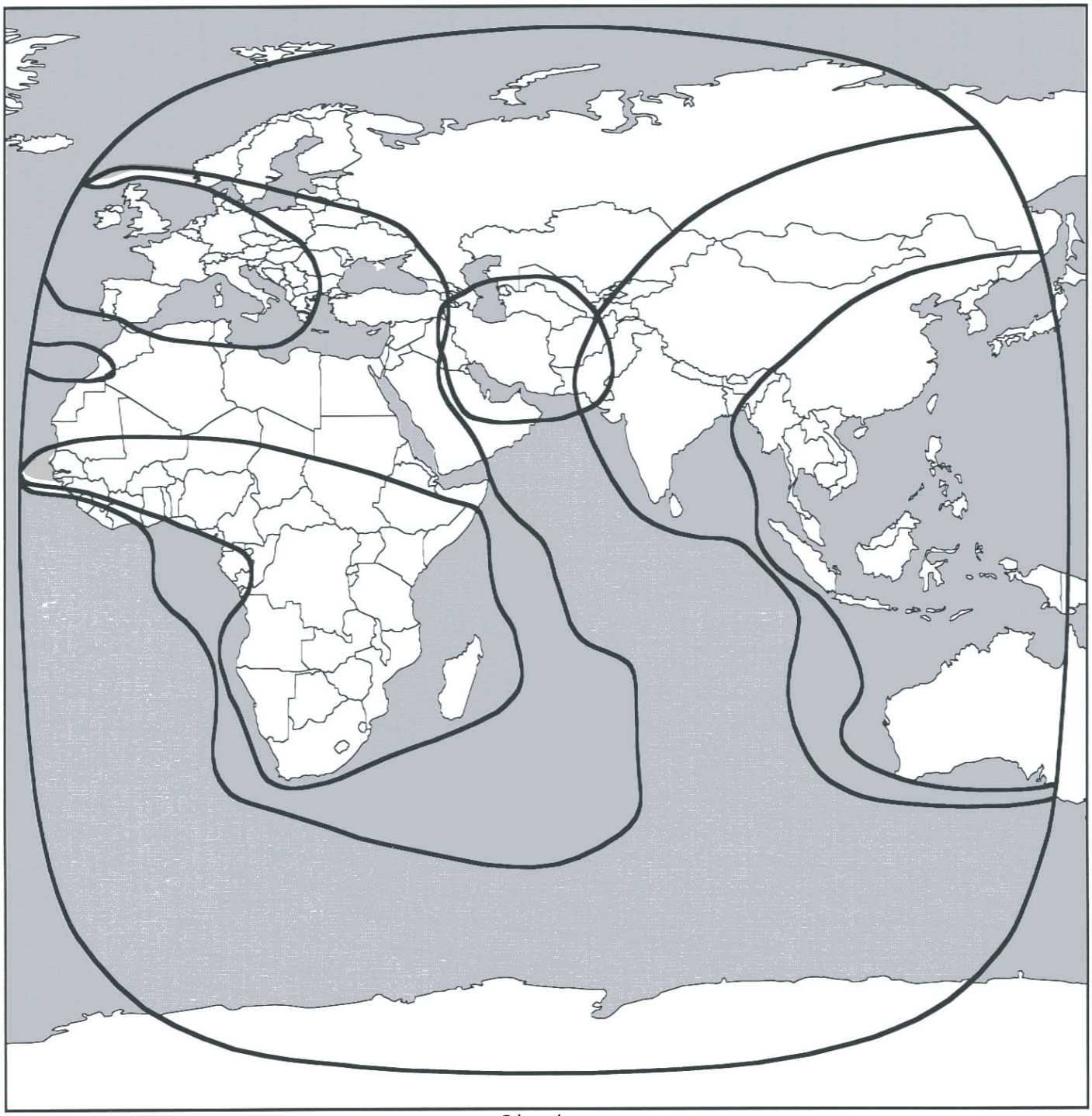


AIS/MAP 07/11

COVERAGE OF THE SATELLITE DISTRIBUTION SYSTEM FOR WAFS PRODUCTS (SADIS) USING INTELSAT 904 AT 60° E
COUVERTURE DU SYSTÈME DE DIFFUSION PAR SATELLITE D'INFORMATIONS RELATIVES À LA NAVIGATION AÉRIENNE (SADIS)
POUR LES PRODUITS DU SMPZ AU MOYEN D'INTELSAT 904 À 60° E
COBERTURA DEL SISTEMA DE DISTRIBUCIÓN POR SATÉLITE (SADIS) PARA LA INFORMACIÓN
ELABORADA POR EL WAFS MEDIANTE INTELSAT 904 A 60°E
تغطية نظام توزيع معلومات الملاحة الجوية بالأقمار الصناعية للنظام العالمي لتنبؤات المنطقة باستخدام انتلسات ٦٠٤ على ٦٠ درجة شرقا

MID FASID

CHART CNS 1E



AIS/MAP 07/11

C-band

APPENDIX TO CHART CNS 2
APPENDICE À LA CARTE CNS 2
APÈNDICE A LA CARTA CNS 2

Frequency Fréquence Frecuencia	ITU allotment area Zone d'allotissement UIT Zona de adjudicaci´n de la UIT	AFI-3	MID-1	MID-2	MID-3	V MID
1	2	3	4	5	6	7
2 944	MID				X	
2 956	V MID					X
2 992	MID		X			
3 467	MID, AFI	X		X		
3 473	MID (1)					
4 669	MID				X	
5 589	V MID					X
5 658	MID, AFI	X		X		
5 667	MID		X			
6 625	MID (1)					
6 631	MID				X	
8 918	MID		X			
8 945	V MID					X
8 951	MID				X	
10 018	MID			X		
11 375	MID				X	
11 393	V MID (2)					X
13 288	MID, AFI	X		X		
13 312	MID		X			
17 961	AFI, MID	X			X	

Note.—Headings of columns 3 through 7 indicate the ICAO designator for HF MWARA and VOLMET networks operating in or adjacent to the MID Region and are derived from the ITU allotment area abbreviations as contained in Appendix 27 Aer2 to the ITU Radio Regulations.

ITU allotment areas from ITU RR Appendix 27 Aer2:

Two and three letter entries indicate major world air route areas (MWARAs):
AFI = Africa
MID = Middle East

Four letter entries indicate VOLMET areas:
V MID = VOLMET area — Middle East

(1) Available for future use in the allotment area indicated, subject to co-ordination with ICAO.
(2) Available for future use in the network indicated, subject to co-ordination with ICAO.

TABLE CNS 2 — 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	VHF-Extended range
GP	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
AFGHANISTAN									
OAKX KABUL FIR									
	FIS-U	1							
	ACC-U	1							
OAKB KABUL/Kabul									
	APP-I	1							75
	TWR	1							25
OAKN KANDAHAR/Kandahar									
	APP-I	1							50
	TWR	1							25
BAHRAIN									
OBBB BAHRAIN FIR									
	ACC-SR-U	2							
	ACC-SR-I	1							150
	VOLMET	1							
OBBI BAHRAIN/Bahrain Intl									
	APP-SR-I	1							80
	TWR	1							25
	SMC	2							AD (GP)
	ATIS	1							150
EGYPT									
HEAX ALEXANDRIA/Alexandria Intl	TWR	1							25
HEBA ALEXANDRIA/Borg El Arab Intl									
	TWR	1							25
	APP-SR-I	1							60
	ACC-SR-U	1							150
HESN ASWAN/Aswan Intl									
	TWR	1							25
	APP-SR-I	1							60
	ACC-SR-U	1							150
HECC CAIRO FIR									
	ACC-U- ER	4							ER
	ACC-SR-U-ER	6							ER
	ACC-SR-I-ER	2							ER (100)
	VOLMET	1							
HECA CAIRO/Cairo Intl									
	APP-SR-I	3							80
	TWR	3							25
	SMC	1							AD
	ATIS	1							150
HEAR EL ARISH/El Arish Intl.									
	TWR	1							25
	APP-SR-I	1							60
	ACC-SR-U	1							150
HEGN HURGHADA/Hurghada Intl									
	TWR	1							25
	APP-SR-I	1							60
	ACC-SR-U	1							150
	SMC	1							AD
HELX LUXOR/Luxor Intl									
	TWR	1							25
	APP-SR-I	1							60
	ACC-SR-U	1							150
	SMC	1							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
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
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	TWR SMC ATIS	1 1 1							25 AD 150
OISL LAR	TWR SMC	1 1							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	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
	SMC ATIS	1 1							AD 150
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		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 TWR SMC ATIS	1 1 2 1							100 25 AD 150
ISRAEL LLET ELIAT/Eliat Intl									

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
	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
OJJR JERUSALEM/Jerusalem									
	APP-I TWR	1 1							40 25
KUWAIT									
OKAC KUWAIT									
	ACC-SR-U	2							200
OKBK KUWAIT/Kuwait Intl									
	APP-SR-I TWR SMC	2 1 2							100 25 AD
LEBANON									
OLBB BEIRUT									
	ACC-U ACC-SR-I ACC-SR-U	2 1 1							CTA 75 75
OLBA BEIRUT/Beirut Intl									
	APP-L APP-I APP-SR-I APP-SR-L VOLMET TWR	1 1 1 1 1 1							75 75 75 50 FIR 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
	SMC ATIS	1 1							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/Seeb Intl	APP-SR-I TWR SMC ATIS	2 1 1 1							75 25 AD 150
OOSA SALALAH/Salalah	APP-SR-I TWR SMC ATIS	1 1 1 1							75 25 AD 150
QATAR OTBD DOHA/Doha Intl	APP-SR-I TWR SMC ATIS	1 1 1 1							75 25 AD 150
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
OEMA MADINAH/Prince Mohamed Bin Abdulaziz Intl	APP-I APP-L TWR	1 2 1							50 75 25
	SMC ATIS	1 1							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

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
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	5							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
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
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

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
OYAR RIYAN/Riyan	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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Appendix A to Table CNS 2

VHF SERVICE AREAS

1. Air traffic control service

Air-ground communications for:	Symbol	Service**		Remarks
		Range	Height	
1	2	3	4	5
Aerodrome control service				
— generally	TWR	46 km (25 NM)	1 200 m/4 000 ft (above aerodrome)	
— surface movement control[1]	SMC	Limits of aerodrome	N/A	Assigned when operationally required
Approach control service for				
— all current operational leve	APP-U	280 km (150 NM)	FL 450	
— traffic below FL 250	APP-I	140 km (75 NM)	FL 250	
— traffic below FL 120	APP-L	93 km (50 NM)	FL 120	
— traffic under radar surveillance*	APP/SR or APP/PAR	As per above, or area of radar coverage, whichever is smaller		Assigned when operationally required
Area control service				
— all current operational leve	ACC-U	The whole control area or flight information region or sector within which a channel is used for area control service plus 93 km (50 NM)*	FL 450	May be achieved by communications from more one facility
— traffic below FL 250	ACC-L	"	FL 250	
— traffic under radar surveillance*	ACC/SR	Same as above, or area of radar coverage, whichever is smaller		Assigned when operationally required

** "Service range and height" is used to mean the airspace within which the air-ground communications with an aeronautical station should normally be free from interference by air-ground communications conducted with another aeronautical station using the same frequency.

1.1 ***Flight information service***

1.2.1 In line with Annex 11, air traffic control units provide flight information service to aircraft under their jurisdiction. This is generally done on the channels required for aerodrome, approach or area control service, with coverage criteria being obviously similar.

1.2.2 However, where:

a) an area control centre (ACC) provides flight information service to non-controlled aircraft within the whole of a flight information region (FIR), and the channels required for the provision of area control service are not sufficient to accommodate the communications of the flight information service; or

b) where an FIC is established for an FIR where no ACC exists,

the air-ground communications requirements for the provision of flight information service should be specified in a manner similar to that relevant to the communications for area control service, using the symbol "FIS" instead of "ACC".

1.2.3 Where flight information broadcasts are to be provided, the channel requirements should be specified in a manner similar to that for area, approach or aerodrome control service, using the symbol "VOLMET", "OFIS/HS", "OFIS/VHF" or "ATIS" as appropriate.

Appendix B to Table CNS 2

VHF FREQUENCY UTILIZATION PLAN

Function	Frequencies / Bands (MHz)			
TWR	118.000	118.025	118.050	118.075
	118.100	118.125	118.150	118.175
	118.200	118.225	118.250	118.275
	118.300	118.325	118.350	118.375
	118.400	118.425	118.450	118.475
	118.500	118.525	118.550	118.575
	118.600	118.625	118.650	118.675
	118.700	118.725	118.750	118.775
	118.800	118.825	118.850	118.875
	124.300	124.325	124.350	124.375
SMC	121.600	121.625	121.650	121.675
	121.700	121.725	121.750	121.775
	121.800	121.825	121.850	121.875
	121.900	121.925	121.950	121.975
APP-PAR	119.500	119.525	119.550	119.575
	119.600	119.625	119.650	119.675
	119.800	119.825	119.850	119.875
	119.900	119.925	119.950	119.975
APP-I, APP/DF-I,	119.000	119.025	119.050	119.075
	119.100	119.125	119.150	119.175
	119.200	119.225	119.250	119.275
	119.400	119.425	119.450	119.475
	119.700	119.725	119.750	119.775
	120.000	120.025	120.050	120.075
	120.200	120.225	120.250	120.275
	120.400	120.425	120.450	120.475
	120.600	120.625	120.650	120.675
	120.800	120.825	120.850	120.875
	121.000	121.025	121.050	121.075
	121.100	121.125	121.150	121.175
	121.200	121.225	121.250	121.275
	121.400			
APP/SR-I, FIS-I	123.800	123.825	123.850	123.875

	124.000	124.025	124,050	124.075
	124.700	124.725	124.750	124.775
	125.100	125.125	125.150	125.175
	125.500	125.525	125.550	125.575
	126.500	126.525	126.550	126.575
	127.700	127.725	127.750	127.775
	127.800	127.825	127.850	127.875
	127.900	127.925	127.950	127.975
APP-U	120.300	120.325	120.350	120.375
	121.300	121.325	121.350	121.375
	124.400	124.425	124.450	124.475
	124.600	124.625	124.650	124.675
	124.800	124.825	124.850	124.875
	124.900	124.925	124.950	124.975
	125.000	125.025	125.050	125.075
	125.100	125.125	125.150	125.175
	125.200	125.225	125.250	125.275
	125.300	125.325	125.350	125.375
	125.400	125.425	125.450	125.475
	125.500	125.525	125.550	125.575
	125.600	125.625	125.650	125.675
	125.700	125.725	125.750	125.775
	125.800	125.825	125.850	125.875
	125.900	125.925	125.950	125.975
	126.000	126.025	126.050	126.075
	126.100	126.125	126.150	126.175
	126.200	126.225	126.250	126.275
	126.300	126.325	126.350	126.375
ACC-I	126.100	126.125	126.150	126.175
	127.500	127.525	127.550	127.575
	128.300	128.325	128.350	128.375
	128.700	128.725	128.750	128.775
ACC-U	118.900	118.925	118.950	118.975
ACC-LU	119.300	119.325	119.350	119.375
	120.500	120.525	120.550	120.575
	120.700	120.725	120.750	120.775
	120.900	120.925	120.950	120.975
	123.700	123.725	123.750	123.775
	124.500	124.525	124.550	124.575
	125.300	125.325	125.350	125.375
	125.700	125.725	125.750	125.775
	125.900	125.925	125.950	125.975
	128.100	128.125	128.150	128.175
	132.100	132.125	132.150	132.175

	132.200	132.225	132.250	132.275
	132.300	132.325	132.350	132.375
	132.400	132.425	132.450	132.475
	132.500	132.525	132.550	132.575
	132.600	132.625	132.650	132.675
	132.700	132.725	132.750	132.775
	132.800	132.825	132.850	132.875
	132.900	132.925	132.950	132.975
	133.000	133.025	133.050	133.075
	133.100	133.125	133.150	133.175
	133.200	133.225	133.250	133.275
	133.300	133.325	133.350	133.375
	133.400	133.425	133.450	133.475
	133.500	133.525	133.550	133.575
	133.600	133.625	133.650	133.675
	133.700	133.725	133.750	133.775
	133.800	133.825	133.850	133.875
	133.900	133.925	133.950	133.975
	134.000	134.025	134.050	134.075
	134.100	134.125	134.150	134.175
	134.200	134.225	134.250	134.275
	134.300	134.325	134.350	134.375
	134.400	134.425	134.450	134.475
	134.500			
FIS-U (GP)	120.100	120.125	120.150	120.175
	123.900	123.925	123.950	123.975
	124.100	124.125	124.150	124.175
	124.900	124.925	124.950	124.975
	126.700	126.725	126.750	126.775
	126.900	126.925	126.950	126.975
	127.100	127.125	127.150	127.175
	127.300	127.325	127.350	127.375
	128.500	128.525	128.550	128.575
	134.600	134.625	134.650	134.675
	134.700	134.725	134.750	134.775
	134.800	134.825	134.850	134.875
	134.900	134.925	134.950	134.975
	135.000	135.025	135.050	135.075
	135.100	135.125	135.150	135.175
	135.200	135.225	135.250	135.275
	135.300	135.325	135.350	135.375
	135.400	135.425	135.450	135.475
	135.500	135.525	135.550	135.575
	135.600	135.625	135.650	135.675
	135.700	135.725	135.750	135.775

	135.800			
VOLMET / ATIS	126.000	126.025	126.050	126.075
	126.200	126.225	126.250	126.275
	126.400	126.425	126.450	126.475
	126.600	126.625	126.650	126.675
	126.800	126.825	126.850	126.875
	127.000	127.025	127.050	127.075
	127.200	127.225	127250	127.275
	127.400	127.425	127.450	127.475
	127.600	127.625	127.650	127.675
	127.800	127.825	127.850	127.875
	128.000	128.025	128.050	128.075
	128.200	128.225	128.250	128.275
	128.400	128.425	128.450	128.475
	128.600	128.625	128.650	128.675
	128.700	128.725	128.750	128.775
	128.800			
OPERATIONAL CONTROL	128.825	128.850	128.875	128.900
	128.925			
	128.975	129.000	129.025	129.050
	129.075	129.100	129.125	129.150
	129.175	129.200	129.225	129.250
	129.275	129.300	129.325	129.350
	129.375	129.400	129.425	129.450
	129.475	129.500	129.525	129.550
	129.575	129.600	129.625	129.650
	129.675	129.700	129.725	129.750
	129.775	129.800	129.825	129.850
	129.875	129.900	129.925	129.950
	129.975	130.000	130.025	130.050
	130.075	130.100	130.125	130.150
	130.175	130.200	130.225	130.250
	130.275	130.300	130.325	130.350
	130.375	130.400	130.425	130.450
	130.475	130.500	130.525	130.550
	130.575	130.600	130.625	130.650
	130.675	130.700	130.725	130.750
	130.775	130.800	130.825	130.850
	130.875	130.900	130.925	130.950
	130.975	131.000	131.025	131.050
	131.075	131.100	131.125	131.150
	131.175	131.200	131.225	131.250
	131.275	131.300	131.325	131.350
	131.375	131.400	131.425	131.450
	131.475	131.500	131.525	131.550

	131.575	131.600	131.625	131.650
	131.675	131.700	131.725	131.750
	131.775	131.800	131.825	131.850
	131.875	131.900	131.925	131.950
	131.975	132.000	132.025	
AIR-TO-AIR	123.450 and 128.950			
DATA LINK	136.900	136.925	136.950	136.975
	137.000			
SPARE	136.000	136.025	136.050	136.075
	136.100	136.125	136.150	136.175
	136.200	136.225	136.250	136.275
	136.300	136.325	136.350	136.375
	136.400	136.425	136.450	136.475
	136.500	136.525	136.550	136.575
	136.600	136.625	136.650	136.675
	136.700	136.725	136.750	136.775
	136.800	136.825	136.850	136.875
	136.900			

Appendix C to Table CNS 2

HARMFUL INTERFERENCE REPORT FORM

The form should be only submitted after at least the section marked with an asterisk (*) have been completed.

***** State or Organization submitting report……..

***** 1. Frequency of channel interfered with……..

***** 2. Station or route interfered with ……..

***** 3. Is the interference persistent ? ……

***** 3.1 altitude , position, time at which interference was observed :

Date	Time (GMT)	Altitude	Position

N.B. report form should not be sent unless the interference has been observed a sufficient number of times to justify setting international administrative machinery into motion, or unless it is considered as really endangering a radio navigation or safety service.

4. Has your Administration already applied, regarding this case of interference, any part of the ITU procedures laid down in Article S15 of the ITU Radio Regulations? ……

5. Call sign of IS (IS= Interfering Station) ……

6. Name of IS corresponding to the call sign ……..

7. Notified frequency on which IS should operate (if known)

8. a) Approximate frequency of IS ……KHz/MHz

   b) Strength of IS (QSA or SINPFEMO- see ICAO Doc. 8400/3)……

9. Class of emission of IS ……

10. Language used by IS ……

11. Call sign of station in communication with……

N.B. If the call sign referred to in 5 could not be received, or if the call sign received is not in the international series and cannot be interpreted, the Report Form should not be sent unless at least one of the questions under 12, 13 and 14 can be answered.

12. Location of the IS (accurate or approximate coordinates) ……..

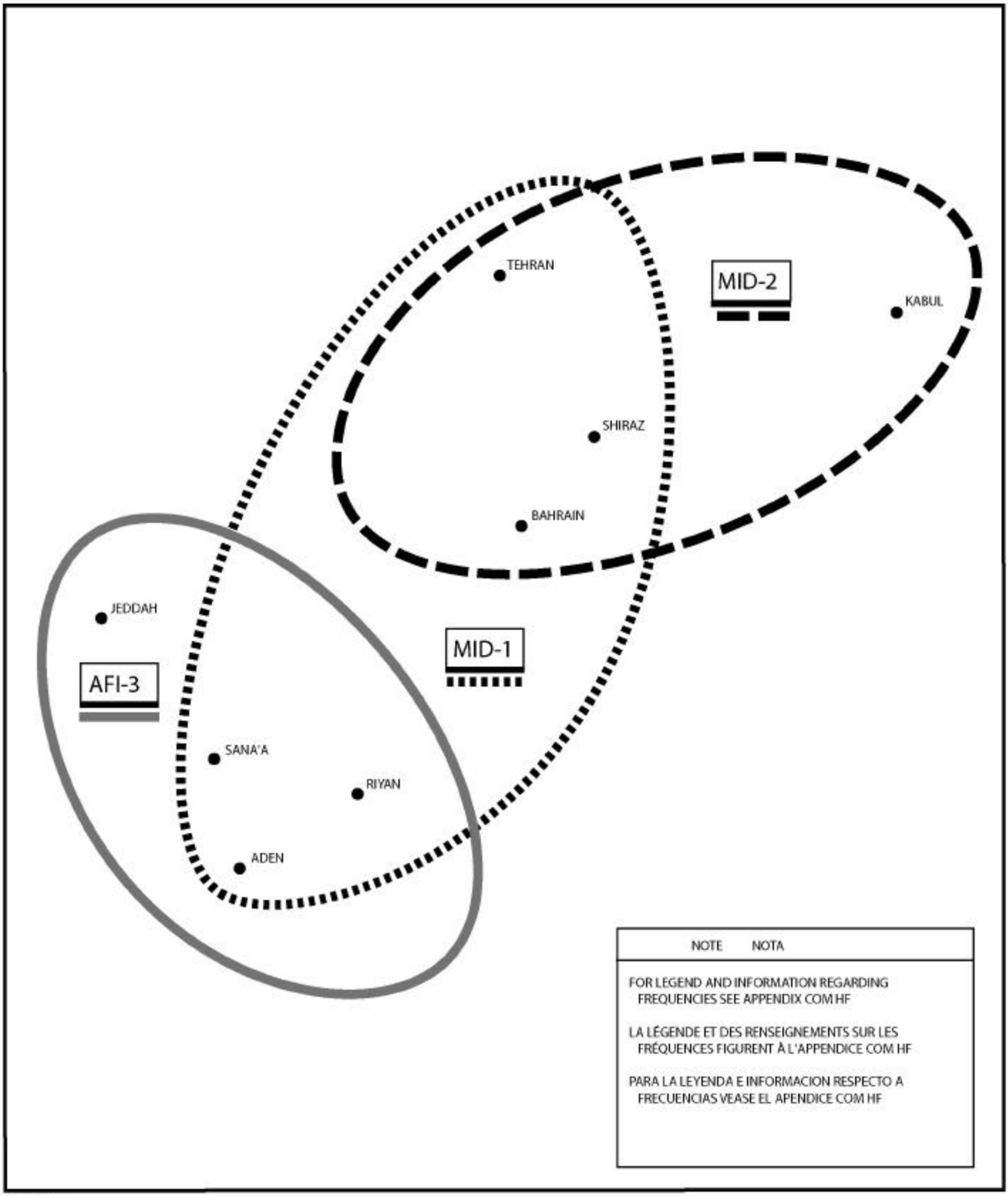
13. Country where interfering station is believed to be located ……

14. Bearing (in degrees true) of the IS (with indication of location of D/F station) ……
……

HF EN-ROUTE RADIOTELEPHONY NETWORK
RÉSEAUX RADIOTÉLÉPHONIQUES HF EN ROUTE
REDES RADIOTELEFONICAS HF EN RUTA

MID FASID

CHART CNS 2



NOTE NOTA
FOR LEGEND AND INFORMATION REGARDING FREQUENCIES SEE APPENDIX COM HF LA LÉGENDE ET DES RENSEIGNEMENTS SUR LES FRÉQUENCES FIGURENT À L'APPENDICE COM HF PARA LA LEYENDA E INFORMACION RESPECTO A FRECUENCIAS VEASE EL APENDICE COM HF

AIS/MAP 98/S

APPENDIX TO CHART CNS 2
APPENDICE À LA CARTE CNS 2
APÉNDICE A LA CARTA CNS 2

Frequency Fréquence Frecuencia	ITU allotment area Zone d'allotissement UIT Zona de adjudicaci?n de la UIT	AFI-3	MID-1	MID-2	MID-3	V MID
1	2	3	4	5	6	7
2 944	MID				X	
2 956	V MID					X
2 992	MID		X			
3 467	MID, AFI	X		X		
3 473	MID (1)					
4 669	MID				X	
5 589	V MID					X
5 658	MID, AFI	X		X		
5 667	MID		X			
6 625	MID (1)					
6 631	MID				X	
8 918	MID		X			
8 945	V MID					X
8 951	MID				X	
10 018	MID			X		
11 375	MID				X	
11 393	V MID (2)					X
13 288	MID, AFI	X		X		
13 312	MID		X			
17 961	AFI, MID	X			X	

Note.C Headings of columns 3 through 7 indicate the ICAO designator for HF MWARA and VOLMET networks operating in or adjacent to the MID Region and are derived from the ITU allotment area abbreviations as contained in Appendix 27 Aer2 to the ITU Radio Regulations.

