INTERNATIONAL CIVIL AVIATION ORGANIZATION

REPORT OF THE SEVENTH MEETING OF THE MIDDLE EAST AIR NAVIGATION PLANNING AND IMPLEMENTATION REGIONAL GROUP

MIDANPIRG/7

(Cairo, 21-25 January 2002)

The views expressed in this Report should be taken as those of the Regional Planning and Implementation Group and not of the Organization. This Report will, however, be submitted to the ICAO Council and any formal action taken will be published in due course as a Supplement to the Report

Approved by the Meeting
and published by authority of the Secretary General

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PART I - HISTORY OF THE MEETING

1. PLACE AND DURATION

1.1 The Seventh Meeting of the Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG/7) was held at the conference hall of the Egyptian Aviation Holding Company Complex, Cairo from 21-25 January 2002.

2. OPENING

2.1 Mr. A. Zerhouni, ICAO Regional Director, warmly welcomed all the delegates to Cairo and wished the meeting every success in its deliberations. In his opening remarks, Mr. Zerhouni thanked the Egyptian Civil Aviation Supervisory Authority and the Egyptian Aviation Holding Company for their continuous support. He also on behalf of the MID region thanked the General Civil Aviation Authority of the United Arab Emirates for accepting to host the MID Central Monitoring Agency (MECMA) and most of the MID RVSM Task Force meetings.

2.2 Mr. Zerhouni indicated that the work of the MIDANPIRG and its subsidiary bodies have direct impact on the regional air navigation planning and implementation process and the close consideration and suggestions presented by MIDANPIRG to be discussed in appropriate forums such as ALLPIRG and the forthcoming eleventh Air Navigation Conference. He further stressed on the inter-regional dialogue and coordination between PIRGs, Training, the high level Ministerial Conference on Aviation Security that will be held in Montreal 19-20 February 2002, and other related issues.

2.3 Mr. Abdullah N. Al-Harthy, Chairman of MIDANPIRG also welcomed all delegates to MIDANPIRG. Mr. Al-Harthy hinted that the agenda for the meeting is heavy with different tasks to be accomplished and that, follow up is required from all in order to make this meeting a successfully one. He welcomed the observer from Gulf Co-operation Council (GCC) who attended for the first time.

2.4 Mr. V. Zubkov, Chief of Regional Affairs Office (ICAO HQ, Montreal) address the meeting by presenting the views of ICAO HQ, and valuing the work accomplished by MIDANPIRG.

3. ATTENDANCE

3.1 The meeting was attended by a total of eighty participants which included experts from fifteen States, four International Organization, The list of participants is at page 6-22.

4. OFFICERS AND SECRETARIAT

4.1 Mr. A. Zerhouni, ICAO Middle East Regional Director acted as the secretary of the Meeting, assisted by Mr. M. Khonji Deputy Regional Director, and the following ICAO Regional Officers

Mr. M.E.B. Zarroug	-	Regional Officer, Air Transport
Mr. D. Ramdoyal	-	Regional Officer, Air Traffic Management

Mr. M. Traore	-	Regional Officer, Communications, Navigation and Surveillance
Mrs. N. Abdel Hady	-	Regional Officer, Aerodrome and Ground Aids
Mr. M. Smaoui	-	Regional Officer, Aeronautical Information & Chart
Mr. A. El-Karimy	-	Technical Co-operation, Field Operations Officer

4.2 The meeting was also assisted from ICAO HQ, Montreal by Mr. V. D. Zubkov, Chief Regional Affairs Office, Mr. H. V. Sudarshan, Regional Affairs Officer and Mr. U. Wickrama, Chief Forecasting and Economic Planning, and from ICAO Paris Office by Mr. Bjorn Hellroth, Regional Officer Meteorology.

5. LANGUAGE

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

6. AGENDA

6.1 The following Agenda was adopted:

Item 1 - Adoption of the Provisional Agenda.

Item 2 - Review of action taken by the ANC and the Council on the report of MIDANPIRG/6.

Item 3 - Latest developments in the Air Navigation field.

Item 4 - Review of outstanding Conclusions and Decisions of MIDANPIRG

Item 5 - Middle East Air Navigation Plan issues:

- 5.1 AOP
- 5.2 ATM/SAR/AIS
- 5.3 COM/MET
- 5.4 ANP/FASID

Item 6 - Middle East CNS/ATM Implementation Plan and related activities

- 6.1 CNS/ATM/IC
- 6.2 GNSS
- 6.3 MER TFG

Item 7 - Deficiencies in the Air Navigation field.

Item 8 - Development of the future Work Programme.

Item 9 - Any other business.

7. CONCLUSIONS AND DECISIONS DEFINITION

7.1 The MIDANPIRG records its actions in the form of Conclusions and Decisions with the following significance:

a) **Conclusions**
reference, merit directly the attention of States, or on which further action will be initiated by the Secretary in accordance with established procedures; and

b) **Decisions** relate solely to matters dealing with the internal working arrangements of the Group and its Sub-Groups

8. LIST OF CONCLUSIONS AND DECISIONS

DECISION 7/1: FOLLOW-UP ACTIONS ON THE CONCLUSIONS OF ALLPIRG/4 MEETING

DECISION 7/2: SURVEY OF INTER-REGIONAL EXCHANGES OF OPMET INFORMATION

DECISION 7/3: REVISED TERMS OF REFERENCE AND WORK PROGRAMME FOR THE AOP SUB-GROUP

CONCLUSION 7/4: AERODROME CERTIFICATION

CONCLUSION 7/5: RNAV/ RNP IMPLEMENTATION STRATEGY FOR THE MID REGION

CONCLUSION 7/6: INTERREGIONAL COOPERATION

CONCLUSION 7/7: AIRWORTHINESS AND OPERATIONAL APPROVAL FOR RNP 5 AND RNP 10 OPERATIONS IN THE MID REGION

CONCLUSION 7/8: IMPLEMENTATION OF GNSS IN THE MID REGION

CONCLUSION 7/9: ESTABLISHMENT OF A REGIONAL SAFETY AND MONITORING AGENCY

CONCLUSION 7/10: SAFETY ANALYSIS

CONCLUSION 7/11: REPORTING OF DATA FOR CARRYING OUT SAFETY ASSESSMENT

CONCLUSION 7/12: MONITORING REQUIREMENTS

CONCLUSION 7/13: CIVIL/MILITARY COORDINATION

CONCLUSION 7/14: CREATION OF NON EXCLUSION AREAS WITHIN RVSM AIRSPACE

CONCLUSION 7/15: NOMINATION OF AN RVSM PROGRAMME MANAGER

CONCLUSION 7/16: IMPLEMENTATION OF RVSM IN THE MID REGION

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History of the Meeting

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PART II: REPORT ON AGENDA ITEMS

REPORT ON AGENDA ITEM 1: ADOPTION OF THE PROVISIONAL AGENDA

1.1 The meeting was presented the Provisional Agenda which was explained and adopted by the meeting as shown in para 6 of the History of the Meeting.

1.2 The Terms of Reference for the MIDANPIRG are contained in **Appendix 1A** to the report on Agenda Item 1.

MIDANPIRG/7
Appendix 1A to the Report on Agenda Item 1

TERMS OF REFERENCE OF THE MIDANPIRG

1 **The objectives of the Group are to:**

a) ensure the continuous and coherent development of the MID Regional Plan as a whole taking into consideration the effect of such development on the Regional Plans of adjacent regions; and

b) identify specific problems in the air navigation field and propose, in appropriate form, action aimed at solving these problems.

c) establish the costs and benefits of various implementation options and the need to facilitate financing of preferred options in planning and implementation of air navigation facilities, with due regard to the primacy of safety.

2 **In order to meet these objectives the Group shall:**

a) keep under review, and propose when necessary, the target dates for implementation of facilities, services and procedures to ensure the co-ordinated development of the Air Navigation System in the MID Region;

b) assist the ICAO Regional Offices providing services in the MID Region, in their assigned task of fostering implementation of the MID Regional Air Navigation Plan;

c) review any shortcomings in the MID Regional Air Navigation System and develop recommendations for remedial action;

d) originate and co-ordinate, as necessary, amendments to the MID Regional Air Navigation Plan;

e) monitor new developments in the air navigation field and develop proposals to meet the requirements resulting from these developments in a timely and evolutionary manner;

f) keep under review the Statement of Basic Operational Requirements and Planning Criteria and recommend to the Air Navigation Commission such changes to them as may be required in the light of developments mentioned in e)

g) Use an appropriate mechanism to prepare cost/benefit analyses and business cases, and provide related guidance material in support of

financial institutions, as required on a consultative basis and at a time it considers appropriate in the planning process, to participate in this work.

REPORT ON AGENDA ITEM 2: REVIEW OF ACTION TAKEN BY THE ANC AND THE COUNCIL ON THE REPORT OF MIDANPIRG/6.

2.1 The meeting was presented with actions taken by the Air Navigation Commission and the Council during their review and approval of the Report of the Sixth Meeting of the Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG) held in Cairo, Egypt, from 10 to 14 September 2000. The meeting noted the specific actions taken by the ANC, the Council and the follow-up by the States and Secretariat on Conclusions and Decisions of the meeting as contained in **Appendix 4B** to the Report on Agenda Item 4.

2.2 With regard to Conclusion 6/15 regarding the adoption of a strategy for implementation of global navigation satellite systems (GNSS) for en-route and non-precision approaches in the MID Region, the meeting noted the need to take into account early benefits that accrue in the implementation of GNSS.

2.3 In relation to Conclusion 6/17 (Priority routes for introduction of RNP 5), the meeting noted that ICAO was developing provisions and guidance material relating to annotation of RNP requirements on aeronautical charts and would be incorporated as an amendment to chart manual by middle of 2002.

2.4 The meeting noted that, as follow up to the Decision 6/31 (Middle East Basic ANP and FASID), the Secretariat had completed developing the final draft of the two volumes document and was pleased to receive a CD-ROM copy of the draft for a review by MIDAMPIRG/7 meeting.

2.5 The meeting thanked the Council and Air Navigation Commission for their valuable guidance on various activities of the MIDANPIRG and that it would be taken into account in the development of ongoing action plan of the region.

REPORT ON AGENDA ITEM 3: LATEST DEVELOPMENTS IN THE AIR NAVIGATION FIELD

Results of the ALLPIRG/4 meeting - Follow-up actions to be taken by the MIDANPIRG

3.1 The meeting was informed of the results of the ALLPIRG/4 meeting that was held in Montreal, Canada in February 2001 to address interregional issues in planning and implementation of air navigation systems including CNS/ATM systems in ICAO Regions and to advise the ICAO Council on related matters as appropriate. The meeting noted that ALLPIRG/4 meeting had developed sixteen Conclusions enveloping a wide range of issues, which are detailed in the **Appendix 3A** to the report on Agenda Item 3.

3.2 It was noted that the ICAO Council had reviewed the ALLPIRG/4 report, taking into account the comments of the Air Navigation Commission, and approved it. As a follow-up, the MIDANPIRG, as well as other Planning and Implementation Regional Groups (PIRGs) were to take certain follow-up actions on the Conclusions of ALLPIRG/4.

3.3 The meeting noted those conclusions or parts thereof that did not require any specific action by MIDANPIRG. In relation to Conclusion 4/1, the meeting adopted the general framework and terms of reference for interregional coordination meetings. With reference to Conclusion 4/3 (interregional issues and missing elements), the meeting received an update on recent developments on various issues. In regard to Conclusion 4/8 (Environmental benefits of CNS/ATM Systems), the meeting supported ICAO/CAEP efforts to expand the methodology that has been developed for the quantification of CNS/ATM environmental benefits to each region. In relation to Conclusion 4/9 (Support for ICAO position at WRC -2003), the meeting while noting that ICAO has accorded high priority to the protection of aeronautical frequency spectrum, called upon states to support ICAO position at WRC-2003.

3.4 As a result of analysis of the Conclusions of ALLPIRG/4, the meeting identified those Conclusions which require follow up by MIDANPIRG and assigned the task to the relevant Sub-Group. Accordingly, the following Decision was formulated:

DECISION 7/1 : FOLLOW-UP ACTIONS ON THE CONCLUSIONS OF ALLPIRG/4 MEETING

That, the following Conclusions of ALLPIRG/4 meeting be addressed by the relevant Sub-Groups as part of their work programme and report its outcome.

Conclusions 4/1, 4/2, 4/8 and 4/13- CNS/ATM IC SG
Conclusions 4/3 and 4/7- ATM/SAR/AIS SG
Conclusions 4/3 - COM/MET SG
Conclusions 4/10 and 4/11- All Sub-Groups

Report on developments in the modernization of air navigation systems

3.5 The meeting was presented with an overview on developments in the modernization of air navigation systems including CNS/ATM Systems that took place in 2001, as well as a number of updates on various issues. The meeting among other things noted the following:

a) Development of Global Air Navigation Plan for CNS/ATM Systems.

b) Summary of work of ICAO=s Planning and Implementation Regional Groups (PIRGs).

c) Development status of Standards and Recommended Practices (SARPs) and guidance material detailed in **Appendix 3B** to the report on Agenda Item 3.

d) Work programme of various panels and Study Groups engaged in CNS/ATM related activities detailed in **Appendix 3C** to the report on Agenda Item 3.

3.6 The meeting was further informed on the details of upcoming conferences, namely the High-Level Ministerial Conference on Aviation Security, the Eleventh Air Navigation Conference, and Worldwide Air Transport Conference. The meeting urged the States to consider participation, through a high level delegation, in all these conferences so as to facilitate developing a world-wide consensus on critical issues currently faced by the air transport industry.

3.7 With regard to Universal Safety Oversight Audit Programme (USOAP), the meeting noted that the thirty-third session of the ICAO Assembly, held in Montreal in October 2001, had approved for expansion of the programme to include Annex 11 (Air Traffic Services) and Annex 14 (Aerodromes) as of 2004.

3.8 Noting all these developments, the meeting agreed to take them into account in the work programme of MIDANPIRG.

First amendment to the Global Air Navigation Plan for CNS/ATM Systems (Doc 9750)

3.9 The meeting recalled that, in line with instructions of the Council in 1996, the Secretariat had revised and updated the Global Co-ordinated Plan for Transition to ICAO CNS/ATM Systems, which was re-titled as the Global Air Navigation Plan for CNS/ATM Systems (Global Plan), and accepted by the Council on 13 March 1998.

3.10 The meeting was informed that several bodies, including the PIRGs, had recognized the utility of the Global Plan in relation to their work, and its relevance in the overall ICAO CNS/ATM documentation structure. As a result of recent developments, the need to amend the document to reflect the latest work of these Groups was recognized. Based on the above, a review was conducted by the Secretariat in coordination with several panels, working groups and PIRGs and a comprehensive proposal in the form of first amendment to several parts of the document was developed; it was accepted by the Council of ICAO on 15 June 2001.

3.11 The meeting was made aware that the amendments to Part I of the Global Plan covered chapters on Global Planning Methodology (Planning levels), ATM (Operational concept), Communications (ATN and VDL Modes 3 and 4), Navigation (Levels of GNSS implementation), Surveillance (ASAS technology), Meteorology (International volcano watch), AIS (data model), HRD and Training needs (Human resources planning), Legal matters (Resolutions 19 and 20 of A32) and Financial aspects (ANS Conf 2000). A new chapter has been added on the subject of Environmental benefits associated with CNS/ATM systems. The new chapter reflects the development of a methodology by the Committee on Aviation Environmental Protection for quantification of benefits associated with implementation of CNS/ATM systems. The methodology, after the necessary validation process would be extended to all the PIRGs.

3.12 The meeting noted that the updated information with regard to Part II of the Global Plan was submitted by the regional offices in coordination with the PIRGs. In this regard, 54 homogeneous ATM areas and major traffic flows had been identified by the PIRGs and were included in the amendment. It was emphasized that the implementation timelines shown should be viewed in general terms only, since they imply only a broad indication of the approach adopted by PIRGs.

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3.13 Noting the first amendment to the Global Plan, the meeting decided that the appropriate Sub-Groups of MIDANPIRG should take relevant changes into account when revising the Regional Air Navigation Plan for CNS/ATM systems.

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CONCLUSIONS DEVELOPED BY ALLPIRG/4

CONCLUSION 4/1 A GENERAL FRAMEWORK AND TERMS OF REFERENCE FOR INTERREGIONA COORDINATION MEETINGS

That the Council agree to adopt a general framework and terms of reference for interregional coordination meetings (IRCMs) as set out in Appendices A and B to the report on Agenda Item 2.

CONCLUSION 4/2 INTERREGIONAL MEETINGS SPECIFICALLY DEDICATED TO INTERFACE AREAS

That ICAO convene interregional meetings, as and when required, to address the specifically focussed interface problems and other issues of neighbouring States and/or neighbouring regions as a whole.

CONCLUSION 4/3 INCREASED EMPHASIS ON ADDRESSING INTERREGIONAL ISSUES AND MISSING ELEMENTS

That, with a view to facilitating interregional planning and the harmonization of air navigation systems, ICAO and the CNS/ATM partners put more emphasis on the addressing of interregional issues and the missing elements as outlined in Appendix C to the report on Agenda Item 2.

CONCLUSION 4/4 PUBLICATION AND MAINTENANCE OF ANP/FASID DOCUMENTS

That:

a) ICAO ensure that sufficient resources and priorities are accorded to the publication of ANP/FASID documents; and

b) the ANP/FASID be kept up-to-date through regular amendments thereto.

CONCLUSION 4/5 CONSISTENCY IN AERONAUTICAL INFORMATION

That, on the basis of work being done in the European Region, ICAO:

a) make every effort to increase the awareness of all States of the need to ensure the consistency of aeronautical information, including the development of additional guidance material, if necessary; and

b) ICAO standard aeronautical information publication format.

CONCLUSION 4/6 RVSM CERTIFICATION PROCESS

That ICAO develop a suitable standard for use by States in certification of aircraft for RVSM operation and provide appropriate guidance to support the global harmonization of RVSM approval processes.

CONCLUSION 4/7 ADOPTION OF A UNIFORM FORMAT FOR THE REPORTING OF WGS_84 IMPLEMENTATION

That the table available at Appendix D to the report on Agenda Item 2 be adopted as a uniform format for the reporting of WGS_84 implementation by PIRGs and States.

CONCLUSION 4/8 ENVIRONMENTAL BENEFITS OF CNS/ATM SYSTEMS

That:

a) ICAO Regional Offices and PIRGs support ICAO/CAEP efforts to expand the methodology for the quantification of CNS/ATM environmental benefits to each region by collecting data, as necessary;

b) ICAO/CAEP continue its work on the expansion of the methodology for the assessment of the environmental benefits associated with the implementation of CNS/ATM systems to the various regions; and

c) ICAO proceeds with the revision of the methodology for inclusion in the *Global Air Navigation Plan for CNS/ATM Systems* (Doc 9750) at the earliest opportunity.

CONCLUSION 4/9 SUPPORT FOR THE ICAO POSITION AT WRC_2003

That regional planning groups and regional offices address matters concerning the allocation and protection of radio frequency spectrum, in coordination with national civil aviation authorities, ICAO Headquarters and regional telecommunication organizations.

CONCLUSION 4/10 REPORTING OF SHORTCOMINGS AND DEFICIENCIES

That where a State, by virtue of Article 38, has notified ICAO of a difference to Standards and Recommended Practices governing the actual provision of facilities and services listed in an air navigation plan, the non-implementation of a facility or service, in the context of the uniform methodology for the identification and reporting of air navigation shortcomings and deficiencies, should not be reported as either a shortcoming or a deficiency when it has no negative impact on safety, regularity and/or efficiency.

CONCLUSION 4/11 SINGLE DEFINITION

That ICAO be invited to refine the following single definition of a shortcoming/deficiency with a view to its incorporation into the uniform methodology for the identification and reporting of air navigation shortcomings and deficiencies:

deficiency is a situation where a facility, service or a procedure is not provided in accordance with ICAO Standards and Recommended Practices which has a negative impact on the safety, regularity and/or efficiency of internat

CONCLUSION 4/12 EUROCONTROL PLANNING AND IMPLEMENTATION METHODS

That, with a view to benefiting from EUROCONTROL the field of performance-driven planning and implementation methods, particularly with regard to the collaborative links that the agency maintained with its CNS/ATM partners, PIRGs:

a) study the approach to planning and implementation taken by EUROCONTROL, with a view to the possible application of its elements in their respective regions of responsibility; and

b) take steps to issue appropriate invitations for EUROCONTROL attendance at PIRG meetings.

CONCLUSION 4/13 DATABASE DEVELOPMENTS

That ICAO:

a) post promptly all tabular material from all regional air navigation plans relating to facilities and services to an ICAO-controlled web site in a simple PDF format;

b) invite CNS/ATM partners to post their relevant planning material on the web site referred to in a) above;

c) provide appropriate free access to relevant ICA Sections, Regional Offices, PIRGs and participating CNS/ATM partners;

d) maintain the currency of this database, *inter alia*, to take account of amendments made to hard copy ANPs;

e) with the assistance of PIRGs and interested CNS/ATM partners, refine and develop the database, as a matter of urgency, to provide access and functionality commensurate with its use as a planning tool and in line with ICAO sale of publications practices.

CONCLUSION 4/14 EXPANSION OF THE UNIVERSAL SAFETY OVERSIGHT AUDIT PROGRAMME

That the Universal Safety Oversight Audit Programme be expanded to include Annexes 11 and 14 and the necessary resources be made available.

CONCLUSION 4/15 REMEDIAL ACTION

That, in following up the audits carried out in the context of the Universal Safety Oversight Audit Programme, the necessary remedial actions be taken as a matter of urgency.

CONCLUSION 4/16 DATABASES FOR CNS/ATM SYSTEMS PLANNING ACTIVITIES

That ICAO set up a mechanism to collect and update the relevant data to be used by regions, sub_regions and States for their CNS/ATM systems planning activities.

DEVELOPMENT STATUS OF SARPS AND GUIDANCE MATERIAL RELATED TO CNS/ATM SYSTEMS

MAIN FIELD		ELEMENTS	SARPS/PANS		GUIDANCE MATERIAL	
			TARGET COMPLETION DATE[1]	STATUS	TARGET COMPLETION DATE[2]	STATUS
	ATM	Global air traffic management requirements	2005	Annexes 2 and 11 SARPs and PANS-ATM procedures under development.		Operational concept of global ATM being defined as part of updated global plan.
		Interoperability and functional integration of flight operations, ATS, ATFM and tactical ASM	2005	Annexes 2 and 11 SARPs and PANS-ATM procedures under development.		
		Required total system performance (RTSP)	2005	Draft policy statement under development.		
		ATM requirements for communications, navigation and surveillance	2002	Annexes 2, 6 and 11 SARPs and PANS-ATM procedures under development.		
ATM	ASM	Airspace infrastructure planning	—	—	Completed	*Manual on Airspace Planning Methodology for the Determination of Separation Minima* (Doc 9689) published.
		RNP and RNAV for en-route operations	Completed	Annex 11 SARPs and PANS-ATM procedures adopted by Council in 1998.	Completed	Update of the *Manual on Required Navigation Performance (RNP)* (Doc 9613) completed. Second edition published.
		Separation between aircraft	2002	PANS-ATM procedures approved by Council in 1998; further amendment to	2001	Amendment to *Air Traffic Services Planning Manual* (Doc 9426) to be developed.

MAIN FIELD		ELEMENTS	SARPS/PANS		GUIDANCE MATERIAL	
			TARGET COMPLETION DATE[1]	STATUS	TARGET COMPLETION DATE[2]	STATUS
				Annexes 2, 6, 11 and PANS-ATM under development.		Amendment to the *Manual on Implementation of a 300 m (1 000 ft) Vertical Separation Minimum between FL 290 and FL 410* (Doc 9574) completed. Additional guidance is under development for the Manual on APM (Doc 9689).
ATM	ATS	ATS (uplink of MET data)	2001	Annex 3 SARPs and PANS-ATM procedures concerning D-ATIS and D-VOLMET being developed with the assistance of the METLINKSG.	—	—
		ATS (uplink of SIGMET information in graphical format)	2004	Initial Annex 3 SARPs specifying the code to be used for graphical SIGMETs being developed with the assistance of the METLINKSG.	—	—
		WAFS planning and implementation (final phase)	2004	Annex 3 SARPs for global WAFS SIGWX forecasts in binary format (BUFR code) for direct transmission to airline and ATM computers being developed with the assistance of WAFSSG.		
		ATS applications for air-ground data links	2003	Annex 11 SARPs and PANS-ATM procedures are being developed.	Completed	The *Manual of Air Traffic Services Data Link Applications* (Doc 9694) published and dispatched in second quarter 1999. Additional guidance is under development.
		3) OCP is developing PANS-OPS criteria for SBAS/GBAS	2002	Annex 11 SARPs and PANS-ATM procedures under development.		

MAIN FIELD	ELEMENTS	SARPS/PANS		GUIDANCE MATERIAL	
		TARGET COMPLETION DATE[1]	STATUS	TARGET COMPLETION DATE[2]	STATUS
ATFM	Data interchange between automated ATS systems				
	ILS/MLS/GNSS[3] operations	2002	PANS procedures under review.		
	ATFM systems and procedures	2005	Annexes 2 and 11 SARPs and PANS-ATM procedures to be developed.	2001	ATFM part of the ATM operational concept under development.
CNS/ATM	Human Factors	2001	HF-related SARPs were developed and incorporated in Annexes 10 and 11. Further, HF-related requirements for inclusion in the PANS-OPS were developed during 2000, with an applicability date of 1 November 2001.	2001	A chapter on Human Factors issues was developed and included in the *Manual of Air Traffic Services Data Link Applications* (Doc 9694). A manual on Human Factors Guidelines for Air Traffic Management Systems (Doc 9758) was completed and published in 2000.
	Human Resource Planning and Training			2001	The human resource planning guidance material is under development. A potential approach and format for regional training planning was developed.
COM	VHF digital link (Modes 3 and 4)	Completed	Mode 4 validation commenced in 1997. Mode 3 validation started in 1998. Validation of material in manuals ongoing.	Ongoing	SARPs adopted in 2001. Manuals on VDL technical details and implementation aspects will be published in 2001.

1) final action by the Air Navigation Commission
2) approved by the Secretary General

MAIN FIELD	ELEMENTS	SARPS/PANS		GUIDANCE MATERIAL	
		TARGET COMPLETION DATE[1]	STATUS	TARGET COMPLETION DATE[2]	STATUS
COM (cont'd)	AMS	Completed	Included in Amendment 75 to Annex 10.	Completed	Included in Amendment 75 to Annex 10.
	Next generation satellite system	Completed	SARPs development completed by AMCP/7	Ongoing	Guidance material on specific systems to be developed as required.
NAV	RNP (en-route)	Completed	Adopted/approved by Council in 1994 (Annexes 2, 4, 6, 11, 15 and PANS-ATM).	Completed	Guidance material for RNP1 operations under development.
		—	—	Completed	The *Manual on Airspace Planning Methodology for the Determination of Separation Minima* (Doc 9689) published in 1998.
	RNP (terminal area, approach, landing, departure)	Completed	Recommended by AWOP/16 and adopted by the Council in 1999.	Completed	Developed by AWOP, in parallel with SARPs.
	WGS-84	Completed	Adopted by Council in 1994, 1995, 1997 and 1998. Annexes 4, 11, 14 (both volumes) and 15 updated, provisions applicable from 1 January 1998.	Completed	*WGS-84 Manual*, (Doc 9674) and Amendment 1 issued. Amendment 2 concerning taxiway and apron points has been written and submitted for translation and publication. ICAO WGS-84 website is under development.
	Aeronautical data bases	2003	SARPs for the standard conceptual information model required for the provision and exchange of electronic aeronautical data initiated at the AIS/MAP/98 Divisional Meeting, are being developed by the Secretariat with the assistance of ADMSG.	2004	To be developed by the Secretariat with the assistance of AISMAPSG and ADMSG.

MAIN FIELD	ELEMENTS	SARPS/PANS		GUIDANCE MATERIAL	
		TARGET COMPLETION DATE[1]	STATUS	TARGET COMPLETION DATE[2]	STATUS
NAV (cont'd)		2001	Initial SARPs for electronic aeronautical charts for cockpit display were included in Amendment 52 to Annex 4.		
		2004	SARPs for the electronic terrain data are under development in consultation with RTCA/EUROCAE.		
	GNSS performance criteria to support operational requirements	2001	Draft material was developed at the GNSSP/3 (12 to 23 April 1999).	2001	Developed by GNSSP in parallel with SARPs.
	SARPs for the use of existing satellite navigation systems with augmentation sub-systems	2001	First package of SARPs was recommended by GNSSP/3 and adopted by Council in March 2001 for applicability on 1 November 2001.	2001	Developed by GNSSP in parallel with SARPs.
	SARPs for the longer-term GNSS	2004	Guidance on the long-term GNSS was developed by GNSSP/3 and the work on SARPs for new elements of GNSS (GPS second civil frequency, Galileo, GLONASS-M) is under way.	2004	Developed by GNSSP in parallel with SARPs.
SUR	Surveillance system specifications for emerging surveillance systems and architectures	2004	Surveillance enhancements (ANC Task No. CNS-9601) being develope+d by SCRSP.	Ongoing	

1) final action by the Air Navigation Commission
2) approved by the Secretary General

MAIN FIELD	ELEMENTS	SARPS/PANS		GUIDANCE MATERIAL	
		TARGET COMPLETION DATE[1]	STATUS	TARGET COMPLETION DATE[2]	STATUS
	SSR procedures	Completed	Update of Annex 11 and PANS-ATM.	Completed	
	ADS procedures	2001	Annex 11 SARPs and PANS-ATM procedures being developed by the OPLINKP and SASP.	Completed	*Manual of ATS Data Link Applications* (Doc 9694) published and dispatched in second quarter 1999.
	ADS-B and equivalent	On-going	Being developed by OPLINKP	Ongoing	Amendment to the *Manual of ATS Data Link Applications* (Doc 9694) to be developed.
	ADS: inclusion of turbulence reporting	2001	Annex 3 SARPs and PANS-ATM turbulence reporting procedures based on the eddy dissipation rate being developed with the assistance of METLINKSG.		

LEGEND

ATM — Air traffic management
ADS — Automatic dependent surveillance
ADS-B — ADS broadcast
AIS — Aeronautical information services
ASM — Airspace management
ATFM — Air traffic flow management
ATN — Aeronautical telecommunication network
ATS — Air traffic services
CNS — Communications, navigation, and surveillance
COM — Communications
GNSS — Global navigation satellite system
NAV — Navigation
RNAV — Area navigation
RNP — Required navigation performance
SSR — Secondary surveillance radar
SUR — Surveillance
WAFS — World area forecast system
WGS — World geodetic system

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Appendix 3C to the report on Agenda Item 5

PANELS AND STUDY GROUPS INVOLVED IN CNS/ATM-RELATED ACTIVITIES

PANEL/STUDY GROUP	WORK PROGRAMME			
	TASKS	TITLE	TARGET COMPLETION DATE	STATUS (PROGRESS IN 2000)
OPLINKP	ATM-9102	ATS applications for air-ground data links	2001 and beyond	Work continued on draft SARPs, procedures and guidance material relating to the use of ADS, CPDLC and other data link applications.
	ATM-9502	ATM requirements for communication	2001 and beyond	The development of the concept of required communication performance was progressed.
	ATM-9506	Automatic dependent surveillance (ADS) systems and procedures	2001 and beyond	
	ATM-9103	Data interchange between automated ATS systems	2001	Provisions applicable to air traffic services interfacility data communications (AIDC) are being developed.
	ATM-0002	ADS-B, Traffic situational awareness and airborne separation assurance	Ongoing	Ground work was prepared for an operational concept and operational requirements for the use of a system to increase aircraft situational awareness and airborne separation assurance are being developed.
AMCP	CNS-7002	Aeronautical electromagnetic spectrum	Ongoing	AMCP continued work on spectrum protection tasks inherited from the disbanded FMSG.
	CNS-8702	Aeronautical mobile satellite air-ground data link (AMSS subnetwork)	Completed	Work on upgrades to the AMSS SARPs was completed.
	CNS-9902	Next-generation AMSS systems	Ongoing	Work on the development of acceptability criteria and SARPs for next-generation satellite systems was completed.
	CNS-9102	VHF air-ground digital link (VDL subnetwork)	Ongoing	Validation of the detailed technical specification for VDL Modes 3 and 4 ongoing.
	CNS-9603	Air-ground data link to support navigation and surveillance applications	Ongoing	Validation of the VDL Modes 3 and 4 SARPs completed.

PANEL/STUDY GROUP	WORK PROGRAMME			
	TASKS	TITLE	TARGET COMPLETION DATE	STATUS (PROGRESS IN 2000)
	CNS-9602	High frequency data link (HFDL)	Ongoing	Validation of detailed technical specifications ongoing.
ATMCP	ATM-9501	Required total system performance	2002	The ATMCP Working Group has held 5 meetings. Progress is being made on operational concept document.
	ATM-9202	Global air traffic management	2002 and beyond	
	ATM-9510	Interoperability and functional integration of flight operations, ATS, ATFM and tactical ASM	2002	
ATNP	CNS-7001	AFS systems planning studies	Completed	SARPs and technical specifications for ATN systems management, security and directory services were completed in 2000. Future work involves the incorporation of new and revised operational requirements and subnetworks into the ATN and enhancements to existing functions.
	CNS-8101	AFTN procedures and message format	Completed	
	CNS-9403	Aeronautical telecommunication network (ATN)	Completed	
	CNS-9901	AFS procedures	Completed	
GNSSP	CNS-9401	Global navigation satellite system (GNSS)	Completed	First set of SARPs recommended at GNSSP/3 Meeting, 12 to 23 April 1999.
	CNS-7002	Aeronautical electromagnetic spectrum	Ongoing task	
	OPS-8502	Flight procedures and obstacle clearance criteria based on GNSS & RNP systems	2001	
SASP	ATM-8505	Required navigation performance and area navigation for en-route	2001	Route spacings based on RNAV and RNP 1, a global target level of safety and the effects of GNSS on aircraft separation continued to be studied. Guidance material was developed for inclusion in the *Manual on Airspace Methodology for the Determination of*

PANEL/STUDY GROUP	WORK PROGRAMME			
	TASKS	TITLE	TARGET COMPLETION DATE	STATUS (PROGRESS IN 2000)
		operations		*Separation Minima* (Doc 9689).
	ATM-6301	Separation between aircraft	2001 and beyond	Developments of proposals were advanced for the amendment of SARPs and PANS concerning reduced separation minima including: lateral distance-based intersecting track separation; 30 NM lateral and longitudinal was presented to ANC for review in 1999. The reduction of longitudinal separation to below 10 minutes is under development. The implementation of RVSM is continuing to be under review and the revision to the *Manual on Implementation of a 300 m (1 000 ft) Vertical Separation Minimum Between FL 290 and FL 410 Inclusive* (Doc 9574) is completed.
SCRSP	CNS-7901	Conflict resolution and collision avoidance systems	2004	Work is concentrating on surveillance enhancements and ADS-B while monitoring ACAS and Mode S implementation in the States. Activities on ASAS are progressing with the preparation of technical requirements for ASAS to be presented at SCRSP/1.
	CNS-9601	Surveillance enhancements (emerging surveillance systems)	2004	
	CNS-9701	Airborne separation assurance system (ASAS)	2004	
ADMSG	AIS-9401	Aeronautical data bases	2005	Evaluation and validation of the SICIM and FAA/EUROCONTROL AICM/AIXM were initiated at the first meeting in November 1999; further work in 2001-05.
AISMAPSG	AIS-9801	Electronic aeronautical charts for cockpit display	2003	Amendment 29 to Annex 15 introduced aeronautical data base requirements including the quality system, data integrity and protection and publication resolutions. At the 3rd meeting (December 1999) work continued on tasks AIS-9801 and AIS-9802. The group will continue work in 2001-05.
	AIS-9802	Electronic terrain data	2003	
	AIS-9806	Electronic exchange of aeronautical information	2005	
AVSSSG	CNS-7001	AFS systems planning studies	2001	The third meeting of AVSSSG was held in Montreal in October 2000. SARPs on ATS voice networks were adopted in 2001. Guidance material is being completed.