ITU allotment areas from ITU RR Appendix 27 Aer2:

Two and three letter entries indicate major world air route areas (MWARAs):
AFI = Africa
MID = Middle East

Four letter entries indicate VOLMET areas:
V MID = VOLMET area C Middle East

(1) Available for future use in the allotment area indicated, subject to co-ordination with ICAO.

(2) Available for future use in the network indicated, subject to co-ordination with ICAO.

FRENCH

Nota.C Los encabezamientos de las columnas 3 a 7 indican el designador OACI correspondiente a las redes HF de la MWARA y redes VOLMET que funcionan en la Regi?n MID o en regiones adyacentes a las primeras y tienen su origen en las abreviaturas de zonas de adjudicaci?n de la UIT tal como aparecen en el Ap?ndice 27 Aer2 del Reglamento de Radiocomunicaciones de la UIT.

Anotaciones de dos y tres letras indican zonas de paso de rutas a?reas mundiales principales (MWARA):
AFI = ? frica
MID = Oriente Medio

Las anotaciones de cuatro letras indican zonas VOLMET:
V MID = zona VOLMET C Oriente Medio

1) Disponible para uso futuro en la zona de adjudicaci?n indicada, sujeto a coordinaci?n con la OACI.
2) Disponible para uso futuro en la red indicada, sujeto a coordinaci?n con la OACI.

Appendix C

TABLE CNS 3 — RADIO NAVIGATION AIDS (MID REGION)

TABLA CNS 3 — 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:

NINST - non-instrument runway
NPA — non-precision approach
PA-1 — precision approach runway, Category I
PA-2 — precision approach runway, Category II
PA-3 — 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 — Approach and landing
T — Terminal
E — En-route

4 ILS — 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 GNSS-global navigation satellite system (includes GBAS and SBAS).

11 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)

12 **Remarks**

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

X- Required but not implemented
XI- Required and implemented

EXPLICATION DU TABLEAU
(To be completed by HQ)

EXPLICACIÓN DE LA TABLA

Columna

1 Nombre del país, ciudad y aeródromo, y en el caso de las ayudas en ruta, el lugar de la instalación.

2 Tipo de pista:

NINST — pista de vuelo visual
INST — pista para aproximaciones por instrumentos
NPA — pista para aproximaciones que no son de precisión
PA-I — pista para aproximaciones de precisión, Categoría I
PA-II — pista para aproximaciones de precisión, Categoría II

3 La función de las ayudas figura en las columnas 4 a 8 y 10 a 12

A/L — aproximación y aterrizaje
T — terminal
E — en ruta

4 ILS — el número de designación de la pista con ILS aparece junto a los números romanos I o II, a fin de indicar la categoría de actuación del ILS de Categoría I o II respectivamente.

Nota.—La indicación de la categoría se refiere al nivel de actuación de la instalación que ha de lograrse y, de acuerdo con las disposiciones pertinentes del Anexo 10, no con las especificaciones del equipo ILS instalado, que no son necesariamente las mismas.

**Indica que el ILS requiere una calidad de señal de Categoría II, pero sin la fiabilidad y disponibilidad que proporcionan la redundancia de equipo y la transferencia automática.*

5 Radiofaro de localización, ya sea asociado con un ILS o como ayuda para la aproximación a un aeródromo.

6 Equipo radiotelemétrico. Alineado con el ILS según lo indicado en la columna 4 cuando el DME se necesita para sustituir a una radiobaliza del ILS. Cuando está alineado con el VOR en la columna 7, indica que es necesario que el DME esté

instalado junto al VOR.

7 VOR recomendado.

8 NDB

8 La distancia y altitud necesarias para proteger la señal del VOR o VOR/DME, en millas marinas (NM) y en miles de pies.

9 ……

10,11 ……

12 ….

TABLE CNS 3

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS		REMARKS OBSERVACIONES
									GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12
AFGHANISTAN											
GHAZNI		E				X		200/45			
KABUL/Kabul	11 NPA	A/L			X	X					
	29 PA 1	A/L	I*	X	X	X					
		T			X	X					
		E			X	X		300/45			
KANDAHAR/Kandahar	05 NPA	A/L		x		X					
	23 NPA	A/L				X					
		T				X		300/45			
		E				X		300/45			
BAHRAIN											
BAHRAIN/Bahrain Intl	12R NPA				X I	X I					
	30L NPA				X I	X I					
	12L PA2	A/L	II (I)		XI	XI					
	30R PA2	A/L	II (I)	X	XI	XI		300/45			
EGYPT											
EL-ARISH/ El-Arish Int'l	16 NPA	A/L			XI	XI		150/45			
	34 NPA										
ASYUT/ Asyut Int'l	13 NPA	A/L			XI	XI		200/45			
	31 NPA	E									
ALEXANDRIA/ Alexandria Intl	04 PA 1	A/L	I*		XI	XI	XI	100/45			
	22 NPA	E			XI	XI		150/45			
	18 NPA										
	36 NPA										
ALEXANDRIA/ Borg El Arab Int'l	32 PA 1	A/L	I* (I) D	X	XI	XI	XI	100/45			
	14 NPA	T									

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS		REMARKS OBSERVACIONES
									GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12
CAIRO/ Almaza Int.	18 NPA 36 NPA 05 NINST 23 NINST	A/L					XI	25/45			
CAIRO/Cairo Intl	05R PA 2 23R PA 2 23L PA 2 05L PA 2 16 NPA 34 NPA	A/L A/L A/L A/L T E	II II(I) II (I) II (I)	X X X X	XI XI	XI XI		150/45 200/45			
HURGHADA/ Hurghada Intl	16 NPA 34 PA 2	A/L T E	I*(I)		XI XI	XI XI		 100/45			
LUXOR/ Luxor Intl	02 NPA 20 PA 1	A/L T E	I* (I)		XI XI	XI XI		 150/45			
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 04R NPA 22L NPA	A/L T E	 I (II)	X	XI XI	XI XI	XI	100/45 200/50			

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS		REMARKS OBSERVACIONES
									GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12
ASWAN/ Aswan Intl	17 PA1 35 PA1	A/L T E	II	X	XI XI	XI XI		150/45			
TABA/ Taba Int'l	04 NPA 22 NPA	A/L T			X	XI	XI	150/45 100/45			
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	~~NPA~~ 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			

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS		REMARKS OBSERVACIONES
									GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12
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			
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	~~NPA~~ 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			

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS		REMARKS OBSERVACIONES
									GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12
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			
SAVEH		E			XI	X		300/45			
SHIRAZ / Shahid Dastghaib Intl	29L PA 1	A/L E	I* (I)		XI	XI		300/45	X		
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	X		
UROMIYEH	~~NPA~~ 21 PA1	A/L E	I* (I)		XI	XI		200/45			
YAZD / Shahid Sadooghi	NPA	A/L E			XI	XI		300/45			
ZAHEDAN	~~NPA~~ 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			

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS		REMARKS OBSERVACIONES
									GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12
BAGHDAD/~~Saddam~~ Baghdad Int'l	~~15R PA 2~~ NINST	A/L	II (I)	X	X	X					
	~~33L PA 2~~ NINST	A/L	II (I)	X	X	X					
	~~15L PA 2~~ NINST	A/L	II (I)	X	X	X					
	~~33R PA 2~~ NINST	A/L	II (I)	X	X	X					
		E			X	X		200/45			
BASRAH/Intl	~~14 PA 2~~	A/L	II (I)	X	X	X					
	~~32 PA 2~~	A/L	II (I)	X	X						
		E				X		300/45			
HASHIMIYA		E			X	X		200/45			
(HADITHA)		E			X	X		100/50			
MANDALY		E									
MOSUL	PA~~2~~ 1	A/L		X	X	X					
SAMARA		E			X	X		200/45			
HAWIJA		E			X	X		100/50			
SHATRA		E			X	X		100/50			
ISRAEL											
ELAT/Elat	03 NPA	A/L			XI	XI					
	21 NINST	E			XI	XI					
					X	X		300/45			
HAIFA/Haifa	16 NINST										
	34 NINST										
JERUSALEM/Atarot	12 NINST	A/L									
	30 PA 1	A/L	I*								
METZADA		E			X	X		150/45			

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS		REMARKS OBSERVACIONES
									GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12
NATANIA		E			X	X		150/45			
OVDA/Intl	20R NPA	A/L	I		X	X		150/50			
	02L NINST										
TEL AVIV/Ben Gurion	03 NPA				XI	XI					
	21 NINST	A/L			XI	XI					
	08 NINST	A/L	I* (I)	X	XI						
	26 PA 1	A/L	I* (I)	X	XI	XI					
	12 PA 1	E			XI	XI					
	30 NPA	E			XI	XI					
						X		150/50			
						X		200/50			
TEL AVIV/Sde-Dov	03 NINST	A/L									
	21 NINST	A/L									
ZOFAR		E			X	X		150/45			
JORDAN											
AMMAN/MARKA	24 PA 1	A/L	I (I)	XI	XI	XI	XI				
	06 NPA	A/L		X				175/37.5			
AMMAN/Queen Alia	08R NPA	A/L	X	X	X		XI		X	X	
	26L PA 2	A/L	II(I)	XI	XI	XI	XI		X	X	
	08L PA 2	A/L	II(I)	XI	XI		XI		X	X	
	26R PA 2	A/L	II(I)	XI	XI	XI	XI		X	X	
AQABA/~~Aqaba~~ king Hussein	~~02~~ 01 PA 1	A/L	I(I)	XI	XI	XI	X	200/50	X	X	
		E						200/50			
METSA		E			X	X		150/50			
QATRANEH		E			XI	XI		100/50			

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS		REMARKS OBSERVACIONES
									GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12
KUWAIT											
KUWAIT/Intl	15R PA 2	A/L	II (I)	XI	XI						
	33L PA 2	A/L	II (I)	XI	XI						
	15L PA 2	A/L	II (I)		XI						
	33R PA 2	A/L	II (I)		XI						
		T			XI	XI		300/50			
		E			XI	XI		300/50			
LEBANON											
~~BAYSUR~~		~~E~~				~~X~~		~~180/40~~			
BEIRUT/Beirut Intl	~~18~~ 16 PA 1	A/L	I* (I) D	X	X I	~~X I~~					
	~~21~~ 17 PA 1	A/L	I* (I) D	X	X I	~~X I~~					
	03 PA 1	A/L	I* (I) D	X	X I	~~X I~~					
	21 PA1	~~E~~ AL	I* (I) D	X	X I	~~X I~~		~~150/45~~			
CHEKKA		E			Xi	XI		~~80~~ 150/50			
~~SAIDA~~ 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		E			X I	X I		200/45			
MUSCAT/Seeb Intl	08 PA 1	A/L	I* (I) D		X I						
	26 PA 1	A/L	I* (I) D		X I						
		E			X I	X I		200/45			
SALALAH/Salalah	07 NPA	A/L			X I	X I					
	25 PA 1	A/L	I* (I) D		X I	X I					
		E			X I	X I		200/45			

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS		REMARKS OBSERVACIONES
									GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12
SUR		E			X I	X I		200/45			
QATAR											
DOHA/Doha Intl	16 NPA	A/L			X	X					
	34 PA 1	A/L	I* (I)	X	X	X					
		E			X	X		300/45			
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					
	28 NPA	A/L			XI	XI					
		T			X	X					
		E			XI	XI		300/50			
BAHA	07 NPA	A/L			XI	XI					
	25 NPA	A/L			XI	XI					
	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					
	36 NPA	A/L			XI	XI					
	18 PA1	A/L	I*		X						
		T			X	X					
		E			X	X		300/50			

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS		REMARKS OBSERVACIONES
									GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12
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			
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			

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS		REMARKS OBSERVACIONES
									GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12
JEDDAH/King Abdul Aziz Intl	16R PA 2	A/L	II (I)		XI	XI					
	34L PA 2	A/L	II (I)		XI	XI					
	16L PA 1	A/L	I* (I)		XI	XI					
	34R PA 1	A/L	I* (I)		XI	XI					
	16C PA 2	A/L	II (I)		XI	XI					
	34C PA2	A/L	II (I)		XI	XI					
		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			
MADINAH/Prince Mohammad Bin Abdulaziz	17 PA 1	A/L	I*		XI	XI					
	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 I		300/50			
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			

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS		REMARKS OBSERVACIONES
									GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12
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					
	28 NPA	A/L			XI	XI					
	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					
	33 NPA	A/L		X							
	33 PA 1	A/L	I*								
		T			X	X					
		E			XI	XI		300/50			
YENBO	10 NPA	A/L			XI	XI					
	28 NPA	A/L			XI	XI					
	28 PA 1	A/L	I*		XI						
		T			X	X					
		E			XI	XI		300/50			
SYRIAN ARAB REPUBLIC											
ALEPPO/Neirab	27 ~~N~~ PA2	A/L		X		X					
		E				X		150/50			

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS		REMARKS OBSERVACIONES
									GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12
DAMASCUS/Intl	05L ~~N~~PA2	A/L			X	X					
	23R PA ~~1~~ 2	A/L	I* (I)	X	X	X					
	05R ~~N~~PA2	A/L			X	X					
		E			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	A/L	I* (I)		X I	X I					
	31 PA 3	A/L	III (I)		X I	X I					
		E			X I	X I		300/45			
AL AIN/Al Ain Intl	01 PA 1	A/L	I*		X I	X I					
	19 NPA	A/L			X I	X I					
		E			X I	X I		300/45			
DUBAI/Dubai Intl	12L PA 3	A/L	III (I)		X I	X I					
	30R PA 3	A/L	III (I)		X I	X 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					
	29 PA 1	A/L	I* (I)		X I	X 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							

Station	RWY Type	Function	ILS	L	DME	VOR	NDB	Coverage	GNSS		REMARKS OBSERVACIONES
									GBAS	SBAS	
1	2	3	4	5	6	7	8	9	10	11	12
SHARJAH/Sharjah Intl	12 NPA	A/L			X I	X					
	30 PA 1	A/L	I* (I)	X I	X I	X					
		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			
RIYAN/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			
SIYUN		E			X	X		150/45			
TAIZ/Intl	01 NPA	A/L		X	X	X					
	19 NPA	A/L		X	X	X					
		E			X	X		200/45			

Appendix to Table CNS 3
GEOGRAPHIC SEPARATION CRITERIA FOR VOR, VOR/DME AND ILS INSTALLATIONS

1.1 *VHF omnidirectional radio range (VOR)/distance measuring equipment (DME)*

1.1.1 In the selection of frequencies for VOR and/or VOR/DME the following criteria are to be applied:

a) for VORs required to serve en-route flight operations, geographic separations of:

1) for co-channel, 1020 km (550 NM) between 200 NM/45K (facilities' service distance/ratio of facilities' ERPs) facilities and 1 330 km (720 NM) between 300 NM/45K facilities;

2) for adjacent channel, 410 km (220 NM);

b) for VORs required for use in terminal areas (40 NM/25K), geographic separations of:

1) for co-channel, 370 km (200 NM);

2) for adjacent channel*, 110 km (60 NM); and

c) for VORs required for use in approach and landing operations (25 NM/10K), geographic separation of:

1) for co-channel, 240 km (130 NM);

2) for adjacent channel*, 55 km (30 NM).

1.1.2 Detailed frequency assignment criteria for VOR are provided in Annex 10, Volume I, 3.3.2 and Attachment C to Part I, Sections 3.4. and 3.5, and Part II, Section 4.2 (see the note below).

1.1.3 Detailed frequency assignment criteria for DME are provided in Annex 10, Volume I, 3.5.3.3 and Attachment C to Part I, and Part II, Section 4.3 (see the note below).

1.2 *Instrument landing system (ILS)*

1.2.1 Considering the density of ILS installations in the MID Region, the 325 km (175 NM) geographic separation for co-channel operation is to be applied.

1.2.2 Detailed frequency assignment criteria for ILS are provided in Annex 10, Volume I, 3.1.3.2, Attachment C to Part I, Section 3.5 and Part II, Section 4.2 (see the note below).

Note.—As a consequence of the restructuring of Annex 10 (see paragraph 6.50 of the report on Agenda Item 6) and following Amendment 71 to this Annex, Attachment C to Part I should be referred to as Attachment C to Volume I, and Part II of Volume I will constitute Volume V of Annex 10.

* Based on 100 kHz channel spacing

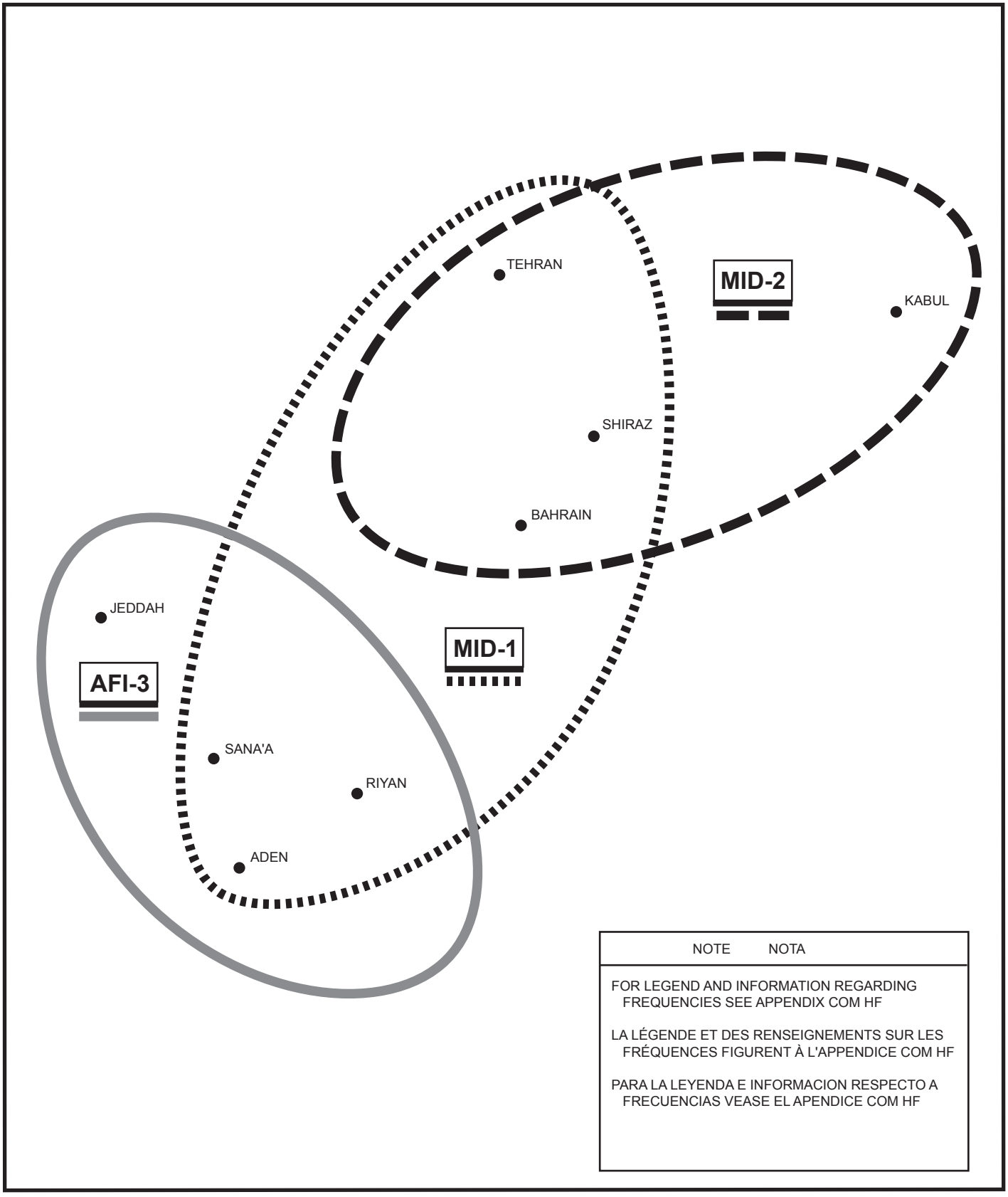
EN-ROUTE RADIONAVIGATION AIDS

CHART COM 5 OF THE EXISTING MID ANP (DOC 9708) WILL BE USED HERE AMMENDED AND UPDATED ACCORDING TO TABLE CNS 3.

HF EN-ROUTE RADIOTELEPHONY NETWORK
RÉSEAUX RADIOTÉLÉPHONIQUES HF EN ROUTE
REDES RADIOTELEFONICAS HF EN RUTA

MID FASID

CHART CNS 2



NOTE NOTA
FOR LEGEND AND INFORMATION REGARDING FREQUENCIES SEE APPENDIX COM HF LA LÉGENDE ET DES RENSEIGNEMENTS SUR LES FRÉQUENCES FIGURENT À L'APPENDICE COM HF PARA LA LEYENDA E INFORMACION RESPECTO A FRECUENCIAS VEASE EL APENDICE COM HF

25°E 30°E 35°E 40°E 45°E 50°E 55°E 60°E 65°E 70°E 75°E

40°N 35°N 30°N 25°N 20°N 15°N 10°N

TABRIZ/Tabriz Intl
ARDABIL
BOJNORD
AIN ZALAH
ZANJAN
MASHHAD/Shahid Hashemi Nejad Intl
ALEPPO/Neirab
SAMARRA
HAWIJA
SAVEH
CHEKKA
KARIATAIN
HADITHA
MALAYER
KABUL/Kabul
BAYSUR
DAMASCUS/Damascus Intl
TANF
BAGHDAD/Baghdad Intl
ANARAK
GHAZNI
BIRJAND
NATANIA
HASHIMIYA
AMMAN/Marka Intl
TEL AVIV/Sde Dov
TURAIF
DEH-NAMAKDARBAND
BALTIM
TEL AVIV/Ben Gurion
GURIAT
SHATRA
KANDAHAR/Kandahar Intl
METZADA
EL DABA
QATRANEH
ALEXANDRIA/Alexandria
ARAR
ZOFAR
ABADAN
CAIRO/Intl
AL SHIGAR
OVDA/Ovda Intl
FAYOUM
RAFHA
AQABA
METSAD
KUWAIT/Kuwait Intl
EILAT/J. Hozman
HAFR AL-BATIN
HAIL
HURGHADA/Hurghada
ASYUT
BOPAN
HALAIFA
GASSIM
MAGALA
DAMMAN/King Fahd Intl
WEDJH
LUXOR/Luxor
DOHA/Doha Intl
DUBAI/Dubai Intl
RIYADH/King Khaled Int'L
MADINAH/Prince Mohammad Bin Abdulaziz
BIR DARB
ABU DHABI/Abu Dhabi Intl
AL AIN/Al Ain
YENBO
RAGHBA
ASWAN/Aswan
MUSCAT/Seeb Intl
DAFINAH
IZKI
RABIGH
SUR
ABU SIMBEL/Abu Simbel
JEDDAH/King Abdulaziz Intl
WADI AL-DAWASIR
BISHA
HAIMA
MARMUL
SALALAH/Salalah Intl
AL-GAIDAH
SAYUN
SANAA/Sanaa Intl
HODEIDAH/Hodeidah
RIYAN
TAIZ/Ganad
ADEN/Aden Intl

LEGEND

DISTANCE MEASURING EQUIPEMENT (DME)	
VHF OMNI-DIRECTIONAL RADIO RANGE VOR	

International boundaries shown on this map do not imply official endorsement or acceptance by ICAO.