PANEL/STUDY GROUP	WORK PROGRAMME			
	TASKS	TITLE	TARGET COMPLETION DATE	STATUS (PROGRESS IN 2000)
HFSG	PEL-9001	Flight safety and human factors	2001	Review of SARPs on CNS/ATM, to ensure that Human Factors are properly taken into consideration. SARPs submitted to the Council during the periodic cycles of revision of the relevant Annexes. Further, HF-related requirements are to be included in PANS-RA have been developed.
HRPTSG	PEL-9601	Regional human resource planning and training needs	2002	The first draft of the Human Resource Development Manual is under development. An initial version of a computer programme designed to indicate how CNS/ATM technologies affect job profiles and the consequential human resource planning and training requirements was developed.
METLINKSG	MET-9101	Amendment to Annex 3 concerning automated air-reporting	2001	Amendment 72 to Annex 3 being developed including the details of the turbulence index to be reported.
	MET-9301	Future requirements for the uplink of OPMET information to aircraft in flight	2001	Amendment 72 to Annex 3 being developed including the meteorological specifications (templates) for D-ATIS and D-VOLMET.
	MET-9602	SIGMET information in graphical format	2004	Amendment 72 being developed including the specification of the numerical code to be used for the dissemination and uplink of graphical SIGMETs.
TRNSG	CNS-9402	Testing of radio navigation aids	Completed	First and second meetings of the study group produced a revised version of Doc 8071, Volume I, *Manual on testing of ground-based radio navigation systems* (replacing former Volumes I and II). TRNSG/3 produced Volume II (GNSS)
	CNS-9401	Global navigation satellite system (GNSS)	Completed	

PANEL/STUDY GROUP	WORK PROGRAMME			
	TASKS	TITLE	TARGET COMPLETION DATE	STATUS (PROGRESS IN 2000)
WAFSSG	MET-8802	WAFS planning and implementation	2001	Amendment 72 to Annex 3 being developed to include global WAFS SIGWX forecasts in binary format (BUFR) code for direct transmission to airline and ATM computers.

LEGEND

ANC Panels

AMCP — Aeronautical Mobile Communications Panel
ATMCP — Air Traffic Management Operational Concept Panel
ATNP — Aeronautical Telecommunication Network Panel
GNSSP — Global Navigation Satellite System Panel
OCP — Obstacle Clearance Panel
OPLINKP — Operational Data Link Panel
RGCSP — Review of the General Concept of Separation Panel
SCRSP — Surveillance and Conflict Resolution Systems Panel (Former SICASP)

Study Groups

ADMSG — Aeronautical Data Modelling Study Group
AISMAPSG — Aeronautical Information and Charts Study Group
AVSSSG — ATS Voice Switching/Signalling Systems Study Group
HFSG — Flight Safety and Human Factors Study Group
HRPTSG — Human Resource Planning and Training Study Group
METLINKSG — Meteorological Information Data Link Study Group
TRNSG — Testing of Radio Navaids Study Group
WAFSSG — World Area Forecast System Study Group

REPORT ON AGENDA ITEM 4: REVIEW OF OUTSTANDING CONCLUSIONS AND DECISIONS OF MIDANPIRG

4.1 The meeting was presented with a list of Conclusions and Decisions adopted by MIDANPIRG/6, attached as **Appendix 4A** to the report on Agenda Item 4.

4.2 The meeting was also presented with a summary of the follow up actions taken on the Conclusions and Decisions of MIDANPIRG/6 by subsidiary bodies of MIDANPIRG, attached as **Appendix 4B** to the report on Agenda Item 4.

4.3 The meeting noted that actions were still outstanding on the Conclusion 5/13

MET in this Office. The meeting reiterated the need for such a survey and agreed on the following Conclusion:

DECISION 7/2: SURVEY OF INTER-REGIONAL EXCHANGES OF OPMET INFORMATION

That, the MID Regional Office arrange a survey of the exchange of OPMET information between MID and AFI and between MID and EUR Regions and presents the result for review by the CNS/MET SG/5.

Note: This Decision as a follow-up to Conclusion 5/13

MIDANPIRG/7
Appendix 4A to the Report on Agenda Item 4

LIST OF CONCLUSIONS AND DECISIONS OF MIDANPIRG/6

CONCLUSION 6/1- UNIFORM FORMAT FOR THE REPORTING OF WGS-84 IMPLEMENTATION

That the table available at the **Appendix 3C** of the report on Agenda Item 3 be adopted as a uniform format for reporting of WGS-84 implementation.

CONCLUSION 6/2- REVISED TERMS OF REFERENCE OF MIDANPIRG

That, the Revised Terms of Reference of MIDANPIRG in Appendix 3D which includes financial considerations in planning and implementation of air navigation facilities, with due regard to the primacy of safety, be adopted.

DECISION 6/3- FOLLOW-UP OF ICAO POSITION WITH REGARD TO FUTURE WRC CONFERENCES

That, the COM/MET SG be tasked with following up the development in ICAO position with regard to the future WRC conferences and its preparatory meetings, and highlighting that position to the MID States.

CONCLUSION 6/4- CIVIL AVIATION AUTHORITIES SUPPORT OF ICAO POSITION

That, all MID States Civil Aviation Authorities use the ICAO coordinated aeronautical position regarding the future WRC conferences in their national discussions with the radio regulatory authorities when developing proposals for submission by their Administrations to the ITU conferences.

CONCLUSION 6/5- CIVIL AVIATION REPRESENTATIVES PARTICIPATION IN ITU WRC ACTIVITIES

That, all MID States Civil Aviation Authorities, request their appropriate ministries to assign aviation experts to participate in their national delegation to the future ITU conferences in order to brief the delegations at these ITU conferences with ICAO position and to support that position.

CONCLUSION 6/6 - SUPPORT FOR TRAFFIC FORECASTING ACTIVITIES

That,

- Considering the importance of relevant traffic forecasts for the efficient planning of the air navigation system
- Noting the work done by the Middle East Regional Traffic Forecasting Group and the support it received from the secretariat in preparing preliminary forecasts of aircraft movements to, from, across and within the Middle East region,
- Further noting the need to facilitate the efficient functioning of the Middle East Regional Traffic forecasting Group

a) States be urged to ensure that their respective nominees to the membership of the Middle East Regional Traffic Forecasting Group have the necessary traffic forecasting expertise and that both Air Transport and ATC Officers be represented in the Group.

b) ICAO be requested to organize workshops and other relevant training sessions for the members of the Group with a view to enhancing the efficiency of its work.

CONCLUSION 6/7- MANDATORY CARRIAGE AND OPERATION OF ACAS II IN THE MID REGION

That ACAS II shall be carried and operated in the MID Region by all aircraft which meet the following criteria:

a) With effect from 1 July 2001, all civil fixed-wing turbine-engined aircraft having a maximum take-off mass in excess 15,000 kg or approved passenger seating configuration of more than 30.

b) With effect from 1 January 2005, all civil fixed-wing turbine-engined aircraft having a maximum take-off mass in excess of 5,700 kg or approved passenger seating configuration of more than 19.

c) Each State should issue an AIC as soon as possible, indicating the intent to introduce mandatory ACAS II requirements.

d) States, which do not agree to implementation prior to the date, specified in part I of Annex 6, paragraph 6.18, may publish by NOTAM or in their respective AIP that there is no requirement for ACAS equipage in their sovereign airspace. Such States are not required to file a difference with ICAO.

CONCLUSION 6/8 - PLANNING FOR CONGESTION REDUCTION MEASURES IN THE MID REGION

That,

- recognizing there are areas in the MID region carrying high density traffic where radar surveillance is not available;

- recognizing that the introduction of both RVSM and RNP would contribute to the reduction of congestion in the region, and that it will be necessary to implement both in the long term; and

- recognizing also that RNP is an option which can be implemented in the short term, whereas the introduction of RVSM will require a long and expensive implementation process;

the planning for measures to reduce congestion in the MID region should be based on the following principles.

a) Radar surveillance should be provided in areas of high traffic density where it is not yet currently available.

b) RNP routes and airspace should be introduced as soon as possible in those areas where this would contribute to reduction of congestion.

c) Plans for the introduction of RVSM should be harmonized with the plans for its introduction in neighboring regions, and in particular, should take into account the plans for its introduction in the western part of the Asia/Pacific region;

d) Planning for the introduction of RVSM should be commenced three years in advance of the intended implementation date.

CONCLUSION 6/9- ESTABLISHMENT OF A MID RVSM TASK FORCE

That,

a) a Middle East RVSM Task Force be established with Terms of Reference as set out in **Appendix 4.1A** to the report on Agenda Item 4.1;

b) membership of this task force should comprise all MID States and IATA as an observer;

c) States should ensure that persons nominated to participate in the RVSM Task Force have the requisite expertise in the fields of ATC, airworthiness, flight operations and if possible, the techniques involved in safety studies; and

d) States should also ensure that there is continuity, to the maximum extent possible, in the membership of their delegations to the task force meetings.

CONCLUSION 6/10- TARGET DATE FOR THE INTRODUCTION OF RVSM IN THE MID REGION

That the target date for introduction of RVSM in the MID Region should be 2003, on a date to be determined as the planning for implementation proceeds.

CONCLUSION 6/11- OBJECTIVE OF THE REGIONAL ATS INCIDENT ANALYSIS SYSTEM

That the objective of the regional ATS incident analysis system should be to provide information on the frequency and nature of ATS incidents occurring in the MID region,

a) for use by the Regional Office and MIDANPIRG as a means of identifying air navigation shortcomings and deficiencies in the region, and

b) for use by States of the region in taking corrective action to rectify shortcomings and deficiencies in the State, the on-going development of their ATS systems, and for educational purposes.

c) a decision on the exact nature of the data to be analysed and the reports to be produced should be deferred until more information is available on the details of the ADREP 2000 system, and the ATM incident analysis system being developed by EUROCONTROL.

CONCLUSION 6/12- AMENDMENT OF TABLE COM1A (AFTN MID) DESIGNATED CIRCUITS REQUIRED FOR INTERNATIONAL OPERATIONS UNTIL THE RECOMMENDED FACILITIES ARE OPERATING SATISFACTORY

That based on the progress made in the implementation of the Rationalized AFTN Plan for the MID Region, developed by the LIM MID (COM/MET/RAC) RAN meeting (1996) and, subsequently approved by the Council of ICAO, table COM 1A for the MID AFTN Plan be amended with a view to deleting the circuits therein which are no longer required.

CONCLUSION 6/13- INITIAL PLAN FOR THE GROUND PORTION OF THE ATN IN THE MID REGION

That, tables 1, 2, 3, 4 and 5 and the explanatory note constitute the initial plan for the ground portion of the ATN in the MID Region and be included in the FASID as shown in **Appendix 4.2C** to the report on Agenda Item 4.2.

DECISION 6/14 - TARGET DATE FOR THE APPROVAL OF GNSS AS A SUPPLEMENTAL MEANS NAVIGATION SYSTEM IN THE MID REGION

That

a) the regional target date for implementation of GNSS for en-route and non-precision approach, as shown in Table 10-1 of draft version 6 of the CNS/ATM Implementation Plan for the Middle East Region, should be amended to 2002; and

b) this target date should be reviewed by the next meeting of the GNSS Task Force in association with Decision 6/17, in order to confirm its feasibility, and to determine an AIRAC date for implementation

CONCLUSION 6/15- IMPLEMENTATION OF GNSS FOR EN-ROUTE AND NON-PRECISION APPROACH

That, recognizing that MIDANPIRG/5 Conclusion 5/19 placed a high priority on the implementation of GNSS as a supplemental means navigation system, all States which have not already done so be urged to:

a) identify regulatory and legislative changes which will be needed to authorize the use of GNSS as a supplemental means navigation system in their airspace for both en-route and non-precision approach;

b) establish multidisciplinary GNSS implementation teams, using section 6.10 of ICAO Circular 267, Guidelines for the Introduction and Operational Approval of the Global Navigation Satellite System (GNSS), as a guide; and

e) work towards the identification and implementation of all requirements for the introduction of GNSS as a supplemental means system for en-route navigation, and non-precision approach where required, by the end of 2001, taking into account user requirements.

DECISION 6/16 FURTHER WORK REQUIRED FOR GNSS IMPLEMENTATION

That the GNSS Task Force be tasked to

a) develop a plan, with milestones, outlining the requirements needed to approve GNSS as a supplemental means navigation system in the MID Region and to eventually progress to primary means, including consideration of the need for monitoring, a means of alerting, RAIM prediction programs, WGS-84 implementation and institutional issues; and

b) identify the most efficient way to meet the above mentioned requirements in a regional framework.

CONCLUSION 6/17- PRIORITY ROUTES FOR THE INTRODUCTION OF RNP 5

That,

a) States concerned should implement RNP 5 on the routes listed in **Appendix 4.3A** to the report on Agenda Item 4.3, on 22 March 2001;

b) States may implement RNP 5 on additional routes on this date where further discussions indicate that this would be beneficial, noting in this regard the requirements of section 5 of the Middle East Implementation Plan for the Introduction of RNP/RNAV relating to advance notice and consultation with users;

c) On the designated routes or within designated airspace, the RNP 5 requirement should apply to all flights above FL 285, except where particular circumstances require the specification of a different lower limit; and

d) The proportion of RNP 5 approved aircraft operating in the region should be reviewed periodically, with a view to extending both area of applicability of RNP 5, and the level bands to which it applies.

CONCLUSION 6/18 - IMPLEMENTATION OF NAVIGATION ERROR MONITORING

That, all States involved in the initial implementation of RNP 5 routes should ensure that:

a) the necessary mechanisms for the recording and notification of gross navigation errors, as described in Appendix C of the Guidance Material on Implementation of RNP/RNAV in the Middle East Region are put in place prior to 22 March 2001; and

b) all staff who will be involved in the monitoring process are given appropriate training prior to the same date.

CONCLUSION 6/19 - DEVELOPMENT OF AIRWORTHINESS AND OPERATIONAL APPROVAL PROCEDURES FOR RNP 5

That, noting that the issuing of airworthiness and operational approvals for RNP 5 is the responsibility of the State of Registry or State of the Operator:

a) All States which have not yet developed procedures for issuing RNP 5 approvals should assign the development of these procedures a high priority; and

b) The following documents may be used as guidance in the development of these procedures:

FAA Advisory Circular AC 90-96, Approval of U.S. operators and aircraft to operate under instrument flight rules in European airspace designated for Basic Area Navigation (BRNAV/RNP 5)

JAA Temporary Guidance Leaflet No. 2, Guidance material on airworthiness approval and operational criteria for the use of navigation systems in European airspace designated for Basic RNAV operations.

CONCLUSION 6/20- NOTIFICATION OF INTENTION TO INTRODUCE RNP 5 ROUTES

That, all States involved in the initial implementation of RNP 5 routes should, as soon as possible, issue an AIC notifying their intent to introduce RNP 5 requirements on these routes. These AICs should include the planned implementation date and the level band within which the requirement would apply.

CONCLUSION 6/21- ANNOTATION OF RNP REQUIREMENTS ON CHARTS

That, until such time as guidance material relating to the annotation of RNP requirements on charts is published in the Aeronautical Chart Manual (Doc 8697), the following procedures should be adopted by States of the MID Region:

a) Where an RNP requirement applies to all routes within the boundaries of some defined airspace, the chart should contain a conspicuous note indicating the RNP requirement, and the vertical limits within which it applies.

b) Where the RNP type is applicable only to individual routes or route segments, the RNP type should be indicated in association with the route designator in each applicable segment. Where the RNP requirement applies to all levels on the route, the RNP requirement should precede the vertical limits. Where the RNP requirement applies only to certain flight levels, the vertical limits for the route should be specified first, followed by the RNP requirement, followed by the vertical limits within which the RNP requirement applies.

CONCLUSION 6/22 - TRAFFIC FORECASTING REQUIREMENTS FOR CNS/ATM PLANNING

That in order to provide additional information for airspace planning activities, the Traffic Forecasting Group be requested to:

a) include the following additional items, for all flights, in the data collected and recorded in its data base:

i) Whether the aircraft is RNAV capable;

ii) Whether the aircraft is equipped with ADS and CPDLC, as indicated in field 10 of the ICAO FPL message; and

b) make provision in its forecasting procedures for forecasts relating to Haj traffic, as well as forecasts for normal scheduled flights; and

c) include forecasts for traffic overflying the region, as well as traffic landing at or departing from airports within the region, as soon as possible.

CONCLUSION 6/23 - SUB-REGIONAL APPROACH TO CNS/ATM IMPLEMENTATION

That,

recognizing the implementation of CNS/ATM in accordance with the Regional Plan is ultimately a State responsibility;

recognizing that the CNS/ATM environment should provide seamless transitions across national boundaries, and that the achievement of this will require co-ordination of State CNS/ATM implementation plans;

recognizing that some of the States with which co-ordination will be required will be States of adjacent ICAO Regions; and

recognizing also the importance of implementing joint financing mechanisms for the funding of CNS/ATM systems with applicability beyond the boundaries of any one State;

a) The planning for the introduction of CNS/ATM should be co-ordinated through informal sub-regional working groups;

b) Membership of a working group should include all those States within the sub-regional area under consideration; and

c) ICAO and IATA should participate in these working groups as observers.

DECISION 6/24 - FINANCING OF CNS/ATM IMPLEMENTATION

That, recognizing that the implementation of CNS/ATM will necessitate the establishment of mechanisms for the sharing of costs of facilities and services with applicability beyond the boundaries of any one State, the development of multinational financing arrangements, and the development of the section of the regional CNS/ATM plan relating to financial issues, should be afforded a high priority in the work program of MIDANPIRG and its supplementary bodies.

DECISION 6/25 - DEVELOPMENT OF REGIONAL CNS/ATM TRAINING REQUIREMENTS

That a CNS/ATM Training Task Force should be established, and tasked to develop a detailed statement of the CNS/ATM training requirements for the MID Region, for incorporation in the regional CNS/ATM plan.

CONCLUSION 6/26 - ADOPTION OF THE CNS/ATM PLAN FOR THE MIDDLE EAST REGION

That, the CNS/ATM Implementation Plan for the Middle East Region First Edition September 2000 be adopted.

DECISION 6/27- NEW TITLE AND REVISED TERM OF REFERENCE FOR THE CNS/ATM SUB-GROUP

That, the MIDANPIRG approves the new title CNS/ATM/IC/SG and the revised terms of reference as presented in **Appendix 4.3F** attached to the report on Agenda Item 4.3, in order to incorporate changes in the method of work by the Sub-Group, indicating the progress towards focusing on the implementation of the CNS/ATM Systems.

CONCLUSION 6/28- ENVIRONMENTAL BENEFITS OF CNS/ATM SYSTEMS

That States take the environmental benefits, among other considerations, into account in the development of business cases for the implementation of CNS/ATM systems.

CONCLUSION 6/29 SADIS OPERATIONAL FOCAL POINT IN USER STATES

That SADIS User States are requested to nominate an operational person involved with day to day SADIS operations in that State, to act as the SADIS operational focal point,

Note:

a) to assist States in nominating the appropriate officer, the request to States should indicate clearly that the SADIS operational focal point would be expected to be available to respond to queries and receive information from the SADIS provider State and Secretary, SADISOPSG on operational matters, and maintain contact with any other SADIS users in the State concerned; and

b) on receipt of the information from States, the Secretary of the SADISOPSG should provide the information to the SADIS provider State, and include the list of the SADIS operational focal points in a future amendment to the SADIS User Guide.

CONCLUSION 6/30- AERODROME CERTIFICATION

That, States are urged to review and provide comments to ICAO HQ on the proposed amendment to Annex 14 as circulated in ICAO State Letter AN 4/11.1.46 00/71 dated 12 July 2000 and in the interest of safety, take appropriate steps to initiate action on establishing aerodrome certification procedures and aerodrome safety management systems.

DECISION 6/31 MIDDLE EAST BASIC ANP AND FASID

That

a) the date for comments by States on the draft MID Basic ANP and FASID be extended to 31 December 2000;

b) a further meeting of the ANP/FASID Task Force be held in the first quarter of 2001 to undertake harmonization of the documents where required; and

c) d any modifications resulting from the ANP/FASID Task Force meeting, the documents be processed for approval according to established ICAO procedures.

CONCLUSION 6/32- TRAFFIC FORECASTING ACTIVITIES

Noting the progress made so far by the Middle East Regional Traffic Forecasting Group

Noting, further, the conclusions and recommendations of the RIO Conference on CNS/ATM Implementation and of the third session of ALLPIRG, the meeting:

a) Requests the MER TFG to examine and expand its Terms of Reference taking into account the relevant conclusions of ALLPIRG/3 and the recommendations of the Rio Conference on CNS/ATM Implementation.

b) Requests the MER TFG to coordinate with regional and other organizations in building up an appropriate database to support MID regional traffic forecasting activities.

c) Urges States which are members of MER TFG to include ATC and Air Transport Officers when making their nominations to the Group.

d) Urges MID States to support the activities of the MER TFG by availing relevant FIR and ATC data to the Group.

CONCLUSION 6/33- AOP FACILITIES AND SERVICES

That, the States in the MID Region are urged to provide information concerning the AOP facilities and services at their international aerodromes to ICAO Regional Office before15 October 2000, in response to the ICAO State Letter No. ME 3/56.4 222 dated 3 September 2000.

CONCLUSION 6/34 MONITORING AND FOLLOW-UP OF CORRECTIVE ACTIONS TO ALLEVIATE SHORTCOMINGS AND DEFICIENCIES.

That States and Organizations which are assigned responsibility for corrective actions

in relation to air navigation shortcomings and deficiencies are urged, through their executing bodies,

a) to cooperate with the MID Regional Office and one another in the development of plans to alleviate shortcomings and deficiencies; and

b) to provide the ICAO MID Regional Office with the information related to current and planned corrective actions which is necessary for the Regional Office and MIDANPIRG to carry out their monitoring and follow-up responsibilities

DECISION 6/35- TABLE OF SHORTCOMINGS AND DEFICIENCIES

That, the table of Shortcomings and Deficiencies in the MET field at **Appendix 5D** is referred to the COM/MET Sub-Group for further breakdown of specific details and listing of concerned States.

MIDANPIRG/7
Appendix 4B to the Report on Agenda Item 4

FOLLOW-UP ON MIDANPIRG/6 CONCLUSIONS AND DECISIONS

CONC./DEC.	TITLE	FOLLOW-UP	REMARKS
Con. 6/1	Uniform Format for the Reporting of WGS-84 Implementation.	Actioned by MID Office State letter, AN 8/1.1-327, dated 19 December 2000.	Only 09 MID States have reported Uniform Format.
Con 6/2	Revised Terms of Reference of MIDANPIRG.	Actioned.	Approved by ICAO Council.
Dec. 6/3	Follow-up of ICAO Position with regard to future WRC Conferences.	Ongoing.	Presentations in Alexandria and Dubai Regional Preparatory Meeting in Bangkok.
Con. 6/4	Civil Aviation authorities support of ICAO position.	Ongoing. Discussed during COM/MET SG/4 meeting in Cairo, 24-27 September 2001.	The ANC requested the Secretary General to in safeguarding the aeronautical interests at WRC-2003.
Con. 6/5	ITU WRC activities.	Ongoing. Discussed during COM/MET SG/4 meeting in Cairo, 24-27 September 2001.	COM/MET SG/4 meeting Conclusion 4/8 - *ICAO Position with Regard to WRC-2003*.
Con. 6/6	Support for traffic forecasting activities.	Actioned Ongoing.	1- MER TFG has been restructured and currently includes both Air Transport and ATC Officers in its membership. 2- Two advanced Seminars on Traffic Forecasting have been conducted since MIDANPIRG/6.

CONC./DEC.	TITLE	FOLLOW-UP	REMARKS
Con. 6/7	Mandatory Carriage and Operation of ACAS II in the MID Region.	Actioned.	W.E.F. 1 July 2001, earlier than the global date of 1 January 2003.
Con. 6/8	Planning for congestion reduction measures in the MID region.	Ongoing.	Taken care of with the framework of RNP/RNAV, RVS M Task Force meetings.
Con. 6/9	Establishment of a MID RVSM Task Force.	Actioned.	RVSM TF/4 meeting will be convened 3-6 March 2002.
Con. 6/10	Target Date for the introduction of RVSM in the MID Region.	Actioned at MID RVSM TF/2 in Dubai, 9-11 April 2001.	Implementation targeted for 27 November 2003, between FLs 290-410 inclusive.
Con 6/11	Objective of the Regional ATS Incident Analysis System.	Actioned.	Task Force established. Next meeting will be convened 20-22 May 2002.
Con 6/12	Amendment Of Table COM1A (AFTN MID) Designated Circuits Required For International Operations Until The Recommended Facilities Are Operating Satisfactory.	Ongoing.	Further to the COM/MET SG/4 meeting some operational circuits were added.
Con. 6/13	Initial Plan For the Ground Portion of the ATN in the MID Region.	Seminar/Workshop is planned 13-14 May 2002.	The ANC requested the Secretary General to take it into account in the worldwide development and implementation of ATN.
DEC. 6/14	Target date for the approval of GNSS as a supplemental means navigation system in the MID region.	Agreed at RNP/RNAV TF/5 meeting in Cairo, 10-13 June 2001.	The AIRAC date is 18 April 2002.
Con. 6/15	Implementation of GNSS for en-route and non-precision approach.	Brought to the attention of States by MID Office State letter, ME 3/56.7-174, dated 10 July 2001.	Was discussed at the GNSS TF/3 meeting in Cairo, 9-11 January 2002. The AIRAC date is 18 April 2002

CONC./DEC.	TITLE	FOLLOW-UP	REMARKS
Dec. 6/16	Further Work Required for GNSS Implementation.	Ongoing.	Two packages ere adopted by the GNSS TF/3 meeting.
Con. 6/17	Priority routes for the introduction of RNP 5.	Actioned	Phase 2 implementation strategy developed.
Con. 6/18	Implementation of navigation error monitoring.	Ongoing.	
Con. 6/19	Development of airworthiness and operational approval procedures for RNP 5.	Ongoing.	
Con. 6/20	Notification of intention to introduce RNP 5 routes.	Actioned	Actioned by States involved in Phase 1 implementation.
Con. 6/21	Annotation of RNP requirements on charts.	Ongoing.	
Con. 6/22	Traffic Forecasting Requirements for CNS/ATM Planning.	Discussed during MER TFG/4 meeting Cairo, 29 January - 1 February 2001, and CNS/ATM/IC/SG/1 meeting 59 November 2001.	MER TFG to provide the required data. To be discussed during MIDANPIRG/7 meeting.
Con. 6/23	Sub-Regional Approach to CNS/ATM Implementation.	Ongoing.	Requires action by States.
Dec. 6/24	Financing of CNS/ATM Implementation.	Ongoing.	Business case study initiated by HQ expected to complete by May 2002.
Dec. 6/25	Development of Regional CNS/ATM Training Requirements.	Discussed by CNS/ATM/IC/SG/1 meeting in Cairo, 5-9 November 2001.	CNS/ATM Human Resources and Training Task Force established.

CONC./DEC.	TITLE	FOLLOW-UP	REMARKS
Con. 6/26	Adoption of the CNS/ATM Plan for the Middle East region.	Adopted by MIDANPIRG/6, and the ICAO Council.	Developed in conjunction with the Global Air Navigation Plan for CNS/ATM Systems (Doc. 9750-AN/963).
Dec. 6/27	New Title And Revised Term of Reference For the CNS/ATM Sub-Group.	Actioned.	
Con. 6/28	Environmental Benefits of CNS/ATM Systems.	Ongoing.	Requires action by States.
Con. 6/29	SADIS operational focal point in user States.	Actioned by MID Office Fax F.ME 033 dated 30/1/2001.	All States nominated focal point except 5 States.
Con. 6/30	Airport Certification.	Discussed by AOP SG/1& 2 meeting in Cairo, 13-16 November 2000 and 30 July 2 August 2001.	A workshop on Aerodrome Certification is tentatively planned to be 17-20 June 2002.
Dec. 6/31	Middle East Basic ANP and FASID.	Discussed and updated at the MID ANP FASID TF/2 meeting 14-15 February 2001.	Working Versions are available on ICAO Website (www.icao.int/mid) and CD-Rom copies.
Con. 6/32	Traffic Forecasting Activities.	Actioned Ongoing.	1- Terms of Reference of MER TFG expanded and coordination with other organizations is on going. 2- MER TFG restructured to include both Air Transport and ATC Officers.
Con. 6/33	AOP Facilities and Services.	Actioned, Tables AOP-1 & CNS3 of FASID document were updated and incorporated in Draft MID Basic ANP and FASID Version 2 documents Dec. 2001. WP 8 (Agenda Item 5.4).	Required action by States, ANC and Council.

CONC./DEC.	TITLE	FOLLOW-UP	REMARKS
Con. 6/34	Monitoring and Follow-Up of Corrective Actions to Alleviate Shortcomings and Deficiencies.	Ongoing.	Required action by State and Concerned Organization.
Dec. 6/35	Table of Shortcomings and Deficiencies.	Ongoing.	Discussed at COM/MET SG/4 meeting, 24-27 September 2001.

REPORT ON AGENDA ITEM 5: MIDDLE EAST AIR NAVIGATION PLAN ISSUES

5.1 **AOP**

AOP/SG/1&2 meetings

5.1.1 The meeting noted that AOP Sub-Group did not meet before MIDANPIRG/6 (10-14 September 2000) due to non-availability of Regional Officer AGA in the MID Regional Office; and that the first AOP Sub-Group meeting was held in Cairo, 13-16 November 2000, and the second meeting was held in Cairo, 30 July-2 August 2001, A consolidated summary of the two reports was presented to the meeting.

AOP/SG Terms of Reference and Work Programme

5.1.2 The meeting noted that AOP Sub-Group reviewed its Terms Of Reference and Work Programme as given in **Appendix 5A** attached to the report on Agenda Item 5 and consequently developed the following Decision:

DECISION 7/3: REVISED TERMS OF REFERENCE AND WORK PROGRAMME FOR THE AOP SUB-GROUP

That, the MIDANPIRG/7 approves the revised Terms Of Reference and Work Programme of AOP Sub-Group as presented in **Appendix 5A** attached to the report on Agenda Item 5.

Draft Basic ANP and FASID Documents

5.1.3

more information from some MID States; further updates were carried out by MID Regional Office, refer to MID Basic ANP and FASD Part III - Aerodrome Operations (AOP) and Part IV FASID Table CNS 3.

Deficiencies

5.1.4 The meeting was informed that AOP SG meetings have revised list of deficiencies in AOP field in the MID Region.

5.1.5 Reference report on Agenda Item 7.3 for more information on reported deficiencies in AOP field in the MID Region.

Aerodrome Data Base

5.1.6
with the objective of sharing knowledge, expertise and experience on airport operation, maintenance and development as well as to compare with the regional Air Navigation Plan and ICAO SARPS with a view to identify deficiencies, and to be updated and maintained by MID Regional Office.

5.1.7

Publications (AIPs) which already cover existing aerodromes, and the need for additional resources to develop such data base; the meeting was of the view to reconsider this requirement at a future date.

Aerodrome certification

5.1.8 The meeting was informed that Amendment 4 to Annex 14 Volume I *Aerodrome Design and Operations* is applicable since 1 Nov. 2001, that envisages inclusion of a new section on the requirement for aerodrome to be certified. Further the meeting was also informed that ICAO Doc 9774 - first edition 2001 on *Certification of Aerodromes* is available, providing guidance on: Aerodrome certification regulatory system, aerodrome certification model regulations, aerodrome certification model procedures, regulatory authority, and details of aerodrome safety oversight system (policy and means).

5.1.9 It was highlighted that responsibility of ensuring safety, regularity and efficiency of aircraft operations at aerodromes under States respective jurisdictions rests with each individual States. The meeting was invited to consider establishing the necessary legislation and regulatory procedures needed for the certification of aerodromes and safety oversight system in accordance with ICAO SARPs, Annex 14 - Vol. I, and related guiding Manuals; the following dates were also highlighted:

a) **As of 1 November 2001**

- States **should** certify aerodromes open for public use in accordance with specifications contained in Annex 14 as well as other relevant ICAO specifications through an appropriate regulatory framework which **shall** include the establishing of criteria for the aerodrome certification
- A certified aerodrome **should** have in operation a safety management system.
- As part of the certification process, States **should ensure** that an aerodrome manual which will include all pertinent information on the aerodrome site, facilities, services, equipment operating procedures, organization and management including a safety management system, **is submitted by the applicant for approval/acceptance prior to granting the aerodrome certificate.**

b) **As of 27 November 2003**

- States **shall certify** aerodromes used for international operations in accordance with Annex 14 SARPs and other relevant ICAO Manuals through an appropriate regulatory framework.

c) **As of 1 January 2004**

- **ICAO will commence** safety audits of states to assess the effective implementation of the provisions contained in Annex 14 and associated guidance material (refer to report on Agenda Item 3)

d) **As of 24 November 2005**

- A certified aerodrome **shall have** in operation a safety management system.

5.1.10 In response to several inquiries regarding certification of aerodromes, the meeting requested ICAO to plan for seminar/workshop on that subject. Regional Office tentatively scheduled a Workshop 17-

5.1.11 Noting the information, the meeting formulated the following Conclusion:

CONCLUSION 7/4: AERODROME CERTIFICATION

That,

i) MID Region States are urged to establish the necessary legislations and regulatory procedures needed for the certification of aerodromes with a view to ensure aerodrome operational safety, regularity and efficiency.

ii) A seminar/workshop on conducted in the MID Region by ICAO as soon as possible.

Latest development in AOP Field

5.1.12 The meeting was presented with an overview of New Large Aircraft type and the introduction of Code F requirements of Annex 14 Vol. I, July 1999 and that some airlines registered in the States of the MID Region had intended their options for this new larger aircraft type, necessitate upgrading of facilities at some of the aerodromes concerned. Co-ordination with other adjacent Regions is to be maintained.

5.1.13 The meeting noted the information presented for possible improvements to capacity management of airports, the meeting was advised to consider and maintain safety requirements as per relevant ICAO SARPS when implementing possible improvements to capacity management. The meeting was of the view that in order to maintain aerodrome operational safety and regulatory, the impact of airports capacity improvement measures on safety requirements should be monitored.

Aviation Security aspects to be considered of priority A at aerodromes

5.1.14 The meeting was informed that, ICAO 33rd Assembly meeting adopted Resolution A 33-1- Appendices D and F referring to Technical Security measures as an effective means of preventing acts of unlawful interference with civil aviation, and on assistance to States in the implementation of these technical measures.

5.1.15 Aviation security requirements, specifically in the areas of aerodrome planning, design and operations such as airport boundary fencing, perimeter roads, security lighting, controlled access to air side facilities; as well as ATC facilities, cargo facilities, fuel & power su

Safety aspects

5.1.16 The meeting noted that with regard to safety aspects related to MID Region aerodromes with priority to the following are to be considered and monitored on priority.

- Aerodrome emergency planning
- Rescue and fire fighting services
- Obstacle limitation at and around aerodromes
- Implementation of guidelines and procedures for Surface Movement Guidance and Control Systems (SMGCS) at main international airports.

Human Resources

5.1.17 The meeting noted that ICAO Universal Safety Oversight Audit Program (IUSOAP) might soon be expanded. Aerodrome safety and efficiency depends on mainly two areas, namely, the adequacy and efficacy of the services, facilities and procedures, and the operational capability of the aerodrome operators. The second factor depends heavily on the necessary human resources development, which includes training, dissemination and exchange of information, and development of expertise.

5.1.18 The meeting was advised that MID Regional Office could assist States of organizing workshops and seminars. The meeting considered the various areas where such seminars/workshops would be useful for the region to enhance aerodrome operational safety and

workshop and/or seminar in the near future. Other topics such as, Aerodrome Emergency Planning, Surface Movement Guidance and Control Systems, Planning and commissioning of new aerodromes, could be considered at a later stage.

Laser emitters and flight operations safety

5.1.19 The meeting noted with concern the threat of laser emitters used for entertainment and commercial promotion around airports by distracting or blinding pilots affecting flight safety.

5.1.20 Based on IFALPA request, ICAO has developed a proposal for amendment to Chapter 5 of Annex 14 - Volume I (*Aerodrome Design and Operations),* and Chapter 2 of Annex 11 (*Air Traffic Services),* in order to protect flight operation zones against the hazardous effect of laser emitters. The amendment will be supported by a manual containing detailed information about physics of lasers and biohazards, and laser beam sensitive flight zones to be determined by local aerodrome operations. The manual is scheduled for distribution in 2002.

5.2 **ATM/SAR/AIS**

5.2.1 Under this agenda item the meeting was apprised of the progress achieved within the framework of the different Task Forces and Sub-Groups established by MIDANPIRG for ensuring the evolutionary implementation of different elements of the MID CNS/ATM Plan with a view to enhance safety and airspace capacity in the MID Region.

5.2.2 The meeting noted that the ATM/SAR/AIS SG/5 meeting which was held in Cairo from 30 October to 2 November 2001, addressed the following subjects:

1) ATS route network in the MID Region,
2) Implementation of RNP/RNAV,
3) Implementation of RVSM,
4) Regional ATS incident analysis,
5) Implementation of GNSS,
6) Implementation of ACAS II.
7) Search and Rescue in the MID Region
8) ICAO requirements in the AIS/MAP fields, and
9) Deficiencies in the ATM/SAR and AIS/MAP fields.