TABRIZ/Tabriz Intl
ARDABIL
UROMIYEH
RASHT
NOSHAHR
SARI/Dashte-Naz
MOSUL
ALEPPO/Neirab
SABZEVAR
MASHHAD/Shahid Hashemi Nejad Intl
KARAJ/PAYAM
TEHRAN/Mehrabad Intl
TEHRAN/Emam-Khomaini Intl
LATAKIA/Bassel Al-Assad Intl
SANANDAJ
HAMADAN
KERMANSHAH/Shahid Ashrafi Esfahani
KABUL/Kabul
ILAM
KHORAM ABAD
DAMASCUS/Damascus Intl
BAGHDAD/Baghdad Intl
ESFAHAN/Esfahan Shahid Beheshti
TEL AVIV/Ben Gurion
AMMAN/Marka Intl
AMMAN/Queen Alia Intl
TURAIF
GURIAT
YAZD/SHAHID SADOOGHI
KANDAHAR/Kandahar Intl
PORT-SAID
EL-ARISH/El-Arish
ALEXANDRIA/Alexandria
AHWAZ
ARAR
OMIDIYEH
BORG EL ARAB/Borg El Arab
BANDAR MAHSHAHR/MAHSHAHR
KERMAN
CAIRO/Cairo Intl
BASRAH/Basrah Intl
ABADAN
CAIRO/Almaza Intl
OVDA/Ovda Intl
AQABA
AL JOUF
RAFHA
SHIRAZ/Shahid Dastghaib Intl
SIRJAN
TABA/Taba
EILAT/J. Hozman
KUWAIT/Kuwait Intl
KHARK ISLAND/KHARK
BUSHEHR
ST. CATHERINE/St. Catherine Intl
HAFR AL-BATIN
SHARM EL SHEIKH/Sharm El Sheikh
JAM/TOHID
ASALOYEH
BANDAR ABBAS/Bandar Abbas Intl
HAIL
IRAN SHAHR
ASYUT
HURGHADA/Hurghada
KISH ISLAND
BANDAR LENGEH
DAMMAN/King Fahd Intl
WEDJH
GASSIM
RAS AL KHAIMAH/Ras Al Khaimah Intl
CHAH BAHAR/KONARAK
LUXOR/Luxor
MARSA ALAM
SHARJAH/Sharjah Intl
FUJAIRAH/Fujairah Intl
DOHA/Doha Intl
RIYADH/King Khaled Int'L
DUBAI/Dubai Intl
MADINAH/Prince Mohammad Bin Abdulaziz
ABU DHABI/Abu Dhabi Intl
AL AIN/Al Ain
YENBO
ASWAN/Aswan
MUSCAT/Seeb Intl
SHARK EL OWEINAT
JEDDAH/King Abdulaziz Intl
WADI AL-DAWASIR
BISHA
ABHA
SALALAH/Salalah Intl
SANAA/Sanaa Intl
HODEIDAH/Hodeidah
RIYAN
TAIZ/Ganad
ADEN/Aden Intl

LEGEND	LÉGENDE	CLAVE	الشرح
LOCATOR RADIOBALISE RADIOFARO DE LOCALIZACIÓN	(L)		
INSTRUMENT LANDING SYSTEM SYSTÈME D'ATTERRISSAGE SISTEMA DE ATERRIZAJE POR INSTRUMENTOS	(ILS)		
DISTANCE MEASURING EQUIPEMENT DISPOSITIF DE MESURE DE DISTANCE EQUIPO TELEMÉTRIC	(DME)		
VHF OMNI-DIRECTIONAL RADIO RANGE RADIOPHARE OMNIDIRECTIONNEL VHF RADIOFARO OMNIDIRECCIONAL VHF	(VOR)		
NON-DIRECTIONAL RADIO BEACON RADIOPHARE NON DIRECTIONNEL RADIOFARO NO DIRECCIONAL VHF	(NDB)		

International boundaries shown on this map do not imply official endorsement or acceptance by ICAO.

AIDS TO FINAL APPROACH AND LANDING

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	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 PSR (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
AFGHANISTAN											
BAHRAIN											
Bahrain		Bahrain ACC	I	80	MI(A/C)	250					
		Bahrain APP									
		Bahrain ACC			F(A/C/S)	250					
		Bahrain APP			<2005						
EGYPT											
Cairo		Cairo ACC	I	200	MI(A/C)	250					MOD-S IS
		Cairo APP	I	70	I(A/C)	100					PLANNED (TBD)
		Cairo APP/TMA	F<2002	60	MF (A/C)	250					
Hurghada		Hurghada ACC	I		MI (A/C)	250					
		Hurghada ACC	I		MI(A/C)	250					
		Hurghada APP	I	60							
Mersa Matruh		Mersa Matruh ACC			MI(A/C)	250					
Aswan		Aswan ACC	I		MI(A/C)	250					
		Aswan ACC	F<2002		MF(A/C)	250					
		Aswan APP	<2002	60							
Asyut		Asyut ACC	I	250	MI(A/C)	250					
Luxor		Luxor ACC			MI(A/C)	250					
		Luxor APP	I	60							
Sharm El Sheikh		Sharm El Sheikh ACC			MI(A/C)	250					
		Sharm El Sheikh APP	I	60							

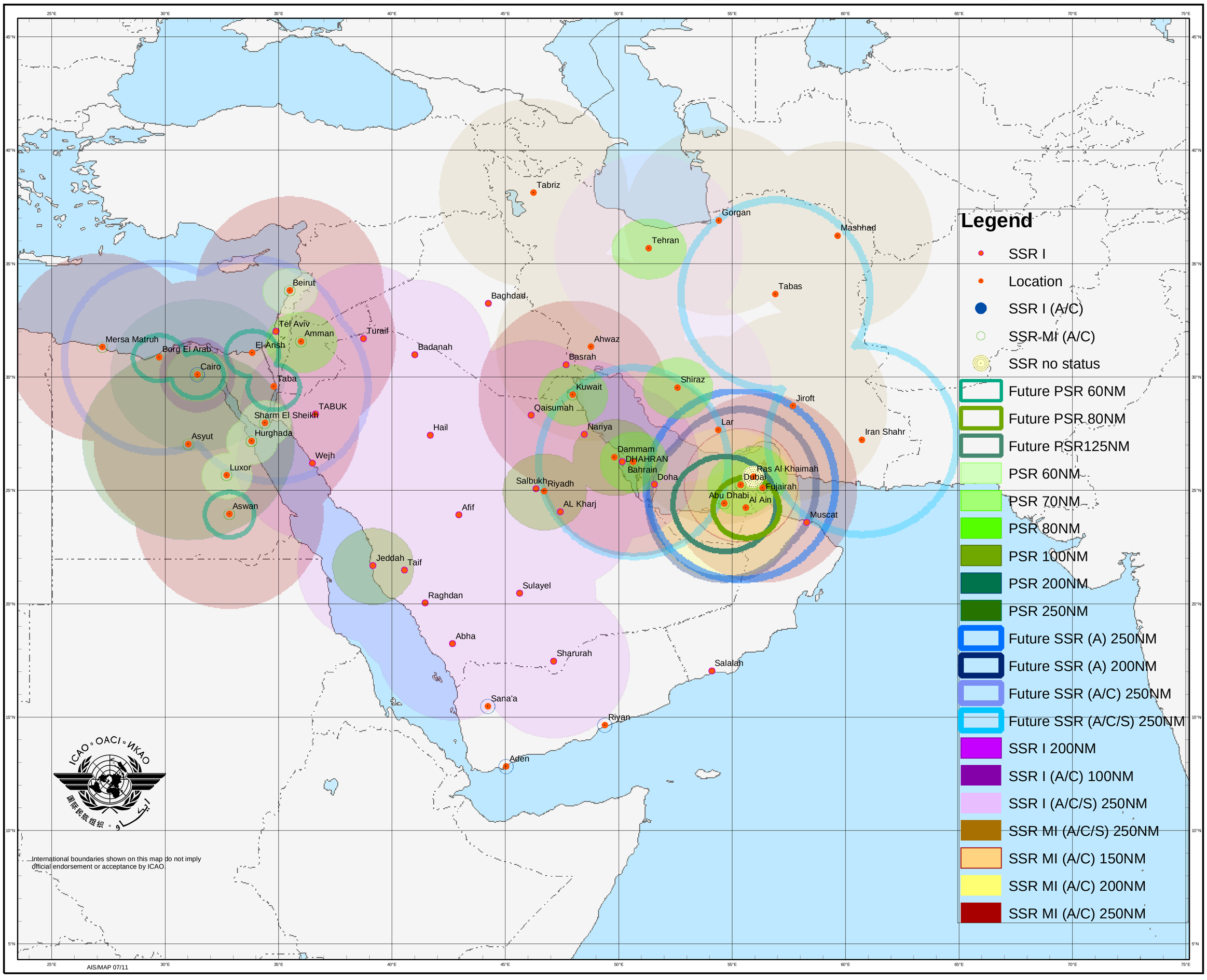
Country/Location	GA	ATS Units Served	PSR	Coverage of PSR (NM)	SSR (A/C/S)	Coverage of SSR (NM)	ADS-B	ADS-C	SMR	PRM	Remarks
1	2	3	4	5	6	7	8	9	10	11	12
Borg El Arab		Borg El Arab ACC			F (A/C) < 2002	250					
		Borg El Arab APP	F<2002	60							
El Arish		El Arish ACC			F (A/C) < 2002	250					
		El Arish APP	F<2002	60							
Taba		Taba ACC			F (A/C) < 2002	250					
		Taba APP	F<2002	60							
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					

Country/Location	GA	ATS Units Served	PSR	Coverage of PSR (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
Tabas		Tehran ACC			F(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					MI (A/C/S) < 2001	250					
IRAQ											
Baghdad		Baghdad APP	I		I						
Basrah		Basrah ACC Basrah APP	I		I						
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					

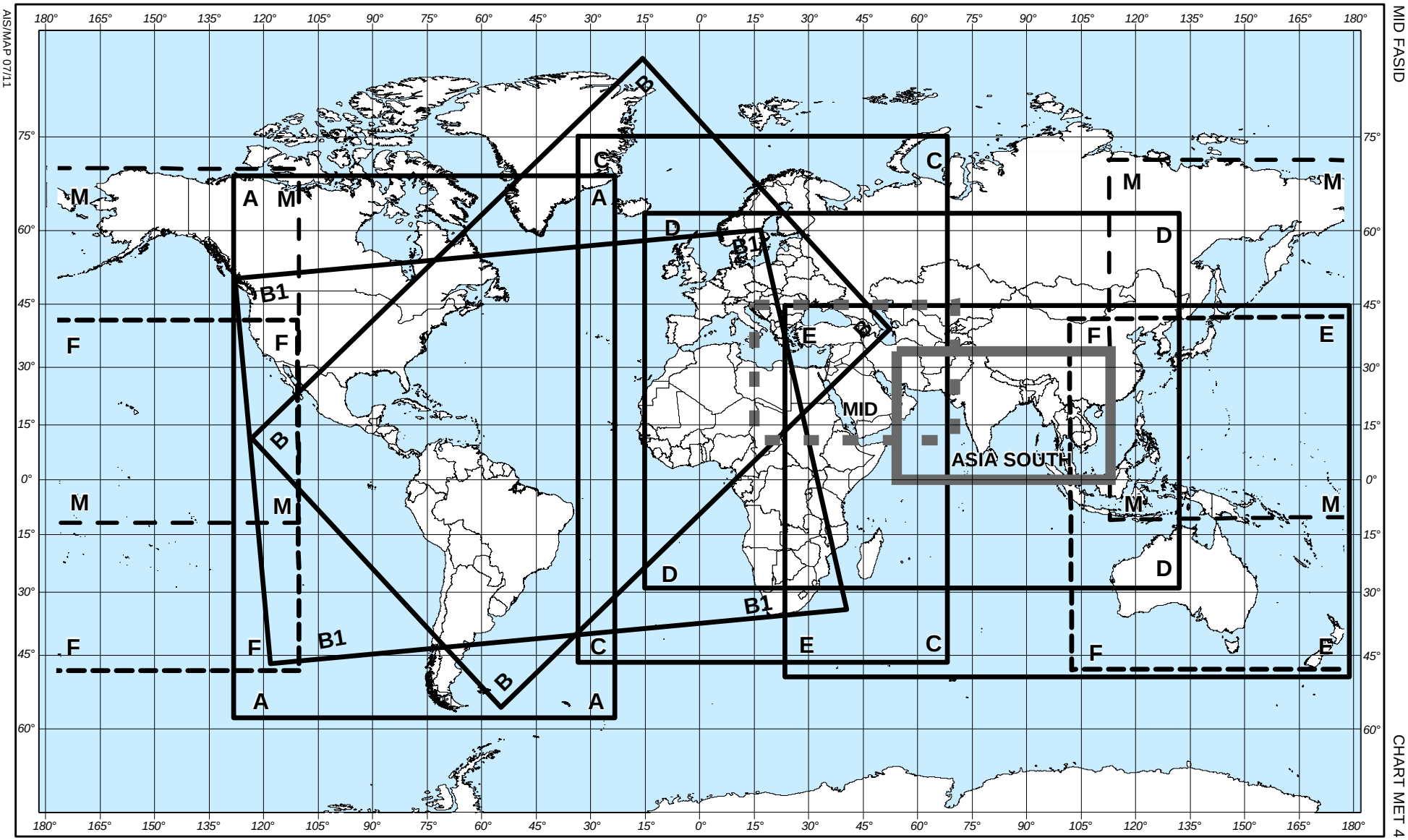
Country/Location	GA	ATS Units Served	PSR	Coverage of PSR (NM)	SSR (A/C/S)	Coverage of SSR (NM)	ADS-B	ADS-C	SMR	PRM	Remarks
1	2	3	4	5	6	7	8	9	10	11	12
LEBANON											
Beirut		Beirut ACC Beirut APP Beirut TWR	I	60	MI(A/C)	250					
OMAN											
Muscat		Muscat ACC Muscat APP	I		I						
Salalah		Salalah ACC Salalah APP	I		I						
QATAR											
Doha		Doha ACC Doha APP	I		I						
SAUDI ARABIA											
Abha		Jeddha ACC			I	200					
Afif		Jeddah ACC			I	200					}
AL Kharj		Jeddah ACC			I	200					} KSA is providing } 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” }
Hail		Jeddah ACC			I	200					

Country/Location	GA	ATS Units Served	PSR	Coverage of PSR (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
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					
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

Country/Location	GA	ATS Units Served	PSR	Coverage of PSR (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		Abu Dhabi APP Abu Dhabi TWR	AF-2004 AF-2003	125					X		Replacement PSR
Al Ain		Al Ain APP Abu Dhabi APP Emirates ACC	AF<2004	80		200					
Dubai		Dubai APP Emirates ACC Dubai TWR	I	80	MI(A/C)	150			I		
Dubai		Emirates ACC Dubai APP			AF<2004	250					New project
Fujairah		Fujairah APP			MI (A/C)	250					
Ras Al Khaimah		Ras Al Khaimah APP	I	80	X						
Tarif		Emirates ACC Bahrain ACC Muscat ACC Abu Dhabi APP			F(A/C) <2001	240					New project
SYRIA											
YEMEN											
Aden Riyan Sana'a		Aden APP Riyan APP Sana'a APP	F		I(A/C) I(A/C) I(A/C)						


Legend
SSR I
Location
SSR I (A/C)
SSR MI (A/C)
SSR no status
Future PSR 60NM
Future PSR 80NM
Future PSR125NM
PSR 60NM
PSR 70NM
PSR 80NM
PSR 100NM
PSR 200NM
PSR 250NM
Future SSR (A) 250NM
Future SSR (A) 200NM
Future SSR (A/C) 250NM
Future SSR (A/C/S) 250NM
SSR I 200NM
SSR I (A/C) 100NM
SSR I (A/C/S) 250NM
SSR MI (A/C/S) 250NM
SSR MI (A/C) 150NM
SSR MI (A/C) 200NM
SSR MI (A/C) 250NM
Tabriz
Gorgan
Mashhad
Tehran
Tabas
Beirut
Baghdad
Tel Aviv
Amman
Turaif
Mersa Matruh
Borg El Arab
El Arish
Badanah
Ahwaz
Basrah
Cairo
Taba
Shiraz
Kuwait
Jiroft
TABUK
Qaisumah
Sharm El Sheikh
Hail
Nariya
Lar
Iran Shahr
Asyut
Hurghada
Dammam
DHAHRAN
Bahrain
Ras Al Khaimah
Wejh
Doha
Dubai
Fujairah
Luxor
Salbukh
Riyadh
Abu Dhabi
Al Ain
Aswan
Afif
AL Kharj
Muscat
Jeddah
Taif
Sulayel
Raghdan
Abha
Sharurah
Salalah
Sana'a
Riyan
Aden
International boundaries shown on this map do not imply official endorsement or acceptance by ICAO
25°E
30°E
35°E
40°E
45°E
50°E
55°E
60°E
65°E
70°E
75°E
45°N
40°N
35°N
30°N
25°N
20°N
15°N
10°N
5°N

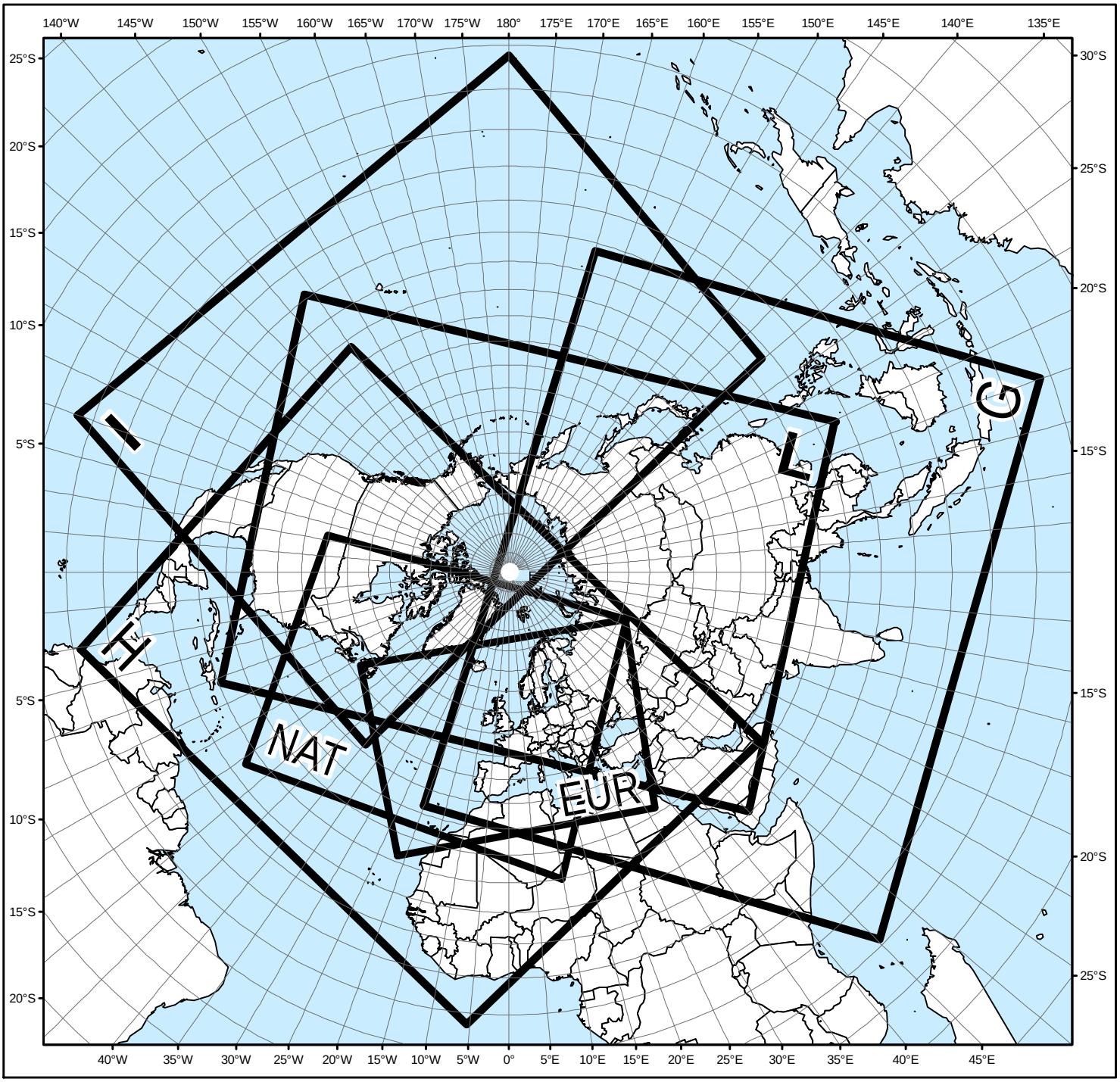
WAFS MAXIMUM AREAS OF COVERAGE - MERCATOR PROJECTION
ZONES DE COUVERTURE MAXIMALES DU WAFS - PROJECTION MERCATOR
ZONAS DE COBERTURA DE DIMENSIONES MÁXIMAS DEL WAFS - PROYECCIÓN MERCATOR



WAFS MAXIMUM AREAS OF COVERAGE - POLAR STEREOGRAPHIC PROJECTION (NORTH)
ZONES DE COUVERTURE MAXIMALE DU WAFS - PROJECTION STÉRÉOGRAPHIQUE POLAIRE (NORD)
ZONAS DE COUVERTURE DE DIMENSIONS MÁXIMAS DEL WAFS - PROYECCIÓN ESTEREOGRÁFICA POLAR (NORTE)

MID FASID

CHART MET 5

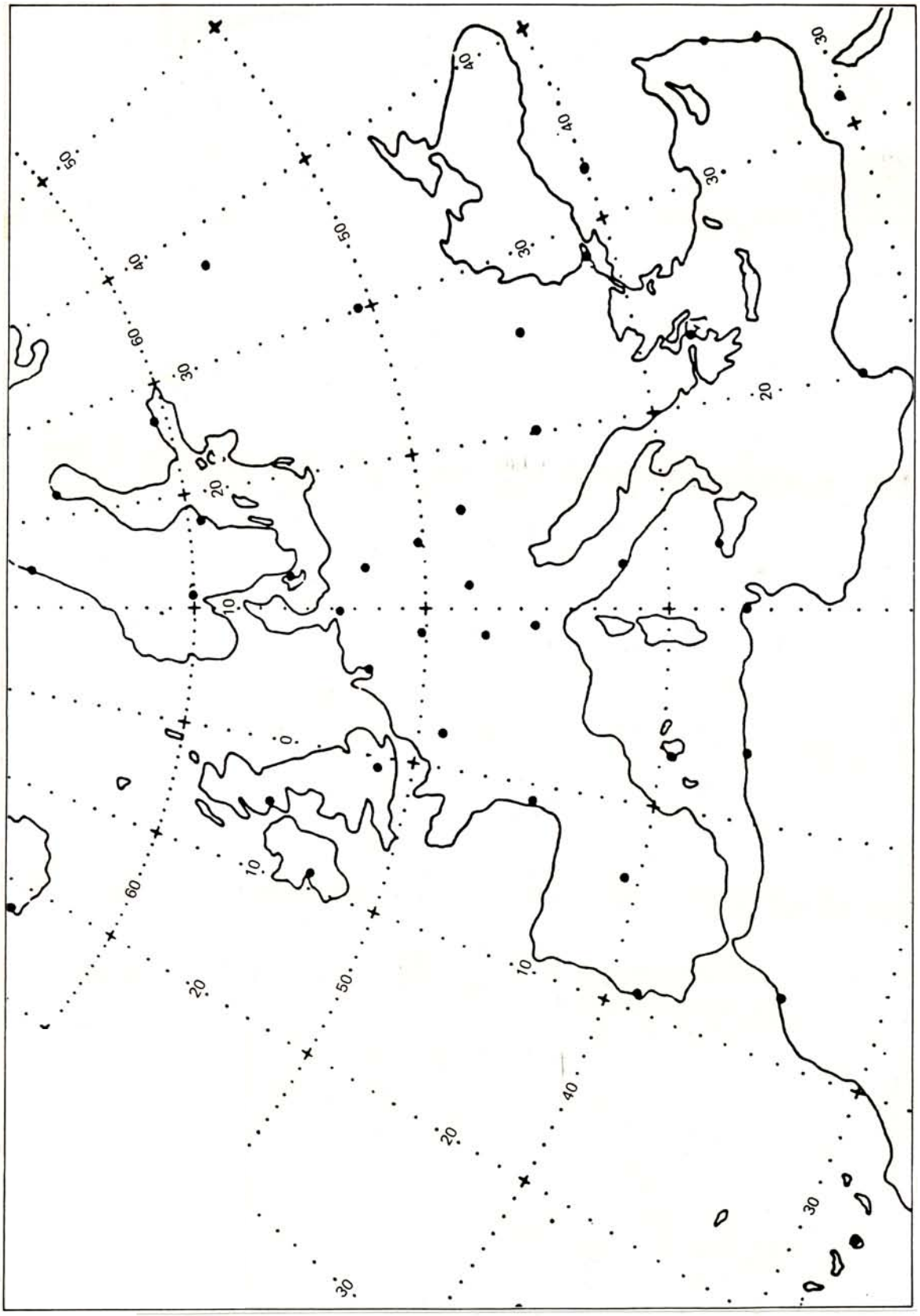


AIS/MAP 07/11

MAXIMUM AREAS OF COVERAGE – EUROPEAN CHART
ZONES DE COUVERTURE MAXIMALES – CARTE EUROPE
ZONAS DE COBERTURA DE DIMENSIONES MÁXIMAS – CARTA EUROPA

MID FASID

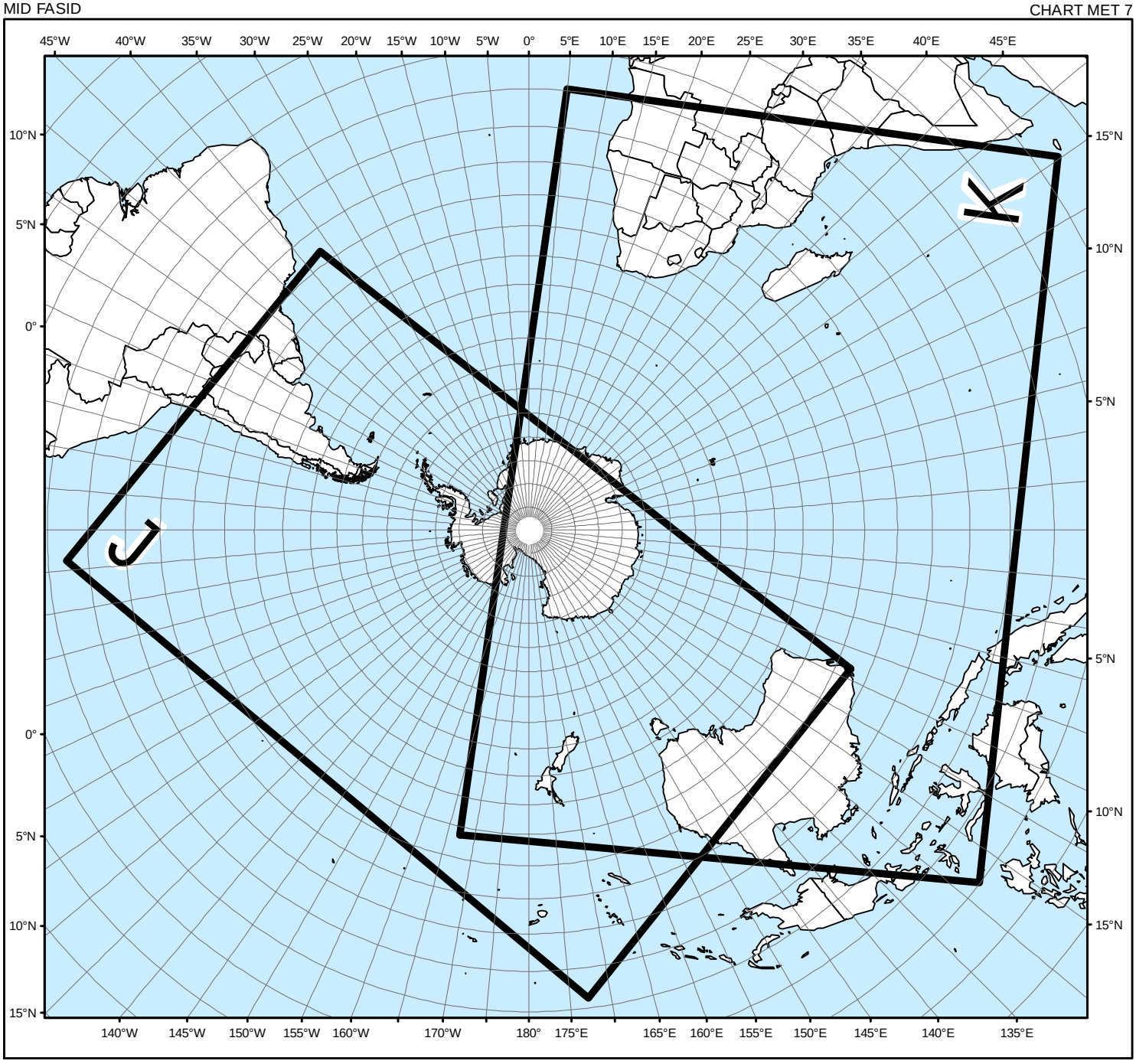
CHART MET 6



WAFS MAXIMUM AREAS OF COVERAGE - POLAR STEREOGRAPHIC PROJECTION (SOUTH)
ZONES DE COUVERTURE MAXIMALE DU WAFS - PROJECTION STÉRÉOGRAPHIQUE POLAIRE (SUD)
ZONAS DE COUVERTURE DE DIMENSIONS MÁXIMAS DEL WAFS - PROYECCIÓN ESTEREOGRÁFICA POLAR (SUR)

MID FASID

CHART MET 7



AIS/MAP 07/11

TABLE MET 7 - IMPLEMENTATION OF THE SADIS VSATS IN THE MID REGION

TABLEAU MET 7 -ETAT DE L'ACCES AUTORISE AUX USAGERS DU SADIS A LA DIFFUSION PAR SATELLITE ET EMPLACEMENT DES VSAT OPERATIONNELS

EXPLANATION OF THE TABLE

Column

1 Name of the State or territory.
2 User of the satellite broadcast.
3 Location of VSAT: town and, where applicable, aerodrome to be indicated
4 Indication whether the access to the satellite broadcast has been approved:
X - yes
[blank] - no
5 Indication whether the equipment is operational:
X - yes
[blank] - no

_____

EXPLICATION DU TABLEAU

Colonne

1 Nom de l'Etat ou territoire
2 Usager de la diffusion par satellite.
3 Emplacement du VSAT : ville et, s'il y a lieu, aérodrome à indiquer
4 Indication si l'accès à la diffusion par satellite a été approuvé
X - oui
[en blanc] - non
5 Indication si l'équipement est opérationnel
X - oui
[en blanc] - non

_____

EXPLICACIÓN DE LA TABLA

TABLE MET 7 - IMPLEMENTATION OF THE SADIS VSATS IN THE MID REGION

State	WAFS User	Location of VSAT	Access Approved	VSAT Operational
1	2	3	4	5
Afghanistan				
Bahrain	Civil Aviation Authority	Bahrain Int'l Airport	X	X
Egypt	MET Authority	Cairo Int'l Airport	X	X
Iran	MET Authority	Mehrabad Int'l Airport	X	X
Iraq				
Israel	MET Authority		X	NO
Jordan	MET Authority	Q. A. Int'l Airport	X	X
Kuwait	Civil Aviation Authority		X	X
Lebanon	Civil Aviation Authority	Beirut Int'l Airport	X	
Oman	Civil Aviation Authority	Seeb Int'l Airport Salalah Airport	X	X
Qatar				
Saudi Arabia			X	
Syria	MET Authority	Damascus Int'l Airport	X	
U. A. Emirates	Civil Aviation Authority	Abu Dhabi Airport	X	X
Yemen				

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APPENDIX A

SAMPLE OF AN AERONAUTICAL INFORMATION CIRCULAR ON THE USE OF GNSS AS SUPPLEMENTAL MEANS OF NAVIGATION

1. Introduction

1.1 ICAO Circular 267 was published in 1996 to provide guidelines for the introduction and operational use of the Global Navigation Satellite System (GNSS) comprising the global positioning system (GPS) and the global orbiting navigation satellite system (GLONASS).

1.2 This AIC reviews the capabilities, limitations and constraints of the GPS, sets out airworthiness criteria for the approval of GNSS-based aircraft navigation equipment and defines conditions for the use of GNSS as *supplemental* means of navigation for en-route and terminal operations and overlay non-precision approaches. A list of terms is at the Attachment.

Note.- Refer to the note under "non precision approach" in paragraph 8.2 below with regard to publication of AIC for non-precision approach applications.

1.3 The GPS of the United States is a satellite-based radio navigation system. In October 1994, the system was formally offered by the United States for use by the international aviation community, and the offer was accepted by the ICAO Council on 26 October 1994.

1.4 In September 2000, at its sixth meeting, the MID Planning and Implementation Regional Group (MIDANPIRG), decided on the target date for the approval of GNSS as a supplemental means navigation system in the MID region (Dec 6/14).

1.5 The interim policy stated in this AIC parallels the early stages of the use of GPS as authorized by the United States Federal Aviation Administration (FAA), and Transport Canada. Its aim is to realize early benefits from existing capabilities of GPS without waiting for the availability of differential GPS or full GNSS.

2. Brief description of the GPS

2.1 Twenty-four satellites are in six orbits approximately 20,200 km (10,900 NM) above the surface of the earth. Each satellite broadcasts a timing signal and data message. A portion of the data message gives a GPS receiver the orbital details of each satellite. The receiver measures the time taken for the signal to arrive from the satellites in view and from this information computes a position and velocity.

2.2 Three satellites are needed to determine a two dimensional position, and four for a three dimensional position. The elevation and geometry of each satellite relative to the receiver must satisfy certain criteria before the designed system accuracy can be achieved. Standard positioning service (SPS) accuracy of 100 metres or better should be available with ninety-five percent probability and 300 metres or better with 99.99 percent probability. The vertical accuracy is 156 metres (95 percent probability), and the timing/time control accuracy is within 340 nanoseconds (95 percent probability) of Coordinated Universal Time (UTC). However, it should be noted that the GPS signal may suffer interference, and that gaps in coverage do occur. These gaps are normally transient and predictable.

3. Geodetic considerations

3.1 GPS derived position information is referenced to the World Geodetic System-1984 (WGS-84)

Datum. This datum relates geographical coordinates to a mathematically defined ellipsoid that approximates the shape of the Earth. The point of origin for the WGS-84 datum is the Earth's centre of gravity. ICAO has adopted WGS-84 as the common geodetic system for international civil aviation and requested that as of 1 January 1998, published geographical coordinates be referred to WGS-84 (Annex 15, Chapter 3.3.4.4).

3.2 Aeronautical geographical coordinates throughout the world have in the past been derived in relation to local or regional datums. A given set of coordinates referenced to a national datum could, however, be significantly displaced from the same coordinates referenced to the WGS-84. Therefore, where the WGS-84 coordinates have not been implemented, GPS based navigation may result in significant position errors in flight. For example, it is not safe to use GPS derived information to carry-out instrument approaches at runways for which WGS-84 coordinates have not been provided.

3.3 Guidance on WGS-84 is provided in ICAO Doc 9674, World Geodetic System-1984 (WGS-84) Manual. Determination of WGS-84 coordinates are to be carried out in accordance with specifications of Annex 11, Chapter 2, paragraph 2.18 and Annex 14, Chapter 2, paragraph 2.1.

4. Other considerations

4.1 Introduction of GPS-based operations involves a number of additional considerations that must be taken into account. These include data-base development and maintenance, pilot training, certification, ground and flight inspection.

5. The need for augmentation of the GPS

5.1 Present ground-based navigation aids are monitored, and the monitor takes action if erroneous signals are being radiated. On the present configuration of the GPS system it may take considerable time before users become aware of any malfunctioning.

5.2 Aircraft-based augmentation can provide this information as necessary for supplemental means of navigation.

a) Aircraft-based augmentation can be implemented by:

i) Receiver Autonomous Integrity Monitoring (RAIM) whereby, provided that there are five satellites in view with adequate geometry, erroneous information from one satellite can be detected. If there are six satellites in view, the faulty satellite can be rejected by the receiver; or

ii) Aircraft Autonomous Integrity Monitoring (AAIM) whereby the GPS signal is integrated with other sensors (for example, INS) which can detect and reject spurious information from the GPS.

6. Use of GPS receivers in VFR and IFR

6.1 There are a number of GPS receivers available that do not meet the requirements for IFR operations specified in the FAA TSO-C129. Although sufficiently accurate guidance is normally furnished by these receivers, false information can, however, be provided without warning. Although the use of such receivers is not permitted in IFR, uncertified GPS receivers may be used to support VFR navigation only in conjunction with standard VFR navigation practices, namely the cross-checking of present position by visual reference to landmarks.

6.2 Only certified GPS receivers should be used in IFR.

7. Supplementary-means use of the GPS

7.1 VOR, VOR/DME and NDB as appropriate are the primary navigation systems for continental en-route and terminal area operations and for non-precision approach and landing in the (NNNN) FIR. Aircraft must be suitably equipped with serviceable primary navigation systems for navigation appropriate for the intended flight operations.

7.2 With immediate effect a GPS receiver may be used to navigate the aircraft under the following conditions:

7.2.1 Continental En-route and Terminal area

a) the GPS navigation equipment must have been certified to comply with the requirements for any of the Classes in FAA TSO C-129 or equivalent, be installed and approved in accordance with FAA AC 20-138 for stand-alone equipment or AC 20-130 for multi-sensor equipment and be operated in accordance with the approved Flight Manual or any Supplement thereof; and

b) Aircraft using GPS equipment under IFR must be equipped with another approved and operational means of navigation. Should GPS navigation capability be lost, this equipment must allow navigation along the planned route or suitable alternate route. Monitoring of the traditional navigation equipment is necessary when there are insufficient satellites in view for RAIM to operate.

7.2.2 Non-Precision Approach

(Note: This section applies only when approach coordinates are provided using separate AIC for specific runways when and where WGS-84 based coordinates have been provided.

a) the GPS navigation equipment must have been certified to comply with the requirements for one of the Classes A1, B1, B3, C1, C3 in FAA TSO C-129 or equivalent, installed and approved in accordance with FAA AC 20-138 for stand-alone equipment (or equivalent) or, AC 20-130 for multi-sensor equipment (or equivalent), and operated in accordance with the approved Flight Manual or any Supplement thereof; and

b) aircraft with approved GPS installations can use GPS-based non-precision approach procedure(s) which points and fixes have been referenced to the WGS-84 provided the following conditions are complied with:

i) the avionics data base must be current and must contain the non-precision approach to be flown. All associated data bases must contain coordinates referenced to the WGS-84; and

ii) an approach procedure using GPS shall not be flown unless it is retrieved from the avionics data base. The GPS avionics must store the location of all way-points and fixes defining the approach and must present them in the order depicted on the relevant instrument approach chart;

8. Users are encouraged to submit details of any discrepancies on the use of GPS and/or any other comments to the following address:

(To be included)

Note 1: States are expected to ensure the validity of documentation referenced in this AIC before its publication.

Note 2: Additional requirements by States (e.g. licensing, availability, NOTAMS) may be included.

TERMINOLOGY

For the purpose of this AIC, the following apply:

"accuracy"	is the degree of conformance between the estimated or measured position and/or velocity of a platform at a given time and its true position and/or velocity.
"availability"	is the ability of the total system to perform its function at the initiation of the intended operation.
"integrity"	is the ability of a system to provide timely warnings to users when the system should not be used for navigation.
"continuity"	is the ability of the total system to perform its function without interruption during the intended operation.
"primary-means navigation system"	is a navigation system approved for a given operation or phase of flight that must meet accuracy and integrity requirements but need not meet full availability and continuity of service requirements. Safety is achieved by limiting flights to specific periods, and through appropriate procedural restrictions.
Note	*There is no requirement to have a sole means navigation system on board to support a primary means system.*
"Receiver autonomous integrity monitoring (RAIM)"	is a technique whereby an airborne GNSS receiver/processor autonomously monitors the integrity of the navigation signals from GNSS satellites.
"Sole-means navigation system"	is a navigation system approved for a given operation or phase of flight that must allow the aircraft to meet, for that operation or phase of flight all four navigation system performance requirements: accuracy, integrity, availability and continuity of service.

Note.- This term does not exclude the carriage of other navigation systems. Any sole-means navigation system could include one (stand-alone installation) or several sensors, possibly of different types (multi-sensors installation).

"Supplemental-means navigation system" is a navigation system that must be used in conjunction with a sole-means navigation system. Approval for supplemental means for a given phase of flight requires that a sole means navigation system for that phase of flight must be on board and may be monitored for cross-checking. Amongst the navigation system performance requirements for a given operation or phase of flight, a supplemental-means navigation system must meet the accuracy and integrity requirements for that operation or phase of flight; there is no requirement to meet availability and continuity requirements.

Appendix

SUMMARY OF AMENDMENTS TO THE FASID

SAR

Amendment of the requirements to Table SAR 1concerning Bahrain and the United Arab Emirates (MID 00/1)

Summ of Amdt's.wpd

REPORT ON AGENDA ITEM 4: MONITORING AND FOLLOW-UP CNS DEFICIENCIES IN THE MID REGION

4.1 Under this Agenda Item the meeting was provided with information on the Air Navigation Deficiencies Database (including CNS deficiencies) that was developed by ICAO MID Regional Office to enhance the process of identification, assessment, reporting and elimination of deficiencies and to allow authorized users to propose updates to their deficiencies online. The website can be accessed with a username/password. A reporting form is available on the ICAO MID Regional Office website for MID States to report online deficiencies updates. Database searching feature is considered by MID Regional Office in accordance with MIDANPIRG/10 meeting Conclusion 10/76.

4.2 As a follow-up to MIDANPIRG Conclusion 10/77, the meeting reviewed and updated the list of deficiencies in the CNS field and particular attention was given to the action plan for their elimination as contained at **Appendix 4A** to the report on Agenda Item 4.

4.3 It was noted that a number of CNS deficiencies were related to the non implementation of some planned circuits. The meeting was of the view that with the implementation of the NAFISAT and VSAT Networks, many of these deficiencies would be eliminated; further improvement of the availability of the circuits could be reached by the implementation of the rationalized AFTN plan.

4.4 Other deficiencies were related to frequency interference. In this regard the meeting attention was drawn to the Frequency Interference Reporting Form which is available in the MID ANP FASID document and the importance of proper reporting so that necessary coordination could be undertaken to achieve a solution whereby the interference is removed.

4.5 The meeting emphasized the role of the users IATA and IFALPA in reporting any deficiencies, also requested State to be transparent and report any deficiencies as the main goal of the reporting is the provision of assistance and elimination of the deficiencies which will lead to the global safety of civil aviation.

4.6 The meeting, while observing MIDANPIRG/10 Conclusion 10/7***:*** *Elimination of Air Navigation Deficiencies in the MID Region* noted that States who have financial difficulties could take advantage of the funding opportunity offered by the International Financial Facility for Aviation Safety (IFFAS).

CNS SG/1
Appendix 4A to the Report on Agenda Item 4

Deficiencies in the CNS field

AFGHANISTAN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Description	Executing body	Date of completion	Priority for action
1	AFTN Rationalized Plan (LIM MID RAN Rec 6/6, 6/9 and MIDANPIRG/ 4 Conclusion 4/19	Afghanistan-Bahrain-Kabul-Bahrain AFTN Circuit	The circuit is not yet implemented	10/7/1998	Bahrain is ready to implement the circuit	S	Follow-up the matter with IATA concerning Afghanistan	Afghanistan Bahrain	~~Dec-05~~ Dec-08	B
2	AFTN Rationalized Plan (LIM MID RAN Rec 6/6, 6/9 and MIDANPIRG/ 4 Conclusion 4/19	Afghanistan-Iran-Kabul-Tehran AFTN Circuit	The circuit is not yet implemented	10/7/1998	VSAT network to be implemented	S	Follow-up the matter with IATA concerning Afghanistan	Afghanistan Iran	~~Dec-05~~ Dec-08	B
3	AFTN usage (LIM MID RAN Rec 6/2)	Kabul AFTN Center	Circuit Loading Statistics	5/22/1995	Monthly statistics should be sent to MID Office	S	Refer to ICAO fax ref. F.ME 165 reminding States to send data to Regional Office	Afghanistan	~~Dec-05~~ Dec-08	B

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the CNS field

BAHRAIN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Description	Executing body	Date of completion	Priority for action
1	AFTN Rationalized Plan (LIM MID RAN Rec 6/6, 6/9 and MIDANPIRG/ 4 Conclusion 4/19)	Afghanistan-Bahrain-Kabul-Bahrain AFTN Circuit	The circuit is not yet implemented	10/7/1998	Bahrain is ready to implement the circuit	O	Follow-up the matter with IATA concerning Afghanistan	Afghanistan Bahrain	~~Dec 05~~ Dec-08	B
~~2~~	~~AFTN Rationalized Plan (LIM MID RAN Rec 6/6, 6/9 and MIDANPIRG/ 4 Conclusion 4/19)~~	~~Bahrain – Singapore-Bahrain – Singapore AFTN Circuit~~	~~Operating satisfactorily on 200 bauds~~	~~10/19/1999~~	~~Bahrain – Singapore Bahrain – Singapore AFTN Circuit~~	~~O~~	~~Planned to be up-graded to medium speed circuit (9.6 K)~~	~~Bahrain Singapore~~	~~Jun 05~~ SEP 06	~~B~~

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the CNS field

EGYPT

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Description	Executing body	Date of completion	Priority for action
1	AFTN Main Circuits (LIM MID RAN Rec 10/5)	Egypt – Kenya-Cairo – Nairobi AFTN Circuit	The circuit is implemented on 50 bauds	10/19/1999	Egypt is ready to up-grade the circuit to 9.6 K	O	Egypt and Kenya agreed to upgrade the circuit to ~~1200 bps~~ 9.6Kpbs with NAFISAT	Egypt – Kenya	~~Dec 05~~ Jun 08	A
2	AFTN Main Circuits (LIM MID RAN Rec 10/5)	Egypt – Tunisia-Cairo – Tunis AFTN Circuit	The circuit is implemented on 100 bauds	10/19/1999	Egypt is ready to up-grade the circuit to 9.6 K	O	Planned to be up-graded to ~~1200 bauds~~. Upon Tunis readiness, Egypt applied for 64K upgrade	Egypt - Tunisia	~~Dec 05~~ Jun 08	A
3	VHF Coverage Required in the South West part of the FIR	Egypt	Coverage by HF	9/1/2003	Egypt to Report	S	Egypt to provide VHF coverage Partial coverage done New Station installed	Egypt	~~Dec 05~~ ~~Jun 07~~ Dec 08	B