Review of the ATS route network in the MID Region

5.2.3 MIDANPIRG/7 noted that the ATM/SAR/AIS SG/5 carried out a thorough review of the ATS route network in the MID Region and identified ATS routes to be created, deleted or re-aligned. Furthermore the Group also considered the ATS route requirements, identified within the framework of the EMARSSH *(Revised ATS Route Structure: Asia to Middle East/Europe, South of the Himalayas)* meetings, transgressing the MID Region and agreed that the Secretariat will initiate action for the inclusion of these routes in the MID Basic ANP Document.

5.2.4 The meeting also noted the editorial amendments carried out to the MID ANP Document regarding the identification of Lower and Upper Airspace ATS routes. Refer to MID Basic ANP Part V Air Traffic Management (ATM)**.** Additional ATS routes to be created, including EMARSSH routes affecting the MID Plan, are indicated at **Appendix 5B** to the report on Agenda Item 5.

5.2.5 The meeting noted with appreciation the initiatives taken by Jordan, Lebanon and Syria for the convening of a meeting with a view to consider ways and means of enhancing airspace capacity within their respective FIRs. To this effect the meeting noted that a new ATS route between KHALDEH (KAD) - CHEKKA (CAK) LEBOR DAMASCUS (DAM) - BUSRA HAZEM - QUEEN ALIA (QAA) was agreed upon and is available to international traffic with effect from 1 November 2001.

5.2.6 The Meeting was also informed of the creation of the following ATS route within

- LABNI (165620 N 0410921 E)
- RIYAN (N14 40.3 E049 23.5) (HARGEISA)
- SAYUN (N15 57.7 E048 47.2) HAIMA

5.2.7 MIDANPIRG also noted that some ATS routes which were urgently required by the users would also be included in the MID Basic ANP document. However, it was pointed out that some of these requirements could not be met at this stage as they transgress through restricted/prohibited airspaces and non-implementation status will be indicated by appropriate notes in the Plan.

Implementation of RNP/RNAV in the MID Region

5.2.8 The meeting noted the successful implementation of selected priority routes for the introduction of RNP 5 in the MID Region *(Phase 1*) and the development of a Phase 2 implementation strategy by the RNP/RNAV TF/5 meeting, which was held in Cairo from 10 13 June 2001. It was noted that a system of RNP/RNAV area would gradually be introduced where feasible, instead of the existing RNP/RNAV route system. This methodology will enable a more flexible utilization of the airspace. With a view to achieve maximum benefits from the phase 2 implementation strategy, the need for close co-ordination and cooperation with the military authorities was emphasized. The meeting also highlighted the need for interregional co-ordination for the harmonization of the implementation process.

5.2.9 The meeting accordingly endorsed the conclusions emanating from the RNP/RNAV Task Force regarding the need for interregional co-ordination with the EUR and ASIA/PAC Regions with a view to address interface issues. Based on the foregoing the following Conclusions were formulated:

CONCLUSION 7/5: RNAV/ RNP IMPLEMENTATION STRATEGY FOR THE MID REGION

That the Phase 2 implementation strategy for the RNAV/RNP implementation in the MID Region be as follows:

a) the MID Region will establish RNAV/RNP areas instead of RNP/RNAV routes with a view to make maximum flexible use of the airspace;

b) the lower limit of the RNAV/RNP areas will be progressively reduced from FL285 to FL195, where feasible, taking into account VHF coverage capability and its incidence on the agreed target level of safety;

c) unidirectional routes will be established in lieu of the present bi-directional routing network with a view to introduce parallel/flexible routes in an RNP 5 environment and thus paving the way for the safe introduction of RVSM in November 2003;

d) the use of GNSS as a primary/supplemental means of navigation will be introduced as soon as possible, in an evolutionary manner, in accordance with the MID Region GNSS implementation strategy;

e) the military authorities be fully involved in the planning process*;* and

f) the tentative date for the implementation of the RNAV/RNP areas be 28 November 2002 *(one year prior to the implementation of RVSM).*

CONCLUSION 7/6: INTERREGIONAL COOPERATION

That the MID Region States organize regular interface meetings with the AFI, EUR and ASIA/PAC Regions with a view to harmonize procedures and implementation time-frames for the implementation of the different elements of the MID CNS/ATM Plan.

5.2.10 MIDANPIRG noted that the Region has agreed to endorse existing provisions regarding airworthiness and operational approval procedures for RNP 5 and RNP 10 operations developed by Eurocontrol and the FAA and the following conclusion was formulated:

CONCLUSION 7/7: AIRWORTHINESS AND OPERATIONAL APPROVAL FOR RNP 5 AND RNP 10 OPERATIONS IN THE MID REGION

That with a view to facilitate and harmonize the airworthiness and operational approvals procedures for RNP 5 and RNP 10 operations in the MID Region:

a) the European Joint Airworthiness Authority (JAA) Temporary guidance Leaflet No.2, guidance material on airworthiness approval and operational criteria for the use of navigation systems in the European airspace designated for Basic RNAV operations be endorsed as the official guidance material for airworthiness and operational approvals for RNP 5 operations in the MID Region*;*

b) the guidance material developed by the United States, Federal Aviation Administration (FAA) Order No.8400.12 be used by States for the development of RNP 10 operational approval process*.*

5.2.11 The meeting also noted that the use of GNSS as a supplemental means of navigation will facilitate the operational approval of aircraft intending to operate in within RNP 5/RNP 10 areas in the MID Regions. The meeting accordingly framed the following conclusion:

CONCLUSION 7/8: IMPLEMENTATION OF GNSS IN THE MID REGION

That recognizing that the use of GNSS will significantly facilitate RNP operational approvals in the MID Region:

a) States use JAA Guidance Material on Airworthiness and Operational Criteria for use of navigation systems in European airspace designated for basic RNAV (RNP 5) operations;

b) States use the FAA Order 8400.12 for the granting of RNP 10 operational approvals; and

c) States issue an AIC on the use of GNSS as a supplemental means of navigation on the AIRAC date of **18 April 2002** and ensure that provisions regarding the use of GNSS be included in their national legislation.

Implementation of RVSM in the MID Region

5.2.12 Under this agenda item, the meeting was apprised of the progress achieved within the framework of the RVSM Task Force, which was established by MIDANPIRG/6 meeting under Conclusion 6/9 with the view to plan for the safe implementation of RVSM in the MID Region with effect from 27 November 2003 *(tentative date).*

5.2.13 MIDANPIRG noted the review of the conclusions and decisions emanating from the RVSM Task Force meetings which was carried out by the ATM/SAR/AIS Sub-Group with a view to ensure the timely implementation of the different tasks which have been agreed upon. It was noted that the region has instituted procedures for ensuring that all parameters are taken into account for ensuring that the safety objectives are met. The following issues were addressed:

- the establishment of a regional safety and monitoring agency;
- Safety analysis for RVSM operations;
- the establishment of procedures for:
  - reporting large height deviations;
  - reporting communications failures;
  - the RVSM monitoring requirements;
- demarcation of the MID RVSM implementation area;
- the need for the participation of the military authorities in the planning and implementation process;
- establishment of non-exclusion zones with a view to accommodate non-RVSM capable aircraft within RVSM airspace;
- nomination by States of an RVSM programme manager for monitoring the planning and implementation process;
- training requirements;
- tentative date for the implementation of RVSM;
- guidance material for airworthiness and operational approvals; and
- funding

5.2.14 Based on the foregoing, the following Conclusions/Decisions were formulated:

CONCLUSION 7/9: ESTABLISHMENT OF A REGIONAL SAFETY AND MONITORING AGENCY

That,

a) the task of monitoring safety in conjunction with implementation of RVSM in the Middle East Regions be assigned to a Central Monitoring Agency;

b) the monitoring agency, referred to as the Middle East Central Monitoring Agency (MECMA), will be established and staffed by - GCAA) based at the Head Office in Abu Dhabi; and

c) the Terms of Reference of the MECMA is at **Appendix 5C** to the report on Agenda Item 5

CONCLUSION 7/10: SAFETY ANALYSIS

That, the safety analysis required for RVSM implementation in the Middle East Region be carried out by MECMA under the auspices of the UAE General Civil Aviation Authority initially based on information from, or in cooperation with one or more suitably qualified regional organizations.

CONCLUSION 7/11: REPORTING OF DATA FOR CARRYING OUT SAFETY ASSESSMENT

That:

a) all States institute procedures for reporting of data, incidents and conditions necessary for performing the collision risk calculations prerequisite for RVSM implementation to MECMA. The data will include, but not necessarily be limited to:

i) height deviations of 300 ft or more and use the altitude deviation form developed within the frame work of the RVSM Task Force for the reporting of the data to MECMA ;

ii) total number of IFR movements for each month to MECMA;

iii) the average time per movement spent in the level band FL290 - FL410 and report the value to MECMA along with the basis of the calculation;

iv) ATC/ATC coordination failures;

v) Turbulence; and

vi) Traffic data.

b) MECMA shall ensure that further processing and evaluation of this data within its Terms of Reference and identify or develop methodologies for assessing risk associated with traffic and conditions prevailing within the MID Region.

CONCLUSION 7/12: MONITORING REQUIREMENTS

That,

a) Operators having met the monitoring requirements indicated at **Appendix 5D** to the report on Agenda Item 5 for a given fleet/type of aircraft, will be accepted as having satisfied the RVSM monitoring requirements for the Middle East Region. For Middle East operators, documentation for monitoring shall be provided to MECMA; and

b) MECMA will update the table in the light of data and experience gained in other Regions.

CONCLUSION 7/13: CIVIL/MILITARY COORDINATION

That, in order to ensure the safe and coordinated implementation of RVSM in the MID Region, States should ensure that the Military Authorities are fully involved in the planning and implementation process and give due regard to LIM MID (COM/MET/RAC) RAN Meeting 1996, Recommendations 2/9 to 2/14.

CONCLUSION 7/14: CREATION OF NON EXCLUSION AREAS WITHIN RVSM AIRSPACE

That, with a view to facilitate the integration of earlier generation aircraft not approved for RVSM operations, intending to operate on domestic networks within RVSM airspace, non exclusion areas be created in order to accommodate these operations.

CONCLUSION 7/15: NOMINATION OF AN RVSM PROGRAMME MANAGER

That, States/service providers nominate an RVSM Programme Manager who will be responsible for ensuring that the proper mechanism be put in place for the safe implementation of RVSM and will also act as the focal point contact person.

CONCLUSION 7/16: IMPLEMENTATION OF RVSM IN THE MID REGION

That,

a) RVSM will be implemented in the MID Region between FL 290 and FL 410 inclusive on 27 November 2003

b) States in the MID Region ensure that all requirements be met with a view to safely implement RVSM on the AIRAC date of 27 November 2003.

c) Implementation of RVSM in the MID Region be harmonized and coordinated with the implementation timeframes adopted within the ASIA/PAC Region for States South of the Himalayas.

Note: States which do not fulfil their requirements regarding the implementation milestones for the implementation of RVSM within their respective FIRs, will be initially excluded from the MID RVSM area.

CONCLUSION 7/17: TRAINING OF ALL PERSONNEL INVOLVED WITH THE IMPLEMENTATION OF RVSM IN THE MID REGION

That,

a) ICAO explores the possibility of assisting States of the MID Region through a Special Implementation Project (SIP) for training of personnel involved with the implementation of RVSM in the MID Region;

b) Seminars/Workshops be organized in the Region for training of air traffic services personnel in the RVSM field;

c) States be invited to approach training institutions for the development of a training module in the RVSM field representative of the MID Region.

d) States having difficulties in implementing RVSM implementation programme, may either individually or ingroup explore the possibility of seeking outside expertise

CONCLUSION 7/18: GUIDANCE MATERIAL FOR AIRWORTHINESS AND OPERATIONAL APPROVAL

That, States in the MID Region adopt the guidance material contained in both FAA Interim Guidance 91-RVSM and JAA Temporary Guidance Leaflet TGL No. 6 as amended for issuing Airworthiness and Operational Approval for aircraft and operators intending to operate within a designed RVSM airspace.

CONCLUSION 7/19: RVSM LEGISLATION

That, the MID Region States are invited to examine their legislations and regulations to identify any changes required for RVSM to confirm its compliance as indicated in ICAO ANNEX 6 Part 1 Chapter 7 Para. 7.2.3.

DECISION 7/20: PARTICIPATION OF REPRESENTATIVES OF STATES INVOLVED IN RVSM APPROVAL PROCESS

That, representatives of States involved in the RVSM approval process of aircraft and operators, be invited to attend the future meetings of the Middle East RVSM Task Force.

CONCLUSION 7/21: FUNDING OF THE RVSM IMPLEMENTATION PROGRAMME

That, regulatory bodies, operators, service providers, and other stakeholders be granted budgetary allocations during fiscal year 2002 and 2003 for acquisitions and other activities necessary for ensuring that all the requirements be met in a timely manner in order to safely implement RVSM in the MID Region on 27 November 2003.

Regional ATS Incident analysis

5.2.15 MIDANPIRG/7 meeting recalled that the ATS Incident Analysis Task Force was established by Decision 5/26 of MIDANPIRG/5 pursuant to Recommendation 2/31 (Reporting and Analysis of ATS Incidents) and Conclusion 2/32 (Regional ATS Incident Analysis) of the LIM MID (COM/MET/RAC) RAN meeting held in 1996.

5.2.16 It was pointed out that the objective of the Task Force was:

i) to develop procedures for the analysis of ATS incidents at a regional level with a view to using this information in the identification of deficiencies in the MID Region;

ii) for use by States of the region in taking corrective action to rectify deficiencies in the State, the on-going development of their ATS systems, and for educational purposes; and

iii) for use by the Regional Office and MIDANPIRG as a means of identifying air navigation deficiencies in the region.

5.2.17 The meeting agreed that the Regional ATS Incident Analysis Task Force should meet on a regular basis in line with the objectives set forth by MIDANPIRG/6 meeting conclusion 6/11 with a view to evaluate ATS incidents which have been reported in the MID Region. It was also agreed that a non punitive voluntary incident reporting system be established and arrangement be made to afford protection to the sources of information as this system is fundamental to voluntary reporting.

5.2.18 It was agreed that IATA should play a leading role in the Task Force and assist in the collection of statistical data through Pilot reports using the ICAO Model air traffic incident report form and the classifications of ATS incidents in ADREP 2000. The meeting suggested that both IFALPA and IFATCA participate in the Task Force as observers. Based on the foregoing the meeting framed the following Decision.

DECISION 7/22: REGIONAL ATS INCIDENT ANALYSIS TASK FORCE

That:

a) IATA plays the focal role and provides the necessary data on ATS incident reports in the MID Region with a view to assist the ATS Incident Analysis Task Force in carrying out its task;

b) IFALPA and IFATCA be invited to participate in the Task Force meeting as observers; and

c) A non-punitive voluntary incident reporting system be established for the MID Region with provisions for protecting the sources of the information.

Implementation of GNSS in the MID Region

5.2.19 The meeting noted that the GNSS Task Force meeting, which was held in Cairo from 9 to 11 January 2002, took into account the concerns of the RNP/RNAV Task Force meeting regarding the use of GNSS for en-route purposes and agreed that it would be used as a supplemental means of navigation with effect from 18 April 2002. The Report on the GNSS Task Force meeting is covered under Agenda Item 6.2.

Implementation of ACAS II in the MID Region

5.2.20 The meeting noted that pursuant to MIDANPIRG/6 Conclusion 6/, ACAS II carriage and operation is mandatory in the MID Region for aircraft having a maximum take-off mass in excess 15,000 kg or approved passenger seating configuration of more than 30 passengers from 1 July 2001. It was pointed out that some operators could not meet the requirements of ACAS II specifications and had requested exemptions. The meeting agreed that States from the MID Region may consider granting exceptional exemptions till 2003. It was however emphasized that exemptions to the carriage of ACAS II in the Region will be granted on a case by case basis with supporting documentations indicating that positive action is being taken to upgrade or install ACAS II Version 7.

Other ATM Matters

ATS route proposed by IATA

5.2.21 The meeting noted the requirement for a parallel route proposed by IATA with a view to relieve traffic congestion on trunk routes between the Gulf area and the Eastern Mediterranean in an RNAV/ RNP 5 environment. The need for further consultations with Syria and Cyprus was emphasized for the harmonization of this proposal with the EUR region. The meeting agreed in principle to the creation of a parallel route structure from Kariatain to significant point PIMAL (N26 26.5 E051 22.1) passing through the Damascus, Amman, Jeddah and Bahrain FIRs respectively. It was agreed that the final alignment/adjustments would be discussed at the RNP/RNAV Task Force meeting and implementation would be carried out only after the conclusive results of the safety assessments to be carried out by MECMA with a view to ensure that the target level of safety is met.

Note: Bahrain, Jordan, Lebanon and Saudi Arabia have already endorsed the proposal for the creation of the segments of the parallel route structure within their respective FIRs.

Extension of the route network proposed by Oman.

5.2.22 The meeting also reviewed the proposal by Oman for a complete revision of the route network from the Gulf of Oman into the MID Region. It was noted that this proposal was quite different from the proposed EMARSSH route network agreed during the EMARSSH TF/5 meeting in New Delhi, India, 26-30 November 2001.

- Saudi Arabia and Iran agreed to the extension of the proposed parallel RNP/RNAV routes from the adjoining FIRs of Bahrain and Emirates respectively.

- The final adjustments to the proposal will be carried out at the next RNP/RNAV task Force meeting (April, 2002).

- A proposal for a revised route network will be submitted to the Secretariat in due course for inclusion of these requirements in the MID Air Navigation Plan.

Search and Rescue in the MID Region

5.2.23 The meeting noted the basic principles, operational requirements and planning criteria related to search and rescue services, which have been developed for the MID Region and which are considered as the minimum necessary for effective planning of SAR facilities and services as indicated in the SAR Part of the MID Basic Air Navigation Plan (Basic ANP). A detailed description/list of facilities and/or services to be provided to fulfil these requirements as indicated in the SAR Part of the Facilities and Services Implementation Document (FASID).

5.2.24 It was pointed out that to date, although no major deficiencies have been reported in the SAR fields, a detailed evaluation on the status of implementation of recommendations/conclusions emanating from the LIM/MID RAN Meeting 1996 and other relevant recommendations in the SAR fields has not been carried out. To this effect, the meeting reviewed the requirements in the SAR fields, and was of the view that the status of implementation of all current recommendations should be clearly indicated. It was agreed that the Secretariat will, in consultation with States concerned, update the table at **Appendix 5E** to the report on Agenda Item 5 based on the foregoing the meeting framed the following Decision:

DECISION 7/23: STATUS OF IMPLEMENTATION OF ICAO REQUIREMENTS IN THE SEARCH AND RESCUE FIELDS

That the Secretariat, in consultation with States concerned, updates the list at **Appendix 5E** to the report on Agenda Item 5 highlighting the status of implementation of the different conclusions/recommendations in the search and rescue fields indicated in the MID Air Navigation Plan.

5.2.25 The meeting noted with appreciation the offer by Saudi Arabia to provide SAR notification to all States within the coverage area of the MCC/LUT station in Jeddah. The meeting accordingly framed the following Conclusion:

CONCLUSION 7/24: IMPLEMENTATION OF COSPAS/SARSAT IN MCC/LUT STATION IN SAUDI ARABIA

That, States within the coverage area of the COSPAS/SARSAT MCC/LUT station in Saudi Arabia take advantage of the possibilities offered by the station for the support of search and rescue using satellite aided tracking technology in alerting and locating distress sites through bilateral coordination.

5.2.26 The meeting noted the presentation by Jordan regarding search and rescue exercises being carried out on a regular basis in accordance with the requirements of the MID Plan. It was however pointed out that the scope of the exercises should extend beyond the territorial boundaries of one State and the need for joint exercises with neighbouring States was emphasized. The meeting also noted the request by Jordan for further cooperation and co-ordination with adjacent States with a view to make maximum use of all available resources in the case of an incident/accident. To this effect, the need for the elaboration and signing of appropriate letter of agreements in the SAR fields with adjacent States was highlighted.

Review of ICAO requirements in the AIS/MAP fields

5.2.27 Under this Agenda Item, the meeting was provided with the outcome of the Fifth meeting of the ATM/SAR/AIS Sub-Group. It was noted that the requirements in the Aeronautical Information Services (AIS) and Aeronautical Charts (MAP) fields for the MID Region have been included in Part VIII of the *draft* Basic Air Navigation Plan (ANP) and the Facilities and Services Implementation Document (FASID) for the Middle East Region. It was pointed out that most States of the Region have implemented the provisions of the Plan. However, the major challenge is in the automation of AIS and the eventual development of an integrated MID Region AIS automation system, as well as the implementation of a quality assurance system.

5.2.28 Taking into account time constraints and the specialized nature of the subject a proposal for the setting up of an AIS automation Work Group to lay down the necessary framework for the development of an integrated MID Region AIS automation was made by the Secretariat of the ATM/SAR/AIS SG/5. However, indications were that it was premature to establish such a working group and the subject could still be addressed within the framework of the ATM/SAR/AIS Sub-Group.

5.2.29 It was also indicated that most States in the Region had already set up their AIS automation plans and no problems were encountered. Although some States were in favour of the creation of this work group, no consensus was reached and this idea was dropped for the time being. It was however pointed out that with a view to harmonize and rationalize AIS automation implementation plans in the region, some States may still require guidance and assistance in the field. It was agreed that ICAO Middle East Office will closely monitor the progress of implementation of rationalized AIS automation plans in the region and will submit a report to the next ATM/SAR/AIS Sub-Group meeting for consideration.

5.2.30 The meeting also noted that Iran has developed and implemented a system for the automation of NOTAM processing (NOTAM reception, verification, correction and repetition). The second phase of this project aims to develop the following functions:

- access to meteorological database;
- input of flight plans;
- production of Pre-flight information Bulletins.

5.2.31 The meeting reviewed the status of implementation of WGS-84 and noticed that some MID States have not yet reported in accordance with MIDANPIRG/6 Conclusion 6/1-(*Uniform Format for the Reporting of WGS-84 implementation). The meeting stressed again* the requirements for the use of this uniform format, attached as **Appendix 5F** to the report on Agenda Item 5, and therefore formulated the following Conclusion:

CONCLUSION 7/25: REPORT OF WGS-84 IMPLEMENTATION

That, in accordance with MIDANPIRG/6 Conclusion 6/1, the MID Region States that have not yet provided the reporting of WGS-84 implementation using the uniform format developed by ICAO, are urged to do so and to send the completed table to the ICAO Middle East Regional Office as soon as possible.

5.2.32 Details related to the status of WGS-84 implementation in the MID Region are attached as **Appendix 5G** to the report Agenda Item 5.

5.2.33 With regard to the status of implementation of required ICAO charts, the meeting noted that a large part of the work has already been completed, however some MID States are ot fully compliant with ICAO Annex 4 Standards and Recommended Practices especially regarding the production of the World Aeronautical Chart-ICAO 1:1 000 000.

Deficiencies in the ATM/SAR and AIS/MAP fields

5.2.34 The meeting reviewed and updated the list of deficiencies in the ATM/SAR and AIS/MAP fields which are indicated at **Appendices 7C** and **7D** to the report on Agenda Item 7.

5.3 **COM/MET**

5.3.1 Under this Item, the meeting was provided with the outcomes of the fourth meeting of the MIDANPIRG COM/MET Sub-Group.

Review of AFS/ATN TF/7 Report

Routing Directory

5.3.2 The meeting was informed that the ICAO MID Office is still continuing the survey concerning the Circuit Loading Statistics in order to provide the next CNS/MET SG/5 meeting with the complete situation of all centers and existing network in the Middle East Region.

5.3.3 The meeting noted that the COM/MET SG/4 meeting reviewed the 19th Edition of MID Routing Directory that was published in July 2001. The revised Edition of MID Routing Directory is attached as **Appendix 5H** to report on Agenda Item 5.

5.3.4 The COM/MET SG/4 meeting noted that the coordinating body that is already in charge of collecting, exchanging and coordinating relevant information between EUR and MID regions, was assigned a study on the development of the table on CIDIN Routing Directory.

5.3.5 The meeting was presented with a new format of AFTN/CIDIN Routing Directory that is being used by the EUR Region. This format contains more detailed information necessary that could be used for the coordination between centers in the Region.

5.3.6 In view of the foregoing, the meeting agreed to the following Conclusion:

CONCLUSION 7/26: MID AFTN/CIDIN ROUTING DIRECTORY

That,

a) In updating and publishing an AFTN/CIDIN Routing Directory the MID Region uses the new format adopted in EUR Region and included in **Appendix 5I** to the report on Agenda Item 5

b) The coordinating body to be tasked to complete the development of tables on CIDIN Routing Directory.

ATN Seminar in the MID Region

5.3.7 As for the evolutionary introduction of the ATN in the Region, the meeting noted that emphasis would be put on the identification of needs/benefits and places where such benefits can be accrued using ATN applications (AMHS and AIDC).

5.3.8 The meeting agreed that a Seminar oriented on ATN applications be organized and tasked the ICAO MID Office to make necessary arrangements in inviting experts who will animate this Seminar.

5.3.9 Accordingly, the meeting reached the following Conclusion:

CONCLUSION 7/27: ORGANIZATION OF ATN SEMINAR IN THE MID REGION

That, a Seminar be organized in the framework of implementation of ATN in the MID Region in order to help in developing a clear understanding of the initial implementation aspects of ATN.

PTT Support and Cooperation for Aeronautical Telecommunications Circuits

5.3.10 Noting that the outages of PTT terrestrial links may affect all aeronautical sectors, the meeting decided to reformulate the title of AFS/ATN Conclusion 7/2 and agreed to the following Conclusion:

CONCLUSION 7/28: PTT SUPPORT AND COOPERATION FOR AERONAUTICAL TELECOMMUNICATIONS CIRCUITS

That, States are urged to:

i) Ensure that their National Telecommunication Administrations are aware of the importance of aeronautical circuits (both voice and data) for the safety of air traffic

ii) Improve the co-operation and co-ordination with their National Telecommunication Administrations in order to rectify faults on the circuits without delay thus preventing prolonged outages.

Future Work of the ATN Study Group

5.3.11 The meeting noted that the tasks of the ATN Study Group including the technical decision on the use of OLDI in the Region that were already reviewed by the CNS/ATMIC/SG1 meeting are dealt under Agenda Item 6 to this report.

5.3.12 Emphasizing on the need to speed up the ATN transition, the meeting requested the AFS/ATN TF to direct its efforts towards the ATN implementation in accordance with the transition guidelines developed by the AFS/ATN TF/6 meeting.

Review of ANP/FASID TF/2 Report

5.3.13 The meeting agreed with the amendments made by the COM/MET SG/4 when reviewing the CNS part of the ANP/FASID TF/2 report. These amendments related to tables CNS 1A, CNS 1B, CNS 1C, CNS 4 and Appendix B to table CNS 2, refer to MID Basic FASID - Part IV Communications, Navigation, Surveillance (CNS) Table.

ICAO Position with regard to WRC-2003

5.3.14 The meeting was presented with a summary indicating the IATA draft positions aimed for the establishment of a common global aviation position for the ITU WRC-2003 Conference.

5.3.15 The meeting noted with satisfaction that the ICAO and IATA positions with regard to WRC-2003 are in harmony with each other on many aspects of protection of aeronautical radio spectrum. It was recalled that the ICAO Position with regard to WRC-2003 was attached to States Letter E.3/5-01/79 dated 10 August 2001.

5.3.16 The meeting noted that ICAO has to participate in the forthcoming ITU Plenipotentiary Conference planned in the last quarter of year 2002. In view of this, the meeting suggested that ICAO Regional Office should also participate in the work of the group that would be preparing, under the aegis of the League of Arab States, a regional position for the plenipotentiary conference.

5.3.17 Since the protection of aeronautical spectrum is of paramount importance for airline industry and Civil Aviation Authorities, the meeting was of the view that the

issue.

5.3.18 Based on the above, the meeting agreed to the following Conclusion:

CONCLUSION 7/29: ICAO POSITION WITH REGARD TO WRC-2003

That, the Middle East States are urged, as a matter of a priority to explain the ICAO concerns to their respective Ministerial Authorities, the League of Arab States and the Arab Civil Aviation Authorities, in order to support the ICAO and IATA concerns with regard to protection of aeronautical frequency at WRC-2003.

Middle East VSAT network

5.3.19 Further to the report of the MIDANPIRG/6 meeting, the meeting was presented with a preliminary cost effectiveness study for the implementation of a VSAT network in the MID Region.

5.3.20 The meeting noted that the Middle East VSAT network for ground-ground data/voice communications is a flexible system, the communication requirements of which are in conformity with the MID Air Navigation Plan and FASID. This study is provided in **Appendix 5J** to the report on Agenda Item 5

5.3.21 The meeting agreed on the proposed preliminary study, however it should be refined with additional technical and financial set of information in order to validate the concept of the MID VSAT, as described in the preliminary study.

5.3.22 The meeting was informed that a Middle East Special Implementation Project (SIP) would be conducted for this project. Thus, the second phase of the MID SIP will focus on the study of the technical feasibility and economic viability of the Middle East Regional satellite-based ground-ground network to transport data and voice.

5.3.23 Based on the above information, the meeting agreed to the following Conclusion:

CONCLUSION 7/30: PRELIMINARY STUDY OF THE MIDDLE EAST VSAT NETWORK (MID VSAT)

That,

i) the concept of the Middle East VSAT Network should be validated on the basis of a comprehensible study, comprising of technical feasibility and economic viability through MID SIP.

ii) the MID States should provide the ICAO Middle East Regional Office with all technical and financial information allowing this study to be undertaken through a SIP

Any other business

5.3.24 Noting that the Work Program of the COM/MET Sub-Group covers all CNS matters in the MID Region, the meeting agreed to change the name of COM/MET Sub-Group and therefore reached the following Decision:

DECISION 7/ 31: DISSOLUTION OF THE COM/MET SUB GROUP AND CREATION OF THE CNS/MET SUB GROUP

That, the COM/MET Sub Group be dissolved and renamed as the CNS/MET Sub-Group with no change to the terms of reference as in MIDANPIRG Handbook.

WAFS

5.3.25 The meeting noted that transition to the final phase of WAFS should be completed by November 2004 (date of applicability for Amendment 73 to Annex 3). One of the objectives for the final phase of WAFS, would be the eventual cessation of T4 chart broadcasts on the SADIS Satellite distribution system in order to enable a significant reduction in transmitted data volumes. As the current plan was that the T4 element of the broadcast should be terminated in 2004, there was considered to be an urgent need to ensure that all SADIS recipient States would be capable to satisfactorily decode GRIB and BUFR messages on an operational basis prior to cessation of the T4 broadcast.

5.3.26 The meeting agreed that an initial assessment of the training requirements should be performed by the United Kingdom (SADIS Provider State) through a questionnaire to be sent to the States by the ICAO MID Regional Office. Special training, if needed in the MID Region, should be organized by the UK in coordination with ICAO and WMO.

CONCLUSION 7/32: INTRODUCTION OF THE GRIB AND BUFR CODE FORMS IN THE SADIS BROADCASTS

That,

a) the SADIS Provider State, in coordination with ICAO and WMO, perform an initial assessment of the need for special training by the MID Region States in the use of the GRIB code form,

b) if necessary, arrange training for States in the MID Region; and

c) similar provisions be made for assessing and carrying out training in the use of the BUFR code form at a later date.

SADIS Operations

5.3.27 The meeting was pleased to note that all the States in the MID Region except for four had installed very small aperture terminal (VSAT) to receive WAFS data and charts and OPMET messages via SADIS.

5.3.28 The meeting noted also that the COM/MET SG/4 had reviewed the SADIS strategic assessment tables, representing the estimated requirements for OPMET information in alphanumeric format From the MID Region for the period 2001 2005 to be forwarded to the SADISOPSG.

5.3.29 The SADISOPSG/6 (Paris 28 May 1 June 2001) had reviewed and adopted the OPMET update procedures as implemented in the EUR Region. Since these procedures had proved to be efficient, it was suggested by the SADISOPSG that similar procedures should be considered by the PIRGs concerned in the other ICAO Regions served by SADIS. In this regard the COM/MET SG had made an initial review of the EUR OPMET update procedures and agreed that similar procedures would be beneficial for the MID Region, but needed to be further reviewed before a decision could be taken concerning the implementation in the MID Region. The meeting shared this view and agreed to the following Conclusion:

CONCLUSION 7/33: IMPEMENTATION OF OPMET UPDATE PROCEDURES IN THE MID REGION

That, procedures similar to the EUR OPMET update procedures be further reviewed by the ICAO MID Office, in coordination with the States concerned, for consideration by the CNS/MET SG/5 meeting in view of their implementation in the MID Region.

Composition of the SADIS Operations Group (SADISOPSG)

5.3.30 During SADISOPSG/6 the composition of the SADISOPSG had been discussed in view of the introduction of the mandatory cost recovery of the SADIS service as of 1 January 2001. In particular it was felt that it would not be appropriate for States not participating in the cost recovery and hence not receiving the SADIS broadcast to be members of the SADISOPSG.

5.3.31 Currently Egypt and Saudi Arabia were the nominated members to represent the SADIS user States in the MID Region. In view of the introduction of the mandatory cost recovery of the SADIS service, the meeting agreed to the following Conclusion concerning the principles for the regional representation in the SADISOPSG.

CONCLUSION 7/34: COMPOSITION OF THE SADIS OPERATIONS GROUP (SADISOPSG)

That,

a) members of the SADISOPSG only be from States which are users of the service and hence participate in the mandatory cost recovery scheme; and

b) in accordance with this principle, the MID members in the SADISOPSG will be from Egypt and Saudi Arabia**.**

5.4 **ANP/FASID**

Working Draft for the Final MID Basic Air Navigation Plan, Facilities and Services Implementation Documents

5.4.1 The meeting noted that the MID Basic ANP and FASID reflecting the future plans of the States in the MID Region, which was developed by ANP/FASID Task Force, along with amendment proposal was circulated to Provider States and Users to obtain regional agreement for replacement of the existing Air Navigation plan format (Doc 9708).

5.4.2 Subsequently, the meeting noted that the MID Regional Office had incorporated all changes and modifications to MID ANP and FASID, which have been suggested by Provider States and Users and was submitted to ICAOHQ for completion, approval and publication as a matter of priority, in accordance with established procedures.

5.4.3 The meeting received the updated draft, that was prepared by ICAOHQ, during the MIDANPIRG/7 meeting. Each of the Provider States and user organizations were handed over a copy of the draft documents on a CD-ROM in PDF Format with a request that all material in the draft MID Basic ANP and FASID should be checked by the MIDANPIRG Provider States and Users for correctness and applicability within the region and tables populated with data as necessary. The Group was informed that, in addition the draft documents had been placed as a working document in PDF Format on MID Office Website (www.icao.int/mid).

5.4.4 The meeting noted that, when separating the document into two volumes (MID Basic ANP and FASID), the existing edition of MID ANP (Doc 9708) was used. In addition, the CAR/SAM Basic ANP and FASID, which besides the planning material for conventional systems contain the material concerning CNS/ATM systems, was used as a template in preparing the draft MID documents.

5.4.5 The MIDANPIRG/7, as a result of discussion, urged States and Users to review and provide their comments to ICAO MID Regional Office by 31 March 2002. Accordingly the meeting agreed to the following Conclusion:

CONCLUSION 7/35: REVIEW OF DRAFT MID BASIC ANP AND FASID

That, States and Users review the draft MID Basic ANP and FASID, as prepared by ICAO HQ, and submit comments/input to ICAO MID Regional Office by 31 March 2002.