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the CNS field

IRAN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Description	Executing body	Date of completion	Priority for action
1	AFTN Main Circuits (LIM MID RAN Rec10/5)	Iran – Kuwait-Kuwait – Tehran AFTN Circuit	The circuit is implemented on 100 bauds	10/19/1999	Iran State they are ready as per letter 21/09/2006	O	Planned to be upgraded to 9.6K.	Iran Kuwait	~~Dec 05~~ Jun-08	A
2	AFTN Rationalized Plan (LIM MID RAN Rec 6/6, 6/9 and MIDANPIRG/ 4 Conclusion 4/19)	Afghanistan-Iran-Kabul-Tehran AFTN Circuit	The circuit is not yet implemented	10/7/1998	VSAT network to be implemented Iran State they are ready as per letter 21/09/2006	S		Afghanistan Iran	~~Dec 05~~ Jun-08	B
~~3~~	~~Radio Frequencies~~	~~Abadan Airport Ahwaz~~	~~121.900 MHz~~	~~7/20/2002~~	~~Interference with Basra (Iraq)~~ Iran Letter 21/09/2006	~~O~~	~~Co-ordination with concerned States~~	~~Iran Iraq~~	~~Dec 05~~	~~U~~
~~4~~	~~Radio Frequencies~~	~~Kerman Shah~~	~~119.300 MHz~~	~~7/20/2002~~	~~Interference with Qatar~~ Iran Letter 21/09/2006	~~O~~	~~Co-ordination is undergoing with Iran. No complain from Qatar~~	~~Qatar Iran~~	~~Dec 05~~	~~U~~

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Description	Executing body	Date of completion	Priority for action
~~5~~	~~Radio Frequencies~~	~~Tehran ACC~~	~~123.900 MHz~~	~~8/14/2002~~	~~Interference with India~~ Iran Letter 21/09/2006	~~O~~	~~Co-ordination is undergoing between ICAO Cairo and ICAO Bangkok~~	~~Bangkok Off. Cairo Office Iran India~~	~~Dec 05~~	~~U~~

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the CNS field

IRAQ

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	**Facilities/ Services**	**Description**	**Date first reported**	**Remarks/ Rationale for non-elimination**		**Description**	**Executing body**	**Date of completion**	**Priority for action**
1	AFTN usage (LIM MID RAN Rec 6/2)	Baghdad AFTN Center	Circuit Loading Statistics	5/22/1995	Monthly statistics should be sent to MID Office	S	Refers to ICAO fax ref. F.ME 165 reminding States to send data to ICAO Office Center not operational	Iraq	~~Dec 05~~ Dec 08	B

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the CNS field

JORDAN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Description	Executing body	Date of completion	Priority for action
1	AFTN Rationalized Plan (LIM MID RAN Rec 6/6, 6/9 and MIDANPIRG/ 4 Conclusion 4/19)	Jordan-Lebanon-Amman-Beirut AFTN Circuit	The circuit is not yet implemented	10/7/1998	Lebanon is ready to implement the circuit	S	Jordan will co-ordinate with Lebanon for up-grading	Lebanon – Jordan	~~Dec 05~~ Jun 08	A

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the CNS field

KUWAIT

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	**Facilities/ Services**	**Description**	**Date first reported**	**Remarks/ Rationale for non-elimination**		**Description**	**Executing body**	**Date of completion**	**Priority for action**
1	AFTN Main Circuits (LIM MID RAN Rec10/5)	Iran-Kuwait-Kuwait – Tehran AFTN Circuit	The circuit is implemented on 100 bauds	10/19/1999	The circuit is operating satisfactorily on 100 bauds	O	Planned to be upgraded to 9.6K	Kuwait Iran	~~Dec 05~~ Jun-08	A
2	AFTN Main Circuits (LIM MID RAN Rec10/5)	Lebanon-Kuwait-Beirut – Kuwait AFTN Circuit	The circuit is implemented on 100 bauds	10/19/1999	The circuit is operating satisfactorily on 100 bauds.	O	Kuwait is ready to upgrade to higher speed according to the readiness of Lebanon	Kuwait Beirut	~~Dec 05~~ Jun-08	A
~~3~~	~~AFTN usage (LIM MID RAN Rec 6/2)~~	~~Kuwait AFTN Center~~	~~Circuit Loading Statistics~~	~~5/22/1995~~	~~Monthly statistics should be sent to MID Office~~	~~O~~	~~Refer to ICAO fax ref. F.ME 165 reminding States to send data to Regional Office~~	~~Kuwait~~	~~Jun 05~~	~~B~~

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the CNS field

LEBANON

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Description	Executing body	Date of completion	Priority for action
1	AFTN Main Circuits (LIM MID RAN Rec10/5	Lebanon – Kuwait Beirut – Kuwait AFTN Circuit	The circuit is implemented on 100 bauds	10/19/1999	The circuit is operating satisfactorily on 100 bauds	O	Planned to be up-graded to 300 bauds	Kuwait Lebanon	~~Dec 05~~ Jun-08	A
2	AFTN Main Circuits (LIM MID RAN Rec10/5)	Lebanon – Saudi Arabia Beirut – Jeddah AFTN Circuit	The circuit is implemented on 100 bauds	10/19/1999	Lebanon is ready to implement the circuit to either 200 Bauds or 9.6 K	O	Planned to be up-graded to 300 bauds Planned for 64K	Lebanon Saudi Arabia	~~Dec 05~~ Oct-08	A
3	AFTN Rationalized Plan (LIM MID RAN Rec 6/6, 6/9 and MIDANPIRG/ 4 Conclusion 4/19)	Jordan-Lebanon Amman-Beirut AFTN Circuit	The circuit is not yet implemented	10/7/1998	Lebanon is ready to implement the circuit	S	Another alternative should be proposed in the MID AFTN Plan	Jordan Lebanon	~~Dec 05~~ Jun-08	A

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the CNS field

OMAN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Description	Executing body	Date of completion	Priority for action
1	AFTN usage (LIM MID RAN Rec 6/2)	Muscat AFTN Center	Circuit Loading Statistics	5/22/1995	Data should be sent to ICAO Office	O	Software not available yet	Oman	~~Jun-05~~ Jun-08	B

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the CNS field

QATAR

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Description	Executing body	Date of completion	Priority for action
1	AFTN usage (LIM MID RAN Rec 6/2)	Doha AFTN Center	Circuit Loading Statistics	5/22/1995	Refer to ICAO fax ref. F.ME 165 reminding States to send data to Regional Office	H	Data should be sent to ICAO Office	Qatar	~~Jun-05~~ Jun-08	B
2	Radio Frequencies	Doha	119.300 MHz	2/11/2003		O	Coordination with concerned States	Qatar Iran	~~Jun-05~~	U

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the CNS field

SAUDI ARABIA

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Description	Executing body	Date of completion	Priority for action
1	AFTN Main Circuits (LIM RAN Rec 10/5)	Lebanon – Saudi Arabia Beirut – Jeddah AFTN Circuit	The circuit is implemented on 100 bauds	10/19/1999	Circuit to be improved Saudi Arabia ready	O	Planned to be up-graded to 9.6K Upgrade to 64K expected	Lebanon – Saudi Arabia	~~Dec 05~~ Oct 08	A
2	AFTN Main Circuits (LIM RAN Rec 10/5)	Saudi Arabia – Ethiopia Jeddah – Addis Ababa	The circuit is implemented on 50 bauds	10/19/1999	The circuit is not working satisfactorily. Saudi Arabia is ready to up-grade the circuit to higher speed	F	Planned to operate with VSAT network Expected implementation with NAFISAT	Ethiopia Saudi Arabia	~~Dec 06~~ Jun-08	A
3	AFTN usage (LIM MID RAN Rec 6/2)	Jeddah AFTN Center	Circuit Loading Statistics	5/22/1995	Refer to ICAO fax ref. F.ME 165 reminding States to send data to Regional Office.	O	Data should be sent to ICAO Office	Circuit Loading Statistics information is part of a software modification required in the new switching system	~~Dec 05~~ Dec-08	B

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Description	Executing body	Date of completion	Priority for action
4	ATS Speech Circuit Plan (LIM MID RAN Conclusion 6/11)	Saudi Arabia – Sudan	The ATS Speech Circuit connecting the following adjacent centres to Jeddah use speed dial: Asmara Khartoum	10/19/1999	Jeddah – Khartoum on speed dial	F	Planned to operate with VSAT network. Expected implementation with NAFISAT	Saudi Arabia Sudan	~~Dec 06~~ Jun-08	U
5	ATS Speech Circuit Plan (LIM MID RAN Conclusion 6/11)	Saudi Arabia – Yemen	The ATS Speech Circuit connecting to Sanna'a centre uses speed dial	10/7/1998	Sometimes, Communications facilities do not permit communications to be established within 15 seconds	O	Planned to operate with VSAT network Expected implementation with NAFISAT	Saudi Arabia Yemen	~~Dec 06~~ Jun-08	U

[(1)] Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the CNS field

SYRIA

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Description	Executing body	Date of completion	Priority for action
1	AFTN usage (LIM MID RAN Rec 6/2)	Damascus AFTN Center	Circuit Loading Statistics	5/22/1995	Monthly statistics should be sent to ICAO Office	H	Planned to implement new AFTN system	Syria	~~Jun-05~~ Jun-08	B

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the CNS field

UAE

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Description	Executing body	Date of completion	Priority for action
1	Radio Frequencies	AL Ain	129.150 MHz	6/25/2002	Kish Air Dispatch	O	Nat. Telecom. Admin	Follow-up by ICAO and State	~~Dec 05~~ Jun-08	A
~~2~~	~~Radio Frequencies~~	~~UAE ACC~~	~~121.500 MHz~~	~~7/16/2002~~	~~Unknown Interference~~	~~O~~	~~Report was sent to Nat. Telecom. Admin~~	~~Follow-up by ICAO and State~~	~~Dec 05~~	~~U~~
~~3~~	~~Radio Frequencies~~	~~UAE ACC~~	~~128.250 MHz~~	~~1/26/2002~~	~~Atmospheric/ Speech~~	~~O~~	~~Report was sent to Nat. Telecom Admin~~	~~Follow-up by ICAO and State~~	~~Dec 05~~	~~U~~
~~4~~	~~Radio Frequencies~~	~~UAE ACC~~	~~129.500 MHz~~	~~3/29/2002~~	~~Unknown Interference~~	~~O~~	~~Report was sent to Nat. Telecom Admin~~	~~Follow-up by ICAO and State~~	~~Dec 05~~	~~U~~
~~5~~	~~Radio Frequencies~~	~~UAE ACC~~	~~124.850 MHz~~	~~1/24/2002~~	~~Atmospheric~~	~~O~~	~~Report was sent to Nat. Telecom Admin~~	~~Follow-up by ICAO and State~~	~~Dec 05~~	~~U~~
6	Radio Frequencies	UAE ACC	133.550 MHz	2/28/2002	Unknown Interference	O	Report was sent to Nat. Telecom. Admin	Follow-up by ICAO and State	~~Dec 05~~ Jun-08	U
~~7~~	~~Radio Frequencies~~	~~UAE ACC~~	~~119.300 MHz~~	~~3/29/2002~~	~~Doha~~	~~O~~	~~Report was sent to Nat. Telecom Admin~~	~~Follow-up by ICAO and State~~	~~Dec 05~~	~~U~~

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Description	Executing body	Date of completion	Priority for action
~~8~~	~~Radio Navigation Aids~~	~~Dubai ILS~~	~~110.900 MHz~~	~~3/26/2002~~	~~Unknown Interference~~	~~O~~	~~Nat. Telecom. Admin.~~	~~Follow-up by ICAO and State~~	~~Dec-05~~	~~U~~
~~9~~	~~Radio Navigation Aids~~	~~Dubai ILS~~	~~110.100 MHz~~	~~3/26/2002~~	~~Unknown Interference~~	~~O~~	~~Nat. Telecom. Admin~~	~~Follow-up by ICAO and State~~	~~Dec-05~~	~~U~~
~~10~~	~~Radio Navigation Aids~~	~~Dubai ILS~~	~~109.500 MHz~~	~~3/22/2002~~	~~Unknown Interference~~	~~O~~	~~Nat. Telecom. Admin~~	~~Follow-up by ICAO and State~~	~~Dec-05~~	~~A~~

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Deficiencies in the CNS field

YEMEN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/ Rationale for non-elimination		Description	Executing body	Date of completion	Priority for action
1	ATS Speech Circuit Plan (LIM MID RAN Conclusion 6/11)	Yemen – Ethiopia- Eritrea – India – Djibouti – Saudi Arabia – Somalia – Oman	All ATS Speech Circuits connecting Sana'a with the following adjacent centres provided by Yemen use speed dial: Addis-Ababa Asmara Mumbai Djibouti Jeddah Mogadishu Muscat	10/7/1998	Communications should be established within 15 seconds	O	Yemen will be urged to implement Direct Speech Circuits with adjacent centres VSAT network will operate for some centers	Concerned States and ICAO	~~Dec 05~~ for Oman and Saudi Arabia, ~~Dec 06~~ for the others June-08	U

(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

Note:* Priority for action to remedy a deficiency is based on the following safety assessments:

'U' priority = Urgent requirements having a direct impact on safety and requiring immediate corrective actions.

Urgent requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is urgently required for air navigation safety.

'A' priority = Top priority requirements necessary for air navigation safety.

Top priority requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is considered necessary for air navigation safety.

'B' priority = Intermediate requirements necessary for air navigation regularity and efficiency.

Intermediate priority requirement consisting of any physical, configuration, material, performance, personnel or procedures specification, the application of which is considered necessary for air navigation regularity and efficiency.

Definition:

A deficiency is a situation where a facility, service or procedure does not comply with a regional air navigation plan approved by the Council, or with related ICAO Standards and Recommended Practices, and which situation has a negative impact on the safety, regularity and/or efficiency of international civil aviation.

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(1) Rationale for non-elimination: "F"= Financial "H"= Human Resources "S"= State (Military/political) "O"= Other unknown causes

REPORT ON AGENDA ITEM 5: LATEST DEVELOPMENTS IN CNS

5.1 The Global Air Navigation Plan and MID Region Strategy for implementation of the Global Plan Initiatives (GPIs) and related

5.1.1 The meeting was provided with brief information on the Global Air Navigation Plan which contains guidance on ATM improvements necessary to support a uniform transition to the ATM system envisioned in the global ATM operational concept (Doc 9854). The operational concept presents the ICAO vision of an integrated, harmonized and globally interoperable ATM system. A global ATM system can be described as a worldwide system that, on a global basis, achieves interoperability and seamlessness across regions for all users during all phases of flight; meets agreed levels of safety; provides for optimum economic operations; is environmentally sustainable; and meets national security requirements.

5.1.2 The meeting was informed that, planning was focused on specific performance objectives, supported by a set of "Global Plan Initiatives" (GPIs). States and Regions would have to choose initiatives that meet performance objectives, identified through an analytical process, specific to the particular needs of a State, Region, homogeneous ATM area or major traffic flow. Planning tools would assist with the analytical process.

5.1.3 The meeting was informed that, most significantly, the second amendment to the Global plan now contains a set of twenty-three Global Plan Initiatives (GPIs) which stem from the industry roadmap and were consolidated by the Secretariat and the Air Navigation Commission. The initiatives are a logical progression of the evolutionary work already accomplished by the Planning and Implementation Regional Groups (PIRGs) and will integrate into the present planning framework.

5.1.4 The meeting was also informed that The Global Plan will be supported by planning tools (e.g. software applications, planning documentation, web-based reporting forms, project management tools). As States and PIRGs consider improvements to the regional air navigation infrastructures, they will use the GPIs and associated common programme templates as the basis for establishing performance objectives and implementation timelines, as well as to develop a comprehensive schedule and programme of planning activities to accomplish the work.

5.1.5 The Global Plan therefore, focuses efforts on maintaining consistent global harmonization and improving implementation efficiencies by drawing on the existing capabilities of the air navigation infrastructure and successful regional implementation.

5.1.6 The planning should be developed based on clearly defined performance objectives. The planning horizon should be focused on the strategies of development, activities or main tasks for two periods – that of less than 5 years (short-term) and 6 to 10 years (medium-term).

5.1.7 The meeting was invited to note the detailed MID Region strategy for the Global Plan Initiative (GPIs) as contained at **Appendix 5A** to the report on Agenda Item 5. The meeting was of the view that each strategy or set of activities should be identified with associated components of the ATM system when describing the tasks, which should include ground technical systems and capacity required to support operations such as communications, navigation and surveillance, data processing, inter-operability of systems, information management system and spectrum management. In this context the meeting was appraised for the conduct of the survey as at **Appendix 5B** to the report on Agenda Item 5.

5.1.8 The meeting noted that further progress work on the performance objectives, States, and air navigation services providers, should develop their own implementation strategies or action plans that reflect their work programmes, timelines, individual parties responsible and work status so as to monitor progress and to report advances on those activities, as required. Additionally, they should consider recording detailed information on activities required to complete implementation, and a means to provide

feedback on progress of work through an annual reporting process which will help Civil Aviation Administrations to prioritize activities and provide the support needed.

5.1.9 Based on the above, the meeting agreed to the following Draft Conclusions:

DRAFT CONCLUSION 1/4: NATIONAL CNS PLAN

MID States are urged to align their national CNS plans to be in harmony with Regional plan and submit to MID office.

DRAFT CONCLUSION 1/5: PROJECT MANAGEMENT METHODOLOGY

MID States are encouraged to use the project management methodologies for the implementation of the CNS projects which will help to define dates and deliverables.

5.1.10 The meeting reviewed and agreed on the proposed regional implementation projects and activities and focused on those related to GPIs 09,17,21,22, and 23 in the revised Global Air Navigation Plan that was discussed and approved by MIDANPIRG/10 meeting. Furthermore, the meeting agreed that regional projects will bring benefit to the realization of the seamless ATM system; in this context the meeting emphasized the importance of the regional projects and special attention was given to the projects, in MIDANPIRG/10 conclusion 10/14.

5.2 Review of outcome of the ACP/1

5.2.1 Under this agenda item the meeting noted that ACP/1 meeting in May 2007 formulated eight recommendations as at **Appendix 5C** to the report on Agenda Item 5; two of these recommendations involved amendments to Annex 10 (ATN and VHF-voice)

5.2.2 The meeting noted that the detailed technical specifications for ATN/IPS, including the air-ground links will be completed by the end of 2008 and also noted that this will complement the SARPs for the ATN/IPS, which are expected to become applicable in November 2008; and these developments satisfied MIDANPIRG/10 Conclusion 10/64 which was addressing IPS implementation.

5.2.3 The meeting was reminded of the importance of the ACP panel activities for the MID Region and the participation of MID States in its work for the benefit of the region consequently the meeting agreed that MID States experts are encouraged to participate actively in the different ACP panel working group meetings so that the MID Region concerns are addressed in detail during panel meetings.

5.3 Amendment to Annex 10

5.3.1 The meeting noted that the proposals for the amendment of Annex 10, Volume III, Parts I and II, concerning the aeronautical telecommunication network and 8.33 kHz offset carrier systems were developed by the first meeting of the Aeronautical Communications Panel (ACP/1). Further more the meeting noted that the prime objective of the amendment was to introduce the Internet Protocol Suite (IPS) in the aeronautical telecommunication network (ATN), and that the current ATN SARPs have been restructured along the principles of Assembly Resolution A35-14. The amendment concentrates on keeping high level Standards in Annex 10 necessary to secure the global interoperability of the ATN. Consequently the meeting agreed to the following Draft Conclusions:

DRAFT CONCLUSION 1/6: IMPLEMENTATION OF AMHS

That, MID States implementing AMHS will have the AFTN/AMHS gateway where needed to ensure the interoperability of AFTN and CIDIN stations and networks with the ATN.

DRAFT CONCLUSION 1/7: DEFAULT MID REGION NETWORK PROTOCOL

That the MID Region ATN shall:

a) be based and use the Internet Protocol Suite (IPS) as the default networking protocol; and

b) provide communication in accordance with the prescribed required communication performance (RCP) (Manual on Required Communication Performance (RCP) (Doc 9869).

5.3.2 The meeting also noted that another amendment to Annexes was as result of the integration of RNP and RNAV into the Performance Based Navigation (PBN) concept, for which the associated terminology in Annexes had to be addressed to ensure consistency in ICAO documentation. It was highlighted that all ICAO Annexes had been reviewed with regard to area navigation (RNAV) and/or RNP references and each occurrence of the terminology has been adapted to align with the revised concept.

5.4 Evolution of Aeronautical Ground-Ground Communications

5.4.1 The meeting noted the various developments in the past aiming at improving notably the Aeronautical Fixed Service (AFS/AFTN). Although the AFTN in many areas still can meet the communication requirements for aviation, emerging new techniques (e.g. the transmission of binary data and graphics) required ICAO to move towards the Aeronautical Telecommunication Network that can accommodate a variety of applications. In addition, the ATN is providing air-ground data link communications as well. In this regard, the meeting noted in particular that SARPs have been developed for the ATN, based on already available Standards from the Internet Protocol Suite (IPS). Use of the IPS Standards will offer the flexibility, now and in the future, to easily and at low cost introduce new applications for the ATN and does not longer require ICAO to develop its own detailed technical SARPs. Areas of further involvement in ICAO are the definition of message formats, user addresses, Quality of Service (QoS) parameters. These issues are currently being addressed in the Aeronautical Communications Panel (ACP).

5.4.2 The meeting was appraised that the Gulf States use 64K links since 2002 on which the traffic for AFTN, voice and radar data is transmitted. The meeting request further information on the project and if there are any QoS parameters which are monitored.

5.4.3 The meeting recommended that there would be a need to harmonize the material in Annex 10 on AFTN (Volume II), ATN (Volume III) in order to provide clear guidance to States on the best options for implementing ATN on the basis of established national or regional agreed operational requirements. The meeting further noted that developments on provisions relevant to the ATN (IPS) (Manual on detailed technical specifications, ATN implementation Manual and Manual on the use of Voice over Internet Protocol) are regularly placed on the ACP website (Working Group I). States in the MID Region were invited to review these developments with the view to provide any further guidance to the work in ACP to secure that specific requirements for the MID-Region are properly addressed.

5.5 Development of ICAO provisions on the use of the Internet

5.5.1 The meeting noted that ICAO had published the *Guidelines on the Use of the Public Internet for Aeronautical Applications* (Doc. 9855). The use of the public internet is possible in certain situations where the low level of ATN traffic would not warrant implementation of ATN facilities or for certain non-safety critical data exchanges. Doc. 9855 contains the necessary guidance for such cases. The meeting agreed that such uses, for regional planning purposes should be documented therefore decided to establish an IPS Working Group which will be tasked and to developed MID Region internet usage guidance and complete the development of the ATN planning document and agreed to the following Draft Conclusion:

DRAFT CONCLUSION 1/8: ESTABLISHMENT OF AN INTERNET PROTOCOL SUITE (IPS) WORKING GROUP

That, for development of documents for the usage of public Internet activity and MID Region ATN development Plan an IPS Working Group is established with Terms of Reference as at ***Appendix 5D*** *to the report on Agenda Item 5.*

5.6 Follow-up on MID Aeronautical Communication Infrastructure Seminar

5.6.1 The meeting noted that MID Region Aeronautical Communication Infrastructure Seminar was successfully held in Jeddah Saudi Arabia between (06-07 Nov) 2007, hosted by General Authority of Civil Aviation (GACA) of Saudi Arabia back to back with MID RMA meeting. Eighty Four (84) participants from eight (08) States, and four (4) International Organizations attended the seminar.

5.6.2 The meeting noted that the seminar was initially planned to be for ATN only but was changed to Seminar on Aeronautical Communication Infrastructure instead of ATN Seminar in order to be inline with ICAO Strategic Objectives which are approached in terms of performance objectives. Further more the seminar was aligned with Global Plan Initiative 22 which is "Communication Network Infrastructure". The requirement is to provide a communication infrastructure that supports the level of performance required for the Region.

5.6.3 The meeting recalled that the seminar was held pursuant to MIDANPIRG/10 Conclusion 10 /63 which tasked ICAO MID office to conduct a seminar of Aeronautical Communication Infrastructure.

5.6.4 The meeting was apprised on the agenda of the seminar and noted that it addressed the important subjects related to the communication infrastructure and developed six (6) Recommendations as at **Appendix 5E** to the report on Agenda Item 5.

5.6.5 The meeting was of the view that these recommendations are of significant reference and could be integrated in the future work programme of the Sub-Group.

5.7 Performance Based Navigation (PBN) and Impact on Navigation systems

5.7.1 The meeting noted that PBN is an end-to-end system of requirements, in which aviation authorities specify the aircraft capabilities and performance requirements necessary to operate in a given airspace or on a given procedure. The concept of PBN includes two key "building block" elements: area navigation (RNAV) and Required Navigation Performance (RNP). PBN brings together, under one umbrella, a number of diverse RNAV and RNP applications encompassing all regimes of flight, from enroute to approach.

5.7.2 The meeting was briefed on the PBN benefits and noted that PBN concept specifies aircraft RNAV system performance requirements in terms of accuracy, integrity, availability, continuity and functionality needed for the proposed operation in the context of a particular Airspace Concept. This concept of PBN represents a shift from the sensor based to performance based navigation. Under PBN, generic navigation requirements are defined based on the operational requirements. Operators are then able to evaluate options in respect of available technologies and navigation services that could allow these requirements to be met.

5.7.3 The meeting noted that there are two core input components for application of PBN Navigation Aid Infrastructure and Navigation Specifications. Applying these components in the context of airspace concept to ATS routes and instrument procedures may result in a third component "The Navigation Application".

5.7.4 The meeting noted the explanations of the PBN terminology and the three processes that are provided to assist States in the implementation of PBN which are:

Process 1 – Determine Requirements
Process 2 – Identifying ICAO Navigation Specification for Implementation
Process 3 – Planning and Implementation

5.7.5 The meeting noted that each Navigation Specification is supported by specific navigation aid infrastructure which is reflected in **Appendix 5F** to the report on Agenda Item 5 and emphasized the role of the CNS Sub-Group to provide the necessary support for the implementation of the PBN since NAV Aid infrastructure is core input of PBN and already part of the CNS Sub-Group work programme.

5.7.6 The meeting noted that the Flight Plan Study Group (FPLSG) developed an amendment proposal to relevant ICAO SARPs/PANS-OPS which address recent developments within the field of air traffic management, for example reduced vertical separation minimum (RVSM) and PBN, while at the same time maintaining a high degree of commonality with the existing flight plan format and noted that States need to consider these requirements in their flight plan systems. These amendments are currently reviewed by the ANC.

5.7.7 The meeting reiterated that the MID Region should capitalize on the available infrastructure and the modern aircraft equipage, in this context, the meeting was provided with the updated A/C equipage from IATA as at **Appendix 5G** to the report on Agenda Item 5.

5.7.8 The meeting received information on 36th ICAO Assembly Resolution 31/1 *Performance based navigation global goals* and noted that ICAO is holding PBN seminars in support of this resolution and noted that States include in their PBN implementation plan provisions for implementation of approach procedures with vertical guidance (APV) to all runway ends serving aircraft with a maximum certificated take-off mass of 5700 kg or more, according to established timelines and intermediate milestones.

CNS SG/1
Appendix 5A to the Report on Agenda Item 5

MID REGION STRATEGY FOR THE IMPLEMENTATION OF THE GLOBAL PLAN INITIATIVES (GPIs)

Considering:

a) the ICAO strategic objectives;

b) the ICAO Business Plan;

c) the Global Air Traffic Management Operational Concept;

d) the revised Global Air Navigation Plan and associated GPIs; and

e) the outcome of ALLPIRG/5 meeting; and

Recognizing that:

i) the evolution continues from a systems-based to a performance-based approach to planning and implementation of the air navigation infrastructure; and

ii) the Global Air Navigation Plan is a significant component in the development of regional and national plans and that, together with the global ATM operational concept, it provides an effective architecture for achieving a safe, harmonized, interoperable, and seamless Global ATM system;

The MID Region strategy for the implementation of the Global Plan Initiatives (GPIs) is detailed below:

A) the MID Region implementation plan should:

1) be evolutionary and consistent with the Global Air Navigation Plan taking into consideration the region priorities;

2) cope with the development of an ATM Performance framework;

3) satisfy performance needs just in time and at minimal cost;

4) provide States with clearer objectives for the implementation of ATM and supporting CNS systems;

5) identify the GPIs that would be most effective in achieving the objectives of the region while ensuring continuation of the work already accomplished;

6) take into account the Initiatives across regions, to align work programmes and to develop national and regional plans that facilitate achieving a Global ATM system;

B) the GPIs status of implementation in the MID Region is at **Attachment 1**;

C) the progress achieved and the challenges identified in the implementation of GPIs should be monitored and reviewed on a regular basis; and

D) taking into consideration the above, the implementation plan should be considered as a living document, which should be updated on a regular basis.

GLOBAL AIR NAVIGATION PLAN: GLOBAL INITIATIVES

Table 1. Global Plan Initiatives (GPIs) and their relationships to the major groupings

G P I		En-route	Terminal Area	Aerodrome	Supporting Infrastructure	Related Operational Concept Components
GPI-1	Flexible use of airspace	X	X			AOM, AUO
GPI-2	Reduced vertical separation minima	X				AOM, CM
GPI-3	Harmonization of level systems	X				AOM, CM, AUO
GPI-4	Alignment of upper airspace classifications	X				AOM, CM, AUO
GPI-5	RNAV and RNP (Performance-based navigation)	X	X	X		AOM, AO, TS, CM, AUO
GPI-6	Air traffic flow management	X	X	X		AOM, AO, DCB, TS, CM, AUO
GPI-7	Dynamic and flexible ATS route management	X	X			AOM, AUO
GPI-8	Collaborative airspace design and management	X	X			AOM, AUO
GPI-9	Situational awareness	X	X	X	X	AO, TS, CM, AUO
GPI-10	Terminal area design and management		X			AOM, AO, TS, CM, AUO
GPI-11	RNP and RNAV SIDs and STARs		X			AOM, AO, TS, CM, AUO
GPI-12	Functional integration of ground systems with airborne systems		X		X	AOM, AO, TS, CM, AUO
GPI-13	Aerodrome design and management			X		AO, CM, AUO
GPI-14	Runway operations			X		AO, TS, CM, AUO
GPI-15	Match IMC and VMC operating capacity		X	X	X	AO, CM, AUO
GPI-16	Decision support systems and alerting systems	X	X	X	X	DCB, TS, CM, AUO
GPI-17	Data link applications	X	X	X	X	DCB, AO, TS, CM, AUO, ATMSDM
GPI-18	Aeronautical information	X	X	X	X	AOM, DCB, AO, TS, CM, AUO, ATMSDM
GPI-19	Meteorological systems	X	X	X	X	AOM, DCB, AO, AUO
GPI-20	WGS-84	X	X	X	X	AO, CM, AUO
GPI-21	Navigation systems	X	X	X	X	AO, TS, CM, AUO
GPI-22	Communication infrastructure	X	X	X	X	AO, TS, CM, AUO
GPI-23	Aeronautical radio spectrum	X	X	X	X	AO, TS, CM, AUO, ATMSDM

ABBREVIATIONS:

Airspace Organization and Management	AOM
Demand and Capacity Balancing	DCB
Aerodrome Operations	AO
Traffic Synchronization	TS
Conflict Management	CM
Airspace User Operations	AUO
ATM Service Delivery Management	ATMSDM

IMPROVEMENT OF THE MID ATS ROUTE STRUCTURE

GPI-1: FLEXIBLE USE OF AIRSPACE
GPI-4: ALIGNMENT OF UPPER AIRSPACE CLASSIFICATIONS
GPI-5: RNAV AND RNP (PERFORMANCE-BASED NAVIGATION)
GPI-7: DYNAMIC AND FLEXIBLE ATS ROUTE MANAGEMENT
GPI-8: COLLABORATIVE AIRSPACE DESIGN AND MANAGEMENT

Strategic Objectives	Actions	Description/Tasks	Target Date	Initiated by	Benefits	Status
A, C, D	Improvement of MID ATS routes structure	– Analyse the en-route ATS route structure and implement identifiable improvements; – Increased accommodation of user-preferred flight profiles; – Monitor planning and implementation process.	2009	ICAO, States, users	– Shorter routes/reduced travel times – Increased airspace capacity and efficiency – Reduced fuel consumption – Reduced environmental impact	
A, C, D	Implement Flexible Use of Airspace (FUA) Concept	– Conduct Regional review of special use of airspace; – Remove large tracts of permanent restricted airspace; – Establish civil/military coordination bodies at national level; – Implement collaborative civil/military airspace planning at national level; – Increase role of civil/military coordination forums; – Implement dynamic and flexible ATS routes structure concept. – Monitor implementation	2010	ICAO, States, users	– Improved safety – Shorter routes/reduced travel times – Increased airspace capacity and efficiency – Reduced fuel consumption – Reduced environmental impact	

Strategic Objectives	Actions	Description/Tasks	Target Date	Initiated by	Benefits	Status
A, E	Implement Regional ATM contingency planning	– Define route schemes for contingency situations; – Promulgation of contingency plans.	2008	States, ICAO, users	Ensure continuity and safety of air transport	
A, C, D	Collaborative airspace design and management	– Collaboration with users and adjacent airspaces on airspace design and management; – Extend the implementation of RNAV 5 areas to cover the whole airspace in the MID Region above FL 195; – Reorganize the MID airspace to ensure application of a common airspace classification in the upper airspace, above an agreed common level.	2009	ICAO, States, users	– Improvement in safety; – Improved airspace capacity; – Improved interoperability and seamlessness; – Reduced fuel consumption; – Reduced environmental impact.	

RVSM OPERATIONS IN THE MID REGION

GPI-2: REDUCED VERTICAL SEPARATION MINIMA

Strategic Objectives	Actions	Description/Tasks	Target Date	Initiated by	Benefits	Status
C, D	Ensure safe RVSM operations in the MID Region	– Monitor/follow-up RVSM operations in the MID Region; – Ensure MID RMA operations continuity; – Plan for the implementation of RVSM in Baghdad and Kabul FIRs; – Follow-up/coordinate RVSM implementation/operations in adjacent regions.	2009	ICAO, States, MID-RMA	– Increased airspace capacity and efficiency; – Reduced fuel consumption; – Reduced environmental impact.	

DECISION SUPPORT AND IMPROVEMENT OF SITUATIONAL AWARENESS

GPI-9: SITUATIONAL AWARENESS
GPI-16: DECISION SUPPORT AND ALERTING SYSTEMS
GPI-17: DATA LINK APPLICATIONS
GPI-19: METEOROLOGICAL SYSTEMS

Strategic Objectives	Actions	Description/Tasks	Target Date	Initiated by	Benefits	Status
A, D	Implement an IFPS in the MID Region	– Develop a feasibility study; – Define the legal framework for the MID IFPS; – Commitment of States through the signature of MOU; – Agreement on a funding mechanism; – Implementation and operation of the MID IFPS	2010	Bahrain, States, ICAO	– Reduce the number of occurrences of non-receipt of FPLs and associated ATS messages; – Improved planning and coordination between adjacent Centres; – Improved safety and efficiency.	
A, D	Improve surveillance and air/ground data link services	– Implement ATS data link surveillance technologies, ADS-B, CPDLC, etc., where applicable ; – Exchange of radar data between adjacent Centres, – Implement automation in coordination tasks between adjacent Centres/Sectors	2010	ICAO, States, Users	– Improvement in safety; – Reduced workload for both pilots and controllers; – Improved efficiency.	

A	Implement operations decision support and alerting systems	– Implement ground air electronic warnings, as needed for short and for long term conflict predictions: + ACAS II + MSAW + DAIW – Implement D-ATIS, where applicable.	2009	ICAO, States	– Improved safety; – Reduction in risk of CFIT;	
A	Provision of eTOD	– Promote the awareness about the requirements for the provision of electronic Terrain and Obstacle Data (eTOD); – Analyse eTOD requirements develop a common understanding of the requirements (needs in terms of data format, temporality, cross-border harmonisation, etc); – Develop a MID Region eTOD implementation strategy and action plan; – Harmonize, coordinate and support the eTOD implementation activities on a regional basis; – Provide eTOD.	2009	ICAO, States	– Improved safety; – Reduction in risk of CFIT;	
A, D	Provision of MET information	– Implement D-VOLMET, where applicable; – Provision of OPMET information from automated ground-based meteorological systems (automated low-level wind shear alerts and RWY wake vortex reports, hazardous weather phenomena).	2010	States	– Improved safety; – Improved efficiency.	

ENHANCEMENT OF MID STATES' TMA MANAGEMENT

GPI-1: FLEXIBLE USE OF AIRSPACE
GPI-5: RNAV AND RNP (PERFORMANCE-BASED NAVIGATION)
GPI- 8: COLLABORATIVE AIRSPACE DESIGN AND MANAGEMENT
GPI-10: TERMINAL AREA DESIGN AND MANAGEMENT
GPI-11: RNP AND RNAV STANDARD INSTRUMENT DEPARTURES (SIDS) AND STANDARD TERMINAL ARRIVALS (STARS)
GPI-12: FUNCTIONAL INTEGRATION OF GROUND SYSTEMS WITH AIRBORNE SYSTEMS
GPI-20: WGS-84
GPI-21: NAVIGATION SYSTEMS

Strategic Objectives	Actions	Description/Tasks	Target Date	Initiated by	Benefits	Status
A, C, D	Improve TMA capacity and efficiency	– Collaboration with users on TMA design and management; – Increased accommodation of user-preferred flight profiles; – Remove, as much as possible, permanent restricted airspace close to airports and carry out strategic coordination and dynamic interaction with the military to improve TMA capacity; – Finalize implementation of WGS-84; – Develop MID Region PBN Strategy; – Develop and implement optimized RNP and RNAV SIDs, STARs and approach procedures in accordance with the PBN concept, taking into consideration aircraft capabilities; – Develop and implement GNSS procedures for Non-Precision Approaches and approaches with vertical guidance (APV).	2010	ICAO, States, Users	– Improvement in safety – Increased airspace capacity and efficiency; – Efficient flight trajectories; – Reduction in CFIT; – Reduced fuel consumption; – Reduced environmental impact.	

Strategic Objectives	Actions	Description/Tasks	Target Date	Initiated by	Benefits	Status
C, D	Plan for the implementation of Continuous descent procedures and unrestricted climb departure procedures	– Enable optimal application of advanced technologies including FMS based arrival procedures; – Develop a plan for the implementation of continuous descent procedures; – Develop a plan for the implementation of unrestricted climb departure procedures.	2011	States, Users, ICAO	– Efficient flight trajectories; – Increased airspace efficiency; – Reduced fuel consumption; – Reduced environmental impact.	

ENHANCEMENT OF AERODROME INFRASTRUCTURE AND MANAGEMENT

GPI-13: AERODROME DESIGN AND MANAGEMENT
GPI-15: MATCH IMC AND VMC OPERATING CAPACITY

Strategic Objectives	Actions	Description/Tasks	Target Date	Initiated by	Benefits	Status
A, D	Implement collaborative aerodrome SARPs and safety management (13)	– Establish collaborative bodies with ATM, aircraft operators and aerodrome operators for developing plans to increase aerodrome capacity to meet the actual air traffic or forecast demand – Implement aerodrome ground infrastructure commensurate with operational expectations including operations of new larger aircrafts at existing aerodromes, – Implement, where warranted, precise surface guidance to and from a runway to improve capacity and efficiency, – Implement collaborative aerodrome operational procedures with ATM, ground services providers and associated operations support services – Develop, Implement and make available to ATM at aerodromes a positioning system for all vehicles and aircrafts operating on the movement area on a cost-benefit basis. – Implement advance surface movement guidance and control, associated procedures and implement electronic conflict alert systems, as required. – Implement safety management system at aerodromes	2010	ICAO, States, Users	– Improvement in safety – more efficient use of aerodrome resources and ground handling – Increased aerodrome capacity and efficiency – allow minimal and precise ATFM measures to be applied – reduction in delays and higher predictability of flight schedules – increased ability to safely manoeuvre in all weather conditions	

IMPROVEMENT OF STATE'S AERODROME OPERATIONS

GPI-14: RUNWAY OPERATIONS
GPI-15: MATCH IMC AND VMC OPERATING CAPACITY

Strategic Objectives	Actions	Description/Tasks	Target Date	Initiated by	Benefits	Status
A	Implement procedures and technologies to enhance the performance of runway operations and optimize runway capacity	– Undertake analysis to determine most favourable ATM factors and measures (procedures, management, etc) for runway capacity optimization – Establish collaborative bodies with ATM, aircraft operators and aerodrome operators for implementing plans and measures aimed at prevention of runway incursion – Develop and implement a runway physical characteristics maintenance programme – Implement, where warranted, precise surface guidance to and from a runway to improve capacity and efficiency	2010	ICAO, States	– Improvement in safety – Reduction in runway incursion – reduce runway occupancy time and maximize runway capacity – Enhance the performance of runway operations – Increased aerodrome capacity and efficiency	

IMPROVEMENT OF THE QUALITY AND EFFICIENCY OF AERONAUTICAL INFORMATION SERVICES PROVIDED BY MID STATES

GPI-18: AERONAUTICAL INFORMATION

Strategic Objectives	Actions	Description/Tasks	Target Date	Initiated by	Benefits	Status
A, D	Provide timely and quality assured aeronautical information to users	– Improve the compliance with the AIRAC system; – Advance posting of the AIRAC information on the web; – Use of email to enhance the communication between the AIS community in the MID Region; – Implement AIS automation in order to ensure availability, sharing and management of electronic aeronautical information; – Complete the implementation of Quality Management Systems (QMS); – Monitor implementation progress.	2009	States, ICAO	– Improved safety; – Improved planning and management of flights; – Efficient use of airspace.	

IMPLEMENTATION OF GNSS IN THE MID REGION

GPI-21: NAVIGATION SYSTEMS
GPI-23: AERONAUTICAL RADIO SPECTRUM

Strategic Objectives	Actions	Description/Tasks	Target Date	Action by	Benefits	Status
C, D	Implement GNSS	– Implement GNSS for En-route; – Implement GNSS for NPAs; – Carry out GNSS trials, demonstrations and test beds; – Determine the most appropriate augmentation system for the MID Region based on cost-benefit analysis; – Introduce, in an evolutionary manner, the use of GNSS with appropriate augmentation system in the MID Region; – Monitor implementation progress.	2010	ICAO, States	– Optimal use of advanced technologies; – Operational Efficiency; – Reduction in environmental impact.	
A, D	Implement Radio Spectrum Management and processes to protect the aeronautical spectrum	– Ensure Regional coordination for the protection of the aviation spectrum at WRC2007, and beyond – Disseminate ICAO policy statements of requirements for aeronautical radio frequency spectrum; – Implement frequency spectrum management.	2009	ICAO, States	– Assurance of aviation spectrum – Administer the use of the allocated aviation spectrum	

IMPROVEMENT OF COMMUNICATION INFRASTRUCTURE

GPI-17: DATA LINK APPLICATIONS
GPI-22: COMMUNICATION INFRASTRUCTURE

Strategic Objectives	Actions	Description/Tasks	Target Date	Action by	Benefits	Status
A, D	Implement communication infrastructure to support voice and data communication	– Follow up on the implementation of the Aeronautical Fixed Services (AFS) – Follow up the implementation on voice communications – Migrate from AFTN/CIDIN to AMHS – Implement high speed digital circuits between main centres – Monitor the implementations – Follow up the developments in the Panels – Implement hormonally the appropriate developments.	2010	ICAO, States	– Improved safety – Improvement in operational efficiency – Better coordination	
D	Implementation of ATN in the MID region	– Develop Regional ATN Planning document – Review of ATN implementation problems and develop coordinated solutions – Develop ATN Operation procedures – Develop conformance procedures and check list for AMHS and ATN routers	2010	ICAO, States	– Optimal usage of advanced technologies – Increase the use of the data – Better cost effective integrations – Easier in maintenance and operation	

		– Develop Information Security policy – Develop information Security Guidance – Coordinate and monitor implementation to be harmonized and interoperable globally; – Follow-up activities of panels and other regions.				
	Implement advanced technologies to support data link services	– Identify & implement selected, harmonized data links to ensure interoperability between States and Regions; – Implement available technologies in support of and to facilitate ground and airborne applications (CPDLC, ADS, D-ATIS)	2010	ICAO, States	– Reduce work load for pilot and controllers – Seamless interoperable operation – Efficient linkage between ground and airborne systems	
A,D	Implement MID VSAT network	– Identify States requirement; – Signature of MOU by concerned States; – Explore technical cooperation for establishing a mechanism for progress; – Harmonize the implementation of VSAT Network; – Monitor the implementation.	2010	ICAO, States	– Eliminate many communication deficiencies thus Increase safety – Robust network – Easier development and management – Support new CNS/ATM technologies	

NOTE:

– **GPI-3**: Harmonization of Level Systems: Not Applicable to the MID Region

– **GPI-6**: Air Traffic Flow Management: Not reflected

CNS SG/1
Appendix 5B to the Report on Agenda Item 5

INTERNATIONAL CIVIL AVIATION ORGANIZATION

Middle East Regional Office

Questionnaire on the Infrastructure of the ACCs

Note: The objective of this questionnaire is to obtain up-dated information regarding the ACCs infrastructure responsible for the provision of ATS in the Flight Information Regions.

These information will allow the CNS/ATM/IC SG Experts responsible for the development of CNS/ATM Planning and Implementation, to have an updated view of the Technical/Operational status of the ACCs, facilitating the identification of the existing CNS/ATM elements and the requirements for its gradual evolution in accordance with Global Plan to achieve the Interoperability, Standardization Seamlessness, Cost Effectiveness, Easy Migration, Enhance Safety Integrated Regional Air Traffic Management system leading to Global Integrated ATM.

State: _____ FIR/ACC: _____ Date: _____

1. AIR TRAFFIC MANAGEMENT (ATM)

1.1 FIR Sectorization

a) In how many control sectors is the ACC organized?

Comments: ……
……

b) Is the work load of the ATC personnel in the ACC control sectors adequate?

Comments: ……
……

c) If answer to question b) is negative, are there any plans for the ACC resectorization?

Comments: ……
……

1.2 Civil/Military Coordination

a) Is there any Letter concerning Procedures between the ACC and Military Units, which activities may affect the civil aviation operations?

Comments: ……
……

b) If the answer to a) above is affirmative, do the existing Operational Agreements have enough flexibility e to allow civil aviation traffic through the Restricted Areas when not in use?

Comments: ……
……...

c) As a result of the above, is there direct speech communications between the ACC and the Military Units (if applicable).

Comments: ……
……

1.3 Longitudinal Separation in ATS routes

a) What is the longitudinal separation applied (internally) in the FIR?

Comments: (non-environment radar) …….
(radar environment, if it is the case) ……..

b) What is the actual longitudinal separation between the FIR and each of the adjacent FIRs?

Comments: ……
……...
……...
……...

c) Does the longitudinal separations, as indicated in b) above, enables aircrafts to fly at their preferred flight levels (FL)?

Comments: …….
……...
……...
……...

d) If the above answer is negative, indicate if the ACC's technical/operational conditions would allow a reduction in longitudinal separation to increase the airspace capacity.

Comments: ……
……...
……...
……...

e) Is the applied longitudinal separation based on **RNAV distances** in the FIR?

Comments: ……
……...
……...
……...

f) If the above answer is affirmative, please indicate the ATS routes or ATS routes segments where the RNAV separations are applied and their respective values (distance in NM).

Comments: ……
……...
……...

g) Is the Mach Number (MNT) Technique applied between the FIR and adjacent FIRs?

Comments: ……
……...
……...

1.4 Air Traffic Flow Management (ATFM)

a) Is there any traffic congestion in the FIR, (in specific areas of the airspace and/or in peak traffic hours)?

Comments: ……
……
……

b) If the above answer is affirmative, please indicate the Terminal Areas and ATS routes where such congestion is experienced. Your comments on the possible causes of the congestion in each particular case would be appreciated.

Comments: ……
……
……
……

c) Does ACC applies any Flow Control procedure in the FIR?

Comments: ……
……
……

d) If the above answer is affirmative, is there any FMU established for this purpose? and if so, indicate if the FMU applies automated procedures.

Comments: ……
……
……

1.5 ACC Automated Functions

a) Does ACC include an automated flight Plan processing system (FDP)?

Comments: ……
……

b) For ACCs equipped with surveillance radar, does it include radar data processing (RDP)?