MIDANPIRG/7
Appendix 5A to the Report on Agenda Item 5

TERMS OF REFERENCE, WORK PROGRAMME OF AOP SUB-GROUP

TERMS OF REFERENCE

Paying particular attention to the safety and efficiency of aerodrome operations, the AOP Sub-Group shall be responsible for MIDANPIRG to:

a) Monitor developments in the field of Aerodrome Operations in the MID Region, including the implementation of ICAO world-wide and regional provisions, changes to aircraft operations, new operational requirements and/or technological development, and make proposals to meet the operational requirements of the MID Region related to these developments;

b) Identify current and anticipated capacity and implementation deficiencies at international aerodromes in the MID Region and their causes through the
ities and services at international
-1 of Basic ANP and FASID, and Table CNS 3 of FASID
of the MID Region; and

c) Monitor operational safety and efficiency of the aerodromes in the Region, identify the associated deficiencies and suggest steps for their resolution, in Particular critical areas with priority to:

- Aerodrome navigational facilities
- Obstacles at /around aerodromes
- Pavement Surface Conditions
- Aerodrome maintenance
- Bird Hazard Reduction and Control
- Safety of aircraft operation on the movement area
- Secondary Power Supply
- Rescue and Fire Fighting Services
- Alternate Aerodromes
- Removal of disabled aircraft

WORK PROGRAMME

No.	Task Description	Deliverables	Priority	Target Date
1	Planning and implementation of required facilities and services at international aerodrome	- Conduct of regular Regional Consultation for the basic requirements for facilities and services at international aerodromes, Tables AOP 1 OF MID Basic ANP and FASID and Table CNS 3 of FASID refers. In this regard, carry out a regular review of the BORPC and suggest any modifications required. Review the MID Basic ANP and FASID on a regular basis and update the Tables as required. - Identify deficiencies relevant to required facilities, services or procedures at international aerodromes in accordance with uniform methodology for identification, assessment and reporting of air navigation deficiencies, and single definition of a 30 November 2001.	A A	Continuous Continuous
2	Aerodrome Emergency Plan	- Analysis of implementation of relevant ICAO provisions in the region, and proposal of local and/or regional remedial action.	A	Continuous
3	Aerodrome Operational Safety issues in particular critical areas with priority to: 1) Aerodrome navigation facilities 2) Obstacles at / around aerodromes (*) 3) Pavement Surface Conditions 4) Aerodrome maintenance 5) Bird Hazard Reduction and control 6) Safety of aircraft operation on the movement area 7) Secondary Power Supply 8) Rescue and Fire Fighting Services 9) Alternate Aerodromes, in particular for En-Route 10) Removal of disabled aircraft	- Based on outcome of priority A Tasks, Identify from the above list those items which merit further consideration within MID Region and propose action plan including target dates	B	Continuous

No.	Task Description	Deliverables	Priority	Target Date
4	Latest Developments	- The possible introduction of New Large type Aircraft. - Advanced Surface Movement Guidance and Control Systems (ASMGCS) - CNS/ATM systems and its impact on aerodrome facilities and services - Other technological developments related to aerodrome; suggest appropriate steps to be taken by States to keep up with these developments.	B	Continuous

Note: Priority

A *High Priority tasks, on which work should be speeded up*

B *Less or Normal Priority tasks, on which work should be undertaken as time and resources permit, but without detriment to priority A tasks*

(*) *S*ince non-precision approach based on GNSS will be in use in the near future in the MID Region, AOP SG has to stress on the importance of identifying obstacles at and around Aerodrome.

COMPOSITION:

Provider States and International Organizations concerned. Iran (Chairperson), Bahrain (Vice chairperson).

Designation	Significant points Points significatifs Puntos significativos
1	2
LOWER AIRSPACE	
L305	RIYADH LOTOS HAIMA
L315	HURGHADA GIBAL (24 37.2N 036 34.7E)
L513	KHALDEH CHEKKA LEBOR 34 15.9 N 036 35.0 E DAMASCUS BUSRA 32 20.0 N 036 37.0 E HAZEM 32 14.0 N 036 38.0 E QUEEN ALIA
M555	HAZEM 32 14.0 N 036 38.0 E GURIAT 31 24.8 N 037 17.2 E

Designation	Significant points Points significatifs Puntos significativos
1	2
UPPER AIRSPACE	
UL301	(AS-1) TRIVENDRUM KITAL (N20 03 E060 18)
UL305	RIYADH LOTOS HAIMA
UL315	HURGHADA GIBAL (24 37.2N 036 34.7E)
UL322	(AS-10) MUMBAI HAIMA
UL513	KHALDEH CHEKKA LEBOR 34 15.9 N 036 35.0 E DAMASCUS BUSRA 32 20.0 N 036 37.0 E HAZEM 32 14.0 N 036 38.0 E QUEEN ALIA
UL560	(PERSIAN 4) ARDABIL (N38 19.9 E048 24.9) SEVAN (N40 32.0 E044 56.9)
UL565	(PERSIAN-8) YAZD (N31 53.1 E054 18.0) SAVEH (N35 01.1 E 050 22.3)
UM300	(AS-2) CALICUT LOTAV (N20 37 E060 57)
UM313	(PERSIAN-1) DASIS (N38 54.5 E044 12.5) UROMIYEH(UMH) SHIRAZ(SYZ) SHARJAH(SHJ)
UM320	TRIVANDRUM SALALAH JEDDAH
UM552	(PK7/PERSIAN 9) (RAHIM YAR KHAN) BIRJAND (BJD) DEHNAMAK(DHN) TEHERAN (TRN) ZANJAN TABRIZ (TBZ)
UM555	HAZEM 32 14.0 N 036 38.0 E GURIAT 31 24.8 N 037 17.2 E

Designation	Significant points Points significatifs Puntos significativos
1	2
LOWER AIRSPACE	
M561	KISH MOBET(26 45.3N 056 09.8E) PANJGUR
M570	SAYUN 15 57.7 N 048 47.2 E HAIMA
N318	GURIAT 31 24.8 N 03717.2 E NEVOL 30 24.7 N 039 38.6 E PAXAN 29 44.3 N 041 18.6 E
N320	RAGHBA (N23 55.6 E 044 35.8) GURIAT

Designation	Significant points Points significatifs Puntos significativos
1	2
UPPER AIRSPACE	
UM561	KISH MOBET(26 45.3N 056 09.8E) PANJGUR
UM570	SAYUN 15 57.7 N 048 47.2 E HAIMA
UM573	(PERSIAN-7) ZAHEDAN DARBAND ANARAK RADAL(N34 51.0 E052 15.9) TEHERAN(TRN) TABRIZ (N38 08.3 E046 13.9)
UN315	(AR-1) HAIMA LOTOS RIYAD
UN318	GURIAT 31 24.8 N 03717.2 E NEVOL 30 24.7 N 039 38.6 E PAXAN 29 44.3 N 041 18.6 E
UN319	(PERSIAN-6) ZAHEDAN (ULDUS)(N38 00.0 E051 01.0)
UN320	RAGHBA (N23 55.6 E 044 35.8) GURIAT
UN555	(AS13) BELGAUM HAIMA
UN563	(AS-3) (BANGALORE) (GIRNA- N17 30 E068 50) REXOD (N21 1230 E0613830)
UN571	(AS-5) (SUGID- N19 33.1 E069 21.0) PARAR (N22 26.5 E063 07) CHAR BAHAR

Designation	Significant points Points significatifs Puntos significativos
1	2
LOWER AIRSPACE	
P302	HALAIFA GURIAT
P312	RIYAN (HARGEISA

Designation	Significant points Points significatifs Puntos significativos
1	2
UPPER AIRSPACE	
UP302	HALAIFA GURIAT
U P312	RIYAN (HARGEISA
UP316	(AR-3) TOTAD (N27 50.7 E043 39.0) AL JOUF TONTU (N31 48.1 E038 11.2) LEBOR (N34 15.9 E036 35.0) (ALSUS)(N 35 02.2 E034 39.9)
UP318	(AS-7) (SUMOS- N20 27.1 E069 36.8) (BILAT-N20 58.4 E068 00) PAXUR-24 00 E066 00) PARET (N 25 27.2 E064 51.5) PANJGUR
UP323	(COLOMBO) AL-GHAIDAH JEDDAH
UP555	(AR-2) HAIL SOBAS (N27 56.0 E039 04.9) TABUK NUWEIBAA RASDA (N33 06.0 E030 57.0) (KAVOS)
UP561	(IR-5) MASHAD CHARN HERAT KANDAHAR
UP567	(PERSIAN 5) BIRJAND ODKAT (N35 40.6 E 054 57.2) DASHT-E-NAZ (N36 38.7 E053 11.4) (ULDUS)(N38 00.0 E051 01.0)
UP570	(AS-6) CHAR BAHAR SIDKA (N24 08.7 E061 47.7) RASKI N22 0330 063 52) (SUMOS- N20 27.1 E069 36.8)

Designation	Significant points Points significatifs Puntos significativos
1	2
LOWER AIRSPACE	
P571	LABNI (16 5620 E041 0921) DIVAD (N16 2415 E042 1838)

Designation	Significant points Points significatifs Puntos significativos
1	2
UPPER AIRSPACE	
UP571	LABNI (16 5620 E041 0921) NISMI (N16 2415 E042 1838)
UP574	(AS-4) (BELGAUM) (BISET- N18 23.4 E069 18.1) TOTOX (N21 5030 E062 2230)

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MIDANPIRG/7
Appendix 5C to the Report on Agenda Item 5

DUTIES AND RESPONSIBILITIES OF THE MECMA

The Middle East Central Monitoring Agency (MECMA) for RVSM implementation has the following duties and responsibilities:

a) to establish and maintain a central registry of State RVSM approvals of operators and aircraft using the Middle East Region airspace where RVSM will be applied;

b) to facilitate the transfer of approval data to and from other RVSM regional monitoring agencies;

c) to establish and maintain a data base containing the results of height-keeping performance monitoring and all altitude deviations of 300 ft or more within Middle East Region airspace, and to include in the database the results of MECMA requests to operators and States for information explaining the causes of observed large height deviations;

d) provide timely information on changes of monitoring status of aircraft type classifications to State authorities and operators;

e) to assume overall responsibility for:

   i) coordination of the Global Positioning System Monitoring System (GMS); and

   ii) assessing compliance of operators and aircraft with RVSM height-keeping performance requirements

   in conjunction with RVSM introduction in the Middle East Region;

f) to provide the means for identifying non-RVSM approved operators using Middle East airspace where RVSM is applied; and notifying the appropriate State approval authority; and

g) to conduct readiness assessments and safety assessments as an aid for the Middle East RVSM Task Force for decision making in preparation for RVSM implementation on a specified date.

MIDANPIRG/7
Appendix 5D to the Report on Agenda Item 5

MIDDLE EAST RVSM MINIMUM MONITORING REQUIREMENTS
AS OF 29 AUGUST 2001

Initial Monitoring

All Middle East operators that operate or intend to operate in airspace where RVSM is applied are required to participate in the RVSM monitoring program. The table of monitoring requirements shown below establishes requirements initial monitoring associated with Middle East RVSM implementation. In their application to the appropriate State authority for RVSM approval, operators must show a plan for meeting the applicable initial monitoring requirements.

Aircraft Status for Monitoring

Aircraft engineering work required for the aircraft to receive RVSM airworthiness approval must be completed prior to the aircraft being monitored. Any exception to this rule will be co-ordinated with the State authority.

Follow-on Monitoring

Monitoring is an on-going program that will continue after the initial RVSM approval process. A follow-on sampling program for additional operator aircraft will be co-ordinated by the Middle East RVSM Task Force.

Monitoring of Airframes that are RVSM Compliant on Delivery

If an operator adds new RVSM compliant airframes of a type for which it already has RVSM operational approval and has completed monitoring requirements for the type in accordance with the table below, the new airframes are not required to be monitored except as targeted at a later date in the follow-on monitoring program. If an operator adds new RVSM compliant airframes of an aircraft type for which it has **NOT** previously received RVSM operational approval, then the operator should complete monitoring in accordance with the table below.

Applicability of North Atlantic and Asia/Pacific Monitoring

Monitoring data obtained in conjunction with RVSM monitoring programmes from other regions can be used to meet Middle East monitoring requirements. The Middle East Central Monitoring Agency (MECMA), which is responsible for administering the Middle East monitoring programme, will get access to monitoring data from other regions and will coordinate with States and operators to inform them on the status of individual operator monitoring requirements.

Update of Monitoring Requirements Table and Website

As significant data is obtained, monitoring requirements for specific aircraft types may change. When the table is updated, States and operators will be informed. The updated table will be posted on the MECMA website being maintained by the UAE GCAA.

The website address is: www.mecma.com

For most aircraft types, monitoring is NOT required to be completed prior to operational approval being granted. SEE THE TABLE BELOW.

Monitoring **NOT REQUIRED** Prior to the Grant of RVSM Approval			
	Classification	**Aircraft Group**	**Minimum perator Monitoring for Each Aircraft Type**
1	Operators **with prior** RVSM experience	New aircraft types from a manufacturer with a demonstrable track record of the production of MASPS compliant airframes OR any of the following types: A306, A30B, A312-GE, A312-PW, A313-GE, A313-PW, A318, A319, A320, A321, A330, A340, B712, B733, B734, B735, B736, B737, B738, B741, B742, B743, B744, B74R, B74S, B752, B753, B762, B763, B764, B772, B773, C525-I, C550-B, C560-U, C56X, CARJ, CL60-600, CL60-601, CL60-604, DC10, F100, F2TH, F70, F900, F900-EX, FA20, GLF4, GLF5, H25B-800, H25C, L101, LJ60, MD11, MD80, MD90.	at least TWO airframes unless operator has only one of a type, then ONE airframe - monitoring to be completed as soon as possible but not later than **within 6 months** after the issue of RVSM operational approval or the start of Middle East RVSM operations whichever occurs later.
2	Operators **without prior** RVSM experience	Same types as above in section 1	at least THREE airframes unless operator has only 1 or 2 of a type, than all operator airframes of that type, - monitoring to be completed as soon as possible but not later than **within 3 months** after the issue of RVSM operational approval or the start of Middle East RVSM operations whichever occurs later.
3	All operators of aircraft that are expected to meet reduced monitoring requirements	B74R, C501, C560, DC8, DC9, GALX, E135, F200, FA10, GLF2, GLF3, LJ45,	Individual monitoring of RVSM approved airframes, - monitoring to be completed as soon as possible but no later than **within 3 months** after the issue of RVSM operational approval or the start of Middle East RVSM operations whichever occurs later.
Monitoring **REQUIRED** Prior to the Grant of RVSM Approval			
4	Insufficient data on approved aircraft	Other group or nongroup aircraft not listed in above 3 sections OR New aircraft types from a manufacturer without a demonstrable track record of the production of MASPS compliant airframes	Individual monitoring of airworthiness approved airframes to be completed prior to the issue of RVSM operational approval

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MIDANPIRG/7
Appendix 5E to the Report on Agenda Item 5

STATUS OF IMPLEMENTATION OF SEARCH AND RESCUE REQUIREMENTS IN THE MID REGION

CONCLUSIONS/RECOMMENDATIONS IN THE SEARCH AND RESCUE FIELDS APPLICABLE TO THE MID REGION

STATES	LIM/MID REC.3/9 Chart SAR 1	LIM/MID REC.3/4 Co-ordination SAR Authorities and IMO	ASIA/PAC REC. 7/6 Provision of SAR facilities	ASIA/PAC REC.7/5 Capacity of rescue units	LIM/AFI REC. 3/6 Satellite aided SAR	ASIA/PAC REC.7/24 SAR escort service	ASIA/PAC REC.7/11 Assistance-SAR services	LIM/MID REC. 3/14 emergency frequency 2182 Khz	LIM/MID REC. 3/15 development of pre-search procedures	ASIA/PAC REC. 7/12a) com. between Acft	ASIA/PAC A REC.7/13 com. means for	LIM/MID REC.3/16 Carriage of survival radio equipment	ASIA/PAC REC.7/16 A)&B). Ship reporting system	ASIA/PAC REC.7/16 C) RCC and RSC	LIM/MID REC.3/17 AMVER system	ASIA/PAC REC.7/17 SAR Exercises	ASIA/PAC REC7/18 SAR training	ASIA/PAC REC.7/9 co-operation between States	ASIA/PAC REC.7/15 Improvement to SAR system
Afghanistan																			
Bahrain																			
Egypt																			
Iran, Islamic Republic																			
Iraq																			
Israel																			
Jordan																			
Kuwait																			
Lebanon																			
Oman																			
Pakistan																			
Qatar																			
Saudi Arabia																			
Syrian Arab Republic																			
United Arab Emirates																			
Yemen																			

Chart SAR 1 constitutes the plan of MID search and rescue regions

States within the region should establish and/or maintain rescue co-ordination centres (RCCs) or rescue sub-centres (RSCs) on a 24-hour basis, and ensure continual availability of search and rescue (SAR) facilities listed in Table SAR 1.
[LIM/MID (COM/MET/RAC), Rec. 3/9]

Co-ordination with maritime SAR authorities and IMO.

To ensure compatibility between aeronautical and maritime search and rescue regions (SRRs), aeronautical search and rescue (SAR) authorities in States should maintain close liaison with their maritime counterparts and the International Maritime Organization (IMO).
[LIM/MID (COM/MET/RAC), Rec.3/4]

Continuous provision of SAR facilities.

States, when necessary, should take urgent action to ensure the continuous provision of search and rscue (SAR) facilities in accordance with the Regional Air Navigation Plan Publications.
[ASIA/PAC/3, Rec. 7/6]

Capacity of rescue units and associated facilities

[ASIA/PAC/3, Rec. 7/5]

States should:

a) take due account of the large size and passenger-carrying capacity of commercial aircraft operating within their area of responsibility, and of the possibility of aircraft ditching in water near airports, in planning for search and rescue (SAR) and emergency care facilities; and

b) be encouraged to provide and use for SAR, wherever practicable, helicopters equipped with suitable winching equipment.

Satellite-aided search and rescue

[LIM/MID (COM/MET/RAC), Rec. 3/6]

States should:

a) take appropriate action to reduce the number of false alarms on 121.5/243 MHz caused by inadvertent activation of emergency transmitters and eliminate unauthorized use of those frequencies;

b) encourage the early introduction of emergency locator transmitters (ELTs) transmitting on 406 MHz and establish a register of such ELTs;

c) make available information as to how ELT registration information can be obtained rapidly by rescue co-ordination centres (RCCs) of other States; and

d) provide to ICAO a search and rescue (SAR)n point of contact (SPOC) for inclusion in Table SAR 1 of the respective Air Navigation Plan (ANP).

SAR escort service

[ASIA/PAC/3, Rec. 7/24]

States should provide search and rescue (SAR) escort service to aircraft in difficulties.

Assistance in establishing SAR services

[ASIA/PAC/3, Rec. 7/11]

States requesting assistance in establishing or improving search and rescue (SAR) services should first endeavour to satisfy the following basic requirements:

a) a rescue co-ordination centre/rescue sub-centre (RCC/RSC) location (which could be an air traffic control unit);

b) a designated RCC Chief, knowledgeable in air traffic control and trained in the planning of searches and the co-ordination of SAR missions;

c) personnel to be trained to serve as SAR mission co-ordinator;

d) adequate staff for 24-hour operation of the RCC; and

e) appropriate RCC material and equipment.

Use of 2182 kHz in emergency communications

SAR aircraft to be used in maritime areas should be equipped to permit communications on 2182 kHz.
[LIM/MID (COM/MET/RAC), Rec. 3/14]

States are encouraged to develop pre-search procedures, whereby ships equipped with 2182 kHz can be requested to guard that frequency, so as to enable SAR aircraft operating over the areas in which they are sailing to enter into direct and immediate communication with them whenever this is considered necessary.

Note.C Such pre-search procedures might be included in the detailed SAR plans required by Annex 12, 4.2.1.
[LIM/MID (COM/MET/RAC), Rec. 3/15]

Communications between aircraft and ships

[ASIA/PAC/3, Rec. 7/12 a)]

States should develop procedures to be included in the detailed search and rescue (SAR) plans which enable civil aircraft and SAR aircraft to enter rapidly into communications with ships when necessary.

Search and rescue operations

Communications for survivors

[ASIA/PAC/3, Rec. 7/13]

States should encourage operators to carry means for survivors to communicate with aircraft on 121.5 MHz.

Carriage of survival radio equipment

[LIM/MID (COM/MET/RAC), Rec. 3/16]

The provisions of Annex 6, Part I, 6.6, shall apply for flights as prescribed in the relevant Aeronautical Information Publications (AIP), over the following designated land areas:

Afghanistan, Bahrain, Islamic Republic of Iran, Iraq, Jordan, Kuwait, Saudi Arabia, Syrian Arab Republic, United Arab Emirates and Yemen.

Ship reporting systems

States should:

a) through their maritime authorities, encourage ships to participate in an appropriate ship reporting system for search and rescue (SAR); and

b) record information on the position of ships at sea and disseminate such information to SAR authorities of other States requesting it, to facilitate response to cases of distress.
[ASIA/PAC/3, Rec. 7/16 a) and b)]

Rescue co-ordination centre (RCC) and rescue sub-centre (RSC) plans of operation should provide guidance on how information from available ship reporting systems can be obtained.
[ASIA/PAC/3, Rec. 7/16 c)]

Note.C The Automatic Mutual-assistance Vessel Rescue (AMVER) system is a world-wide ship reporting system for SAR, operated by the United States Coast Guard. Any RCC can obtain information about ships in the vicinity of a distress by contacting any RCC of the United States Coast Guard.

a) States recording information on the position of selected merchant or other ships at sea in the maritime expanses should disseminate, on request, such information to other States in this area; and

b) States concerned which are not presently participating in a merchant ship reporting system should be encouraged to join one of the existing systems or to develop their own system.
[LIM/MID (COM/MET/RAC), Rec. /17]

SAR exercises

States, which introduce a search and rescue (SAR) organization, handle relatively few actual SAR cases, or need to co-ordinate SAR operations with neighbouring States, should use SAR exercises to improve proficiency and procedures.
[ASIA/PAC/3, Rec. 7/17]

Note.C Exercises may be conducted on three levels: communications exercises; co-ordination exercises (without involving SAR units); and field exercises (involving actual SAR unit deployment).

SAR training

[ASIA/PAC/3, Rec. 7/18]

States should be encouraged to:

a) arrange for regular high quality search and rescue (SAR) training for its rescue co-ordination centre personnel, nationally or regionally, as part of its aeronautical training or maritime SAR schools;

b) grant scholarships to SAR personnel as necessary to enable them to attend a SAR training course; and

c) make use of the ICAO TRAINAIR course development methodology to assist in the production of standardized training packages in the field of SAR.

Note.C The ICAO TRAINAIR programme provides for an effective means of analysing and determining skills required, creates training objectives by setting standards for job performance and produces material-dependent courseware.

Co-operation between States

[ASIA/PAC/3, Rec. 7/9]

To promote greater efficiency and economy in the provision and use of available search and rescue (SAR) facilities, States providing SAR services in adjacent search and rescue regions (SRRs) should enter into formal arrangements for mutual assistance in order to:

a) help meet and exceed the minimum requirements specified in Table SAR 1 at minimal cost;

b) ensure full SRR coverage;

c) provide for technical and operational SAR co-operation and co-ordination;

d) establish common SAR procedures, where practicable;

e) conduct joint training and exercises, as appropriate, to maximize proficiency; and

f) promote effective liaison between air traffic services and RCC personnel within and between the States involved.

Note.C SAR agreements are particularly important for border areas where concerns for sovereignty and saving lives must be balanced, high sea areas, and inhospitable areas where rapid response is essential to successful SAR operations.

State processes to improve the SAR system

[ASIA/PAC/3, Rec. 7/15]

States, when undertaking the continued improvement in the provision of search and rescue (SAR) services, should consider the following:

a) the establishment of a national SAR co-ordinating committee to improve inter-agency co-operation, information exchange and development of national SAR policies and procedures; and

b) nationally or in co-operation with neighbouring States, development of:

1) SAR manuals;

2) SAR plans and agreements for co-operation, co-ordination and the effective use of all available SAR resources;

3) rescue co-ordination centre/rescue sub-centre (RCC/RSC) plans of operation and other operational documents;

4) SAR training capability, especially for search planners, SAR mission co-ordinators and on-scene commanders; and

5) organizational and operational working relationships; and

c) effective use of relevant international documents.

- - - - - - - - - - - -

STATUS OF WGS-84 IMPLEMENTATION

EXPLANATION OF THE TABLE

Column

1 Name of the State, territory or aerodrome for which WGS-84 coordinates are required with the designation of the aerodrome use:

RS	international scheduled air transport, regular use
RNS	international non-scheduled air transport, regular use
RG	international general aviation, regular use
AS	international scheduled air transport, alternate use

2 Runway designation numbers

3 Type of each of the runways to be provided. The types of runways, as defined in Annex 14, Volume 1, Chapter I, are:

NINST	non-instrument runway;
NPA	non-precision approach runway
PA1	precision approach runway, Category I;
PA2	precision approach runway, Category II;
PA3	precision approach runway, Category III.

4 Requirement for the WGS-84 coordinates for FIR, indicated by the expected date of
nted.

5 Requirement for the WGS-84 coordinates for Enroute points, indicated by the expected date

6 Requirement for the WGS-84 coordinates for the Terminal Area, indicated by the expected date of impl

7 Requirement for the WGS-84 coordinates for the Approach points, indicated by the expected

8 Requirement for the WGS-84 coordinates for runways, indicated by the expected date of

9 Requirement for the WGS-84 coordinates for Aerodrome/Heliport points (e.g. aerodrome/heliport reference point, taxiway, parking position, etc.), indicated by the expected d

10
if already implemented.

11 Requirement for the WGS-84 Quality System, indicated by the expected date of

12 Requirement for publication of WGS-84 coordinates in the AIP indicated by the expected date

13 Remarks

STATE, TERRITORY OR AERODROME FOR WHICH WGS-84 IS REQUIRED			WGS-84 IMPLEMENTATION									REMARKS
CITY/AERODROME/	RWY No	RWY TYPE	FIR	ENR	TMA CTA CTZ	APP	RWY	AD/ HEL	GUND	QUALITY SYSTEM	AIP	
1	2	3	4	5	6	7	8	9	10	11	12	13

MIDANPIRG/7
Appendix 5G to the Report on Agenda Item 5

STATUS OF WGS-84 IMPLEMENTATION IN MID REGION

STATE, TERRITORY OR AERODROME FOR WHICH WGS-84 IS REQUIRED			WGS-84 IMPLEMENTATION									REMARKS
CITY/AERODROME/	RWY No	RWY TYPE	FIR	ENR	TMA CTA CTZ	APP	RWY	AD/ HEL	GUND	QUALITY SYSTEM	AIP	
1	2	3	4	5	6	7	8	9	10	11	12	13
AFGHANISTAN	No information available											
BAHRAIN			X	X						TBA	X	
(OBBI) Bahrain Intl.	30	PA1			X	X	X	X	X			
RS	12	NPA				X	X					
EGYPT			X	X						X	X	
(HEBL) Abu-Simbel	15	NPA			X		X	X				
RS	33	NPA					X					
(HEAX) Alexandria	18	NPA			X		X	X				
RS	36	NPA					X					
	04	NPA			X		X	X				
	22	NPA					X					
(HESN) Aswan	17	PAI			X	X	X	X				
RS	35	PAI					X					
(HEAT) Assyut	13	NPA					X	X				
	31	NPA					X					
(HECC) Cairo	05L	PA2			X	X	X	X				
RS	23R	PA2				X	X					
	05R	PA2				X	X					
	23L	PA2				X	X					
	16	NPA				X	X					
	34	NPA				X	X					
(HEGN) Hurghada	16	NPA			X	X	X	X				
RS	34	PA1				X	X					
(HELX) Luxor	02	PAI			X	X	X	X				
RS	20	PAI				X	X					

STATE, TERRITORY OR AERODROME FOR WHICH WGS-84 IS REQUIRED			WGS-84 IMPLEMENTATION									REMARKS
CITY/AERODROME/	RWY No	RWY TYPE	FIR	ENR	TMA CTA CTZ	APP	RWY	AD/ HEL	GUND	QUALITY SYSTEM	AIP	
1	2	3	4	5	6	7	8	9	10	11	12	13
(HEMM) Mersa- Matruh RS	15 33 06 24	NINST NINST NINST NINST					X X X X	X X				
(HESH) Sharm-El-Sheikh RS	04 22	PAI PAI			X	X	X X	X				
HESC) St. Catherine RS	17 35	NPA NINST					X X	X				
(HETB) Taba RS	04 22	 NPA NPA			 X		X X	X				
IRAN (OIKB) Bandar Abbass	 03 21 03 21	 NPA PA1 NINST NINST	X	X	 X X	 X X X X	 X X X X	 X X	NA	X	X	
(OIFM) Esfahan/ Shahid Beheshti	08 26 08 26	NPA PA1 NPA NPA			X X	X X X X	X X X X	X X				
(OIMM) Mashhad/ Shahid Hashemi Nejad	13 31 13 31	NPA PA1 NPA PA1			X X	X X X X	X X X X	X X				
(OISS) Shiraz/ shahid Dastghaib	11 29 11 29	NPA PA1 NPA PA1			X X	X X X X	X X X X	X X				
(OITT) Tabriz	12 30 12 30	NPA PA1 NINST NINST				X X X X	X X X X	X X				

STATE, TERRITORY OR AERODROME FOR WHICH WGS-84 IS REQUIRED			WGS-84 IMPLEMENTATION									REMARKS
CITY/AERODROME/	RWY No	RWY TYPE	FIR	ENR	TMA CTA CTZ	APP	RWY	AD/ HEL	GUND	QUALITY SYSTEM	AIP	
1	2	3	4	5	6	7	8	9	10	11	12	13
(OIII) Tehran/ Mehrabad	11 29 11 29	NPA PA1 NPA NPA			X X	X X X X	X X X X	X X				
(OIZH) Zahedan	17 35	NINST NPA				X X	X X	X				
IRAQ	No known plan											
ISRAEL	Information was received on telephone stating that the WGS-84 implementation has been planned for 2001 with a view to complete the work by the end of the year.											
JORDAN			X	X							X	
(OJAI) Amman/QAIA	08L 26R 08R 26L	PAI PAI NINST NINST			X	X X X X	X X X X	X				
(OJAM) Amman/ Marka	24 06	 PAI NINST			X	X X	X X	X				
(OJAQ) Aqaba	01 19	 PAI NINST			X	X X	X X	X				
KUWAIT			X	X							X	
(OKBK) Kuwait Intl.	33L 15R 33R 15L	PA2 PA2 PA2 PA2			X	X X X X	X X X X	X	X			

STATE, TERRITORY OR AERODROME FOR WHICH WGS-84 IS REQUIRED			WGS-84 IMPLEMENTATION									REMARKS
CITY/AERODROME/	RWY No	RWY TYPE	FIR	ENR	TMA CTA CTZ	APP	RWY	AD/ HEL	GUND	QUALITY SYSTEM	AIP	
1	2	3	4	5	6	7	8	9	10	11	12	13
LEBANON			X	X						X	X	
(OLBA) Beirut Intl.	18 36 21 03	NPA NINST NINST NPA			X	X X X X	X X X X	X	X			Category I Not used for landing Category I
OMAN			X	X						X	X	
(OOMS) Muscat/Seeb	26 08	PAI PAI			X	X X	X X	X	X			
(OOSA) Salalah	07 25	PAI PAI			X	X X	X X	X	X			
QATAR			X	X					X		X	
(OTBD) Doha Int Airport	34 16	PA2 NPA			X	X X	X X	X	X		X X	
SAUDI ARABIA	Implemented partially for Jeddah FIR boundary points, for 3 international airports and 60% of domestic airports, however it has not been yet reported according to ICAO unified format.											
SYRIA			Aug.2001 announcing transition from local co-ordinates to WGS-84 within Syrian FIR already implemented. However, it has not been yet reported according to ICAO unified format.									
(OSAP) Aleppo Intl.	09 27	NINST NPA										
(OSLK) Bassel Al-Assad	17 35	NPA NINST										
(OSDI) Damascus	05L 23L	NPA PAI										
UNITED ARAB EMIRATES												
Emirates FIR Airspace	N/A	N/A	X	X	N/A	N/A	N/A	N/A	N/A	X	X	
(OMAA) Abu Dhabi Int. Airport	31 13	PA3 PA1			X	X X	X X	X	Mar. 2001	X	X	
(OMAL) Al Ain Int. Airport	01 19	PA1 NPA				X X	X X	X	Mar. 2001	X	X	

STATE, TERRITORY OR AERODROME FOR WHICH WGS-84 IS REQUIRED			WGS-84 IMPLEMENTATION									REMARKS
CITY/AERODROME/	RWY No	RWY TYPE	FIR	ENR	TMA CTA CTZ	APP	RWY	AD/ HEL	GUND	QUALITY SYSTEM	AIP	
1	2	3	4	5	6	7	8	9	10	11	12	13
(OMDB) Dubai Int. Airport	12L 30R 12R 30L	PA1 PA1 PA2 PA2			X	X X X X	X X X X	X X	X X	X X	X X	
(OMFJ) Fujairah Int. Airport	11 29	NPA PA1			X	X X	X X	X	X	X	X	
(OMRK) Ras Al Khaimah Int. Airport	16 34	NPA PA1			X	X X	X X	X	Mar. 2001	X	X	
(OMSJ) Sharjah Int. Airport	12 30	NPA PA2			X	X X	X X	X	Mar. 2001	X	X	
YEMEN (OYAA) Aden RS	 08 26	 NPA PAI										WGS-84 Implementation Is Under Process
(OYHD) Hodeidah RS	03 21	NPA NPA										
(OYRN) Mukalla/Riyan RS	06 24	NPA NPA										
RS	18 36	PA1 NPA										
(OYTZ) Taiz/Ganad RS	01 19	NPA NPA										

MIDANPIRG/7
Appendix 5H to the Report on Agenda Item 5

INTERNATIONAL CIVIL AVIATION ORGANIZATION

AFTN ROUTING DIRECTORY

MIDDLE EAST REGION

NINETEENTH EDITION

JULY 2001

(Revised in September 2001)

Prepared by the ICAO Middle East Regional Office
and
Published by the authority of the Secretary General

1. Introduction

1.1 This is the Nineteenth Edition of the AFTN Routing Directory of the Middle East Region, published in compliance with Conclusion 4.1/3 of the MID/3 Regional Air Navigation Meeting, Montreal, March/April 1984 (Doc 9434).

1.2 The Routing Directories for the different AFTN Communication Centres have been established according to routing information provided by States in the Region having jurisdiction over these centres and from data contained in other Routing Directories.

1.3 This Nineteenth Edition of the MID AFTN Routing Directory is based on the principles and criteria used for the development of Routing Directories as prescribed in the Manual on the Planning and Engineering of the AFTN (Doc 8259).

1.4 This is the a Standard Format of the MID AFTN Routing Directory, produced in compliance with paragraph 2.2.8 of the report of the Third Meeting of the ICAO Aeronautical Fixed Service Systems Planning for Data Interchange Panel (ASPP/3), Montreal, 14-30 January 1992.

NOTES:

i. Column A contains destination AFTN routing indicators.

ii. Columns 1,2,3, etc. contain the location indicators of the originating AFTN centres in the heading and the AFTN routing indication in conjunction with the destination indicators.

iii. The lefthand subdivision under each origin defines the AFTN centre which is the primary route for the relevant destination indicators. This is indicated in upper-case letters.

iv. The righthand subdivision under each origin defines the AFTN centre, which is the diversion route for the relevant destination indicators. This is indicated in lower-case letters.

v. National and/or non-AFTN routing is indicated by the letter N.

vi. Any corrections, amendments, additions or suggestions should be addressed in advance as possible to the ICAO Middle East Regional Office.

INDEX TO NATIONALITY LETTERS FOR LOCATION INDICATORS

(Doc. 7910/87)

AG - Solomon Islands
AN - Nauru
AY - Papua New Guinea
AF - Territoire des Terres Australes

BG - Greenland (Denmark)
BI - Iceland

CU, CW, CY,
CZ - Canada

DA -
DB - Benin
DF - Burkina Faso
DG - Ghana
DI -
DN - Nigeria
DR - Niger
DT - Tunisie
DX - Togo

EB - Belgique
ED - Germany
EE - Estonia
EF - Finland
EG - United Kingdom
EH - Netherlands, Kingdom of the
EI - Ireland
EK - Denmark
EL - Luxembourg
EN - Norway
EP - Pologne
ES - Sweden
ET - Germany
EV - Latvia
EY - Lithuania

FA - South Africa
FB - Botswana
FC - Congo
FD - Swaziland
FE -
FG - Ecuatorial Guinea
FH - Ascension Island (U.K.)
FI - Mauritius
FJ - British Indian Ocean Territory
FK - Cameroun
FL - Zambia
FM -
Madagascar
FN - Angola
FO - Gabon
FP - Sao Tome and Principe
FQ - Mozambique
FS - Seychelles
FT - Tchad
FV - Zimbabwe
FW - Malawi
FX - Lesotho
FY - Namibia
FZ - Dem. Republic of the Congo

GA - Mali
GB - Gambia
GC - Espana (Islas Canarias)
GE - Espana
GF - Sierra Leone
GG - -Bissau
GL - Liberia
GM - Maroc
GO -
GQ - Mauritanie
GS - Sahara Occidental
GU -
GV - Cap-Vert

HA - Ethiopia
HB - Burundi
HC - Somalia
HD - Djibouti
HE - Egypt
HH - Eritrea
HK - Kenya
HL - Libyan Arab Jamahiriya
HR - Rwanda
HS - Sudan
HT - United Rep. Of Tanzania
HU - Uganda

KA, KB, KC, KD, KE, KF, KG, KH, KI, KJ,
KL, KM, KN, KO, KP, KR, KS, KT,KU, KV, KW,
KX, KY, KZ - United States

LA - Albania
LB - Bulgaria
LC - Cyprus
LD - Croatia
LE - Espana
LF - France
LG - Greece
LH - Hungary
LI - Italy
LJ - Slovenia
LK - Czech Republic
LL - Israel
LM - Malta
LN - Monaco
LO - Austria
LP -
LQ - Bosnia - Herzegovina
LR - Roumanie
LS - Suisse
LT - Turkey
LU - Rep. of Moldova
LW - The former Yugoslav Rep of Macedonia
LX - Gibraltar (U.K.)
LY - Yougoslavie, Bosnia-Herzegovina, Macedonia (the former Yugoslave Republic of)
LZ - Slovakia

MB - Turks and Caicos Islands (U.K.)
MD - Rep. Dominicana
MG - Guatemala
MH - Honduras
MK - Jamaica
MM - Mexico
MN - Nicaragua
MP - Panama
MR - Costa Rica
MS - El Salvador
MT - Haiti
MU - Cuba
MW - Cayman Is (U.K.)
MY - Bahamas
MZ - Belize

NC - Cook Islands
NF - Fiji
NF - Tongo
NG - Kiribati
NG - Tuvalu
NI - Niue Island (New Zealand)
NL - Iles Wallis et Futuna (France)
NS - American Samoa
NS - Samoa
NT -
NV - Vanuatu
NW -
NZ - New Zealand

OA - Afghanistan
OB - Bahrain
OE - Saudi Arabia
OI - Iran, Islamic Rep. Of
OJ - Jordan
OK - Kuwait
OL - Liban
OM - United Arab Emirates
OO - Oman
OP - Pakistan
OR - Iraq
OS - Syrian Arab Republic
OT - Qatar
OY - Yemen

PA, PF, PO,
PP - Alaska (U.S.)
PG - Mariana Is. (U.S.)
PH - Hawai (U.S.)
PJ - Johnston I. (U.S.)
PK - Marshall Is. (U.S.)
PL - Line Is. (U.S.)
PL - Kiribati
PM - Midway Is. (U.S.)
PT - Micronesia, Federated States of
PT - Palau Is. (U.S.)
PW - Wake I. (U.S.)