Comments: ……
……..

c) If the above answer is affirmative, does the radar system include an alert and conflict prediction system capability as well as a Minimum Safety Altitude alert (MSA)?

Comments: ……
……

d) In the case of Terminal Area radar, please provide the same information as requested above.

Comments: ……..
……..

e) Is the ACC provided with AIS automated system?

Comments: ……..
……..

f) Is the ACC equipped with an automated OPMET information system?

Comments: …….
…….

2. COMMUNICATION, NAVIGATION AND SURVEILLANCE (CNS)

2.1 Communications

a) Does ACC air-ground communications (VHF/HF) satisfy the ATS requirements?

Comments: …….
…….
…….

b) In case the communications indicated in a) above are not satisfactory, please indicate the international ATS routes or route segments affected (consider the ATS upper airspace routes).

Comments: …….
…….
…….
…….

c) AFTN - Is the AFTN operating satisfactorily at the ACC? If not, please indicate the difficulties.

Comments: …….
…….
…….
…….

d) ATS Speech Circuits: Does Speech Circuits for the ATS coordinations with the ACCs of adjacent FIRs (internationals), satisfy the ATS requirements? If not, please indicate the difficulties for each Inter-ACC connections.

Comments: …….
…….
…….
…….

2.2 Navigation

a) Do existing FIR navaids cover satisfactorily the ATS international Routes? (upper airspace)

Comments: ……..
……..
……..

b) If the response in a) is negative, identify the ATS route segments (FIR continental area) that are not covered adequately.

Comments: ……..
……..
……..

c) Has GNSS (GPS) been adopted as a supplementary or primary mean for en-route navigation in the FIR?

Comments: ……..
……..
……..

2.3 Radar Surveillance

a) Is radar surveillance provided in the FIR?

Comments: ……..
……..
……..

b) If the answer to a) above is affirmative, does it meet the ATS requirements? (upper airspace)

Comments: ……..
……..
……..

3. COMPLEMENTARY INFORMATION

In order to make a complete evaluation of the facilities and services provided at the ACC level and assist in the development of a transition plan to CNS/ATM, it would be much appreciated if the following information could be provided on each, the Communication Navigation and Surveillance Systems being used to support the Air Traffic Control (ACC) functions on the routes being studied. The information would include:

3.1 A brief description of each of the communication, navigation and surveillance used at the ACC. This would include the type of systems used for each of the Communications Navigation and Surveillance functions. The quality of service, coverage area and where used (En-Route or Terminal Area or both).
……..
……..
……..
……..

3.2 A list of the communication systems used, air-ground (HF, VHF facilities and services) and ground-ground communications facilities, (direct speech circuit, public facilities, etc) their date of installation, expected date of retirement or replacement and finally comments on their performance, and reliability. In addition, we would also need information on the cost associated with the different communications systems, desirable features or capabilities, shortcomings of the present arrangement, etc. The cost figures for the sight being studied should include, Purchase cost, Spare parts cost, manpower for maintenance and operation and any other cost that can be identified for the communications services used. It is understood that the particular cost for a particular station might not be available, in such cases, an average cost can be used.

……...
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……...

3.3 A list of the navigation aids used, (VOR, DME, NDB, ILS, Locator etc.) their identification, functions performed, date of installation, expected date of retirement or replacement and finally comments on their performance, and reliability. With regard to cost, the same type of information, as requested for communications systems, should be provided in addiction to the cost of calibration. Any additional comments concerning shortcomings and deficiencies and desirable improvements would be appreciated.

……..
……...
...……
……..

3.4 A list of the surveillance systems used, date of installation, expected date of retirement or replacement and finally comments on their performance, and reliability. Cost figures such as requested above and any additional comments related to the functionality of the system, shortcomings and desired improvements.

……..
……...
...……
……..

3.5 In addition to the above, please provide any comments you might have on the experiences gained on operational or pre- operational use, or plans for using CNS elements; such as

a) Use of GNSS (GPS) for en-route navigation as supplementary/primary means (if affirmative, indicate the ATS route being supported);

……...
……...
……...
……...

b) Use of GNSS (GPS) to support **Non Precision Approach Procedures** (indicate airports being supported);

……...
……...
……...
……...

c) Use of ADS for en-route surveillance (indicate the airspace involved);

……..…
……...
……...
……...

d) Use of Data Link (**SAT, VHF and HF**) for ATS application (**PDC, D-ATIS, AIDC and CPDLC**);
……..…..
……...
……..
……...

e) Arrangements already made with airspace users (Airlines) and services providers (**ARINC, SITA, INMARSAT, Public Services, etc.**), concerning their participation in the State programs for the implementation of the above elements;
…….
…….
……..
…….

f) In addition, provide any comments on benefits (operational, technical, economical and safety) you may have noted due to the application of the above elements. Any comments on the difficulties encountered in the implementation process (operational, technical, economical, institutional, etc.) would also be very helpful.

…….
……..….
……..……. …….
……..….

CNS SG/1
Appendix 5C to the Report on Agenda Item 5

List of ACP/1 Recommendations

Recommendation No. 1/1 **Communications Operating Concept and Requirements**

Recommendation No. 1/2 **Technology assessment evaluation scenarios**

Recommendation No. 2/1 **Amendment to Annex 10, Volume III, Part II, 8.33 kHz offset Carrier systems**

Recommendation No. 2/2 **Publication of the *AMS(R)S Manual***

Recommendation No. 3/1 **Amendment to Annex 10, introduce the Internet Protocol Suite (IPS) in the aeronautical telecommunication**

Recommendation No. 3/2 **Manual on Detailed Technical Specifications of the ATN/IPS**

Recommendation No. 4/1 **Development of SARPs for VoIP**

Recommendation No. 5/1 **Use of mobile phones on-board aircraft**

CNS SG/1
Appendix 5D to the Report on Agenda Item 5

TERMS OF REFERENCE

IPS WORKING GROUP

Terms of Reference (TOR)

In accordance with the MID Region strategy for the implementation of the Global Plan Initiatives (GPIs) and, taking into consideration that the evolution from a systems-based approach to a performance-based approach should be evolutionary and consistent with the Global plan, and the MID Region activity for the usage of the public Internet and the implementation of the ATN the IPS Working Group should:

No.	Strategic Objectives	Tasks
1	D/E	Develop MID Region public Internet usage guidance and document all Internet usage with particular attention to the safety/security of the data exchanged over the public internet.
2	A/D	Complete the development of the ATN planning document.
3	D/E	Review and analyze the MID Region rationalized AFTN plan and make suggestion for the improvement in accordance with the new development in the MID Region.
4	D	Provide the necessary support for the implementation of the IPS in the MID Region.

WORK PROGRAMME

1) Develop the MID region Strategy for the usage of the public internet as per ICAO guidance and start the implementations where needed.
2) Document all public internet usage in the MID Region.
3) Analyze the public internet usage for safety and security of the data exchanged
4) Suggest the public internet uses in the MID Region.
5) Review and complete the ATN planning document for the MID Region.
6) Assist States for the implementation of the IPS network.
7) Develop the criteria for the MID Region centers.
8) Review and develop if necessary the rationalized AFTN plan to be in line with the MID Region. move towards the implementations of IPS based ATN network.

Composition

The Group will be composed of experts nominated by MID Region provider States.

Working Arrangements

The representatives shall maintain continuity in the work of the Group, by using communication facilities particularly e-mails to keep the Members and the Secretary in permanent touch with each other, the Group shall meet when necessary.

CNS SG/1
Appendix 5E to the Report on Agenda Item 5

RECOMMENDATIONS OF THE MID AERONAUTICAL COMMUNICATION INFRASTRUCTURE SEMANR

Building upon the current communications infrastructure development in the region the following recommendations are put forward:

RECOMMENDATION 1: Harmonization of implementation of communication infrastructure

Taking into consideration the adoption the second amendment of the Global Plan the MID Region States should harmonize the implementation of communication infrastructure

RECOMMENDATION 2: DEFINING COMMUNICATION PEFORMANCE OBJECTIVES

The following are to be considered as the performance objectives for the region towards performance based communication supporting the ATM operational concept:

a) Establish and adopt a RCP Methodology
b) Introduction of data link usage to support the ATC at flight level 290 by 2010;
c) Full data link based operations by 2015;
d) Introduce ATN IPS as the standard inter networking for the MID Region
e) Explore the advantages and capabilities of the usage of Vsat where appropriate
f) Consider the integration of intra and adjacent regions areas.

RECOMMENDATION 3: EXCHANGE OF EXPERIENCE FOR THE IMPLEMENTATION NEW CNS

Implementation of new CNS provisions should be considered as a global matter concerning all ICAO Regions, which thereby necessitates coordination and exchange of experience between States, ICAO and other national/regional and international organizations involved.

RECOMMENDATION 4: COORDINATION BETWEEN STATES AND STAKE HOLDERS

Collaboration between States, Stake holders (users, providers, integrators) should consider cost benefit equity.

RECOMMENDATION 5: RESPONSIBILITY FOR THE PROVISION OF ANS

States are encouraged to consider a consolidated action plans focused on the application of available procedures, processes and capabilities.

RECOMMENDATION 6: ANP REQUIREMENTS RELATED TO CNS

States have to implement what has been planned and agreed in the MID Region ANP and always keep the plan current.

MID Regional Plan should support a performance-based approach to planning and to support the Regional Planning implementation process.

CNS SG/1
Appendix 5F to the Report on Agenda Item 5

NAVIGATION SPECIFICATION	FLIGHT PHASE							
	En Route OCEANIC /REMOTE	En Route Continental	ARR	APPROACH				DEP
				Initial	Interm.	Final	MISSED	
RNAV 10	10							
RNAV 5		5	5					
RNAV 2		2	2					2
RNAV 1		1	1	1	1		1[b]	1
RNP 4	4							
Basic-RNP 1			1[a,c]	1[a]	1[a]		1[ab]	1[a,c]
RNP APCH				1	1	0.3	1	
RNP AR APCH				1-0.1	1-0.1	0.3 – 0.1	1-0.1	

	GNSS	IRU	D/D	D/D/IRU	D/VOR
RNAV 10	√	√			
RNAV 5	√	√	√	√	√
RNAV 2/1	√		√	√	
RNP 4	√				
Basic-RNP 1	√				
RNP APCH	√				
RNP AR APCH	√				

CNS SG/1
Appendix 5G to the Report on Agenda Item 5

Airplane type	QTY	NAVIGATION CAPABILITY																	COMMUNICATIONS CAPABILITY				
		FMS	GPS STAND ALONE	GPS COUPLED TO FMS	IRU	RNAV DME/DME	RNAV DME/DME/IRU	RNAV GPS	RNP-10	RNP-4 Oceanic	RNP-5 B-RNAV	RNP-1 P-RNAV	RNP 1.0	RNP .3	RNP .5	FANS	ADS	ADS-B	HF	HF DATA LINK	ACARS	ACARS OVER VDL2	SATCOM
A300	12	12	4	8	4	4	8	8	4		8								12				
A310	19	19	5	4	19	11	19	4	9	9	19	6							19				
A319	2	2		2	2	2	2		2		2	2					2		2	2	2	2	2
A320	37	36	6	24	36	26	35	14	36	12	36	20	6	6	6	0	13	0	36	13	26		
A321	12	12	4	8	12	6	12	4	12	4	12	2	0	0	0	0	8	0	6	2	12		
A330	76	76	5	76	76	67	76	50	76	44	76	73	50	50	50	44	41	44	76	67	76	67	76
A340	38	38	4	34	38	29	38	35	38	26	38	34	31	31	31	7	7	14	30	25	38	25	38
ATR72	12	0	0	6	6	6	0	12	6	0	12	0	0	0	0	0	6	0	6	0	0	0	0
B727	14	0	7	0	0	10	3	11	10	0	14	3	3	3	6	0	0	0	14	0	0	0	
B737	31	30	21	25	29	24	30	24	29	8	30	15	14	8	29	6	18	0	31	21	23	15	15
B747	38	33	3	33	28	33	4	14	33	6	35	9	28	9	6	9	5	0	38	0	9	5	9
B757	8	8			8	8	8		8	8	8	8	8	8	8				8				
B767	22	22	9	1	22	13	22	1	19	10	19	10	10	10	13	1	1	1	22	1	10	1	1
B777	76	76	0	76	76	76	53	76	76	53	76	76	76	76	53	32	32	49	76	49	76	49	76
ERJ	15	15		15	15	15		15			15	15	15	15					15		15		15
F100	24	24	0	0	24	12	24	0	12	0	24	0	0	0	0	0	0	0	12	0	0	0	0
F27	2	2			2	2	2									2	2	2					
F90	1	1			1						1								1				
G2	4										4								4				
G3	2	2									2								2				
G4	5	5			5						5								5				
L382G	1				1			1			1								1				
MD11	4	4		4	4	4			4		4	4	4	4		4	4		4		4		4
MD90	29	29		29	29	29		29			29	29		29		29	29		29		29		29
Total	**484**	**446**	**68**	**345**	**437**	**377**	**336**	**298**	**374**	**180**	**470**	**306**	**245**	**249**	**202**	**134**	**168**	**110**	**449**	**180**	**320**	**164**	**265**
Percentage	**100.00%**	**92.15%**	**14.05%**	**71.28%**	**90.29%**	**77.89%**	**69.42%**	**61.57%**	**77.27%**	**37.19%**	**97.11%**	**63.22%**	**50.62%**	**51.45%**	**41.74%**	**27.69%**	**34.71%**	**22.73%**	**92.77%**	**37.19%**	**66.12%**	**33.88%**	**54.75%**

REPORT ON AGENDA ITEM 6: REVIEW AND UPDATE OF CNS PROJECTS IN THE MID REGION

6.1 Under this Agenda Item the meeting noted that, on advice from the ICAO Council, all Bureaux and Regional Offices have to initiate the development of their own Operational Plans in which critical tasks are broken down into smaller, contributing tasks in which PIRGs and their subsidiary bodies would need to develop project proposals. Accordingly MIDANPIRG/10 agreed to Conclusion *10/14: Implementation of Work Programme in support of strategic Performance Objectives*, in which the following three projects would be part of the CNS Sub-Group task:

a- establishment of Initial FPL Processing System (IFPS) in the MID Region;
b- implementation of ATN in the MID Region;
c- improvement of communication infrastructure; and

6.2 The meeting noted that the MID Vsat project was considered under improvement of the communication infrastructure project for which the meeting recalled ALLPIRG/5 Conclusion 5/16, MIDANPIRG/9 Conclusion 9/52 and MIDANPIRG/10 Conclusion 10/68.

6.3 The meeting noted that as follow-up to MIDANPIRG/10 Conclusion 10/68 ICAO prepared a Document of Agreement (DoA-MOU) for the MID VSAT project which was sent to MIDANGPIRG provider States as attachment for State Letter AN 7/30.15A-335 dated 03 October 2007 as **Appendix 6A** to the report on Agenda Item 6 and only UAE advised they are not interested while Iraq advised they need the agreement in Arabic and need further discussion..

6.4 The meeting could not discuss in detail the DoA document and was of the view that it needs input from other administrative experts (legal, finance) and agreed that a period of two months would be adequate for the completion of the review of the DoA. Consequently the meeting agreed to the following Draft Conclusion:

DRAFT CONCLUSION 1/9: MID VSAT PROJECT FINALIZATION

That MID States,

a) provide comment/reply to the DoA document by 05 February 2008;
b) define their clear near/long term status towards the project;
c) advise whether to continue with the project or not; and
d) States willing to implement Vsat under MID Vsat to advise ICAO MID Office if any support needed.

6.5 It was highlighted to the meeting that Vsat networks are being integrated and that if the Vsat project is implemented will also have to be integrated with other aeronautical Vsat networks furthermore, the meeting was appraised that WRC 07 approved a recommendation on the use by the civil aviation of fixed satellite service (Vsat) on a primary basis as at **Appendix 6B** to the report on Agenda Item 6.

6.6 The meeting was updated on different MID projects under other agenda items.

International Civil Aviation Organization | Organisation de l'aviation civile internationale | Organizacion de Aviación Civil Internacional | Международная организация гражданской авиации | منظمة الطيران المدنى الدولـــى | 国际民用航空组织

File Ref.: AN 7/30.15A - 335 3 October 2007

Subject: **Memorandum of Understanding for the MID VSAT Project**

Action Required: **Reply as soon as possible, in any case no later than 30 October 2007**

Sir,

I have the honour to refer to the Tenth Meeting of the Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG/10), Conclusion 10/68, concerning the MID VSAT project finalization.

CONCLUSION 10/68: MID VSAT PROJECT FINALIZATION

That, in order to expedite the implementation of the MID VSAT Project, concerned MID States commit themselves to the project, by signing the Memorandum of Understanding (MOU) leading to form a structure for managing the MID VSAT Project.

Pursuant to this conclusion, ICAO MID Office took the initiative and coordinated with ICAO Headquarters to prepare the Memorandum of Understanding (MOU) document. The MOU document is at **Attachment A** to this letter, your comments on the attached MOU document including any amendment(s) you may wish to suggest, would be appreciated.

I would like to share with you the successful implementation of NAFISAT and SADS2 VSAT networks and the two networks are actually integrated also a basic agreement has been reached to do the same with AFISNET once it is upgraded. With this news ICAO moving closer to seamless communications throughout the AFI Regions, hopefully the same trend will be followed in MIDVSAT and the two mainly VSAT networks in CAR and SAM will also be integrated eventually.

Please note that the ICAO Commission is monitoring the progress of MID VSAT project. Therefore, your commitment and support to this important project is extremely valued and would appreciate to receive your reply by return email or fax no later than 30 October 2007. CNS experts will be further discussing MIDVSAT technical matter during the coming CNS Sub-Group meeting 03-05 December 2007.

Accept, Sir, the assurances of my highest consideration.

Mohamed R. M. Khonji
Regional Director, Cairo

Attachment

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INTERNATIONAL CIVIL AVIATION ORGANIZATION

DOCUMENT OF AGREEMENT (DoA) ON THE PLANNING, IMPLEMENTATION AND OPERATION OF THE MIDDLE EAST SATELLITE NETWORK (MID VSAT)

Version 1.1

02 October 2007

Document of Agreement on the Implementation and Operation of the Middle East Satellite Network (MID VSAT)

The providers of air navigation services in the States of ……. ……..……. (hereinafter referred to collectively as the Parties or individually as the Party); having recognized the need to provide suitable and reliable aeronautical communications infrastructure to support the provision of air navigation services, and having concluded that a modern digital communication network based on very small aperture terminal (VSAT) technology would be the most cost-effective means of meeting the current and foreseen operational requirements in the MID Region, the Parties agree to jointly plan, implement and operate (through a network service provider) a satellite communication network designated as the Middle East Satellite Network (MID VSAT) according to the following:

Article I – Definitions

For the purpose of this Agreement:

1. The Middle East Satellite Network (MID VSAT) means a digital communication systems providing point-to-point and/or point-to-multipoint aeronautical communication services in the MID Region that is based on VSAT technology. The scope of the project which will be developed will constitute Annex 1 of this Agreement. Other Annexes may be developed and appended to this document as the work on the implementation and operation of MID VSAT progresses.

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2. Civil Aviation Authority or CAA means the entity having responsibility for the provision and/or administration of air navigation services within a State. Such responsibility may be delegated to an Air Navigation Service Provider (ANSP).

3. Member means the entity within a certain State that participates, through its representative, in the definition, planning, implementation, commissioning, operation and ongoing management of the MID VSAT. There will be one member from each State. The Parties of this document are by default the initial members. However, a Party may delegate the role of membership to another entity (expected to be the air navigation service provider of the State of the Party concerned) through official notification to ICAO. The member will in turn nominate a person as its representative for participating in the relevant activities and acting as the contact point.

4. Network Service Provider is the commercial entity that will be selected, through a Request for Proposal (RFP) process, to be responsible for the implementation, commissioning and operational monitoring and control of the MID VSAT.

5. Service Level Agreement (SLA) shows the type of communication service(s) to be delivered by the Network Service Provider with an agreed set of performance requirements.

6. MID VSAT Management Group (MMG) is the group formed by representatives of all members for the purpose of making the necessary institutional, financial, administrative and technical decisions concerning the definition, planning, implementation and continuing operation of the MID VSAT.

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Article II – The Implementation Process

1. Upon the signing of this Agreement, each Party shall immediately nominate, through official notification to ICAO, a member and a representative thereof, who will have authority to make decisions with respect to the implementation, operation and administration of the MID VSAT and commit funds and other resources on behalf of the Party.

2. Each member representative shall develop and submit to ICAO within a 3-month period after signing this document:

a) a list of national and international aeronautical communication requirements, estimated traffic/bit rate, an estimate for traffic growth and expected future applications (with associated bit rates) for the next 10-years period; and

b) a list of special requirements, if any;

3. The ICAO MID Office, shall compile, validate, reconcile if necessary and consolidate the submissions with other inter-regional communication requirements as a basis for development of a project scope for MID VSAT within the next 3 months. All members shall contribute to the development of the aforementioned project scope.

4. The first meeting of the MMG shall be held to review and approve the project scope as soon as the draft document becomes available. The meeting shall elect a Chairman for the purpose of liaison with other involved entities on behalf of the MMG. All members shall abide by all the decisions of the MMG throughout the life of the MID VSAT.

4. The project scope shall be used as a basis for selecting a network service provider through an open Request for Proposal (RFP) process.

5. The first meeting of the MMG shall also choose the mechanism for the RFP process which entails preparing and issuing the RFP, evaluation of proposals received, selection of the network service provider and the preparation of contract(s). The meeting shall also determine the amount of funds necessary for completing the RFP process and select an entity for undertaking it. In this regard, the MMG may request the Civil Aviation Purchase Service (CAPS) of ICAO to manage the RFP process on behalf of all members.

6. The members shall immediately contribute to the funds identified above in accordance to with the mechanism specified by the MMG. The amount of contribution shall be the same for all members and shall be determined by dividing the total cost of the RFP process by the number of members.

7. Upon the completion of the RFP process, each member shall sign an Equipment and Service Contract with the selected Network Service Provider for procurement, installation, testing and commissioning of the equipment as well as details of operational monitoring/control and maintenance arrangements.

8. The aforementioned contract shall include a Service Level Agreement (SLA) that details the agreed set of performance requirements and actions to be taken where and when the actual performance of the network falls below the agreed levels.

9. All modifications to individual Equipment and Service Contracts shall be coordinated through the MMG and be communicatied to the Network Service Provider through its chairman.

10. All Equipment and Service Contracts shall have the same contract termination date regardless of the date of execution of the contract between the member and the Network Service Provider.

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11. In general, membership of the MID VSAT shall be open to all States in its sateillite coverage area without prejudice. However, the MMG shall evaluate any new application for membership in collaboration with the Network Service Provider. Upon receiving written agreement from the MMG chairman, the new Party shall sign this Agreement and abide by the conditions set forth herein.

12. Any request for reconfiguration shall be submitted in writing to the MMG Chairman who will in turn seek the advice of the MMG and the Network Service Provider. Upon receiving favourable response from the MMG Chairman, the requesting member shall amend its individual equipment and serives contract in conjuction with the Network Service Provider accordingly.

13. Each member shall be responsible for payment of all costs associated with its participation in MID VSAT as per its Equipment and Service Contract with the Network Service Provider. Apart from the equipment cost, the apportioned cost of central network monitoring, control and management (to be specified during the project formulation) shall be paid by each member to the Network Service Provider. Each member shall maintain itself in good financial standing with the Network Service Provider to avoid any adverse technical or financial impact on other members.

14. the MMG may request the TCB of ICAO to manage the project and act as the custodian for the project.

Article III - Meetings

1. The member representatives shall be prepared to participate in MMG meetings. Moreover, members shall be prepared to host such meetings on a rotational basis and facilitate the participation of all member representatives as well. Each MMG meeting shall make an effort to specify tentative dates, agenda and location of the next meeting.

2. The call for any MMG meeting shall be issued by the MMG Chairman.

3. Generally, MMG meetings shall be convened not more than once a year. However, in exceptional circumstances, the MMG Chairman shall be authorized to call for extraordinary meetings.

Article IV – Amendments, Withdrawal and Termination

1. This Agreement may be amended by written agreement of the majority of the MMG members with the understanding that each member representative is entitled to one vote.