RC - China
RJ - Japan
RK - Republic of Korea
RO - Japan
RP - Philippines

SA - Argentina
SB - Brazil
SC - Chile
SE - Ecuador
SF - Falklands Is. (U.K.)
SG - Paraguay
SK - Colombia
SL - Bolivia
SM - Suriname
SO -
SP - Peru
SU - Uruguay
SV - Venezuela
SY - Guyana

TA - Antigua and Barbuda
TB - Barbados
TD - Dominica
TF -
TG - Grenada
TI - Virgin Islands (U.S.)
TJ - Puerto Rico (U.S.)
TK - St. Kitts and Nevis
TL - St. Lucia
TN - Netherlands Antilles
TN - Aruba (Netherlands, Kingdom of the)
TQ - Anguilla I. (U.K.)
TR - Montserrat I. (U.K.)
TT - Trinidad and Tobago
TU - Virgin Islands (U.K.)
TV - St. Vincent and the Grenadines
TX - Bermuda (U.K.)

UA - Kazakstan
UA - Kyrgyzstan
UB - Azerbaijan
UE, UH, UI, UL, UM, UN, UO, UR, US, UU,
UW - Russian Federation
UG -Armenia
UG - Georgia
UK - Ukraine
UM - Belarus
UT - Tadjikistan
UT - Turkmenistan
UT - Uzbekistan

VA, VE, VI,
VO - India
VC - Sri Lanka
VD - Cambodia
VG - Bangladesh
VH - Hong Kong (China)
VL - Lao People=s Democratic Rep.
VM - Macau (Portugal)
VN - Nepal
VQ - Bhutan
VR - Maldives
VT - Thailand
VV - Viet Nam
VY - Myanmar

WA, WI,
WR - Indonesia
WB - Brunei Darussalam
WB - Malaysia
WM - Malaysia (Peninsular)
WP - East Timor
WS - Singapore

Y - Australia

ZB, ZG, ZH, ZL, ZP, ZS, ZU, ZW,
ZY - China
ZK - Dem. People=s Rep. Of Korea
ZM - Mongolia

AFTN ROUTING DIRECTORY FOR THE MID REGION

	1		2		3		4	
ORIGIN DESTINATION	HECA [1] Cairo		LLBG [2] Ben Gurion		OAKB Kabul		OBBI Bahrain	
A	OE	olbaa	LC	lg	OP	oi	WS	oo
B	LGGGA	olbaa	LC	lg	OI	op	LCNCA	oe
C	LGGGA	olbaa	LC	lg	OI	op	LCNCA	oe
D	DT	lggga	LC	lg	OI	op	OE	oo
E	LGGGA	olbaa	LC	lg	OI	op	LCNCA	oe
F	HK	oe	LC	lg	OI	op	OE	oo
G	DT	lggga	LC	lg	OI	op	OE	oo
H (Ex HA HC HD HE HH HL HS)	HK	oe	LC	lg	OI	op	OE	oo
HA	OE	hk	-	-	-	-	OE	oo
HC	HK	oe			OI	op	OE	oo
HD	OE	hk			OI	op	OE	oo
HE	N	n	HE	lg	OI	op	OE	oo
HH	OE	hk	-	-	-	-	OE	oo
HL	HL	dt			OI	op	OE	oo
HS	HS	oe			OI	op	OE	oo
K	LGGGA	olbaa	LC	lg	OI	op	LCNCA	oe
L (Ex LB LD LG LJ LL LO LT)	LGGGA	olbaa	LC	lg	OI	op	LCNCA	oe
LB	LGGGA	olbaa	LC	lg	OI	op	LT	lcnca
LD	LGGGA	olbaa	LC	lg	OI	op	LCNCA	oe
LG	LGGGA	olbaa	LG	lc	OI	op	LCNCA	oe
LJ	LGGGA	olbaa	LC	lg	OI	op	LCNCA	oe
LL	LL	lggga	N	N				
LO	LGGGA	olbaa	LC	lg	OI	op	LCNCA	oe
LT	LGGGA	olbaa	LC	lg	OI	op	LT	lcnca
M	LGGGA	olbaa	LC	lg	OI	op	LCNCA	oe
N	OE	olbaa	LC	lg	OP	oi	WS	oo

(1): [FH, FJ via LG, ol] [LA, LI, LM via LI, lg]
(2): D (Ex DA DT), G (Ex GM GQ) DT-LG

	1		2		3		4	
ORIGIN DESTINATION	HECA Cairo		LLBG Ben Gurion		OAKB Kabul		OBBI Bahrain	
OA	OLBAA	oe			N	N	WS	oo
OB	OE	olbaa			OI	op	N	n
OE (Ex OED)	OE	olbaa			OI	op	OE	oo
OED	OE	olbaa			OI	op	OED	oe
OI	OLBAA	oe			OI	op	OI	omaea
OJ	OJ	oe			OI	op	OE	ol
OK	OLBAA	oe			OI	op	OK	olbaa
OL	OLBAA	oe			OI	op	OLBAA	ok
OM	OLBAA	oe			OI	op	OMAEA	oo
OO	OE	olbaa			OI	op	OO	oe
OP	OLBAA	oe			OP	oi	OO	oe
OR					OI	op	OLBAA	
OS	OS	oj			OI	op	OLBAA	ok
OT	OLBAA	oe			OI	op	OT	ok
OY	OE	olbaa			OI	op	OE	oo
P	OLBAA	lggga	LC	lg	OP	oi	LCNCA	oe
R	OE	olbaa	LC	lg	OP	oi	WS	oo
S	LGGGA	olbaa	LC	lg	OI	op	LCNCA	olbaa
T	LGGGA	olbaa	LC	lg	OI	op	LCNCA	olbaa
U	LGGGA	olbaa	LC	lg	OP	oi	LC	oe
V(Ex VA VE VI VN VO)	OLBAA	oe	LC	lg	OP	oi	WS	oo
VA	OLBAA	oe	LC	lg	OP	oi	OO	oe
VE	OLBAA	oe	LC	lg	OP	oi	OO	oe
VI	OLBAA	oe	LC	lg	OP	oi	OO	oe
VN	OLBAA	oe	LC	lg	OP	oi	OO	oe
VO	OLBAA	oe	LV	lg	OP	oi	OO	oe
W	OE	olbaa	LC	lg	OP	oi	WS	oo
Y	OE	olbaa	LC	lg	OP	oi	WS	oo
Z	OLBAA	oe	LC	lg	OP	oi	OO	oe

A	5		6		7		8	
ORIGIN DESTINATION	OEJD Jeddah		OIII Tehran		OJAM Amman		OKBK Kuwait	
A	OB	oo	OB	op	OE	he	OP	ob
B	LC	ob	LT	ob	OS	he	LI	ol
C	LC	ob	LT	ob	OS	he	LI	ol
D	HE	lc	OP	ob	HE	oe	OL	ob
E	LC	ob	LT	ob	OS	he	LI	ol
F	HA	he	OP	ob	HE	oe	OB	ol
G	HE	lc	OP	ob	HE	os	OL	ob
H(Ex HE HL HS)	HA	he	OK	ob	HE	oe	OL	ob
HE	HE	lc	OK	ob	HE	oe	OL	ob
HL	HE	lc	OK	ob	HE	oe	OL	ob
HS	HS	he	OK	ob	HE	oe	OL	ob
K	LC	ob	LT	ob	OS	he	LI	ol
L(Ex LC LK LL LT)	HE	lc	LT	ob	OS	he	LI	ol
LC	LC	ob	OB	om	OS	he	OL	li
LK	LC	ob	LT	ob	OS	he	LI	ol
LL					HE			
LT	OB	oo	LT	ob	OS	he	LI	ol
M	HE	lc	LT	ob	OS	he	LI	ol
N	OB	oo	OB	op	OE	he	OP	ob
OA	OB	oo	OB	ok	OE	os	OB	op
OB	OB	oo	OB	om	OE	he	OB	ol
OE	N	N	OB	om	OE	he	OB	ol
OI	OB	oo	N	N	OS	oe	OI	ob
OJ	OJ	he	OS	ob	N	N	OL	os
OK	OB	oo	OK	ob	OE	he	N	N
OL	OL	he	OB	ok	HE	os	OL	ob

A	5		6		7		8	
ORIGIN DESTINATION	OEJD Jeddah		OIII Tehran		OJAM Amman		OKBK Kuwait	
OM	OB	oo	OM	ob	OE	he	OB	ol
OO	OO	ob	OB	op	OE	he	OB	ol
OP	OO	ob	OP	ok	OE	he	OP	ob
OR	OL	he	OS	ob	OR	os	OS	ol
OS	OL	he	OS	ob	OS	he	OS	ol
OT	OB	oo	OB	ok	OE	he	OT	ob
OY	OYS	oo	OB	om	OE	he	OB	ol
P	OB	oo	OP	ob	OS	he	LI	ol
R	OB	oo	OB	op	OE	he	OP	ob
S	HE	lc	LT	ob	OS	he	LI	ol
T	HE	lc	LT	ob	OS	he	LI	ol
U	LC	ob	LT	ob	OS	he	LI	ol
V(Ex VA VE VI VN VO)	OB	oo	OB	op	OE	he	OP	ob
VA	OO	ob	OP	ob	OE	he	OP	ob
VE	OO	ob	OP	ob	OE	he	OP	ob
VI	OO	ob	OP	ob	OE	he	OP	ob
VN	OO	ob	OP	ob	OE	he	OP	ob
VO	OO	ob	OP	ob	OE	he	OP	ob
W	OB	oo	OB	op	OE	he	OP	ob
Y	OB	oo	OB	op	OE	he	OP	ob
Z	OO	ob	OP	ob	HE	os	OP	ob

A	9		10		11		12	
ORIGIN DESTINATION	OLLL Beirut		OMAE Abu Dhabi		OOMS Muscat		OPKC Karachi	
A	OBBIA	oe	OBBIA	oo	OB	va	VA	oo
B	LCNCA	hecaa	OBBIA	oo	OB	oe	OK	oo
C	LCNCA	hecaa	OBBIA	oo	OB	oe	OK	oi
D	HECAA	lcnca	OBBIA	oo	OE	ob	OK	oo
E	LCNCA	hecaa	OBBIA	oo	OB	oe	OK	oi
F	OE	hecaa	OBBIA	oo	OE	va	OK	oo
G	HECAA	oe	OBBIA	oo	OE	ob	OK	oo
H	HECAA	oe	OBBIA	oo	OE	va	OK	oo
K	LCNCA	hecaa	OBBIA	oo	OB	oe	OK	oi
L (Ex LL LT)	LCNCA	hecaa	OBBIA	oo	OB	oe	OK	oo
LL								
LT	LCNCA	hecaa	OBBIA	oo	OB	oe	OI	ok
M	LCNCA	hecaa	OBBIA	oo	OB	oe	OK	oi
N	OK	oe	OBBIA	oo	OB	va	VA	oi
OA	OK	oe	OBBIA	oo	OB	op	OA	n
OB	OBBIA	oe	OBBIA	oo	OB	oma	OO	oi
OE	OE	obbia	OBBIA	oo	OE	ob	OO	ok
OI	OBBIA	ok	OI	obbia	OB	op	OI	oo
OJ	HECAA	oe	OBBIA	oo	OE	ob	OK	oi
OK	OK	obbia	OBBIA	oo	OB	oe	OO	oi
OL	N	N	OBBIA	oo	OB	oe	OO	ok
OM	OBBIA	oe	N	N	OMA	ob	OO	oi
OO	OBBIA	oe	OO	obbia	N	N	OO	oi
OP	OK	obbia	OO	obbia	OP	va	N	n
OR	OR	os	OBBIA	oo	OB	oe	OO	ok
OS	OS	hecaa	OBBIA	oo	OE	ob	OI	oo

A	9		10		11		12	
ORIGIN DESTINATION	OLLL Beirut		OMAE Abu Dhabi		OOMS Muscat		OPKC (1) Karachi	
OT	OBBIA	ok	OBBIA	oo	OB	oma	OO	oi
OY	OE	obbia	OO	obbia	OYS	oe	OO	oi
P	LCNCA	hecaa	OBBIA	oo	OB	op	VA	oo
R	OBBIA	oe	OBBIA	oo	OB	va	VA	oo
S	LCNCA	hecaa	OBBIA	oo	OB	oe	OK	oi
T	LCNCA	hecaa	OBBIA	oo	OB	oe	OK	oi
U	LCNCA	hecaa	OBBIA	oo	VA	op	OI	ok
V (Ex VA VE VI VN VO)	OK	obbia	OBBIA	oo	OB	va	VA	oo
VA	OK	obbia	OO	obbia	VA	op	VA	oo
VE	OK	obbia	OO	obbia	VA	op	VA	oo
VI	OK	obbia	OO	obbia	VA	op	VA	oo
VN	OK	obbia	OO	obbia	VA	op	ZB	va
VO	OK	obbia	OO	obbia	VA	op	VA	oo
W	OBBIA	ok	OBBIA	oo	OB	va	VA	oo
Y	OBBIA	oe	OBBIA	oo	OB	va	VA	oo
Z	OK	oe	OO	obbia	OP	va	ZB	va

(1): VQ via VA alt. Vi

A	13		14		15		16	
ORIGIN DESTINATION	ORBS Bagdad		OSDI Damascus		OTBD Doha		OYSN Sanaa	
A	OS	oj	OI	he	OB	ok	OO	oe
B	OS	oj	LG	he	OB	ok	OO	oe
C	OS	oj	LG	he	OB	ok	OO	oe
D	OS	oj	HE	lg	OB	ok	OO	oe
E	LT	ol	LG	he	OB	ok	OO	oe
F	OS	oj	HE	lg	OB	ok	OE	oo
G	OS	oj	HE	lg	OB	ok	OE	oo
H	OJ	os	HE	lg	OB	ok	OE	oo
K	OS	oj	LG	he	OB	ok	OO	oe
L(Ex LL)	LT	ol	LG	he	OB	ok	OO	oe
LL								
M	OS	oj	LG	he	OB	ok	OO	oe
N	OL	lt	HE	lg	OB	ok	OO	oe
OA	OL	lt	OI	ok	OB	ok	OO	oe
OB	OL	lt	OL	ok	OB	ok	OO	oe
OE	OJ	os	OJ	he	OB	ok	OE	oo
OI	OS	oj	OI	ok	OK	ob	OO	oe
OJ	OJ	os	OJ	he	OB	ok	OO	oe
OK	OS	oj	OK	oi	OB	ok	OO	oe
OL	OL	lt	OL	he	OB	ok	OE	oo
OM	OL	lt	OI	ok	OB	ok	OO	oe
OO	OL	lt	OI	ok	OB	ok	OO	oe
OP	ON	lt	OI	ok	OK	ob	OO	oe
OR	N	n	OR	oj	OK	ok	OO	oe
OS	OS	oj	N	N	OB	ok	OO	oe
OT	OL	lt	OI	ok	N	n	OO	oe

A	13		14		15		16	
ORIGIN DESTINATION	ORBS [1] Bagdad		OSDI Damascus		OTBD Doha		OYSN Sanaa	
OY	OL	lt	OJ	he	OB	ok	N	n
P	OJ	os	LG	he	OB	ok	OO	oe
R	OJ	os	HE	lg	OB	ok	OO	oe
S	OS	oj	LG	he	OB	ok	OO	oe
T	OL	lt	LG	he	OB	ok	OO	oe
U	LT	ol	LG	he	OB	ok	OO	oe
V	OL	lt	OI	ok	OB	ok	OO	oe
W	OS	oj	HE	lg	OB	ok	OO	oe
Y	OL	lt	OI	ok	OB	ok	OO	oe
Z	OS	oj	HE	lg	OB	ok	OO	oe

MIDANPIRG/7
Appendix 5I to the report on Agenda Item 5

INTERNATIONAL CIVIL AVIATION ORGANIZATION

MIDDLE EAST OFFICE

Routing Directory for

AFTN and CIDIN Centres

in the MID Region

Version 0.2 draft

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
OLLL	Beirut	Lebanon	OLLL
OMAE	Abu Dhabi	U.A.E.	OMAE
OOMS	Muskat	Oman	OOMS
OPKC	Karachi	Pakistan	OPKC
ORBS	Bagdad	Iraq	ORBS
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	ORBS	Bagdad	ORBS
Jordan	OJAM	Amman	OJAM
Kuwait	OKBK	Kuwait	OKBK
Lebanon	OLLL	Beirut	OLLL
Oman	OOMS	Muskat	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 Routeing 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 Routeing Table

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

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			
OLLL	OLLL1			

Planned VCG	Planned Prim.VC	Planned Secondary VC's		
HECA	HECA1			
		OLLL2		

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 Secon-dary 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 Secon-dary 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
OLLL	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.

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:	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		

AFTN Routeing Table

Desti-nation	Actual Main	Actual Altn.	Planned Main	Planned Altn.
A				
B				
C				
D				
E				
F				
G				
H*				
HA				
HC				
HD				
HE				
HH				
HL				
HS				
K				
L*				
LB				
LD				
LG				
LJ				
LL				
LO				
LT				
M				
N				

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

CIDIN Routeing Table

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

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			
OLLL	OLLL1			

Planned VCG	Planned Prim.VC	Planned Secondary VC's		

Circuit Characteristics

Situation recorded in January 2002			Planned		
Link	Protocol	Capacity (bps)	Protocol	Capacity (bps)	"O" date

OAKB - Kabul - Afganistan

Circuit Characteristics

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

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MIDANPIRG/7
Appendix 5J to the Report on Agenda Item 7

PRELIMINARY STUDY OF THE MIDDLE EAST VSAT NETWORK

1. INTRODUCTION

1.1 The 5 Million km2 of the 15 MID States FIRs, which is strategically located at the interface between Europe, Africa and Asia, has seen a significant increase in traffic during the last years and indicators are that this tend will continue.

1.2
committed to provide within their respective FIRs air navigation facilities, including the means of communications, to facilitate operations.

2. CURRENT MEANS OF TELECOMMUNICATIONS

2.1 To achieve this goal, the service providers of the MID States have been using several leased lines from their National Telecommunication Administrations

2.2 However, some disadvantages related to the utilisation of leased lines has been practically noticed:

- high cost
- insufficient bandwidth
- frequent disruptions
- less priority in intervention on solving disruptions

2.3 In a parallel with leased lines, some service providers in the Region have started implementation of private satellite networks to meet their domestic requirements.

2.4 It is worth noting that the current aeronautical applications (PBX, ATS, AFTN, VDL,

enable to migrate towards new technologies.

3. REPERCUSSION ON SAFETY

3.1 As it is known that the mentioned deficiencies will impact on safety, regularity and efficiency of air navigation in the Region.

3.2 With a view to enhance the quality of aeronautical communications in the Region, the MIDANPIRG/6 meeting accordingly encouraged the MID States and the ICAO MID Regional Office to study the cost effectiveness and the technical feasibility of the use of VSAT.

4. FUTURE MEANS OF TELECOMMUNICATIONS

4.1 The MID VSAT (Middle East VSAT) network is composed of fifteen (15) nodes. Each node is established in each of the fifteen (15) MID air providers of the ICAO MID Region (see the attached document).

5. NETWORK TOPOLOGY

5.1 The MID VSAT digital networks is a totally meshed network, which topology is determined by the need of links between its nodes.

5.2 The MID VSAT network communication requirements are in conformity to the MID Air Navigation Plan and the FASID Document of ICAO that indicate the international communication requirements to be included in this network. Otherwise, during the elaboration of the final document, new circuits can be added in order to guarantee the redundancy and/or correct load of traffic of these communications.

5.3 The communication circuits are not necessarily between the MID VSAT nodes. The participating States wi
domestic dependencies, will be carried out automatically and without additional delay in case it involves voice circuits.

5.4 The network design has to permit that the communication requirements between nodes could increase, and that, associated nodes could be created without major changes in the current digital network philosophy, expressed in this document.

6. NETWORK BASIC CHARACTERISTICS

6.1 The MID VSAT has, as main objective, to satisfy the communication needs of the aeronautical fixed service (AFS)- in voice and data, current and future, required by the ATM, AIS, COM, MET and SAR units, as well as the new GNSS augmentation services, radar data interchange, administrative and maintenance communications.

6.2 The MID VSAT will be a compatible sub-network of the Aeronautical Telecommunications Network (ATN) facilitating the sub-network services in the dissimilar network-environment of the CNS/ATM systems. The MID VSAT should act as a link between the local network systems developed by the MID States, and if possible, should facilitate the interconnection with other regional digital networks (ASIA-PAC/AFI).

6.3 The MID VSAT should support the required services, in an efficient cost way, with high reliability, quality, and availability; with minimum delay in the aeronautical communications, in order to guarantee the security of air operations.

6.4 The MID VSAT is an aeronautical digital communication network, with a ten (10) years estimate life period. It is an open architecture and state-of-the-art technology network:

- totally meshed topology: flexible and scalable to facilitate changes and expansion of the network
- high availability
- distributed intelligence between its nodes
- no fault common points
- traffic priority with dynamic administration of the band width demand
- automatic alternative routing in case of fault
- network management system (NMS), for supervision and remote maintenance

6.5 The MID VSAT network is a distributed architecture which establishes in each node a multi-service platform (voice and data) / multi-protocol (switch and multiplexing), based on Frame Relay or ATM protocol with dynamical administration of the bandwidth.

6.6 The MID VSAT must be used as primary means to establish the inter-nodal through a VSAT stations network and, as a way of backup of dedicated circuits and ISDN switched connections,

which can be established over optic fibre or digital microwaves earth networks.

6.7 Finally when the earth digital networks will be developed in the Region and their operation costs decrease, the MID VSAT has a plan to use this way as primary means, and the VSAT system as backup and for the handling of overload.

7. SATELLITE ACCESS TECHNIQUES

7.1 In order to meet the needs of the MID VSAT to federate voice and data communications system using 15 identical nodes two techniques of satellite access are proposed : **TDMA** (Time Division Modulation Access) and **MCPC** (Multiple Channels Per Carrier).

7.2 **TDMA** This technique is based on VSAT system which is designed for easy expansion where attention is to be paid on balancing between VSAT hardware cost/size and satellite space segments costs.

7.3 A study on the latter item should be carried out with the satellite service providers ARABSAT and INTELSAT.

7.4 The PVCs over TDMA have capacity granularity that can enlarge according to the need with the relevant correspondent. A certain bandwidth is permanently reserved at start up so, the circuit is guaranteed regardless of other traffic demands.

7.5 The remaining bandwidth is allocated to voice (administration/maintenance) and data (AFTN, ATN, GNSS and NMS).

7.6 In the event of satellite network failure, the use of frame relay allows to connect to a designated alternate site.

7.7 Even though many manufacturers propose ATM technology in replacement of Frame Relay, this latter remains more secure and available in case it involves voice circuit.

7.8 The overall network availability for the redundant TDMA VSAT configuration must be calculated so that the target for 99,9% availability (without using the ISDN back-up network) to be met.

7.9 **MCPC** - In this technique, each node transmits one carrier frequency that is received by all of the remaining nodes in the network. The FRADs at each node filter out packets addressed to that node.

7.10 The MID VSAT must be designed for easy expansion, with the minimum of additional hardware and space segment cost. This is achieved by the addition of demodulators and FRADs at each site.

7.11 MCPC remains the simplest and the most secure technology for operation, but at the same time, it is not an easy task to chose between the two kinds of technology: TDMA and MCPC. All will depend on the following points:

- case by case of requested network
- availability of personnel
- training of personnel
- needed philosophy

7.12 As for TDMA, the proposal is to offer a minimum cost solution for both VSAT hardware and space segment. Although the use of voice and data is similar to that of TDMA, the transmitted carrier is rounded to 64 Kb/s. This later data rate is used for all the link budget calculations, taking into account the amount of space segment needed and the SSPA size.

7.13 So, to achieve a fully mesh connected network, a demodulator is used for each of the carriers transmitted by the network.

8. CONCLUSIONS

8.1 The proposed study should be considered as a starting step. If the concept of MID VSAT is validated, this study should then be refined with information related to the comparison costs between leased lines and satellite segments; this will ease the approval process for the implementation of an eventual MID project.

8.2 Moreover, the MID States should indicate whether a domestic satellite network is already implemented in their airspace; in this case, they should provide the ICAO MID Office with all technical information on the operating equipments.

8.3 A site survey may be needed to evaluate:

- available applications
- future needs
- current communications support

8.4 The above consideration may lead to the decision for a comprehensible study of a MID VSAT as a Regional Project.

9. ACTION BY THE MEETING

9.1 The Meeting is invited to consider the above information and to allow the continuation of the survey in order to provide MIDANPIRG meeting with a set of necessary elements allowing him to make a decision.

REPORT ON AGENDA ITEM 6: MIDDLE EAST CNS/ATM IMPLEMENTATION PLAN AND RELATED ACTIVITIES

6.1 CNS/ATM/IC

6.1.1 The meeting was presented with the historical background relating to the establishment of the Communications, Navigation and Surveillance/Air Traffic Management/Implementation Coordination/Sub-Group (CNS/ATM/IC/SG), to which the sixth meeting of Middle East Air Navigation and Implementation Regional Group (MIDANPIRG/6) had agreed and in accordance with Decision 6/27 *(New Title And Revised Term Of Reference For The CNS/ATM Sub-Group).* Consequently, the first meeting of the CNS/ATM/IC Sub-Group was held in Cairo from 5-9 November 2001.

Review Status of Conclusions and Decisions from MIDANPIRG/6 which are Relevant to CNS/ATM

6.1.2 The meeting was informed that the CNS/ATM/IC/SG/1 meeting had been presented with the list of conclusions/decisions of relevant subsidiary bodies of the MIDANPIRG related to CNS/ATM matters which consist among the list indicated at Appendices and to the report on Agenda Item 4. The CNS/ATM/IC/SG/1 meeting while reviewing the list related to MIDANPIRG/6 Conclusion 6/1 (*Uniform Format for the Reporting of WGS-84 implementation*) noted that only nine States had presented the uniform format reporting as required by ICAO. Refer to the report on Agenda Item 5.2.31

Review of the AFS/ATN TF7 Report

6.1.3 The CNS/ATM/IC/SG/1 meeting while reviewing the report of the AFS/ATN TF7 meeting, noted that the CNS tables to the report on Agenda Item 3 of the MIDANPIRG/6 meeting Conclusion 6/13 *(Initial Plan for the Ground Portion of the ATN in the MID Region)* were appropriate as reference documents to be used for technical and operational purposes within the framework of the planning and implementation sub-groups. Consequently, the Sub-Group was informed that these tables which are now incorporated in the MID FASID, is to be harmonized with those of other Regions. The MIDANPIRG/7, agreed that the new table as indicated at **Appendix 6A** to the report on Agenda Item 6, would be more suitable for incorporation in the MID FASID and agreed to the CNS/ATM/IC/SG/1 as follows:

DECISION 7/36: INITIAL PLAN FOR THE GROUND PORTION OF THE ATN IN THE MID REGION

That, the current tables CNS1B and the explanatory note be deleted from the MID ANP/FASID document and replaced by the new tables and explanatory notes as indicated at **Appendix 6A** to the report on Agenda Item 6.

6.1.4 The meeting reviewed the CNS/ATM/IC/SG/1 outcome concerning the Ground-to-Ground ATN Study Group; noted the interest of a number of States to introduce OLDI (On Line Data Interchange) as intermediate system until the availability of AIDC (ATS Interchange Data Communications). It was however recalled that although OLDI is not an ICAO system, it is already operational in Europe. The Sub-Group agreed that since the implementation of AIDC is only planned for a relatively undetermined date, the need arises to find a mechanism capable of covering the transition period and to consider other alternatives.

Matters Related to Traffic Forecasting Activities

6.1.5 The meeting noted that, the CNS/ATM/IC/SG/1 was presented with a report on the activities undertaken by the Middle East Regional Traffic Forecasting Group (MER TFG) since CNS/ATM SG/4 meeting 6-10 March 2000, which also included preliminary aircraft movement forecasts for the MID region up to the year 2015. The Sub-Group reviewed MIDANPIRG/6 meeting Conclusion 6/22 (*Traffic Forecasting Requirements For CNS/ATM Planning)* and agreed to request the MER TFG to provide the required data since that the Group has been re-constituted to include both ATC and Air Transport experts. Refer to the report on Agenda Item 6.3.

Implementation of RNP/RNAV in the MID Region

6.1.6 The CNS/ATM/IC/SG/1 was informed that MIDANPIRG/6 meeting Conclusion 6/17 ((Priority Routes for the Introduction of RNP 5) under a) States concerned should implement RNP 5 on the routes listed in Appendix 4.3A to the report on Agenda Item 4.3, on 22 March 2001) that the Phase1 Implementation Strategy, which consisted of the implementation of RNP 5 on selected priority routes, has been successfully implemented with effect from 14 June 2001. The Fifth Meeting of the RNP/RNAV Task Force (RNP/RNAV TF/5), which was held in Cairo from 10 to 13 June 2001, established the second implementation phase which is based on the establishment of RNP/RNAV areas instead of RNP/RNAV routes. The Sub-Group also noted with appreciation that although the tentative date for the implementation of RNP/RNAV areas is 28 November 2002, many States in the Region have already adopted this new approach. The meeting also noted the need for ensuring interregional co-ordination with a view to harmonize the implementation process with adjacent ICAO Regions. Refer to the report on Agenda Item 5.2.

6.1.7 The meeting noted that the CNS/ATM/IC/SG/1 raised concerns on the rationale for the use of GNSS as a supplemental means for navigation as proposed by the RNP/RNAV TF/5 meeting. It was pointed out that taking into account the experiences gained with the implementation of GNSS in other parts of the world, the MID Region should instead plan for the use of GNSS as a primary means of navigation. This issue was extensively discussed at the GNSS TF/3 meeting (9-11 January 2002); which resulted in formulating a conclusion on this subject. Refer to the report on Agenda Item 6.2.

Implementation of RVSM in the MID Region

6.1.8 The Sub-Group noted that the MIDANPIRG/6 meeting under Conclusion 6/8 *(Planning for Congestion Reduction Measures in the MID Region)* recognized that the implementation of RVSM would contribute towards the reduction of congestion problems in the region. The MIDANPIRG/6 under Conclusion 6/9 *(Establishment of a MID RVSM Task Force)* had planned for the evolutionary implementation of RVSM in the MID Region in year 2003.

6.1.9 The Sub-Group was accordingly apprised of the outcome of the three RVSM Task Force meetings. It was pointed out that the conclusions deriving from the Task Force meetings were reviewed by the ATM/SAR/AIS SG/5 meeting, which was held in Cairo from 30 October to 2 November 2001. Refer to the report on Agenda Item 5.2.

Review of Recent Developments, Research, Trials and Demonstrations in Relation with the Implementation of the CNS/ATM Systems and Global/Regional Plans

6.1.10 The CNS/ATM/IC/SG/1 was presented with an overview of the technical and operational developments related to CNS/ATM systems in year 2000 and up to April 2001. Refer to the report on Agenda Item 3.

6.1.11 States i.e. Bahrain, Egypt, Iran, Jordan, Kuwait and Yemen presented brief summaries of their recent CNS/ATM implementation activities to the CNS/ATM/IC/SG/1, as indicated at **Appendix 6B** to the report on Agenda Item 6.

6.1.12

n

15 June 2001. Refer to the report on Agenda Item 3 (Latest developments in the Air Navigation field).

6.1.13 The CNS/ATM/IC/SG/1 was apprised of the detailed review of the IATA/AACO CNS/ATM user-driven transition implementation plan and the CNS/ATM Implementation Plan for Middle East Region with a view to identify areas in the MID regional implementation plan where improvements are needed.

6.1.14 The CNS/ATM/IC/SG/1 was further informed that the IATA/AACO transition plan comprises of 6 to 8 phases which gradually migrates from the current systems to the final ATN based configurations based on the requirements of the ATS providers and availability of compliant aircraft population.

CNS/ATM Training Requirements

6.1.15 The meeting reviewed Decision 1/2 of the CNS/ATM/IC/SG/1 *(Establishment of the CNS/ATM Human Resource Development and Training Task Force for the MID Region)* and its Terms of Reference and Work Programme as a Follow-up to MIDANPIRG/6 Decision 6/25 *(Development of Regional CNS/ATM Training Requirements).* After several interventions, stressing the high priority task foreseen in the MID Region, the meeting agreed to the following Decision:

DECISION 7/37: ESTABLISHMENT OF THE CNS/ATM HUMAN RESOURCE PLANNING AND TRAINING TASK FORCE

That, the CNS/ATM Human Resources Planning and Training Task Force be established as a matter of priority for the MID Region with the Terms of Reference and Work Programme as presented at **Appendix 6C**to the report on Agenda Item 6. The composition will be decided at the first meeting of the task force which will report to the MIDANPIRG.

Review and Further Update the CNS/ATM Implementation Plan for the Middle East Region

6.1.16 The meeting was informed that the CNS/ATM/IC/SG1 had been presented with a list of accomplished tasks by the CNS/ATM Sub-Group in association with the eleven step-by-step approach for planning ATM requirements and CNS infrastructure, and that some of the tasks of the step-by-step approach would require to be accomplished by States, either individually or in-group of States, particularly for States which have not yet done so. The meeting agreed to the following Conclusion:

CONCLUSION 7/38: THE STEP-BY-STEP APPROACH FOR PLANNING ATM REQUIREMENTS AND CNS INFRASTRUCTURE IN THE MID REGION

That, MID Region States that have not yet done so, either individually or in-group of States use the methodology indicated in the Global Air Navigation Plan for CNS/ATM Systems (Doc 9750), in carrying out tasks associated with the step-by-step approach for planning ATM requirements and CNS infrastructure.

Timelines Updates

6.1.17 The meeting was also presented with the tables of timelines of the First Edition of the CNS/ATM Implementation Plan for the Middle East Region updated by the CNS/ATM/IC/ SG/1 meeting.

6.1.18 These tables take into consideration the updates received from some States and the remarks made by the ICAO Headquarters. Accordingly, the meeting agreed to amend the concerned tables, notably the table 8-2 (ATM requirements for communications) where AMHS and AIDC should be considered as ATN applications; thus, AMHS will be inserted into the table 8-2.

6.1.19 The numbering of chapters and related tables were also aligned with those of the CNS Implementation Plan of other Regions.

6.1.20 In order to facilitate the completion of the tables of timelines in terms of definition of system components and ATM objectives, the meeting was advised that States should refer to ICAO Guidance Material of National Plan for CNS/ATM systems (Circular: 278-AN/164).

6.1.21 The meeting accordingly, approved the tables of updated timelines as indicated at **Appendix 6D** to the report on Agenda Item 6, and agreed to incorporate them in the Second Edition of the CNS/ATM Implementation Plan for the Middle East Region.

6.1.22 Recognizing that the tables of timelines is a living document, the meeting stressed again the necessity for States to provide the Middle Regional Office as soon as possible with the latest information on their timelines to be incorporated in the Second Edition of the CNS/ATM Implementation Plan for the Middle East Region.

6.1.23 Taking into account the above, the meeting agreed to the following Conclusion:

CONCLUSION 7/39: CNS/ATM NATIONAL PLANS AND UPDATES TO TIMELINES

That, MID Region States that have not yet submitted their National CNS/ATM Plan and those that have updates to their National CNS/ATM Plan, are urged to submit as soon as possible to the ICAO MID Regional Office prior to 1st June 2002, in order to be incorporated in the Second Edition of the CNS/ATM Implementation Plan for the Middle East Region.

6.2 GNSS

Multi-mission satellite based system

6.2.1 The meeting considered the project presented by Egyptian Civil Aviation Holding Company for a multi-mission satellite based system dedicated to CNS/ATM services. The proposed system will support the GNSS Augmentation Systems and their extension to the Middle East and AFI Regions while providing safe aeronautical communications and surveillance services.

6.2.2 The meeting was of the view that the terms of reference of the GNSS Action Group includes already the task required for further study of the NAVISAT project. However, in order to alleviate the burden of the present GNSS Action Group, the meeting agreed on the creation of a separate GNSS Working Group, which will take into account this new element.

6.2.3 The meeting recorded the participation of ACAC (Arab Civil Aviation Commission) as observer in the composition of the Action Group whose members were limited in order to make the work more efficient.

6.2.4 Accordingly, the meeting reached the following Decision:

DECISION 7/40: CREATION OF THE NAVISAT WORKING GROUP

That,

i) a GNSS Working Group be established in order to continue the study on the multi-mission satellite based system, called NAVISAT.

ii) the GNSS Working Group be composed of the following States and Organizations:

- Egypt: Coordinator
- Bahrain, Iran, Kuwait, Oman and Saudi Arabia
- ACAC, IATA and ICAO

iii) the results of the study of the GNSS Working Group will be presented to the next GNSS TF meeting (first quarter of 2003).

GNSS as supplemental means for en-route navigation

6.2.5 An international engineering and consulting firm specializing in satellite-based navigation (ISI) made a presentation on the different augmentation systems being developed, notably on WAAS and on different ground based augmentation systems (GBAS, LAAS etc). ISI could also provide turnkey CNS/ATM architecture systems, software, services and training, ensuring thus Air navigation service providers to achieve the full benefits of satellite technology.

6.2.6 The meeting noted that GNSS procedures in 26 international airports in the SADC region are being developed within the framework of a joint ISI/IATA project. In this regard, the Trade Department Agency from United States usually provides the financial support.

6.2.7 Since GNSS can be used as a supplemental means for en-route navigation, and

implementation of procedures for airworthiness and operational approval of GNSS is a State responsibility. Consequently, the MID States are encouraged to amend their legislation and regulations or to adopt the regulations of leading authorities (A.C. 20-138 of FAA, TGL# 6 of JAA, etc.) regarding the approval of GNSS as supplemental means for en-route navigation in their airspace.

6.2.8 The meeting agreed on the date of 18 April 2002 as the AIRAC date for the approval of GNSS as a supplemental means for navigation system for en-route and noted the request by IATA for, the immediate use of GNSS for carrying out Non Precision Approaches without Augmentation System in the Middle East Region.

6.2.9 In consequence, the meeting decided to reformulate the MIDANPIRG/6 Decision 6/14 into the following Conclusion:

CONCLUSION 7/41: TARGET DATE FOR THE APPROVAL OF GNSS AS A SUPPLEMENTAL MEANS FOR EN-ROUTE AND NON-PRECISION APPROACHES IN THE MID REGION.

That,

a) the AIRAC date for the implementation of GNSS in the MID Region as a supplemental means for en-route is 18 April 2002.

b) States may wish to implement GNSS for Non Precision Approaches with effect from 18 April 2002.

c) States that have not yet amended their legislation and regulations are urged to do so in order to meet the above AIRAC date

6.2.10 Moreover, the meeting was of the view that the MID Region should also take advantage of the possibilities offered by the use of GNSS for non-precision approaches and agreed that a survey be carried out with a view to identify those airports (international/domestic) where it is feasible to introduce these procedures.

Delay in the implementation of ISTB trials

6.2.11 The meeting noted that the ISTB trials were postponed due to administrative and technical constraints between ENAV Italy and Hosting States (Bahrain, Egypt and Saudi Arabia). The meeting expressed its concern on this postponement and urged the concerned parties to start the trials as soon as possible in order to make available its results to the Middle East Region, before the next GNSS TF meeting date of which will be decided in accordance with the progress made in the implementation of ISTB trials.

Revised Strategy of the GNSS Implementation in the Region

6.2.12 The meeting reviewed the revised Strategy of the GNSS Implementation in the Region and amended it accordingly. The amended Strategy is shown as **Appendix 6E** to the report on Agenda Item 6.

6.2.13 Concluding this matter, the meeting developed the following Conclusion:

CONCLUSION 7/42: REVISED STRATEGY OF THE GNSS IMPLEMENTATION IN THE MID REGION

That, a revised Strategy for the implementation of GNSS in the Middle East Region be adopted, as indicated in **Appendix 6E** to the report on Agenda Item 6.

6.2.14 The meeting noted the items concerning the cooperation between States, the coordination on Researches and Developments and the training. The meeting was of the view that the training issue could be taken into account by the CNS/ATM Human Resources Planning and Training Task Force created by this meeting under **Decision 7/37.**

Action Group Work Program

6.2.15 The meeting agreed with the GNSS TF/3 meeting to concentrate efforts on the review of existing navigation and telecommunications infrastructure, planning of new infrastructure, operational use of GPS as supplemental means, and training of personnel.

6.2.16 Accordingly, the meeting agreed on the assignment of tasks into the following packages with the relevant responsibility:

Package 1: Evaluation and Planning of facilities (ICAO)
- review the existing ground infrastructures in terms of navigation aids and telecommunications
- identify the requirements
- harmonize infrastructure plans for near, mid and long terms

Package 2: Implementation of Requirements (Action Group)
- GNSS operation (supplemental and primary means)
- release of airworthiness certificate for the use of GPS
- training of personnel
- GNSS system architecture

6.2.17 The meeting noted the work programme of the Action Group created by MIDANPIRG/5, Conclusion 5/18 and was of the view that the tasks enumerated in Package 2, is part of the terms of reference of the Action Group.

6.2.18 The meeting also agreed to the participation of Iran as member in the composition of the Action Group, which increased the number of experts to nine.

6.2.19 According to the progress achieved by the Action Group in the implementation of requirements, the coordinator of the group could see assistance from any consultancy group in order to find adequate expertise and to finalize the contents of Package 2.

6.2.20 The meeting confirmed the member status of IATA and ICAO in the Action Group that will compose hereafter as follows:

1- Egypt	coordinator
2- Bahrain	member
3- Iran	member
4- Kuwait	member
5- Oman	member
6- Saudi Arabia	member
7- UAE	member
8- IATA	member
9- ICAO	member

6.3 **MER TFG**

Traffic Forecasting Activities in the MID Region

6.3.1 The meeting was presented with a review of the state of air transport and the broader ramifications of the current downturn in the industry resulting from the events of 11 September 2001. The presentation highlighted the critical role of air transport in economic development. In addition, the presentation offered a global and regional outlook of air transport; including the outlook of air transport in the Middle East region. The presentation was followed by an overview of traffic forecasting activities in the MID region and outlined the outcome of the 4th and 5th meetings of the Middle East Regional Traffic Forecasting Group - MER TFG. A set of traffic forecasts for major route groups from, to and within the MID region up to the year 2015, was also provided. The meeting was further informed that the relevant parts of the FASID document had been amended to reflect the new set of traffic forecasts.

6.3.2 With regard to the requirements of MIDANPIRG as described in MIDANPIRG/6 Conclusions 6/6, 6/22 and 6/24, the MER TFG informed the meeting that: (a) the group was restructured to include ATC and Air
expanded to include cost/benefit analysis and development of business cases for CNS/ATM implementation and (c) two advanced Traffic Forecasting and Economic Planning seminars were conducted by the Secretariat.

6.3.3 The need for forecasting the traffic overflying the MID region, particularly between Asia/PAC and Europe regions, and for peak-period analysis were identified as urgent requirements for CNS/ATM implementation. It was agreed that the analytical work done by MER TFG in this regard should be reviewed in-depth by the concerned subsidiary bodies of MIDANPIRG, specially the CNS/ATM/IC Sub-Group, and that specific requirements would be identified by these bodies for presentation to MER TFG. This would form the basis for the future work programme of the MER TFG.

6.3.4 In this connection, the meeting was presented with a paper on developments with regard to financial and organizational aspects of airports and air navigation services. The on was invited to the Council decision to obtain information, from States, on the current policies and practices applied in their charges for airports and air navigation services as they relate to ICAO policy and guidance material. The information was requested in State Letter reference EC 2/89-01/32 dated 6 April 2001.

6.3.5 The meeting reviewed the forecasts prepared by MER TFG on traffic to, from and within the MID region, noted the need for forecasting traffic overflying the region and for peak-period an
forecasting and economic planning;

6.3.6 The meeting agreed to the following Conclusion:

CONCLUSION 7/43: TRAFFIC FORECASTING REQUIREMENTS

That,

a) the CNS/ATM/IC/SG review and analyze in detail the work done by MER TFG and identify additional requirements for the implementation of CNS/ATM in the MID Region, including forecasts of traffic overflying the region and peak-period analysis;

b) the secretariat continues organizing seminars, workshops and other training sessions in conjunction with regular meetings of the MER TFG; and

c) States/IATA to supply the MER TFG with relevant FIR data to enable the group to produce the desired forecasts

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MIDANPIRG/7
Appendix 6A to the Report on Agenda Item 6

TABLE CNS 1B - 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)

(To be completed by HQ)

TABLE CNS 1B - 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**								
Bahrain **Bahrain**								
EGYPT **Cairo**								
IRAN **Tehran**								
IRAQ **Baghdad**								
ISRAEL **Ben Gurion**								
JORDAN **Amman**								
KUWAIT **Kuwait**								
LEBANON **Beirut**								
OMAN **Muscat/Seeb**								
QATAR **Doha**								
SAUDI ARABIA **Jeddah**								
SYRIA **Damascus**								
U.A.E **Abu Dhabi**								
YEMEN								

MIDANPIRG/7
Appendix 6B to the Report on Agenda Item 6

STATES BRIEFING ON CNS/ATM IMPLEMENTATION ACTIVITIES

1. BAHRAIN

1.1 Mono-pulse Radar System, has been installed and commissioned at Bahrain International Airport. The Radar has a range of 256nm and covers the whole FIR excluding the southern part over the Empty Quarter. The radar is also integrated with a sophisticated Flight Data Management System (FDMS) which updates the stored flight plans automatically through the AFTN system. The new Radar has the following features:

- Upgradeable to Mode S
- Short Term Conflict Alert (STCA)
- Conflict Prediction
- Multi Range and Bearing capability
- On line/off line map generation
- MSAW

1.2 Mandatory carriage of ACAS II with effect from July 2001 has been implemented in accordance with MIDANPIRG/6 Conclusion 6/7 in whole of Bahrain FIR and Flight Level 250 and above in the Dammam CTA.

1.3 Communication, Bahrain has agreed with Oman and UAE to install a long range VHF remote station at a convenient location. This will provide VHF coverage for the southern part of the FIR and replace the existing HF communication, and will also provide Direct Controller Pilot Communication (DCPC) which will enable the reduction of longitudinal time separation in that area.

1.4 Digital ATIS (d-ATIS) system has been implemented in February 2000 through SITA network and some equipped aircraft reported successful access. In addition, digital VOLMET is also included in the system.

1.5 An ATN working group has been established to carry out studies on ATN and also monitor the developments of the ATN globally.

2. EGYPT

2.1 The GNSS Task Force for the MID region had elected Egypt to be the coordinator for the Action Group for implementation of (ISTB) with ENAV (Italy) and Telspazio for activities to be performed by ENAV to perform test and demonstration using three EGNOS System Test-BED (ESTB) reference stations for early SBAS trials in the MID region.

2.2 Within the framework of the air traffic control overall system upgrading and modernization plan, Cairo ATC Center has been modernized since January 2001 with not only the most up to date technologies but also to the most modern criteria as regards safety and reliability as well as offering all the new capabilities used in modern Air Traffic Management Systems recommended by ICAO. An experimental system position for ADS/CPDLC is operating as a stand-alone position but it will be integrated into the operating ATC units by mid. 2002 after successful trials and demonstrations.

2.3 RNP 5 airspace has been implemented instead of RNP/RNAV routes for RNAV operations within the Cairo FIR with effect from 9 August 2001above FL285, excluding that portion of southwest in Cairo FIR which is not covered by radar. Navigation error monitoring system was implemented from 1 January 2001 at a total of 5 points in Cairo FIR according to the agreed procedures in the LOA. RNP 5 approval procedures are in place using JAA guidance material on airworthiness and operational criteria. An AIC on the use of GNSS as a supplementary means of navigation in Cairo FIR with effect from January 2002 is in the process of being issued.

2.4 RVSM, an AIC indicating the intention to implement RVSM in the Cairo FIR, effective 27 Nov. 2003 was issued on 2 Oct. 2001. Moreover, Seminars and workshops have been held in Cairo Air Navigation Center for the air traffic controllers to familiarize them with all RVSM procedures. Finally, Modification of ATS system with RVSM will be completed before the implementation date of RVSM.

2.5 The new automated ATM system in Cairo ACC has incorporated the following capabilities: -

- Short Term Conflict Alarm.
- Restricted Area Intrusion Alert.
- Minimum Safe Altitude Warning.
- Cleared Adherence Monitoring.
- Route Adherence Monitoring
- Conflict Prediction.
- OLDI.

3. IRAN

3.1 The Civil Aviation Organization (CAO) of the I.R. of Iran, due to high demand of overflight, international and domestic flights, upgraded the COM, Navigation and Surveillance system as well as introduced new ACC for enhancing of safety, regulatory and efficiency in the Air Navigation Field.

3.2 To meet the above objectives, The SINA project (system of Iranian National ATM) consisting of 12 MSSR radar, 2 primary radars, 5 new RCAGs in addition to the previous 13 RCAGs have been put into operation (6 RCAGs are under tender for purchasing/installation) 10 new ATS routes as part of EMARSSH Route structure have been established and 4 of these routes have already been implemented.

3.3 Transition Plan from old to new ACC which is furnished with an updated/modernized simulators for training purposes have been completed successfully on 31 October 2001.

3.4 New airspace organization/sectorization from 7 to 8 sectors for ease of traffic handling, including 17 sectors can operate in peek period of traffic.

3.5 Following the introduction of radar coverage in Tehran FIR. The introduction of training programme for area controllers including area radar, en-route radar and terminal radar has been concluded. It is expected that after a period of 6 months (1 June 2002), the area radar service will be provided within Tehran FIR when Radar Training Program is completed.

3.6 With reference to the above mentioned items, the minimum longitudinal separation will be reduced to 40 NM instead of 80 NM (10 minutes), the concerned coordination/cooperation and LOA modification with adjacent states/FIRs are under study/implementation.

3.7 Review of air navigation charges in Iranian Airspace taking into account the interest of airlines economical consideration has been accomplished.

3.8 In compliance with ICAO Annex 15, the AIS of I.R. of Iran has developed and introduced Automated NOTAM process in accordance with the principles of AIS Manual (Doc 8126).

3.9 The Iranian Civil Aviation Training College is a member of the ICAO TRAINAIR and in close cooperation with TRAINAIR is preparing STPs. Presently 4 STPs in the area of ADS/CPDLC, Instructor Development Plan (IDP), Engineering and maintenance have been conducted.

4. JORDAN

4.1 A Mono-pulse Radar system head up-gradable to Mode S, Eurocat1000 Radar Data Processing and Display system integrated with Flight Data Processing System with a range of 180-230NM covering some of the space of adjacent FIRs has been operational since last May 2001.

4.2 Eurocat1000 Radar Processing and Display system consists of the usual Radar Data Processing System (RDPS) and its Display systems integrated with the Flight Data Processing System (FDPS). The main features of Eurocat1000 are:

- Minimum Safe Altitude Warning.
- Conflict Alert

4.3 Communication, a new project Voice Communication Switching Systems to be installed in all ATC units. The system will be including an Automatic Terminal Information Service (ATIS) system. The system is expected to be installed and commissioned by July 2002.

5. KUWAIT

5.1 Kuwait Civil Aviation Administration has implemented 1st Phase of its Technical Master Plan by installing an approach Radar and long range MSSR, which consists of the following:

- Primary Radar covering 120 nm
- MSSR covering 250 nm and can be extends to 300 nm
- Minimum safe altitude warning system (MSAW)
- Short Term Conflict Alert System (STCA) and it is according to ICAO requirements
- Target tracking and prediction system
- The system is open architecture design to allow it to interface with a large variety of other future ICAO CNS/ATM System
- Distance From Touchdown Indicator (DFTI) fixed at the tower control
- Low Level Wind Sheer Alert System (LLWAS) to achieve utmost safety

6. YEMEN

6.1 Yemen in early 2000 installed a MSSR Radar station with a range of 250 nm to cover

6.2 Five VSAT stations have been installed in different locations, in order to cover most of

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MIDANPIRG/7
Appendix 6C to the Report on Agenda Item 6

CNS/ATM HUMAN RESOURCES PLANNING AND TRAINING TASK FORCE

TERMS OF REFERENCE AND WORK PROGRAM

(Presented by the Secretariat)

1. TERMS OF REFERENCE

a) Develop a comprehensive human resources planning and training programme for the MID Region with a view to assist States in the evolutionary implementation of the different elements of the MID CNS/ATM Implementation Plan.

b) Develop guidance materials on human resource planning and training requirements for eventual inclusion in the MID Air Navigation Plan.

Note: The Task Force should be guided by:

1) The ICAO Human Resources Planning Document (under development) as well as supporting guidance material;
2) studies and work carried out in other ICAO Regions; and
3) other relevant training modules developed by States and International Organizations.

2. WORK PROGRAMME

a) Identify the training resources already available in the MID Region;

b) evaluate the human resource requirements and training demand associated with the implementation of the CNS/ATM systems in the MID Region;

c) propose procedures and strategies which may be used by the MID Region States aimed at the assessment of human resource needs and consequential training demand; and

d) propose a concrete action training plan with a view to assist States in the MID Region to implement the different elements of the CNS/ATM Plan.

3. COMPOSITION

3.1 The Task Force will be composed of members from the States and International Organizations as follows:

Egypt
Iran, Islamic Republic of
Jordan
Kuwait
Oman
Saudi Arabia

CNS/ATM IMPLEMENATION PLAN

UPDATED TIMELINES

TIMELINES:

Global

Regional

National

Table 7-1

MIDDLE EAST — AIR TRAFFIC MANAGEMENT SYSTEM IMPLEMENTATION

			1994	95	96	97	98	99	2000	1	2	3	4	5	6	7	8	9	2010
RTSP	Development of SARPs	Global ATM																	
		Functional integration of flight operations/ATM																	
		ATM requirements for CNS																	
		Separation between aircraft																	
		AIDC																	
		ATFM procedures and systems																	
Aircraft Equipage/ Flight Operations		RNP certification/approval																	
Implementation and Operational Use																			
Regional ATM Operational Concept																			
Global	Determination of major traffic flows																		
Region																			
Global	Identification of ATM objectives based on these traffic flows																		
Region																			
Global	Development of regional strategic airspace CNS infrastructure plan based on ATM requirements																		
Region																			
Airspace Management																			
Global	Optimized sectorization																		
Region																			
States	Afghanistan																		
	Bahrain																		
	Egypt																		
	Iran, Islamic Rep. of																		
	Iraq																		
	Israel																		
	Jordan	TBD																	
	Kuwait																		
	Lebanon																		
	Oman																		
	Qatar	N/A																	
	Saudi Arabia																		
	Syrian Arab Republic																		
	United Arab Emirates																		
	Yemen																		
Global	Fixed RNAV ATS routes																		
Region																			

MIDDLE EAST — AIR TRAFFIC MANAGEMENT SYSTEM IMPLEMENTATION

		1994	95	96	97	98	99	2000	1	2	3	4	5	6	7	8	9	2010
States	Afghanistan																	
	Bahrain																	
	Egypt																	
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan																	
	Kuwait																	
	Lebanon																	
	Oman																	
	Qatar																	
	Saudi Arabia																	
	Syrian Arab Republic																	
	United Arab Emirates																	
	Yemen																	
Global	Contingency RNAV routes																	
Region																		
States	Afghanistan																	
	Bahrain																	
	Egypt	TBD																
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan	TBD																
	Kuwait	TBD																
	Lebanon																	
	Oman	NO																
	Qatar																	
	Saudi Arabia																	
	Syrian Arab Republic																	
	United Arab Emirates	NO																
	Yemen																	
Global	Random RNAV routes																	
Region																		
States	Afghanistan																	
	Bahrain	TBD																
	Egypt	TBD																
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan	TBD																
	Kuwait	TBD																
	Lebanon																	
	Oman																	
	Qatar																	
	Saudi Arabia	TBD																
	Syrian Arab Republic																	
	United Arab Emirates																	
	Yemen	TBD																
Global	Airspace desegregation/flexible use of airspace																	
Region																		
States	Afghanistan																	

MIDDLE EAST — AIR TRAFFIC MANAGEMENT SYSTEM IMPLEMENTATION

		1994	95	96	97	98	99	2000	1	2	3	4	5	6	7	8	9	2010
	Bahrain																	
	Egypt																	
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan	TBD																
	Kuwait	TBD																
	Lebanon																	
	Oman																	
	Qatar																	
	Saudi Arabia																	
	Syrian Arab Republic																	
	UAE	TBD																
	Yemen																	
Global	Application of RNP																	
Region																		
States	Afghanistan																	
	Bahrain																	
	Egypt																	
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan																	
	Kuwait																	
	Lebanon																	
	Oman																	
	Qatar																	
	Saudi Arabia																	
	Syrian Arab Republic																	
	United Arab Emirates																	
	Yemen																	
Global	Application of RCP																	
Region		TBD																
States	Afghanistan																	
	Bahrain																	
	Egypt	TBD																
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan	TBD																
	Kuwait																	
	Lebanon																	
	Oman	TBD																
	Qatar																	
	Saudi Arabia																	
	Syrian Arab Republic																	
	United Arab Emirates	TBD																
	Yemen																	
Global	Application of RSP																	
Region		TBD																
States	Afghanistan																	
	Bahrain																	
	Egypt	TBD																
	Iran, Islamic Rep. of																	
	Iraq																	

MIDDLE EAST — AIR TRAFFIC MANAGEMENT SYSTEM IMPLEMENTATION

		1994	95	96	97	98	99	2000	1	2	3	4	5	6	7	8	9	2010
	Israel																	
	Jordan	TBD																
	Kuwait																	
	Lebanon																	
	Oman	TBD																
	Qatar																	
	Saudi Arabia																	
	Syrian Arab Republic																	
	United Arab Emirates																	
	Yemen																	
Air Traffic Services																		
Global	Trajectory conformance monitoring																	
Region																		
States	Afghanistan																	
	Bahrain																	
	Egypt																	
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan																	
	Kuwait																	
	Lebanon																	
	Oman																	
	Qatar	N /A																
	Saudi Arabia																	
	Syrian Arab Republic																	
	United Arab Emirates																	
	Yemen	TB D																
Global	Minimum safe altitude warning																	
Region																		
States	Afghanistan																	
	Bahrain																	
	Egypt																	
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan																	
	Kuwait																	
	Lebanon																	
	Oman																	
	Qatar																	
	Saudi Arabia																	
	Syrian Arab Republic																	
	United Arab Emirates																	
	Yemen																	
Global	Conflict prediction																	
Region																		
States	Afghanistan																	
	Bahrain																	
	Egypt																	

MIDDLE EAST — AIR TRAFFIC MANAGEMENT SYSTEM IMPLEMENTATION

		1994	95	96	97	98	99	2000	1	2	3	4	5	6	7	8	9	2010
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan	TBD																
	Kuwait																	
	Lebanon																	
	Oman																	
	Qatar																	
	Saudi Arabia																	
	Syrian Arab Republic																	
	United Arab Emirates																	
	Yemen																	
Global	Conflict alert																	
Region																		
States	Afghanistan																	
	Bahrain																	
	Egypt																	
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan																	
	Kuwait																	
	Lebanon																	
	Oman																	
	Qatar																	
	Saudi Arabia																	
	Syrian Arab Republic																	
	United Arab Emirates																	
	Yemen																	
Global	Conflict resolution advice																	
Region																		
States	Afghanistan																	
	Bahrain																	
	Egypt	TBD																
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan	TBD																
	Kuwait																	
	Lebanon																	
	Oman																	
	Qatar	TBD																
	Saudi Arabia	TBD																
	Syrian Arab Republic																	
	United Arab Emirates	TBD																
	Yemen																	
Global	Functional integration of ground systems with airborne systems																	
Region		TBD																
States	Afghanistan																	
	Bahrain	TBD																
	Egypt	TBD																

MIDDLE EAST — AIR TRAFFIC MANAGEMENT SYSTEM IMPLEMENTATION

		1994	95	96	97	98	99	2000	1	2	3	4	5	6	7	8	9	2010
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan	TBD																
	Kuwait	TBD																
	Lebanon																	
	Oman	TBD																
	Qatar																	
	Saudi Arabia	TBD																
	Syrian Arab Republic																	
	United Arab Emirates	TBD																
	Yemen																	
Global	Dynamic accommodation of user-preferred flight profiles																	
Region		TBD																
States	Afghanistan																	
	Bahrain	TBD																
	Egypt	TBD																
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan	TBD																
	Kuwait	TBD																
	Lebanon																	
	Oman	TBD																
	Qatar																	
	Saudi Arabia	TBD																
	Syrian Arab Republic																	
	United Arab Emirates	TBD																
	Yemen																	
Global	Reduced vertical separation																	
Region																		
States	Afghanistan																	
	Bahrain																	
	Egypt																	
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan																	
	Kuwait																	
	Lebanon																	
	Oman																	
	Qatar																	
	Saudi Arabia																	
	Syrian Arab Republic																	
	United Arab Emirates																	
	Yemen																	
Global	Reduced longitudinal separation (Procedural)																	
Region																		
States	Afghanistan																	

MIDDLE EAST — AIR TRAFFIC MANAGEMENT SYSTEM IMPLEMENTATION

		1994	95	96	97	98	99	2000	1	2	3	4	5	6	7	8	9	2010
	Bahrain																	
	Egypt	TBD																
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan																	
	Kuwait																	
	Lebanon																	
	Oman																	
	Qatar																	
	Saudi Arabia	TBD																
	Syrian Arab Republic																	
	United Arab Emirates																	
	Yemen																	
Global	Reduced lateral separation (Procedural)																	
Region																		
States	Afghanistan																	
	Bahrain																	
	Egypt	TBD																
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan	TBD																
	Kuwait																	
	Lebanon																	
	Oman	N/A																
	Qatar																	
	Saudi Arabia	TBD																
	Syrian Arab Republic																	
	United Arab Emirates																	
	Yemen	TBD																
Global	Independent IFR approaches to closely-spaced runways																	
Region																		
States	Afghanistan																	
	Bahrain	N/A																
	Egypt	TBD																
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan	TBD																
	Kuwait																	
	Lebanon																	
	Oman	N/A																
	Qatar	N/A																
	Saudi Arabia																	
	Syrian Arab Republic																	
	United Arab Emirates	N/A																
	Yemen	NO																
Global	RNAV SIDs and STARs																	
Region																		
States	Afghanistan																	
	Bahrain																	

MIDDLE EAST — AIR TRAFFIC MANAGEMENT SYSTEM IMPLEMENTATION

		1994	95	96	97	98	99	2000	1	2	3	4	5	6	7	8	9	2010
	Egypt	TBD																
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan	TBD																
	Kuwait																	
	Lebanon																	
	Oman																	
	Qatar																	
	Saudi Arabia																	
	Syrian Arab Republic																	
	United Arab Emirates																	
	Yemen																	
Global	Curved and segmented approaches																	
Region		TBD																
States	Afghanistan																	
	Bahrain	TBD																
	Egypt	TBD																
	Iran, Islamic Rep. of	TBD																
	Iraq	TBD																
	Israel	TBD																
	Jordan	TBD																
	Kuwait	TBD																
	Lebanon	TBD																
	Oman																	
	Qatar	TBD																
	Saudi Arabia	N/A																
	Syrian Arab Republic	TBD																
	United Arab Emirates	N/A																
	Yemen	TBD																
Global	Arrival metering, sequencing and spacing																	
Region																		
States	Afghanistan																	
	Bahrain	TBD																
	Egypt																	
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan	TBD																
	Kuwait	TBD																
	Lebanon																	
	Oman	TBD																
	Qatar																	
	Saudi Arabia	TBD																
	Syrian Arab Republic																	
	United Arab Emirates																	
	Yemen	TBD																
Global	A-SMGCS																	
Region		TBD																

MIDDLE EAST — AIR TRAFFIC MANAGEMENT SYSTEM IMPLEMENTATION

		1994	95	96	97	98	99	2000	1	2	3	4	5	6	7	8	9	2010
States	Afghanistan																	
	Bahrain	TBD																
	Egypt	TBD																
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan	TBD																
	Kuwait	TBD																
	Lebanon																	
	Oman	N/A																
	Qatar																	
	Saudi Arabia	TBD																
	Syrian Arab Republic																	
	United Arab Emirates																	
	Yemen	TBD																
Global	ATS inter-facility data communications (AIDC)																	
Region																		
States	Afghanistan																	
	Bahrain																	
	Egypt	TBD																
	Iran, Islamic Rep of	TBD																
	Iraq																	
	Israel																	
	Jordan																	
	Kuwait	TBD																
	Lebanon																	
	Oman																	
	Qatar																	
	Saudi Arabia	TBD																
	Syrian Arab Republic																	
	United Arab Emirates																	
	Yemen																	
Global	Data link application for ATIS, AIS, PDC and others																	
Region																		
States	Afghanistan																	
	Bahrain																	
	Egypt																	
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan																	
	Kuwait																	
	Lebanon																	
	Oman	N/A																
	Qatar	N/A																
	Saudi Arabia																	
	Syrian Arab Republic																	
	United Arab Emirates																	
	Yemen	TBD																
Air Traffic Flow Management																		
Global	Centralized ATFM																	
Region		TBD																

MIDDLE EAST — AIR TRAFFIC MANAGEMENT SYSTEM IMPLEMENTATION

		1994	95	96	97	98	99	2000	1	2	3	4	5	6	7	8	9	2010
States	Afghanistan																	
	Bahrain	TBD																
	Egypt	TBD																
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan	TBD																
	Kuwait	TBD																
	Lebanon																	
	Oman	TBD																
	Qatar																	
	Saudi Arabia	TBD																
	Syrian Arab Republic																	
	United Arab Emirates																	
	Yemen																	
Global	Inter-regional co-operative ATFM																	
Region		TBD																
States	Afghanistan																	
	Bahrain	TBD																
	Egypt	TBD																
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan	TBD																
	Kuwait	TBD																
	Lebanon																	
	Oman	TBD																
	Qatar																	
	Saudi Arabia	TBD																
	Syrian Arab Republic																	
	United Arab Emirates	TBD																
	Yemen																	
Global	Establishment of ATFM data bases																	
Region		TBD																
States	Afghanistan																	
	Bahrain	TBD																
	Egypt	TBD																
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan	TBD																
	Kuwait	TBD																
	Lebanon																	
	Oman																	
	Qatar																	
	Saudi Arabia	TBD																
	Syrian Arab Republic																	
	United Arab Emirates																	
	Yemen	TBD																

MIDDLE EAST — AIR TRAFFIC MANAGEMENT SYSTEM IMPLEMENTATION

	1994	95	96	97	98	99	2000	1	2	3	4	5	6	7	8	9	2010

MIDDLE EAST — AIR TRAFFIC MANAGEMENT SYSTEM IMPLEMENTATION

		1994	95	96	97	98	99	2000	1	2	3	4	5	6	7	8	9	2010
Global	Application of strategic ATFM planning																	
Region		TBD																
States	Afghanistan																	
	Bahrain	TBD																
	Egypt	TBD																
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan	TBD																
	Kuwait	TBD																
	Lebanon																	
	Oman																	
	Qatar																	
	Saudi Arabia																	
	Syrian Arab Republic																	
	United Arab Emirates	TBD																
	Yemen	TBD																
Global	Application of pre-tactical ATFM planning																	
Region		TBD																
States	Afghanistan																	
	Bahrain																	
	Egypt	TBD																
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan	TBD																
	Kuwait	TBD																
	Lebanon																	
	Oman																	
	Qatar																	
	Saudi Arabia	TBD																
	Syrian Arab Republic																	
	United Arab Emirates	TBD																
	Yemen	TBD																
Global	Application of tactical ATFM planning																	
Region		TBD																
States	Afghanistan																	
	Bahrain																	
	Egypt	TBD																
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan	TBD																
	Kuwait	TBD																
	Lebanon																	
	Oman																	

MIDDLE EAST — AIR TRAFFIC MANAGEMENT SYSTEM IMPLEMENTATION

	1994	95	96	97	98	99	2000	1	2	3	4	5	6	7	8	9	2010
Qatar																	
Saudi Arabia																	
Syrian Arab Republic																	
United Arab Emirates																	
Yemen	TBD																

Table 8- 1

MIDDLE EAST — COMMUNICATION SYSTEM IMPLEMENTATION

			1994	95	96	97	98	99	2000	1	2	3	4	5	6	7	8	9	2010
RCP	Development of SARPs	AMSS																	
		HF data																	
		VHF data																	
		SSR Mode S																	
		ATN																	
	Aircraft Equipage	AMSS																	
		HF data																	
		VHF data																	
		SSR Mode S																	
		ATN																	
		FANS 1 (or equivalent)																	
Trials & Demonstrations																			
Global		AMSS																	
MID Region			TBD																
States		Afghanistan																	
		Bahrain	TBD																
		Egypt	TBD																
		Iran, Islamic Rep. of																	
		Iraq																	
		Israel																	
		Jordan	N/A																
		Kuwait																	
		Lebanon																	
		Oman																	
		Qatar																	
		Saudi Arabia																	
		Syrian Arab Republic																	
		United Arab Emirates	N/A																
		Yemen	N/A																
Global		HF data																	
MID Region			TBD																
States		Afghanistan																	
		Bahrain	TBD																
		Egypt	N/A																
		Iran, Islamic Rep. of																	
		Iraq																	
		Israel																	
		Jordan	N/A																
		Kuwait																	
		Lebanon																	
		Oman	N/A																
		Qatar																	
		Saudi Arabia																	
		Syrian Arab Republic																	
		United Arab Emirates	N/A																
		Yemen	TBD																
Global		VHF data																	
MID Region																			
States		Afghanistan																	
		Bahrain																	

MIDDLE EAST — COMMUNICATION SYSTEM IMPLEMENTATION

		1994	95	96	97	98	99	2000	1	2	3	4	5	6	7	8	9	2010
	Egypt	TBD																
	Iran, Islamic Rep. of	TBD																
	Iraq																	
	Israel																	
	Jordan																	
	Kuwait																	
	Lebanon																	
	Oman	TBD																
	Qatar																	
	Saudi Arabia																	
	Syrian Arab Republic																	
	United Arab Emirates																	
	Yemen	TBD																
Global	SSR Mode S																	
MID Region		TBD																
States	Afghanistan																	
	Bahrain																	
	Egypt	TBD																
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan	TBD																
	Kuwait																	
	Lebanon																	
	Oman	TBD																
	Qatar																	
	Saudi Arabia																	
	Syrian Arab Republic																	
	United Arab Emirates																	
	Yemen	TBD																
Global	ATN																	
MID Region																		
States	Afghanistan																	
	Bahrain																	
	Egypt	TBD																
	Iran, Islamic Rep. of	TBD																
	Iraq																	
	Israel																	
	Jordan	N/A																
	Kuwait																	
	Lebanon																	
	Oman																	
	Qatar																	
	Saudi Arabia																	
	Syrian Arab Republic																	
	United Arab Emirates																	
	Yemen	TBD																
Implementation and operational use																		
Global	AMSS																	
MID Region																		
States	Afghanistan																	
	Bahrain																	
	Egypt	TBD																

MIDDLE EAST — COMMUNICATION SYSTEM IMPLEMENTATION

		1994	95	96	97	98	99	2000	1	2	3	4	5	6	7	8	9	2010
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan	N/A																
	Kuwait	TBD																
	Lebanon																	
	Oman	TBD																
	Qatar																	
	Saudi Arabia	TBD																
	Syrian Arab Republic																	
	United Arab Emirates	N/A																
	Yemen	TBD																
Global	HF data																	
MID Region																		
States	Afghanistan																	
	Bahrain																	
	Egypt	TBD																
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan	N/A																
	Kuwait																	
	Lebanon																	
	Oman	N/A																
	Qatar																	
	Saudi Arabia																	
	Syrian Arab Republic																	
	United Arab Emirates	N/A																
	Yemen	TBD																
Global	VHF data																	
MID Region																		
States	Afghanistan																	
	Bahrain																	
	Egypt																	
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan																	
	Kuwait																	
	Lebanon																	
	Oman	TBD																
	Qatar																	
	Saudi Arabia																	
	Syrian Arab Republic																	
	United Arab Emirates																	
	Yemen																	
Global	SSR Mode S																	
MID Region																		
States	Afghanistan																	
	Bahrain																	
	Egypt																	
	Iran, Islamic Rep. of																	
	Iraq																	

MIDDLE EAST — COMMUNICATION SYSTEM IMPLEMENTATION

		1994	95	96	97	98	99	2000	1	2	3	4	5	6	7	8	9	2010
	Israel																	
	Jordan	TBD																
	Kuwait	TBD																
	Lebanon																	
	Oman	TBD																
	Qatar																	
	Saudi Arabia																	
	Syrian Arab Republic																	
	United Arab Emirates																	
	Yemen	TBD																
Global	ATN																	
MID Region																		
States	Afghanistan																	
	Bahrain																	
	Egypt																	
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan																	
	Kuwait	TBD																
	Lebanon																	
	Oman																	
	Qatar																	
	Saudi Arabia																	
	Syrian Arab Republic																	
	United Arab Emirates																	
	Yemen																	
MID Region	Ground eq. FANS 1/A																	
States	Afghanistan																	
	Bahrain	TBD																
	Egypt	TBD																
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan	N/A																
	Kuwait	TBD																
	Lebanon																	
	Oman	TBD																
	Qatar																	
	Saudi Arabia																	
	Syrian Arab Republic																	
	United Arab Emirates																	
	Yemen	TBD																

Table 9-1

MIDDLE EAST — NAVIGATION SYSTEM IMPLEMENTATION

			1994	95	96	97	98	99	2000	1	2	3	4	5	6	7	8	9	2010
GNSS	Development of SARPs	GNSS performance criteria to support operational requirements																	
		Development of GNSS NPA procedures																	
		Use of GNSS with augmented systems																	
		Long-term satellite navigation system																	
RNP	Development of SARPs	En-route																	
		Terminal/NPA																	
		Precision approach																	
Space Segment Availability		GPS																	
		GLONASS																	
		GEO satellite overlay																	
Satellite-Based Augmentation System		US WAAS																	
		Europe EGNOS																	
		Japan MSAS																	
Aircraft Equipage		GNSS avionics																	
Trials & Demonstrations																			
	Global	GNSS + ABAS																	
GNSS	*MID Region*		TBD																
	States	Afghanistan																	
		Bahrain	TBD																
		Egypt	TBD																
		Iran, Islamic Rep. of	TBD																
		Iraq																	
		Israel																	
		Jordan	TBD																
		Kuwait																	
		Lebanon																	
		Oman	TBD																
		Qatar																	
		Saudi Arabia																	
		Syrian Arab Republic																	
		United Arab Emirates	N/A																
		Yemen	TBD																
	Global	GNSS + ABAS + SBAS																	
	MID Region		TBD																
	States	Afghanistan																	
		Bahrain	TBD																
		Egypt	TBD																
		Iran, Islamic Rep. of	TBD																
		Iraq																	

MIDDLE EAST — NAVIGATION SYSTEM IMPLEMENTATION

			1994	95	96	97	98	99	2000	1	2	3	4	5	6	7	8	9	2010
GNSS		Israel																	
		Jordan	TBD																
		Kuwait																	
		Lebanon																	
		Oman	TBD																
		Qatar																	
		Saudi Arabia																	
		Syrian Arab Republic																	
		United Arab Emirates	NO																
		Yemen	TBD																
	Global	GNSS + ABAS + GBAS																	
	MID Region		TBD																
	States	Afghanistan																	
		Bahrain	TBD																
		Egypt	TBD																
		Iran, Islamic Rep. of	TBD																
		Iraq																	
		Israel																	
		Jordan	TBD																
		Kuwait																	
		Lebanon																	
		Oman	TBD																
		Qatar																	
		Saudi Arabia																	
		Syrian Arab Republic																	
		United Arab Emirates																	
		Yemen	TBD																
	Implementation and operational use																		
	Global	WGS-84																	
	MID Region																		
	States	Afghanistan																	
		Bahrain																	
		Egypt																	
		Iran, Islamic Rep. of																	
		Iraq																	
		Israel																	
		Jordan																	
		Kuwait																	
		Lebanon																	
		Oman																	
		Qatar																	
		Saudi Arabia																	
		Syrian Arab Republic																	
		United Arab Emirates																	
		Yemen																	
	Global	En-route *[1]																	
	MID Region																		
	States	Afghanistan																	

* 1 Note: Use of GNSS for En-route will initially be as supplemental Means.