2. Should any member desire to withdraw from this Agreement, it shall, through its nominated member, give 90 days notice in writing to the MMG Chairman who shall in turn advise the rest of members in writing as soon as possible of the withdrawal and any potential changes in levels of service which may result. If necessary, the MMG Chairman shall call a special meeting of the MMG to decide on the action(s) necessary to maintain the agreed service level.

3.. No provision of this Agreement shall be construed to relieve the withdrawing member of its obligations under the terms and conditions of the member's Equipment and Service Contract with the Network Service Provider. Moreover, withdrawal of a member from the MID VSAT shall terminate the Party's status as a Party to this Agreement.

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4. This Agreement shall be deemed to be valid as long as the MID VSAT is in operation. Termination of this Agreement before that date shall be by consensus of the MMG. It shall be understood that although this Agreement may be terminated prematurely, the contractual commitment of individual members to the Network Service Provider will remain. Noting the difficulties that will be faced by the users in the management of the network without a proper coordination mechanism, early termination of this Agreement shall be discouraged.

Article V- Procedure for Dealing with Disputes

1. Disputes relating to the interpretation or application of this Agreement should be brought to the attention of the MMG and its conclusion(s) shall be accepted by all members.

2. No statement herein should be construed to imply in any manner whatsoever a derogation of the agreement for handling disputes between a member and the Network Service Provider as contained in the member's Equipment and Service Contract.

Article VI - Ratification of the Document

This Agreement shall enter into force upon signature by all parties named therein. Future amendments or Annexes to this Agreement shall be approved by the MMG.

Party (Organization & Country)	Signature	Date
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— END —

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CNS SG/1
Appendix 6B to the Report on Agenda Item 6

RECOMMENDATION [COM4/A] (WRC-07)

Use by civil aviation of frequency allocations on a primary basis to the fixed-satellite service

The World Radiocommunication Conference (Geneva, 2007),

considering

a) that remote and rural areas often still lack a terrestrial communication infrastructure that meets the evolving requirements of modern civil aviation;

b) that the cost of providing and maintaining such an infrastructure could be expensive, particularly in remote regions;

c) that satellite communication systems operating in the fixed-satellite service (FSS) may be the only medium to satisfy the requirements of the International Civil Aviation Organization's (ICAO) communication, navigation, surveillance and air traffic management (CNS/ATM) systems, where an adequate terrestrial communication infrastructure is not available;

d) that the use of VSAT systems, operating in the FSS and being deployed on a large scale in aeronautical communications, has the potential to significantly enhance communications between air traffic control centres as well as with remote aeronautical stations;

e) that establishing and utilizing satellite communication systems for civil aviation would also bring benefits for developing countries and countries with remote and rural areas by enabling the use of VSAT systems for non-aeronautical communications;

f) that in the cases identified in *considering e)* it is necessary to draw attention to the importance of aeronautical communications as opposed to non-aeronautical communications,

noting

a) that the FSS is not a safety service;

b) that Resolution **20 (Rev.WRC-03)** *resolves to instruct the Secretary-General* "to encourage ICAO to continue its assistance to developing countries which are endeavouring to improve their aeronautical telecommunications ...",

recommends

1 that administrations, in particular in developing countries and in countries with remote and rural areas, recognize the importance of VSAT operations to the modernization of civil aviation telecommunications systems and encourage the implementation of VSAT systems that could support both aeronautical and other communication requirements;

2 that administrations in developing countries be encouraged, to the maximum extent possible and as necessary, to expedite the authorization process to enable aeronautical communications using VSAT technology;

3 that arrangements should be made to provide for urgent service restoration or alternative routing in case of a disruption of a VSAT link associated with the aeronautical communications;

4 that administrations implementing VSAT systems in accordance with *recommends* 1 to 3 should do so in satellite networks operating in frequency bands with a primary allocation to the satellite services;

5 to invite ICAO, noting Resolution **20 (Rev.WRC-03)**, to continue its assistance to developing countries to improve their aeronautical telecommunications, including interoperability of VSAT networks, and provide guidance to developing countries on how they could best use VSAT technology for this purpose,

requests the Secretary-General

to bring this Recommendation to the attention of ICAO.

REPORT ON AGENDA ITEM 7: ADS/CPDLC ACTIVITIES IN THE MID REGION

7.1 Under this Agenda Item the meeting noted that Global Plan Initiative GPI-9 "Situational Awareness" recognizes that implementation of enhanced surveillance techniques (ADS-C or ADS-B) will assist in reduction in separation minima and an enhancement of safety, increase in capacity, and improved flight efficiency, all on a cost-effective basis. These benefits may be achieved by bringing surveillance to areas where there is currently no primary or secondary radar and when cost-benefit models warrant it. In airspaces where radar is used, enhanced surveillance can bring further reductions in aircraft separation minima and improve, in high traffic density areas, the quality of surveillance information both on the ground and in the air, thereby increasing safety levels.It was also highlighted that the 1090 extended squitter should be accepted as the global choice for the ADS-B data link.

7.2 The meeting was of the view that the approved MID Region Strategy for the implementation of ADS-B by MIDANPIRG/10 needs to be improved based on the GPI 9. ADS-B trials that are on-going in some States are expected to provide more accurate information about the operational use of the system as a support for surveillance, giving new perspective to States' implementation plans. These trials and the related aspects (necessary infrastructure, specific ATC procedures, applied technologies, statistics, etc.) should be monitored under project methodology in order to provide results that can be properly assessed and presented for the consideration by MIDANPIRG.

7.3 The meeting tasked users to provide the proportions of ADS-B equipped aircrafts since these are critical for the ADS-B deployment. It would be necessary to periodically provide at least the following information: number of equipped aircrafts operating in the concerned airspace, number and name of the airlines that have equipped aircrafts for ADS-B, type of equipped aircrafts, categorization of the accuracy/integrity data available in the aircrafts.

7.4 Based on the above the meeting considered to revise the near term Strategy as at **Appendix 7A** to the report on Agenda Item 7 and consequently agreed to the following Draft Conclusion:

DRAFT CONCLUSION 1/10: MID REGION STRATEGY FOR THE IMPLEMENTATION OF ADS-B

*That MID Region, Strategy to be amended as at **Appendix 7A** to the report on Agenda Item 7.*

CNS SG/1
Appendix 7A to the Report on Agenda Item 7

MID REGION STRATEGY FOR THE IMPLEMENTATION OF AUTOMATIC DEPENDENT SURVEILLANCE-BROADCAST (ADS-B)

Considering:

a) the ICAO strategic objectives;
b) the ICAO Business Plan;
c) the Global Air Traffic Management Operational Concept;
d) the revised Global Air Navigation Plan and associated GPIs;
e) the outcome of the 11th Air Navigation Conference; and

Recognizing that:

i) the implementation of data-link surveillance technologies is an evolutionary process, but which has significant potential for safety and cost-effectiveness; and
ii) implementation of ADS-B is in support of various Global Plan Initiatives;

The MID Region strategy for the implementation of ADS-B is detailed below:

A) the MID Region ADS-B implementation plan should:

1) be evolutionary and consistent with the Global Air Navigation Plan taking into consideration associated MID Region priorities;

2) when cost/benefit models warrant it, prioritize implementation in areas where there is no radar coverage surveillance, followed by areas where implementation would otherwise bring capacity and operational efficiencies;

3) ensure that implementation of ADS-B is harmonized, compatible and interoperable with respect to operational procedures, supporting data link and ATM applications;

4) identify sub-regional areas where the implementation of ADS-B would result in a positive cost/benefit in the near term, while taking into account overall Regional developments and implementation of ADS-B in adjacent homogeneous ATM areas;

5) be implemented following successful trial programmes with regards to safety and operational feasibility, taking into account studies and implementation experiences from other ICAO Regions; and

6) be implemented in close collaboration with users.

7) The proportions of equipped aircrafts are also critical for the ADS-B deployment, for which it is required to periodically provide, at least, the following information: number of equipped aircrafts operating in the concern airspace, number and name of the airlines that have equipped aircrafts for ADS-B, type of equipped aircrafts, categorization of the accuracy/integrity data available in the aircrafts.

8) The ADS-B deployment should be associated at early stages in coordination with the States/Regional/International Organizations responsible for the control of adjacent areas, and the correspondent ICAO Regional Office, establishing a plan in the potential areas of ADS-B data sharing, aimed at a coordinated, harmonious and interoperable implementation.

9) Each State/Regional/International Organization should investigate and report their own Administration's policy in respect to the ADS-B data sharing with their neighbours and from cooperative goals.

10) The ADS-B data sharing plan should be based selecting centres by pairs and analyzing the benefits and formulating proposals for the ADS-B use for each pair of centre/city with the purpose to improve the surveillance capacity.

11) Likewise, it is necessary to consider implementing surveillance solutions for surface movement control by the implementation of ADS-B.

12) The implementation would be in conformity with the SARPs, ICAO guidelines and the MIDANPIRG conclusions.

B) Implementation should be monitored to ensure collaborative development and alignment with the MID Region projects and relevant elements of the GPIs.

REPORT ON AGENDA ITEM 8: OTHER CNS ACTIVITIES

8.1 Under this Agenda Item the meeting noted that, Amendment 82 to Annex 10 which became applicable on 22 November 2007, introduced SARPs for the universal access transceiver (UAT) for automatic dependent surveillance — broadcast (ADS-B) and a new set of 1090 MHz extended squitter messages (called Version 1, based on RTCA DO 260A) that enable air-ground as well as air-air applications of ADS-B.

8.2 The meeting noted that the technical details for Mode S services and Mode S/extended squitter register definitions that were shown in an Appendix of Annex 10, Volume III, have been relocated to a new technical manual (Doc 9871 - *Technical Provisions for Mode S Services and Extended Squitter).* A manual on technical details for UAT has been approved (Doc 9861). These manuals are available on the ICAO-NET, pending their publication.

8.3 The meeting noted the Development of 3 nm separation minima for ADS-B equipped aircraft. A number of States are planning extensive implementations of ADS-B for the provision of an air traffic control (ATC) service. While 5 nm minimum has already been defined, it is likely that future implementations will require a 3 nm minimum.

8.4 The meeting further noted the 5 nm/3 nm separation minima for Multilateration systems (MLAT). A number of States are planning extensive implementation of MLAT for the provision of an ATC service. One of the dangers is that if system performance characteristics and separation minima are not defined for MLAT, there will be a proliferation of national standards. Given an identified need from several states to have these standards available, the SASP is seeking to enable this mode of ATC surveillance as soon as possible through the development of relevant SARPs and Guidance Material.

8.5 The meeting was informed that the Separation and Airspace Safety Panel (**SASP)** is working on procedures to allow ADS-B equipped aircraft to carry out in-trail climb procedures in oceanic airspace when oceanic separation does not exist. For example, an aircraft 15 miles behind and below another aircraft would be allowed to climb through the altitude of the preceding aircraft to an altitude above the preceding aircraft provided very tight restrictions are met. This task is not necessarily related to surveillance but it does use ADS-B systems on board aircraft to monitor the position of other aircraft. It is envisioned that separation responsibilities will remain on the ground.

8.6 Based on the above, the meeting recommended that a Surveillance Seminar to be conducted which will help the MID Region to define a unified surveillance strategy.

8.7 The meeting was also updated on the use of mobile phones on board aircraft using a picocell system to control the mobile phone. The meeting noted that technical compatibility with on-board communication and navigation systems will be secured through the process of air worthiness certification. No further work in ICAO on this matter is foreseen.

REPORT ON AGENDA ITEM 9: FUTURE WORK PROGRAMME

CNS Sub-Group TOR and Work Programme

9.1 Under this Agenda Item the meeting recalled that MIDANPIRG/10 noted the ongoing work by the Air Navigation Commission to review the TOR of PIRGs and to align the Work Programme with the Strategic Objectives of ICAO and the Global Air Navigation Plan. It was also noted that the method of reporting to the deliberative bodies of the Organization will be reviewed to ensure efficiency.

9.2 The Meeting recalled MIDANPIRG/10 Conclusions with regard to increasing the efficiency and effectiveness of ICAO including the Regional Air Navigation Planning and Implementation Groups (PIRGs). The TOR of MIDANPIRG had been revised to reflect the necessary changes. In this respect, it became necessary for PIRGs to review the TOR of all subsidiary bodies within the scope of the Strategic Objectives as established by the Council. The meeting also recalled MIDANPIRG/10 Decision 10/6 that the MIDANPIRG Procedural Handbook, Third Edition dated April 2007 was adopted and is now posted to ICAO MID Office website under MIDANPIRG.

9.3 The meeting reviewed and updated TOR of the Communications, Navigation and Surveillance Sub-Group as in **Appendix 9A** to the report on Agenda Item 9 and agreed to the following Draft Decision:

DRAFT DECISION 1/11: REVISED TOR OF THE CNS SUB-GROUP

*That, the Terms of Reference and Work Programme of the CNS Sub-Group to be updated as at **Appendix 9A** to the report on Agenda Item 9.*

Timelines

9.4 The meeting noted that Regional Plans described regional work programmes, including the planning and monitoring of the detailed activities and their timelines which, inter alia, will lead to the realization of a global air navigation system as envisaged in the operational concept.

9.5 The Regional Plans contains the performance directives and associated requirements for facilities and services, established through regional air navigation agreements, in support of the global air navigation infrastructure and therefore the relevant timelines need to be defined. The meeting reviewed the existing time lines for the CNS facilities and agreed that these will be updated during the CNS SG/2, only if these are not updated during the CNS/ATM/IC or any other meeting.

Follow-up Action Plan

9.6 In accordance with the ICAO business plan and the requirements for performance monitoring, the meeting developed a draft follow-up action plan on the results of the CNS SG/1 meeting as attached at **Appendix 9B** to the report on Agenda Item 9.

CNS SG/2 Date, Venue and Provisional Agenda

9.7 With regard to the date of the next CNS Sub-Group meeting, it was agreed that, in accordance with the MIDANPIRG Procedural Handbook, and based on its revised Terms of Reference and Action Plan/Work Programme, the CNS SG/2 meeting will be held during the third quarter of 2008. The exact dates will be determined by the ICAO MID Regional Office in coordination with the Chairperson of the Sub-Group in light of scheduled dates of MIDANPIRG/11. CNS SG/2 will be held prior to MIDANPIRG/11.

9.8 The meeting agreed to the Provisional Agenda for the CNS SG/2, as in **Appendix 9C** to the report on Agenda Item 9.

CNS SG/1
Appendix 9A to the Report on Agenda Item 9

COMMUNICATION, NAVIGATION AND SURVEILLANCE SUB-GROUP (CNS SG) OF THE MID REGION

1. Terms of Reference

No.	Strategic Objectives	Tasks
1	A/B/D/E	Review and identify any deficiencies that impede the implementation or provision of efficient CNS (Communication, Navigation and Surveillance) services in the MID Region.
2	A/B/D/E	Make specific recommendations aimed at improving communication, navigation, and surveillance services through the use of existing procedures and facilities or, through modernization programmes and evolutionary introduction of new procedures and technologies such as ADS-B and other data links.
3	A to E	Review and identify inter-regional co-ordination issues in the fields of CNS and recommend actions to address those issues based on clearly established performance objectives in support of the ICAO Strategic Objectives and in connection with the Global Plan Initiatives (GPIs).
4	A/D/E	Follow up on the implementation of the elements of the Aeronautical Fixed Services (AFS) data and digital voice communications and plan for the transition and implementation of ATN in the MID Region to meet performance capacity requirements of the CNS ATM System. The planning function includes the development of necessary recommendations and regional documentation.
5	A to E	Ensure the continuing and coherent development of the MID Regional Air Navigation Plan with the monitoring of the New CNS/ATM Systems research and development, trials and demonstrations in the fields of CNS and facilitate the transfer of this information and expertise between States.

2. Work Programme

No.	Task	Deliverables	Action by	Target date
1	Monitor CNS/ATM planning and development trials in the field of CNS and facilitate the transfer of this information and expertise amongst States	1) monitor global development that many have beneficial consequences in regional planning activities 2) encourage States to conduct R&D, trials of new CNS services 3) serve as a focal point for review of ongoing work regional groups that is relevant to CNS 4) ensure that the capabilities and capacities offered through existing aircraft equipage, ATM infrastructure and ATC systems is utilized to the maximum extent possible.	CNS SG	Ongoing

No.	Task	Deliverables	Action by	Target date
2	Survey and update of CNS deficiencies in the MID Region on a regular basis and focus on surveys and information from users such as IATA and IFALPA.	That the MID Regional Office presents the results of the surveys and the updated deficiencies to the next CNS SG meeting	CNS SG	On going
3	To follow-up the developments of ICAO position regarding future ITU World Radio Communication (WRC) Conferences and their preparatory meetings	Highlight the ICAO position concerning future ITU WRC conferences to the MID States, and ensure States understand and Support ICAO position during the WRC meetings	CNS SG	Ongoing
4	Harmonization of AIS, MET and FPL	States should take the necessary measures to enable users to access both AIS and MET information from a common interface based on the flight plan entry	States	Ongoing
5	Implementation of High Speed digital circuits between main centers	Harmonize and increase the number of high speed digital circuits between MID States and interregional for the support of the Global plan ensuring that the capabilities and capacities offered are utilized to the highest degree possible	CNS SG States	2008
6	Implementation of the MIDVSAT project	MID States start the implementation of MIDVSAT project	CNS SG	2008
7	Establishment of IFPS in the MID Region	Support Bahrain for the development of the IFPS study	CNS SG Bahrain	2008
8	Review the AFTN performance levels	Keep monitor of AFTN performance and recommend upgrade when necessary.	CNS SG	Ongoing
9	- ATN Development for the MID Region	1) Keep track of the ATN development in the ACP and incorporate in the region guidance document 2) Develop MID region Plans and guidance based on IPS protocols ensuring compatibilities with other regions	CNS SG	Ongoing
	- ATN Operational procedures	1) Review existing AFTN transitional/ operational procedures and develop a new transitional and operational procedures applicable to the operation and use of the AMHS. 2) Develop appropriate ATN operational procedures. 3) To developed coordinated AFTN routing change with AMHS routing change procedures.	CNS SG	2008

No.	Task	Deliverables	Action by	Target date
	- ATN Implementation coordination	1) Review and analyze implementation problems and develop coordinated solutions 2) States to report and share implementation and operational experience gained	CNS SG States	ongoing
10	Frequency issues	1) Review frequency congestion and propose recommendation 2) Review frequency interference and propose recommendations 3) Recommend new AMS systems	CNS SG	Ongoing
11	AMHS register	1) Assist states in development of the addressing scheme 2) Complete the addressing scheme for the MID region 3) Introduce monitoring and management procedures.	CNS SG States	2007
12	Data Links	Introduction of data link usage to support the ATC at flight level 290 by 2010	CNS SG	2010
13	consolidated action plans	Develop detailed action plans for the implementation of selected GPI and associated projects.	CNS SG	2009
14	Establish and adopt a RCP Methodology	Develop MID Region target	CNS SG	2010

3. Composition

3.1 The Sub-Group will compose of:

a) MIDANPIRG Provider States; and

b) concerned International/Regional Organizations as observers.

CNS SG/1
Appendix 9B to the Report on Agenda Item 9

CNS SG/1
FOLLOW-UP TO CNS SG/1 CONCLUSIONS/DECISIONS - ACTION PLAN

Conc/Dec No. --- Strategic Objective	Title of Conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Deliverable	Target date
Conc. 1/1 A, D	Future Support for ICAO Position with Regard to WRC	That, a) MID States are to participate in the Ad-Hoc Action Group and to nominate their experts; b) the Ad-Hoc Action Group for the support of Aeronautical Frequency Bands is to follow-up the developments related to ICAO position regarding future ITU World Radiocommunication Conferences in order to highlight areas of interest to the MID States; and c) MID States Civil Aviation Authorities, experts participate with their appropriate ministerial delegations in the drafting of the national radio plans in the support of ICAO position.	State letter Follow-up Work Programme and Developments Prepare Supporting documents	ICAO MID Office States Adhoc group States	Delegate Names Group Report Supporting Document and meetings	June 08 Oct 09 Oct 09
Conc. 1/2 A, D	Implementation of the Rationalize AFTN Plan	That MID States, a) are urged to complete the implementation of MID Rationalized AFTN Plan; and b) having difficulties in completing the implementation, to report to the ICAO MID Regional Office.	Follow up progress	ICAO MID Office States	State letter Replies	June 08 Oct 08
Conc. l/3 D	MID Region reserve band for AMS data links	That, in view of the MID Region progress on the implementation of air-ground data links VHF frequency band 136MHz to 137MHz is to be reserved for AMS for data link communication usage only.	Implement Strategy	States ICAO MID Office	Update MID FASID	On going

Conc/Dec No. --- Strategic Objective	Title of Conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Deliverable	Target date
Conc. 1/4 A, D	National CNS Plan	MID States are urged to align their national CNS plans to be in harmony with Regional plan and submit to MID office.	Prepare Plans	States	CNS plans	Dec 08
Conc. 1/5 D	Project Management Methodology	MID States are encouraged to use the project management methodologies for the implementation of the CNS projects which will help to define dates and deliverables.	Follow- methodology	States	Project Document	Dec 08
Conc. 1/6 A, D	Implementation of AMHS	That, MID States implementing AMHS will have the AFTN/AMHS gateway where needed to ensure the interoperability of AFTN and CIDIN stations and networks with ATN.	AMHS Plans	IPS WG	AFTN/AMHS gateway Plan	Oct 08
Conc. 1/7 D	Default MID Region Network Protocol	That the MID Region ATN shall: a) be based and use the Internet Protocol Suite (IPS) as the default networking protocol; and b) provide communication in accordance with the prescribed required communication performance (RCP) (Manual on Required Communication Performance (RCP) Doc 9869).	Implement IPS Networks Follow-up RCP	States CNS SG	States Plan Region Plan States A/G Plan	On going Oct 08
Conc. 1/8 D	Establishment of an Internet Protocol Suite (IPS) Working Group	That, for development of documents for the usage of public Internet activity and MID Region ATN development Plan an IPS Working Group is established with Terms of Reference as at Appendix xx to the report on Agenda Item 5.	Follow-up work programme	IPS WG	MID region ATN Planning Doc Internet usage guide Rationalize AFTN plan	Oct 08

Conc/Dec No. --- Strategic Objective	Title of Conclusion/Decision	Text of Conclusion/Decision	Follow-up Action	To be initiated by	Deliverable	Target date
Conc. 1/9 A, D	MID VSAT Project Finalization	That MID States, a) provide comment to the DoA document by 05 February 2008; b) define their clear near/long term status towards the project; c) advise whether to continue with the project or not; and d) States willing to implement VSAT under MID Vsat to advise ICAO MID Office if any support needed.	States reply	States	Reply to DoA	Feb 08
Conc. 1/10 D	MID Region Strategy for the Implementation of ADS-B	That MID Region, Strategy to be modified as at Appendix xx to the report on Agenda Item 7.	Implement Strategy	Users / States CNS SG CNS/ATM/IC	Feed Back	On Going
Dec. 1/11 A, D	Revised TOR of the CNS Sub-Group	That, the Terms of Reference and Work Programme of the CNS Sub-Group be updated as at Appendix xx to the report on Agenda Item 9.	Follow-up work programme	CNS SG		Oct 08

CNS SG/1
Appendix 9C to the Report on Agenda Item 9

PROVISIONAL AGENDA FOR CNS SG/2

Agenda Item 1:	Adoption of the Provisional Agenda
Agenda Item 2:	Review the MIDANPIRG conclusions and decisions relevant to CNS
Agenda Item 3:	Review of Global Air Navigation Plan matters relevant to CNS
Agenda Item 4:	Review of deficiencies in the CNS field
Agenda Item 5:	Follow up status of implementation of action plans for the CNS projects
Agenda Item 6:	Develop CNS performance objective the MID Region
Agenda Item 7:	Latest developments in CNS
Agenda Item 8:	Future Work Programme
Agenda Item 9:	Any other business

REPORT ON AGENDA ITEM 10: ANY OTHER BUSINESS

10.1 Under this Agenda Item Saudi Arabia updated the meeting that they will have two ACCs; one in Jeddah and one in Riyadh. Saudi Arabia appreciated the support that could be provided by other States in this regards, especially in establishing the communication links.

10.2 The meeting noted that many members of the ATN Planning Group are retired or are inactive and hence agreed, to dissolve this group. Since the work of this Group will be undertaken by the IPS working Group (see paragraph 5.5 of this Report).

CNS SG/1
Attachment A to the Report

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