MIDDLE EAST — NAVIGATION SYSTEM IMPLEMENTATION

		1994	95	96	97	98	99	2000	1	2	3	4	5	6	7	8	9	2010
	Bahrain																	
	Egypt																	
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan																	
	Kuwait																	
	Lebanon																	
	Oman																	
	Qatar																	
	Saudi Arabia																	
	Syrian Arab Republic																	
	United Arab Emirates																	
	Yemen																	
Global	Terminal/NPA *[2]																	
MID Region																		
States	Afghanistan																	
	Bahrain																	
	Egypt	TBD																
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan																	
	Kuwait	TBD																
	Lebanon																	
	Oman																	
	Qatar																	
	Saudi Arabia																	
	Syrian Arab Republic																	
	United Arab Emirates																	
	Yemen																	
Global	Precision approach																	
MID Region																		
States	Afghanistan																	
	Bahrain																	
	Egypt	TBD																
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan																	
	Kuwait	TBD																
	Lebanon																	
	Oman	TBD																
	Qatar																	
	Saudi Arabia																	
	Syrian Arab Republic																	
	United Arab Emirates																	
	Yemen	TBD																

[2] Note: Use of GNSS for Terminal /NPA will initially be as supplemental Means. Primary and Sole Means TBD

Table 10-1

MIDDLE EAST — SURVEILLANCE SYSTEM IMPLEMENTATION

			1994	95	96	97	98	99	2000	1	2	3	4	5	6	7	8	9	2010
RSP	Development of SARPs	ADS																	
		ADS–B	TBD																
		SSR Mode S																	
	Aircraft Equipage	ADS	TBD																
		ADS–B																	
		SSR Mode S																	
		Interim ADS (FANS 1/A)																	
Trials & Demonstrations																			
Global		ADS																	
MID Region																			
States		Afghanistan																	
		Bahrain	TBD																
		Egypt																	
		Iran, Islamic Rep. of																	
		Iraq																	
		Israel																	
		Jordan	TBD																
		Kuwait																	
		Lebanon																	
		Oman	N/A																
		Qatar																	
		Saudi Arabia																	
		Syrian Arab Republic																	
		United Arab Emirates	N/A																
		Yemen	TBD																
Global		ADS-B																	
MID Region			TBD																
States		Afghanistan																	
		Bahrain	TBD																
		Egypt	N/A																
		Iran, Islamic Rep. of																	
		Iraq																	
		Israel																	
		Jordan	TBD																
		Kuwait																	
		Lebanon																	
		Oman	N/A																
		Qatar																	
		Saudi Arabia																	
		Syrian Arab Republic																	
		United Arab Emirates	N/A																
		Yemen	TBD																
Global		SSR Mode S																	
MID Region																			
States		Afghanistan																	
		Bahrain																	
		Egypt	TBD																
		Iran, Islamic Rep. of																	
		Iraq																	

MIDDLE EAST — SURVEILLANCE SYSTEM IMPLEMENTATION

		1994	95	96	97	98	99	2000	1	2	3	4	5	6	7	8	9	2010
	Israel																	
	Jordan	TBD																
	Kuwait																	
	Lebanon																	
	Oman	TBD																
	Qatar																	
	Saudi Arabia																	
	Syrian Arab Republic																	
	United Arab Emirates	N/A																
	Yemen	TBD																
Implementation and operational use																		
Global	ADS																	
MID Region																		
States	Afghanistan																	
	Bahrain	TBD																
	Egypt																	
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan	TBD																
	Kuwait																	
	Lebanon																	
	Oman	N/A																
	Qatar																	
	Saudi Arabia																	
	Syrian Arab Republic																	
	United Arab Emirates	N/A																
	Yemen	TBD																
Global	ADS–B																	
MID Region		TBD																
States	Afghanistan																	
	Bahrain	TBD																
	Egypt																	
	Iran, Islamic Rep. of	TBD																
	Iraq																	
	Israel																	
	Jordan	TBD																
	Kuwait	TBD																
	Lebanon																	
	Oman	N/A																
	Qatar																	
	Saudi Arabia																	
	Syrian Arab Republic																	
	United Arab Emirates	TBD																
	Yemen	TBD																
Global	SSR Mode S																	
MID Region																		
States	Afghanistan																	
	Bahrain																	
	Egypt	TBD																

MIDDLE EAST — SURVEILLANCE SYSTEM IMPLEMENTATION

		1994	95	96	97	98	99	2000	1	2	3	4	5	6	7	8	9	2010
	Iran, Islamic Rep. of	TBD																
	Iraq																	
	Israel																	
	Jordan	TBD																
	Kuwait																	
	Lebanon																	
	Oman	TBD																
	Qatar																	
	Saudi Arabia																	
	Syrian Arab Republic																	
	United Arab Emirates																	
	Yemen	TBD																
MID Region	Interim ADS (FANS 1/A)																	
States	Afghanistan																	
	Bahrain	TBD																
	Egypt	TBD																
	Iran, Islamic Rep. of																	
	Iraq																	
	Israel																	
	Jordan	N/A																
	Kuwait																	
	Lebanon																	
	Oman	TBD																
	Qatar																	
	Saudi Arabia	TBD																
	Syrian Arab Republic																	
	United Arab Emirates	N/A																
	Yemen	TBD																

Table 11-1. Homogeneous ATM Areas and Major Traffic flows
Middle East Region

Area of routing (AR)	*Traffic flow*	*FIRs involved*	*Type of area covered*	*Remarks*
AR1	Asia and Europe, Asia and the Middle East, Europe and the Middle East, via the northern Arabian Peninsula and Eastern Mediterranean.	Amman, Baghdad, Bahrain, Beirut, Cairo, Damascus, Emirates, Jeddah, Kuwait, Muscat, Tel Aviv	Continental high density	Mainly intra-regional and MID to/from ASIA and EUR . Some overflying EUR/ASIA traffic.
AR-2	Egypt and the southern Arabian Peninsula to/from Europe, Africa and Asia.	Cairo, Bahrain, Emirates, Jeddah,	Remote Continental and Oceanic low density (but seasonally high density)	Mainly landing and departing the MID region. Some EUR/AFI traffic. Seasonal pilgrim flights to and from Africa, Central, South and South-East Asia
AR3	Asia and Europe, Asia and the Middle East, Europe and the Middle East, north of the Gulf.	Teheran, Kabul	Continental high density	Major flow ASIA/EUR.

i. Transition planning must also take into account the present operating fleet and the re-equipment plans of airlines operating within the MID Region.

ii. It is important that as CNS/ATM systems are progressively introduced, the ATM procedures should provide positive benefits for those operators who equip with the new technology.

iii. Volume I Chapter 4 of the Global Plan contains detailed information on the specific transition issues apply to ATM. A copy of this is reproduced at **Appendix 7-A** to chapter 7.

iv. The requirements for the introduction on RNP/RNAV and associated reductions in separation are specified in the *Middle East Implementation Plan for the Introduction of RNP/RNAV.* A copy is attached as **Appendix 7-B** to chapter 7.

Table 11-2

MID REGION – ATM ENHANCEMENTS BY MAJOR TRAFFIC FLOWS

AREA OF ROUTING	ATM OBJECTIVE/ STATES' IMPLEMENTATION		95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10
AR-1 (Northern Arabian Peninsula, Near East and Northern Egypt)	Region	Longitudinal separation reduction to 80 NM RNAV																
	States	Bahrain																
		Egypt																
		Iraq																
		Israel																
		Jordan																
		Kuwait																
		Lebanon																
		Oman																
		Qatar	N /	A														
		Saudi Arabia																
		Syrian Arab Republic																
		United Arab Emirates	N /	A														
	Region	Longitudinal separation reduction to 50 NM/RNAV procedures (RNP 10)																
	States	Bahrain																
		Egypt	N/	A														
		Iraq																
		Israel																
		Jordan	T	B	D													
		Kuwait																
		Lebanon																
		Oman	N /	A														
		Qatar	N /	A														
		Saudi Arabia																
		Syrian Arab Republic																
		United Arab Emirates	N /	A														
	Region	Longitudinal separation reduction to 30 NM (RNP 5)[1]																
	States	Bahrain																
		Egypt																
		Iraq																
		Israel																
		Jordan	T	B	D													

[1] SARPS not yet completed

MID REGION – ATM ENHANCEMENTS BY MAJOR TRAFFIC FLOWS

AREA OF ROUTING	ATM OBJECTIVE/ STATES' IMPLEMENTATION		95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10
		Kuwait																
		Lebanon																
		Oman	N /	A														
		Qatar	N /	A														
		Saudi Arabia																
		Syrian Arab Republic																
		United Arab Emirates	N /	A														
	Region	Lateral Separation Reduction to 18 NM (RNP 5)																
	States	Bahrain																
		Egypt																
		Iraq																
		Israel																
		Jordan	T	B	D													
		Kuwait																
		Lebanon																
		Oman	N/	A														
		Qatar																
		Saudi Arabia																
		Syrian Arab Republic																
		United Arab Emirates																
	Region	Introduce RVSM to 1 000 ft above FL 290																
	States	Bahrain																
		Egypt																
		Iraq																
		Israel																
		Jordan																
		Kuwait																
		Lebanon																
		Oman																
		Qatar																
		Saudi Arabia																
		Syrian Arab Republic																
		United Arab Emirates																
AR-2 (Southern Arabian Peninsula and Southern Egypt)	Region	Longitudinal separation reduction to 10 min /80 NM RNAV																
	States	Bahrain																
		Egypt																
		Oman																
		Saudi Arabia																
		United Arab Emirates	N /	A														
		Yemen																
	Region	Longitudinal separation reduction to 50 NM/RNAV procedures (RNP 10)																
	States	Bahrain																
		Egypt	N/	A														
		Oman	N /	A														
		Saudi Arabia																
		United Arab Emirates	N /	A														
		Yemen																
	Region	Longitudinal separation reduction to 30 NM (RNP 5)[1]																

[1] SARPS not yet completed

MID REGION – ATM ENHANCEMENTS BY MAJOR TRAFFIC FLOWS

AREA OF ROUTING	ATM OBJECTIVE/ STATES' IMPLEMENTATION		95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10
	States	Bahrain																
		Egypt	N/	A														
		Oman	N /	A														
		Saudi Arabia																
		United Arab Emirates	N /	A														
		Yemen	T	B	D													
	Region	Lateral Separation Reduction to 18 NM (RNP 5)																
	States	Bahrain																
		Egypt																
		Oman	N/	A														
		Saudi Arabia																
		Syrian Arab Republic																
		United Arab Emirates																
		Yemen																
	Region	Introduce RVSM to 1 000 ft above FL 290																
	States	Bahrain																
		Egypt																
		Oman																
		Saudi Arabia																
		United Arab Emirates																
		Yemen																
AR-3 (Iran/Afghanistan)	Region	Longitudinal separation reduction to 10 min /80 NM RNAV																
	States	Afghanistan																
		Iran, Islamic Republic of																
	Region	Longitudinal separation reduction to 50 NM/RNAV procedures (RNP 10)																
	States	Afghanistan																
		Iran, Islamic Republic of																
	Region	Longitudinal separation reduction to 30 NM (RNP 5)[1]																
	States	Afghanistan																
		Iran, Islamic Republic of																
	Region	Lateral Separation Reduction to 18 NM (RNP 5)																
	States	Afghanistan																
		Iran, Islamic Republic of																
	Region	Introduce RVSM to 1 000 ft above FL 290																
	States	Afghanistan																
		Iran, Islamic Republic of																

[1] SARPS not yet completed

.

Table 11-3

MID REGION – ATM REQUIREMENTS FOR COMMUNICATIONS BY MAJOR TRAFFIC FLOWS

AREA OF ROUTING	SYSTEM COMPONENT/ STATES' IMPLEMENTATION		95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10
AR-1 (Northern Arabian Peninsula, Near East and Northern Egypt)	Region	Continuous coverage of VHF voice																
	States	Bahrain																
		Egypt																
		Iraq																
		Israel																
		Jordan																
		Kuwait																
		Lebanon																
		Oman																
		Qatar																
		Saudi Arabia																
		Syrian Arab Republic																
		United Arab Emirates																
	Region	CPDLC																
	States	Bahrain																
		Egypt																
		Iraq																
		Israel																
		Jordan																
		Kuwait	T	B	D													
		Lebanon																
		Oman																
		Qatar	N /	A														
		Saudi Arabia																
		Syrian Arab Republic																
		United Arab Emirates																
	Region	AMHS																
	States	Bahrain																
		Egypt	T	B	D													
		Iraq																
		Israel																
		Jordan																
		Kuwait	T	B	D													
		Lebanon																
		Oman																
		Qatar	N /	A														
		Saudi Arabia																
		Syrian Arab Republic																
		United Arab Emirates																

MID REGION – ATM REQUIREMENTS FOR COMMUNICATIONS BY MAJOR TRAFFIC FLOWS

AREA OF ROUTING	SYSTEM COMPONENT/ STATES' IMPLEMENTATION		95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10
AR-1 (Northern Arabian Peninsula, Near East and Northern Egypt)	Region	AIDC																
	States	Bahrain																
		Egypt	T	B	D													
		Iraq																
		Israel																
		Jordan																
		Kuwait	T	B	D													
		Lebanon																
		Oman																
		Qatar	N/	A														
		Saudi Arabia																
		Syrian Arab Republic																
		United Arab Emirates																
AR-2 (Southern Arabian Peninsula, and Southern Egypt)	Region	Continuous coverage of VHF voice *	Not Feasible															
	States	Bahrain																
		Egypt																
		Oman																
		Saudi Arabia																
		United Arab Emirates																
		Yemen																
	Region	CPDLC																
	States	Bahrain																
		Egypt																
		Oman																
		Saudi Arabia																
		United Arab Emirates																
		Yemen																
	Region	AMHS																
	States	Bahrain																
		Egypt	T	B	D													
		Oman																
		Saudi Arabia																
		United Arab Emirates																
		Yemen	T	B	D													
	Region	AIDC																
	States	Bahrain																
		Egypt	T	B	D													
		Oman																
		Saudi Arabia																
		United Arab Emirates																
		Yemen	T	B	D													

* Coverage not possible in oceanic and remote parts of AR-2

MID REGION – ATM REQUIREMENTS FOR COMMUNICATIONS BY MAJOR TRAFFIC FLOWS

AREA OF ROUTING	SYSTEM COMPONENT/ STATES' IMPLEMENTATION		95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10
AR-3 (Iran/Afghanistan)	Region	Continuous coverage of VHF voice																
	States	Afghanistan																
		Iran, Islamic Republic of																
	Region	CPDLC**																
	States	Afghanistan																
		Iran, Islamic Republic of																
	Region	AMHS																
	States	Afghanistan																
		Iran, Islamic Republic of	T	B	D													
	Region	AIDC																
	States	Afghanistan																
		Iran, Islamic Republic of	T	B	D													

** FANS 1/A CPDLC

Table 11- 4

MID REGION – ATM REQUIREMENTS FOR NAVIGATION BY MAJOR TRAFFIC FLOWS

AREA OF ROUTING	SYSTEM COMPONENT/ STATES' IMPLEMENTATION		95	96	97	98	99	00	1	2	3	4	5	6	7	8	9	10
AR-1 (Northern Arabian Peninsula, Near East and Northern Egypt)	Region	WGS–84																
	States	Bahrain																
		Egypt																
		Iraq																
		Israel																
		Jordan																
		Kuwait																
		Lebanon																
		Oman																
		Qatar																
		Saudi Arabia																
		Syrian Arab Republic																
		United Arab Emirates																
	Region	RNP 10																
	States	Bahrain																
		Egypt	N/	A														
		Iraq																
		Israel																
		Jordan	N/	A														
		Kuwait																
		Lebanon																
		Oman	N/	A														
		Qatar	N /	A														
		Saudi Arabia																
		Syrian Arab Republic																
		United Arab Emirates																
	Region	RNP 5																
	States	Bahrain																
		Egypt																
		Iraq																
		Israel																
		Jordan																
		Kuwait																
		Lebanon																
		Oman																
		Qatar	T	B	D													
		Saudi Arabia																
		Syrian Arab Republic																
		United Arab Emirates																

MID REGION – ATM REQUIREMENTS FOR NAVIGATION BY MAJOR TRAFFIC FLOWS

AREA OF ROUTING	SYSTEM COMPONENT/ STATES' IMPLEMENTATION		95	96	97	98	99	00	1	2	3	4	5	6	7	8	9	10
AR-1 (Northern Arabian Peninsula, Near East and Northern Egypt)	Region	RNP 1	T	B	D													
	States	Bahrain	T	B	D													
		Egypt	T	B	D													
		Iraq																
		Israel																
		Jordan	T	B	D													
		Kuwait																
		Lebanon																
		Oman	T	B	D													
		Qatar	N /	A														
		Saudi Arabia																
		Syrian Arab Republic																
		United Arab Emirates	T	B	D													
AR-2 (Southern Arabian Peninsula, and Southern Egypt)	Region	WGS–84																
	States	Bahrain																
		Egypt																
		Oman																
		Saudi Arabia																
		United Arab Emirates																
		Yemen																
	Region	RNP 10																
	States	Bahrain	T	B	D													
		Egypt	N/	A														
		Oman	N/	A														
		Saudi Arabia																
		United Arab Emirates	N/	A														
		Yemen																
	Region	RNP 5																
	States	Bahrain																
		Egypt																
		Oman																
		Saudi Arabia																
		United Arab Emirates																
		Yemen																
	Region	RNP 1	T	B	D													
	States	Bahrain	T	B	D													
		Egypt	T	B	D													
		Oman	T	B	D													
		Saudi Arabia																
		United Arab Emirates	T	B	D													
		Yemen																

MID REGION – ATM REQUIREMENTS FOR NAVIGATION BY MAJOR TRAFFIC FLOWS

AREA OF ROUTING	SYSTEM COMPONENT/ STATES' IMPLEMENTATION		95	96	97	98	99	00	1	2	3	4	5	6	7	8	9	10
AR-3 (Iran/Afghanistan)	Region	WGS–84																
	States	Afghanistan																
		Iran, Islamic Republic of																
	Region	RNP 10																
	States	Afghanistan																
		Iran, Islamic Republic of																
	Region	RNP 5																
	States	Afghanistan																
		Iran, Islamic Republic of																
	Region	RNP 1	T	B	D													
	States	Afghanistan																
		Iran, Islamic Republic of	T	B	D													

Table 11- 5

MID REGION – ATM REQUIREMENTS FOR SURVEILLANCE BY MAJOR TRAFFIC FLOWS

AREA OF ROUTING	SYSTEM COMPONENT/ STATES' IMPLEMENTATION		95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10
AR-1 (Northern Arabian Peninsula, Near East and Northern Egypt)	Region	SSR Mode S																
	States	Bahrain																
		Egypt																
		Iraq																
		Israel																
		Jordan	T	B	D													
		Kuwait																
		Lebanon																
		Oman	T	B	D													
		Qatar																
		Saudi Arabia																
		Syrian Arab Republic																
		United Arab Emirates																
	Region	ADS																
	States	Bahrain	T	B	D													
		Egypt	N/	A														
		Iraq																
		Israel																
		Jordan	T	B	D													
		Kuwait																
		Lebanon																
		Oman	N /	A														
		Qatar	N /	A														
		Saudi Arabia																
		Syrian Arab Republic																
		United Arab Emirates	N/	A														
	Region	Interim ADS (FANS 1/A)	N/	A														
	States	Bahrain																
		Egypt	N/	A														
		Iraq																
		Israel																
		Jordan																
		Kuwait																
		Lebanon																
		Oman	N /	A														
		Qatar	N /	A														
		Saudi Arabia	N/	A														
		Syrian Arab Republic																
		United Arab Emirates	N/	A														

MID REGION – ATM REQUIREMENTS FOR SURVEILLANCE BY MAJOR TRAFFIC FLOWS

AREA OF ROUTING	SYSTEM COMPONENT/ STATES' IMPLEMENTATION		95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10
AR-2 (Southern Arabian Peninsula, and Southern Egypt)	Region	SSR Mode S																
	States	Bahrain																
		Egypt																
		Oman	T	B	D													
		Saudi Arabia																
		United Arab Emirates																
		Yemen	T	B	D													
	Region	ADS																
	States	Bahrain	T	B	D													
		Egypt																
		Oman	N /	A														
		Saudi Arabia																
		United Arab Emirates	N/	A														
		Yemen																
	Region	Interim ADS (FANS 1/A)																
	States	Bahrain	T	B	D													
		Egypt	N/	A														
		Oman	N /	A														
		Saudi Arabia																
		United Arab Emirates	N/	A														
		Yemen	T	B	D													
AR-3 (Iran/Afghanistan)	Region	SSR Mode S	T	B	D													
	States	Afghanistan																
		Iran, Islamic Republic of	T	B	D													
	Region	ADS																
	States	Afghanistan																
		Iran, Islamic Republic of																
	Region	Interim ADS (FANS 1/A)																
	States	Afghanistan																
		Iran, Islamic Republic of	T	B	D													

MIDANPIRG/7
Appendix 6E to the Report on Agenda Item 6

REVISED STRATEGY FOR THE IMPLEMENTATION OF GNSS NAVIGATION CAPABILITY IN THE MID REGION

Considering that:

1) Safety is the highest priority;

2) Elements of Global Air Navigation Plan for CNS/ATM System on GNSS and requirements for the GNSS implementation will be incorporated into the CNS part of FASID

3) GNSS Standards and Recommended Practices (SARPs), PANS and guidance material for GNSS implementation are available;

4) The availability of avionics including limitations of some receiver designs; the ability of aircraft to achieve RNP requirements and the level of user equipage

5) Development of GNSS systems including satellite constellations and improvement in system performance;

6) Airworthiness and operational approvals allowing the current GNSS to be applied for en-route and non precision approach phases of flight without the need for augmentation services external to the aircraft;

7) Development status of aircraft-based augmentation systems;

8) Regional augmentation systems include both satellite-based and ground-based systems;

9) Human, environmental and economic factors will affect the implementation.

The general strategy for the implementation of GNSS in the MID Region is detailed below. This strategy is based on the regional navigation requirements of:

a) RNP 10 for en-route in remote/oceanic areas;
b) RNP 5 for en-route
c) NPA/APV for approaches and
d) Precision approaches at selected airports.

1) There should be an examination of the extent to which the GNSS system accessible in the Region can meet the navigational requirements of ATM service providers and aircraft operators in the Region;

2) Evolutionary introduction of GNSS Navigation Capability should be consistent with the Global Air Navigation Plan for CNS/ATM systems;

3) Implementation should be in full compliance with ICAO Standards and Recommended Practices and PANS;

4) Introduce the use of GNSS as a primary means of navigation in remote/oceanic areas;

5) Introduce the use of GNSS as a supplemental/primary means of en-route navigation and non-precision approach;

6) Any external augmentation system deemed necessary for the implementation of GNSS for a particular flight phase in an area under consideration (SBAS/GBAS including ground-based regional augmentation system) should be implemented in full compliance with ICAO SARPs;

7) To be extend possible, States should work co-operatively on multinational basis to implement GNSS augmentation system in order to facilitate seamless and inter-operable systems;

8) States consider segregating traffic according to navigation capability and granting preferred routes to aircraft with better navigation performance with the exception to State aircraft;

9) States undertake a coordinated R& D program on GNSS implementation and operation;

10) ICAO and States should undertake education and training to provide necessary knowledge in GNSS theory and operational application, and

11) States establish multidisciplinary GNSS implementation teams, using section 6.10.2 of ICAO Circular 267, Guidelines for the Introduction and Operational Approval of the GNSS, as a guide.

MIDANPIRG/7
Report on Agenda Item 7

REPORT ON AGENDA ITEM 7: DEFICIENCIES IN THE AIR NAVIGATION FIELD

Review of The Uniform Methodology for The Identification, Assessment And Reporting of Air Navigation Deficiencies

7.1 The meeting noted that the uniform methodology for the identification, assessment and reporting of air navigation shortcomings and deficiencies was prepared with the assistance of

on 23 June 1998 for the efficient identification, assessment and clear reporting of air navigation deficiencies.

7.2 The PIRGs, in reviewing lists of shortcomings and deficiencies, make an assessment of the safety impact for subsequent review by the Air Navigation Commission. The purposes of these lists of shortcomings and deficiencies have been to assist States in defining their implementation priorities and to indicate that remedial action is required.

7.3 During a recent review of PIRG reports related to uniform methodology by the ANC, it became evident that some parts of the methodology was being interpreted in different ways. The Commission consequently suggested that a detailed review of the definitions of *shortcomings* and *deficiencies* was necessary and that a study should be conducted as soon as possible to develop a single definition. The Commission also felt that this matter should be brought to the attention of the fourth meeting of the ALLPIRG/Advisory Group (ALLPIRG/4) before making a final decision on the issue.

7.4 The uniform methodology, as initially drafted, defined a *shortcoming* as a situation where a facility was not installed or a service was not provided in accordance with an air navigation plan (ANP) and a *deficiency* as a situation where an existing facility or service was partially unserviceable, incomplete or not operated in accordance with applicable ICAO specifications and procedures

7.5 The meeting was informed that the ALLPIRG/4 (6-8 February 2001) also recognized the difficulties that arose due to the use of two definitions. It was considered that the net effect of either a shortcoming or a deficiency is a negative impact on the safety, regularity and/or efficiency of international civil aviation. As the net effect for both conditions is the same, it was very difficult for PIRGs to distinguish between situations to be classified as a shortcoming or a deficiency subject to the status of implementation. Consequently, ALLPIRG/4 concurred with the Commission that a single definition should be developed for incorporation into the uniform methodology and felt that the word *deficiency* should be retained in the new single definition, as the negative connotation associated with the word had political and financial leverage to assist with the corrective action required.

7.6 In light of the above, the MIDANPIRG/7 noted that the Commission developed a new single definition for Council consideration and proposed that the definition for a shortcoming or a deficiency as contained in the uniform methodology for the identification, assessment and reporting of air navigation shortcomings and deficiencies be replaced with a single definition for both situation.

7.7 The introduction of this new single definition of as detailed below, which in effect replaces and consequential editorial changes to the uniform methodology were approved on 30 November 2001 by the Council of ICAO.

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.

7.8 The meeting, in discussing the application of above definition, expressed that there was a scope for further improving the definition in terms of clarity and usability. However, considering the fact that the review of uniform methodology for the identification, assessment and reporting of air navigation deficiencies is a living document and as such there would be another opportunity to contribute during next cycle of review, the MIDANPIRG/7 adopted the revised uniform methodology, including new definition of deficiency in addressing the deficiencies of MID region . As a result the group developed following conclusion:

CONCLUSION 7/44: REVISED UNIFORM METHODOLOGY, INCLUDING NEW DEFINITION OF DEFICIENCY, IN ADDRESSING THE DEFICIENCIES OF MID REGION

That, States:

a) note the introduction of this new single definition of replacing ; and

b) adopt the revised uniform methodology as presented in the **Appendix 7A** to Agenda Item 3 in addressing the deficiencies of MID Region.

Deficiencies in the AOP field in the MID Region

7.9 The meeting was presented with the updated list of deficiencies in the AOP field in the MID Region,

7.10 The meeting revised and further updated the comprehensive list of information obtained on seven States as indicated at attached **Appendix 7B** to the report on Agenda Item 7

7.11 The meeting was informed that ICAO at its 33rd Assembly meeting adopted Resolution A33-14- Appendix M refers to the Implementation of Regional Plans emphasizing the need for monitoring, reporting and addressing information on serious shortcomings and deficiencies with the intent to encouraging States to take remedial action for resolving the problems.

7.12 The meeting emphasized the need for all concerned States/Users, to extend their cooperation in this exercise so that effective solutions can be suggested for the resolution of the deficiencies in the region.

7.13 The meeting formulated the following Conclusion:

CONCLUSION 7/45: MONITORING AND FOLLOW UP OF CORRECTIVE ACTIONS TO ALLIVIATE DEFICIENCIES IN AOP FIELD

That, States and Organization which are assigned responsibility for corrective actions in relation to AOP deficiencies in the Air Navigation field as indicated at attached **Appendix 7B** to the report on Agenda Item 7 are urged through their executing bodies;

- to provide the ICAO MID Regional Office with the information related to current and planned corrective actions, which are necessary for the Regional Office and MIDANPIRG to carry out their monitoring and follow up responsibilities.

Deficiencies in the ATM/SAR/AIS Field in the MID Region

7.14 MIDANPIRG accordingly reviewed the list of deficiencies in the ATM/SAR and AIS/MAP fields in the Region and agreed that the Secretariat will update the list in consultation with States for inclusion in the final report of the meeting. The meting also urged States to take remedial measures for the elimination of these deficiencies, which are having an impact on the safety of air navigation in the Region. The consolidated list of deficiencies in the ATM/SAR and AIS/MAP fields are at **Appendices 7C & 7D** respectively.

Deficiencies in the CNS field in the MID Region

7.15 The meeting reviewed the list of Deficiencies up-dated by the COM/MET SG/4, with the information that was made available from the States and ICAO Regional Office. The list of Deficiencies is presented in **Appendix 7E** to the report on Agenda Item 7.

7.16 The meeting agreed with the proposal made by the COM/MET SG/4 to give priority A to all circuits linking main centers that appear on the list of deficiencies.

7.17 Taking into account that the MIDANPIRG handbook will have to be amended to reflect the single definition of a deficiency, the meeting modified the table of Deficiencies accordingly.

7.18 The meeting was informed that harmful interference cases are growing in the Region and that this infringement to the ITU Radio Regulations shall be reported to the respective telecommunications Administration in the adequate manner.

7.19 Noting that the MID FASID does not contain any provision to record and report interference cases, the meeting agreed to the following Decision:

DECISION 7/46: HARMFUL INTERFERENCE REPORT FORM

That, an amendment be made in the MID ANP/FASID to take into account the harmful interference report form (as shown in the **Appendix 7F** to the report on Agenda Item 7).

7.20 The meeting also agreed that the improved harmful interference report as shown in the **Appendix 7G** to the report on Agenda Item 7 should be used with aeronautical services.

7.21 Taking into account that, the efficiency to process the interference form depends on a close coordination with the National Telecommunication Authorities, the meeting reached the following Conclusion:

CONCLUSION 7/47: HARMFUL INTERFERENCE TO RADIO FREQUENCY BANDS ALLOCATED TO THE AERONAUTICAL SERVICES

That, States should

a) develop, in coordination with frequency spectrum management authorities and considering relevant ITU procedures, suitable mechanism for detection and elimination of unauthorized transmission of causing interference to aeronautical service; and

b) notify ITU causes of serious and persistent harmful interference, and the ICAO Regional, for further coordination on this matter, using the form of **Appendix 7F** to the report on Agenda Item 7.

Deficiencies in the MET field in the MID Region

7.22 The COM/MET SG/4 had reviewed the table of Air Navigation deficiencies in the MET field in the MID Region as reviewed and adopted by MIDANPIRG/5. The SG had performed an in-depth review of the current status of implementation but had been hampered by the fact that experts from only five States from the MID region were present at this meeting. Based on this review the meeting agreed that the ATS/MET/Pilot cooperation and coordination was a safety related area with room for improvement, in particular concerning training, reporting and exchange of air reports. In this context the meeting was advised about the new edition of the ICAO Manual on Co-ordination between Air Traffic Services and Aeronautical Meteorological Services (Doc 9377).

CONCLUSION 7/48: IMPROVEMENT OF THE COORDINATION BETWEEN ATS, MET AND PILOTS

That, ICAO invites the States in the MID Region, IATA and IFALPA to enhance the cooperation and coordination between MET, ATS and pilots including inter-disciplinary training and familiarization in order to improve exchange of safety related information e.g. air reports.

7.23 Concerning the overall status of implementation of facilities and services at Aeronautical Met offices in the MID Region, the meeting agreed that this had to be further investigated through a survey including all MID States:

CONCLUSION 7/49: DEFICIENCIES IN THE MET FIELD IN THE MID REGION

That the ICAO MID Regional Office survey by a questionnaire the status of implementation of facilities and services at Aeronautical Met offices in the MID Region.

7.24 Another area of concern was the lack of upper air soundings, necessary for the forecasting and warning services and the need for data from systems like ACARS and AMDAR to complement these measurements. The meeting was advised that this was part of the basic meteorological data and this matter therefore should be addressed with the appropriate WMO forum

7.25 Based on a complete review by the SG of all MET related items on the list from MIDANPIRG/5 an updated table of Air Navigation Deficiencies in the MET field in the MID Region" as attached at **Appendix 7G** to the report on Agenda Item 7 was approved by the meeting.

7.26 The issue of addressing deficiencies and a need for promoting corrective actions to be taken by concerned states has been widely discussed. Examples of the approaches taken in other regions, specifically in CAR/SAM and AFI have been brought to the attention of the meeting.

7.27 The meeting noted the related developments in other regions and agreed that there is a need to enhance the remedial actions aiming at the elimination of deficiencies and to take resolute steps in order to be better prepared for the forthcoming expansion at the ICAO USOAP.

7.28 The meeting considered the proposal for the establishment of a MID Air Navigation Safety Board including its proposed terms of reference, working methods and composition and agreed that this issue is to be presented to the next meeting of the MIDANPIRG, planned for 2003. At the same time recognizing the importance of elimination of the identified deficiencies by the member States, the meeting adopted the following Decision:

DECISION 7/50: ELIMINATION OF THE DEFICIENCIES

That, the ICAO MID Office carries out a detailed survey in collaboration with the MID States concerned by the deficiencies with priorities U and A and with the relevant International Organizations, in order to determine the problems the States are facing and how to solve these deficiencies. The results of such a survey and the experience gained should be reported to the MIDANPIRG/8.

MIDANPIRG/7
Appendix 7A to the report on Agenda Item 7

PROPOSED AMENDMENTS

UNIFORM METHODOLOGY FOR THE IDENTIFICATION, ASSESSMENT AND REPORTING OF AIR NAVIGATION ~~SHORTCOMINGS AND~~ DEFICIENCIES

(Approved by the Council on 30 November 2001)

1. INTRODUCTION

1.1 Based on the information resulting from the assessment carried out by ICAO on the input received from various regions regarding ~~shortcomings and~~ deficiencies in the air navigation field, it became evident that improvements were necessary in the following areas:

a) collection of information;

b) safety assessment of reported problems;

c) identification of suitable corrective actions (technical/operational/financial/ organizational), both short-term and long-term; and

d) method of reporting in the reports of ICAO planning and implementation regional groups (PIRGs).

1.2 This methodology is therefore prepared with the assistance of ICAO PIRGs and is approved by the ICAO Council for the efficient identification, assessment and clear reporting of air navigation ~~shortcomings and~~ deficiencies. It may be further updated by the Air Navigation Commission in the light of the experience gained in its utilization.

1.3 For the purpose of this methodology, ~~a situation where a facility is not installed or a service is not provided in accordance with a regional air navigation plan is considered to be a shortcoming. A situation where an existing facility or service is partially unserviceable, incomplete or not operated in accordance with appropriate ICAO specifications and procedures is considered to be a deficiency. The net effect of either a shortcoming or a deficiency is a negative impact on safety, regularity and/or efficiency of international civil aviation.~~ the following is the definition of deficiency:

> 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.

2. COLLECTION OF INFORMATION

2.1 Regional office sources

2.1.1 As a routine function, the regional offices ~~are expected to~~ should maintain a list of specific ~~shortcomings and~~ deficiencies, if any, in their regions. To ensure that this list is as clear and as complete as possible, it is understood that the regional offices take the following steps:

a) compare the status of implementation of the air navigation facilities and services with the regional air navigation plan documents and identify facilities, services and procedures not implemented;

b) review mission reports with a view to detecting ~~shortcomings and~~ deficiencies that affect safety, regularity and efficiency of international civil aviation;

c) make a systematic analysis of the differences with ICAO Standards and Recommended Practices filed by States to determine the reason for their existence and their impact, if any, on safety, regularity and efficiency of international civil aviation;

d) review aircraft accident and incident reports with a view to detect possible systems or procedures deficiencies;

e) review inputs, provided to the regional office by the users of air navigation services on the basis of Assembly Resolution ~~A31-5~~ A33-14, Appendix M;

f) assess and prioritize the result of a) to e) according to paragraph 4;

g) report the outcome to the State(s) concerned for resolution; and

h) report the result of g) above to the related PIRG for further examination, advice and report to the ICAO Council, as appropriate through PIRG reports.

2.2 **States' sources**

2.2.1 To collect information from all sources, States should, in addition to complying with the Assembly Resolution A31-10, establish reporting systems in accordance with the requirements in Annex 13, paragraph 7.3. These reporting systems should be non-punitive in order to capture the maximum number of deficiencies.

2.3 **Users' sources**

2.3.1 Appropriate international organizations, including the International Air Transport Association (IATA) and the International Federation of Air Line Pilots' Associations (IFALPA), are valuable sources of information on ~~shortcomings and~~ deficiencies, especially those that are safety related. In their capacity as users of air navigation facilities they should identify facilities, services and procedures that are not implemented or are unserviceable for prolonged periods or are not fully operational. In this context it should be noted that Assembly Resolution ~~A31-5~~ A33-14, Appendix M and several decisions of the Council obligate users of air navigation facilities and services to report any serious problems encountered due to the lack of implementation of air navigation facilities or services required by regional plans. It is emphasized that this procedure, together with the terms of reference of the PIRGs should form a solid basis for the identification, reporting and assisting in the resolution of non-implementation matters.

3. **REPORTING OF INFORMATION ON ~~SHORTCOMINGS AND~~ DEFICIENCIES**

3.1 In order to enable the ICAO PIRGs to make detailed assessments of ~~shortcomings and~~ deficiencies, States and appropriate international organizations including IATA and IFALPA, are expected to provide the information they have to the ICAO regional office for action as appropriate, including action at PIRG meetings.

3.2 The information should at least include: description of the ~~shortcoming and~~ deficiency, risk assessment, possible solution, time-lines, responsible party, agreed action to be taken and action already taken.

3.3 The agenda of each PIRG meeting should include an item on air navigation ~~shortcomings and~~ deficiencies, including information reported by States, IATA and IFALPA in addition to those identified by the regional office according to paragraph 2.1 above. Review of the ~~shortcomings and~~ deficiencies should be a top priority for each meeting. The PIRGs, in reviewing lists of ~~shortcomings and~~ deficiencies, should make an assessment of the safety impact for subsequent review by the ICAO Air Navigation Commission.

3.4 In line with the above, and keeping in mind the need to eventually make use of this information in the planning and implementation process, it is necessary that once a ~~shortcoming or~~ deficiency has been identified and validated, the following fields of information should be provided in the reports on ~~shortcomings and~~ deficiencies in the air navigation systems. These fields are as follows and are set out in the reporting form attached hereto.

a) Identification of the requirements

As per ICAO procedures, Regional Air Navigation Plans detail *inter alia* air navigation requirements including facilities, services and procedures required to support international civil aviation operations in a given region. Therefore, ~~shortcomings or~~ deficiencies would relate to a requirement identified in the regional air navigation plan documents. As a first item in the ~~shortcoming/~~ deficiency list, the requirements along with the name of the meeting and the related recommendation number should be included. In addition, the name of the State or States involved and/or the name of the facilities such as name of airport, FIR, ACC, TWR, etc. should be included.

b) Identification of the ~~shortcoming or~~ deficiency

This item identifies the ~~shortcoming or~~ deficiency and would be composed of the following elements:

i) a brief description of the ~~shortcoming or~~ deficiency;

ii) date ~~shortcoming or~~ deficiency was first reported;

~~iii) Status of implementation; ie,S = shortcoming~~
~~D = deficiency~~

~~iv~~ iii) appropriate important references (meetings, reports, missions, etc)

c) Identification of the corrective actions

In the identification of the corrective actions, this item would be composed of:

i) a brief description of the corrective actions to be undertaken;

ii) identification of the executing body;

iii) expected completion date of the corrective action*; and

* It should be noted that a longer implementation period could be assigned in those cases in which the expansion or development of a facility was aimed at serving less frequent operations or entailed excessive expenditures.

iv) when appropriate or available, an indication of the cost involved.

4. ASSESSMENT AND PRIORITIZATION

4.1 A general guideline would be to have three levels of priority organized on the basis of safety, regularity and efficiency assessment as follows:

"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.

5. MODEL REPORTING TABLE FOR USE IN THE REPORTS OF PIRGS

5.1 Taking the foregoing into account, the model table at the Appendix is for use by PIRGs for the identification, assessment, prioritization etc. of ~~shortcomings and~~ deficiencies. It might be preferred that a different table would be produced for each of the different topics i.e. AGA, ATM, SAR, CNS, AIS/MAP, MET. However, all tables should be uniform.

6. ACTION BY THE REGIONAL OFFICES

6.1 Before each PIRG meeting, the regional office concerned will provide advance documentation concerning the latest status of ~~shortcomings and~~ deficiencies.

6.2 It is noted that the regional offices should document serious cases of ~~shortcomings and~~ deficiencies to the Air Navigation Commission (through ICAO Headquarters) as a matter of priority, rather than waiting to report the matter to the next PIRG meeting, and that the Air Navigation Commission will report to the Council.

REPORTING FORM ON AIR NAVIGATION ~~SHORTCOMINGS AND~~ DEFICIENCIES IN THE .... FIELD IN THE .... REGION

Identification		~~Shortcomings and~~ deficiencies				Corrective action			
Requirements	States/facilities	Description	Date first reported	~~Implementation status (S, D)*~~	Remarks	Description	Executing body	Date of complete	Priority for action*
Requirement of Part .., paragraph (table) .. of the air navigation plan	Terra X Terra Y	Speech circuits not implemented Villa X - Villa Y	12/02/2..X	~~S~~ REMOVE THIS COLUMN IN FULL	Co-ordination meeting between Terra X and Terra Y on 16/07/2..X to finalize arrangements to implementation circuit via satellite	Implementation of direct speech circuit via satellite	Terra X	August 20..X	A

~~*S = shortcoming D = deficiency~~

* Priority for action to remedy a ~~shortcoming or~~ 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.

MIDANPIRG/7
Appendix 7B to the Report on Agenda Item

UPDATED AIR NAVIGATION DEFICIENCIES IN THE MID REGION AOP FIELD

Identification		Deficiencies			Corrective Action			
Requirement	**States/ Facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Date of complete**	**Priority for action***
MID/3 RAN Rec. 1/3 ASIA/PAC 3 RAN, Rec.3/1	**Afghanistan** Kabul Intl. Airport	No VASIs on RWY 11/29 No ILS RWY 11/29; and other ed by last UN mission to Afghanistan	April 2000 Jan 2002		 No accurate information available	DGCA		 U
ASIA/PAC/3, Rec. 4/2, 4/10	**Egypt** Aswan Sharm El Sheikh Intl	 Runway markings and Threshold markings need refurbishing RWY 04 surface rough TWY and Apron lighting inadequate	 July 2000 July 2000		 Markings need to be repainted RWY 04 surface to be attended to. Lighting needs improvement	 CAA CAA	 End 2001 End 2001	 A B
ASIA/PAC/3, Rec. 4/10 MID/3, Conc.1/6, Rec. 1/3	**Iran** Airport Airport Airport	 Precision approach lighting of RWY29L has decreased to 600m due to highway interference Precision approach terrrain chart of RWY29L must be renewed/revised Aerodrome Obstacle chart type A not provided	 July 2001 July 2001 July 2001	 Required VIS for ILS APP has increased to 1200m	 Lighting needs to be reinstalled on supports Chart needs to be renewed/ revised Chart must be examined and provided	 CAO CAO CAO	 Mid 2002 Mid 2002 End 2002	 A A A

Identification		Deficiencies			Corrective Action			
Requirement	**States/ Facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Date of complete**	**Priority for action***
ASIA/PAC/3, Rec. 4/10	**Israel** Ovda	No approach lighting on RWY 02R/20L. Threshold markings/lighting do not conform to ICAO SARPs.	July 2000		App. Lighting to be provided as soon as possible. To be rectified	IDF IDF	Mid 2003 Mid 2003	A A
ASIA/PAC/3 RAN Rec. 4/4 Aerodrome Emergency Planning	**Lebanon** Beirut Intl. Airport	Full scale exercise not executed yet.	Oct. 2000	No schedule given	A full- scale emergency exercise, in accordance with Annex 14 Volume I, Ch. 9 should be planned and carried out soon. The State may take ICAO assistance, if required for updating the Emergency Plan and to plan and conduct the full- scale exercise.	DGCA	End 2001	A
MID/3 RAN Rec. 1/3 ASIA/PAC 3 RAN, Rec.3/1	**Sudan** Khartoum	RWY 18/36 rough. Inadequate approach lights.	July 2000		Runway to be resurfaced. App. Lights need attention.	DGCA	End 2001	B
MID/3 RAN Rec. 1/3 ASIA/PAC 3 RAN, Rec.3/1	**Syria** Damascus	RWY surface rough and damaged.	July 2000		RWY to be resurfaced.	DGCA	End 2001	B

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

AU@ 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.

AA@ 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.

AB@ 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.

MIDANPIRG/7
Appendix 7C to the Report on Agenda Item 7

UPDATED AIR NAVIGATION DEFICIENCIES IN THE MID REGION ATM FIELD

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	States/ facilities	Description	Date first reported	Remarks	Description	Executing body	Date of complete	Priority for action*
1	MID/ASIA ANP Charts ATS 1 and ATS 2	Iraq	Closure of the Baghdad FIR	26/5/95	The FIR and the ATS routes within it exist in the ANP, but are not useable at present for international flights (UN Resolution)	Awaiting lifting of UN restrictions		TBD	B
2	LIM/MID/RAN Rec 2/10 Reservation of airspace	All MID states	Extensive military restricted airspace affecting efficiency of airspace management	26/5/95	Military restricted airspace is preventing the establishment of direct routes, requiring extra track miles to be flown and affecting the efficiency of airspace management.	A. ICAO to survey States to establish compliance with Rec 2/10 B. IATA to advise specific deficiencies related to military airspace C. States to continue co-ordination/ military to achieve more flexible use of airspace between civil and military centers in order to achieve more flexible use of airspace.	A. ICAO B. IATA C. All MID States	A. TBD B. Done C. TBD	B
3	LIM/MID/RAN Rec 2/9 Civil/Military Co-ordination	TBD	Lack of established bodies for Civil Military Co-ordination	15/6/98	Lack of civil military co-ordination bodies in some States is contributing to problems with incursions by military aircraft into civil airspace The following States advised they do have civil military co-ordination bodies: Bahrain, Egypt, Iran, Israel, Jordan, Kuwait, Oman, Saudi Arabia	A. ICAO to survey States to establish compliance with Rec 2/9 B. ICAO to organize a civil/military co-ordination seminar C. States which have not already done so to take action as required by LIM MID RAN Rec 2/9 to establish civil military co-ordination bodies.	A. ICAO B. ICAO C. States	A. TBD B. TBD C. TBD	A

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	**States/ facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Date of complete**	**Priority for action***
4	LIM/MID/RAN Concl. 3/7 Cooperation between States in SAR	All MID States	Lack of Search and Rescue Agreements between neighbouring States	11/11/94	Lack of SAR agreements can be detrimental to safety of persons in distress where searches overlap national boundaries. Draft Model SAR agreements adopted at MIDANPIRG/5.	A. States to commence negotiations with neighbours to establish SAR agreements B. Implement operational SAR agreements C. Implement entry agreements for SAR aircraft of other States	All MID States	A. TBD B. TBD C. TBD	A
5	LIM MID RAN Concl 2/28	Sub-Regional problem in NW of MID Region	Choke points on ATS route between Mediterranean and Gulf area	26/5/95	Single route structure through East Mediterranean States causing traffic processing difficulties including the use of uneconomical level assignment. 5 min longitudinal separation has been introduced, and Planning underway for introduction of an additional route	A. 5 minute long. sep. B. Initial Coordination meeting for planning new route C. Further coordination meeting to finalize plans D. Improved surveillance in Syria E. Application of Radar separation	 C. Jordan Saudi Arabia Syria D Syria	A. done B. done C. TBD D. TBD	B
6	MID ANP Table ATS-1 Plan of ATS routes	Afghanistan Pakistan Uzbekistan	ATS route **A219** not implemented	5/12/97	Implemented Nawabshah to Kandahar as B466. Re-designated because of prior use of this designator in ASIA/PAC region *Segment Kandahar Termez:Not implemented*	ICAO to follow up with States to determine what action is needed to achieve implementation	ICAO	TBD	B
7	MID ANP Table ATS-1 Plan of ATS routes	Israel Jordan Syria	ATS route **A412** not implemented	5/12/97	Jerusalem to Amman not yet implemented. *(Jerusalem- Amman :not implemented. Segment Amman Tanf shown as A 52)* (Need to implement segment Jerusalem Amman and designator A52 to change to A412)	ICAO to follow up with States to determine what action is needed to achieve implementation	ICAO	TBD	B

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	**States/ facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Date of complete**	**Priority for action***
8	MID ANP Table ATS-1 Plan of ATS routes	Cyprus Greece	ATS route **A414** not implemented	5/12/97	Route as currently defined lies outside the MID region. To be extended to Tel Aviv. *(shown as UA 014//UM 872* *Need to change designator to A414*	To be discussed in EMAC meetings.	Cyprus, Greece, Israel, through EMAC***	TBD	B
9	MID ANP Table ATS-1 Plan of ATS routes	Bahrain Qatar Saudi Arabia	ATS route **A415** not implemented	5/12/97	Not yet implemented Doha to King Khalid	Saudi Arabia and Qatar to continue negotiations to open this route.	Saudi Arabia Qatar	TBD	B
10	MID ANP Table ATS-1 Plan of ATS routes	Iraq	ATS route **A417** not implemented	5/12/97	No sections implemented	ICAO to follow up. See Item 1.	ICAO	TBD	B
11	MID ANP Table ATS-1 Plan of ATS routes	Bahrain Saudi Arabia U.A.E Yemen	ATS route **A419** not implemented	5/12/97	Not yet implemented Abu	A. States to organize informal coordination meeting to review route structure from Gulf south into Arabian Peninsula B. Develop ANP amendment proposal for revised route structure C. Implement revised route structure	A. States B. States and ICAO C. States	A. 1 Q 2001 B. 2 Q 2001 C. 3 Q 2001	B
12	MID ANP Table ATS-1 Plan of ATS routes	Iraq Syria Turkey	ATS route **A421** not implemented	5/12/97	No sections implemented	ICAO to follow up with States to determine what action is needed to achieve implementation	ICAO	TBD	B
13	MID ANP Table ATS-1 Plan of ATS routes	Iraq	ATS route **A424** not implemented	5/12/97	Not yet implemented Rafha to Baghdad	ICAO to follow up with States to determine what action is needed to achieve implementation	ICAO	TBD	B

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	States/ facilities	Description	Date first reported	Remarks	Description	Executing body	Date of complete	Priority for action*
14	MID ANP Table ATS-1 Plan of ATS routes	Bahrain Iran	ATS route **A453** not implemented	5/12/97	Not yet implemented Kish to Bahrain *Segment: Kish-Bahrain-Bahrain proposes Kish via ALSER Note2 (Iran) (segment Kish ALSER :Westbound.* King Fahd RATUN Kish : Eastbound)	A. IATA and Bahrain have developed proposal for re-alignment. To be co-ordinated with Iran B. Circulate amendment proposal	Bahrain Iran ICAO	A. TBD B. TBD	B
15	MID ANP Table ATS-1 Plan of ATS routes	Egypt Saudi Arabia	ATS route **A791** not implemented	5/12/97	SISIK NUWEIBAA TABUK SOBAS- HAIL(not implemented)	A. States to coordinate and examine possible re-alignment of this route, or the possibility of L550 satisfying requirement B. Develop amendment proposal if required	Egypt Saudi Arabia IATA	A. TBD B. TBD	B
16	MID ANP Table ATS-1 Plan of ATS routes	Iraq Saudi Arabia	ATS route **B401** not implemented	5/12/97	No sections implemented	ICAO to follow up. See Item 1.	ICAO	TBD	B
17	MID ANP Table ATS-1 Plan of ATS routes	Iraq Syria	ATS route **B402** not implemented	5/12/97	No sections implemented	ICAO to follow up. See Item 1.	ICAO	TBD	B
18	MID ANP Table ATS-1 Plan of ATS routes	Israel Cyprus	ATS route **B406** not implemented	5/12/97	No sections implemented Implemented as B17/UB17 Larnaca- MERVA(FIR BDY)	To be discussed in EMAC*** meetings.	Israel Cyprus	TBD	B
19	MID ANP Table ATS-1 Plan of ATS routes	Cyprus Lebanon Syria Turkey	ATS route **B410** not implemented	5/12/97	Only segment MUT to VESAR implemented	To be discussed in EMAC*** meetings.	Syria	TBD	B
20	MID ANP Table ATS-1 Plan of ATS routes	Iran Jordan Saudi Arabia	ATS route **B411** not implemented	5/12/97	METSA - AL Shigar Not implemented	States to co-ordinate to achieve further implementation of this route.	A. Saudi Arabia Jordan B. Afghanistan Iran	A. TBD B. TBD	B

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	**States/ facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Date of complete**	**Priority for action***
21	MID ANP Table ATS-1 Plan of ATS routes	Jordan Saudi Arabia Syria	ATS route **B412** not implemented	5/12/97	No sections implemented Saudi Arabia and Jordan ready to implement. *(route via Halaifa(B554). Segment Halaifa- King Abdulaziz:B412)*	States to co-ordinate to finalize implementation	Jordan Saudi Arabia Syria	TBD	B
22	MID ANP Table ATS-1 Plan of ATS routes	Bahrain Qatar	ATS route **B415** not implemented	5/12/97	Not implemented Doha to Bahrain Subject to military restrictions	States to continue negotiations with one another and military	Bahrain Qatar	31/12/00	B
23	MID ANP Table ATS-1 Plan of ATS routes	Bahrain Qatar Saudi Arabia	ATS route **B419** not implemented	5/12/97	Not implemented Doha - King Fahd Subject to military restrictions	States to continue negotiations with one another and military	Bahrain Qatar Saudi Arabia	31/12/00	B
24	MID ANP Table ATS-1 Plan of ATS routes	Syria Turkey	ATS route **B538** not implemented	5/12/97	*-(Segment Gaziantep Aleppo:B544/VB36)* *- (segment Aleppo kariatain:W5)* *-(Not implemented:Aleppo Damascus)*	ICAO to follow up with States to determine what action is needed to achieve implementation	ICAO	TBD	B
25	MID ANP Table ATS-1 Plan of ATS routes	Cyprus Jordan Lebanon Turkey	ATS route **B545** not implemented	5/12/97	No sections implemented *(Implemented.Ends at BALMA)* KHALDEH */AMMAN: not Implemented Segment BALMA-Khaldeh: B15)*	To be discussed in EMAC*** meetings. ICAO to follow-up	Cyprus Jordan Lebanon Turkey	TBD	B
26	MID ANP Table ATS-1 Plan of ATS routes	Cyprus Iraq Lebanon Syria	ATS route **G202** not implemented	5/12/97	Not implemented DAKWE - Damascus - Not implemented TANF-Samarra.	To be discussed in EMAC*** meetings.	Cyprus Iraq Lebanon Syria	TBD	B

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	States/ facilities	Description	Date first reported	Remarks	Description	Executing body	Date of complete	Priority for action*
27	MID ANP Table ATS-1 Plan of ATS routes	Bahrain Saudi Arabia Yemen	ATS route **G652** not implemented	5/12/97	Not implemented ETUKO to Aden	A. States to organize informal coordination meeting to review route structure from Gulf south into Arabian Peninsula B. Develop ANP amendment proposal for revised route structure C. Implement revised route structure	A. States + IATA B. States and ICAO C. States	A. 1 Q 2001 B. 2 Q 2001 C. 3 Q 2001	B
28	MID ANP Table ATS-1 Plan of ATS routes	Bahrain Saudi Arabia U.A.E.	ATS route **G660** not implemented	5/12/97	Not implemented King Abdulaziz to Abu Dhabi	A. States to organize informal coordination meeting to review route structure from Gulf south into Arabian Peninsula B. Develop ANP amendment proposal for revised route structure C. Implement revised route structureh	A. States B. States and ICAO C. States	A. 1 Q 2001 B. 2 Q 2001 C. 3 Q 2001	B
29	MID ANP Table ATS-1 Plan of ATS routes	Jordan Syria	ATS route **G662** not implemented	5/12/97	Not implemented Damascus to Guriat	States to continue coordination to achieve implementation	Jordan Syria	31/12/00	B
30	MID ANP Table ATS-1 Plan of ATS routes	Cyprus Israel Jordan	ATS route **G664** not implemented	5/12/97	No sections implemented	To be discussed in EMAC*** meetings.	Cyprus Israel Jordan	TBD	B
31	MID ANP Table ATS-1 Plan of ATS routes	Iran	ATS route **G665** not implemented	5/12/97	Implemented, but segment Shiraz - NABOD is only available at night	ICAO to follow up with Iran to determine what action is needed to achieve full implementation	ICAO	TBD	B

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	**States/ facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Date of complete**	**Priority for action***
32	MID ANP Table ATS-1 Plan of ATS routes	Saudi Arabia Yemen	ATS route **G667** not implemented	5/12/97	Passes via Wadi Al Dawasir-Nejran. Segment Nejran	States to coordinate to achieve implementation.	Saudi Arabia Yemen	TBD	B
33	MID ANP Table ATS-1 Plan of ATS routes	Iraq	ATS route **G669** not implemented	5/12/97	Not yet implemented NISER to SOLAT	ICAO to follow up. See Item 1.	ICAO	TBD	B
34	MID ANP Table ATS-1 Plan of ATS routes	Iran Iraq Syria	ATS route **G671** not implemented	5/12/97	No sections implemented	ICAO to follow up with States to determine what action is needed to achieve implementation	ICAO	TBD	B
35	MID ANP Table ATS-1 Plan of ATS routes	Afghanistan Iran Pakistan Turkmenistan	ATS route **G792** not implemented	5/12/97	No sections implemented Domestic designator on segment Charn Kandahar:V390	ICAO to follow up with States to determine what action is needed to achieve implementation	ICAO	TBD	B
36	MID ANP Table ATS-1 Plan of ATS routes	Iraq	ATS route **G795** not implemented	5/12/97	Not yet implemented segment: Basra - Rafha	ICAO to follow up. See Item 1.	ICAO	TBD	B
37	MID ANP Table ATS-1 Plan of ATS routes	Cyprus Jordan Lebanon Syria	ATS route **R219** not implemented	5/12/97	-Not implemented Segment: Damascus - Turaif -Note designator R219 on segment:KEDAT- KING FAHD-RATUN -and UR219 on segment KEDAT-JUBAIL-RATUN	States to co-ordinate to finalize implementation within the MID region. Implementation in Nicosia to be discussed in EMAC meetings.	Jordan Lebanon Syria Saudi Arabia ICAO	31/12/00	B
38	MID ANP Table ATS-1 Plan of ATS routes	Iraq	ATS route **R651** not implemented	5/12/97	No sections implemented	ICAO to follow up. See Item 1.	ICAO	TBD	B
39	MID ANP Table ATS-1 Plan of ATS routes	Israel Jordan Syria	ATS route **R653** not implemented	5/12/97	No sections implemented			TBD	B

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	**States/ facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Date of complete**	**Priority for action***
40	MID ANP Table ATS-1 Plan of ATS routes	Iran Oman	ATS route **R658** not implemented	5/12/97	No sections implemented	States to coordinate to achieve implementation	Iran Oman	TBD	B
41	MID ANP Table ATS-1 Plan of ATS routes	Bahrain Saudi Arabia Qatar Yemen	ATS route **R659** not implemented	5/12/97	Not implemented Doha to	A. States to organize informal coordination meeting to review route structure from gulf south into Arabian Peninsula B. Develop ANP amendment proposal for revised route structure C. Implement revised route structureh	A. States + IATA B. States and ICAO C. States	A. 1 Q 2001 B. 2 Q 2001 C. 3 Q 2001	B
42	MID ANP Table ATS-1 Plan of ATS routes	Iraq Turkey	ATS route **R784** not implemented	5/12/97	Not implemented SIDAD to Siirt	ICAO to follow up with States to determine what action is needed to achieve implementation	ICAO	TBD	B

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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.

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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:

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MIDANPIRG/7
Appendix 7D to the Report on Agenda Item 7

UPDATED AIR NAVIGATION DEFICIENCIES IN THE MID REGION AIS/MAP FIELD

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	States/facilities	Description	Date first reported	Remarks	Description	Executing body	Date of complete	Priority for action*
1	ANNEX 15: Para 4.1.1	Afghanistan, Iraq	Newly Restructured AIP	June 1996		ICAO to follow up with States to determine what action is needed to achieve implementation	ICAO	TBD	A
2	ANNEX 15: Para 6.1	Iraq, Israel, Syria, Yemen	AIRAC	22/5/95	Syria and Yemen do not fully adhere to AIRAC	ICAO to follow up with States to determine what action is needed to achieve implementation	ICAO	TBD	A
3	ANNEX 15: Para 3.6.4.1	Iraq Israel Saudi Arabia Syria Yemen	WGS-84	1/12/97	Israel, Saudi Arabia and Yemen have partly completed implementation. Syria has already implemented WGS-84 (Ref AIP SUP 02/01 dated 01 AUG 2001). However, it has not been yet reported according to ICAO unified format.	ICAO to follow up with States who have not established target dates to determine what action is needed to achieve implementation	ICAO Iraq Israel Saudi Arabia Syria Yemen	TBD	A

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Date of complete**	**Priority for action***
4	ANNEX 4 : Chart production requirements	Iran	Non-production of Aerodrome Obstacle Chart-ICAO Type A	22/5/95		ICAO to follow up with States to determine what action is needed to achieve implementation and current target dates	ICAO Iran	TBD	A
5	ANNEX 4 : Chart production requirements	Bahrain Egypt Iran Iraq Israel Jordan Kuwait Lebanon Oman Qatar Saudi Arabia Syria United Arab Emirates Yemen	Non-production of Aerodrome Obstacle Chart-ICAO Type C	22/5/95		ICAO to follow up with States to determine what action is needed to achieve implementation and current target dates	ICAO	TBD	A
6	ANNEX 4 : Chart production requirements	Iran Iraq	Non-production of Aerodrome/ Heliport Chart - ICAO	22/5/95		ICAO to follow up with States to determine what action is needed to achieve implementation and current target dates	ICAO	TBD	A

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Date of complete**	**Priority for action***
7	ANNEX 4 : Chart production requirements	Iran Jordan Syria U.A.E	Non-production of Area Chart - ICAO	22/5/95		ICAO to follow up with States to determine what action is needed to achieve implementation	ICAO Jordan Syria U.A.E.	TBD	A
8	ANNEX 4 : Chart production requirements	Jordan Lebanon Saudi Arabia	Non-production of En route Chart-ICAO	22/5/95		ICAO to follow up with States to determine what action is needed to achieve implementation and current target dates	ICAO Jordan Lebanon Saudi Arabia	TBD	A
9	ANNEX 4 : Chart production requirements	Egypt Iran Lebanon	Non-production of Precision Approach Terrain Chart-ICAO	22/5/95		ICAO to follow up with States to determine what action is needed to achieve implementation and current target dates	ICAO Egypt Iran Lebanon	TBD	A
10	ANNEX 4 : Chart production requirements	Egypt	Non-production of Standard Arrival Chart-Instrument-ICAO	22/5/95		ICAO to follow up with States to determine what action is needed to achieve implementation and current target dates	ICAO Egypt	TBD	A

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	**States/facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Date of complete**	**Priority for action***
11	ANNEX 4 : Chart production requirements	Egypt	Non-production of Standard Departure Chart-Instrument-ICAO	22/5/95		Egypt has already planned production	Egypt	TBD	A
12	ANNEX 4 : Chart production requirements	Lebanon Saudi Arabia	Non-production of Visual Approach Chart - ICAO	22/5/95		ICAO to follow up with States to determine what action is needed to achieve implementation and current target dates	Lebanon Saudi Arabia	TBD	A
13	ANNEX 4 : Chart production requirements	Egypt Iran Iraq Israel Jordan Saudi Arabia	Non-production of World Aeronautical Chart - ICAO	22/5/95		ICAO to follow up with States to determine what action is needed to achieve implementation and current target dates	ICAO Egypt Iran Iraq Israel Jordan Saudi Arabia	TBD	A

Note: The status of implementation of these requirements in Afghanistan is not known, due to non-availability of information and direct communication with the ATS authorities in Afghanistan.

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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.

ority = 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.

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:

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MIDANPIRG/7
Appendix 7E to the Report on Agenda Item 7

UPDATED AIR NAVIGATION DEFICIENCIES IN THE MID REGION - CNS FIELD

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first Reported**	**Remarks**	**Description**	**Executing body**	**Date of Complete**	**Priority for action****
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	07/10/1998	Lebanon is ready to implement the circuit		Jordan-Lebanon		A
	Israel - Jordan Ben Gurion - Amman AFTN Circuit	The circuit is not yet implemented	07/10/1998	Jordan has planned to implement the circuit in the foreseen future.				B

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first Reported**	**Remarks**	**Description**	**Executing body**	**Date of Complete**	**Priority for action****
	Afghanistan-Bahrain Kabul-Bahrain AFTN Circuit	The circuit is not yet implemented	07/10/1998	Bahrain is ready to implement the circuit	Follow-up the matter with IATA concerning Afghanistan			B
	Afghanistan-Iran Kabul-Tehran AFTN Circuit	The circuit is not yet implemented	07/10/1998	VSAT network to be implemented				B
AFTN Main Circuits (LIM MID RAN Rec10/5)	Egypt Jordan Amman Cairo AFTN Circuit	The circuit is implemented on 50 bauds	19/10/1999	Egypt is ready to up-grade the circuit to 100 bauds or higher if traffic justifies	Egypt will co-ordinate with Jordan for up-grading	Egypt Jordan		A
	Bahrain Saudi Arabia Bahrain Jeddah AFTN Circuit	The circuit is implemented on 200 bauds	19/10/1999	The circuit is working satisfactorily	Will be up-graded to CIDIN		Fourth Quarter 2002	A
	Bahrain Kuwait Bahrain Kuwait AFTN Circuit	The circuit is implemented on 100 bauds	19/10/1999		Planned to be up-graded to 300 bauds	Bahrain Kuwait	TBD	A
	Bahrain Singapore Bahrain Singapore AFTN Circuit	The circuit is implemented on 200 bauds	19/10/1999	Operating satisfactorily on 200 bauds	Planned to be up-graded to medium speed circuit (1200-2400)	Bahrain Singapore	TBD	B

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first Reported**	**Remarks**	**Description**	**Executing body**	**Date of Complete**	**Priority for action****
	Lebanon Saudi Arabia Beirut Jeddah AFTN Circuit	The circuit is implemented on 100 bauds	19/10/1999		Planned to be up-graded to 300 bauds	Lebanon Saudi Arabia	Second Quarter 2002	A
	Lebanon Kuwait Beirut Kuwait AFTN Circuit	The circuit is implemented on 100 bauds	19/10/1999	The circuit is operating satisfactorily on 200 bauds.	Planned to be up-graded to 300 bauds			A
	Egypt Saudi Arabia Cairo Jeddah AFTN Circuit	The circuit is implemented on 100 bauds	19/10/1999		Planned to be up-graded to CIDIN	Egypt Saudi Arabia	Second Quarter 2002	A
	Egypt Kenya Cairo Nairobi AFTN Circuit	The circuit is implemented on 50 bauds	19/10/1999	Egypt is ready to up-grade the circuit to 100 bauds	Egypt and Kenya agreed to upgrade the circuit to 1200 bps	Egypt Kenya	Fourth Quarter 2001	A
	Egypt Tunisia Cairo Tunis AFTN Circuit	The circuit is implemented on 100 bauds	19/10/1999		Planned to be up-graded to 1200 bauds	Egypt - Tunisia	Upon Tunis readiness	A
	Saudi Arabia Ethiopia Jeddah Addis Ababa	The circuit is implemented on 50 bauds	19/10/1999	The circuit is not working satisfactorily. Saudi Arabia is ready to up-grade the circuit to higher speed.	ICAO MID Regional Office is following-up the matter with ICAO Nairobi Office			A

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first Reported**	**Remarks**	**Description**	**Executing body**	**Date of Complete**	**Priority for action****
	Kuwait Pakistan Kuwait Karachi AFTN Circuit	The circuit is implemented on 50 bauds	19/10/1999			Kuwait Pakistan		A
	Iran Kuwait Kuwait Tehran AFTN Circuit	The circuit is implemented on 100 bauds	19/10/1999	No traffic justification for 300 bauds				A
ATS Speech Circuit Plan (LIM MID RAN Conclusion 6/11)	Yemen Ethiopia-Eritrea India Djibouti Saudi Arabia Somalia Oman	All ATS Speech Circuits connecting following adjacent centres provided by Yemen use speed dial: Addis-Ababa Asmara Mumbai Djibouti Jeddah Mogadishu Muscat	07/10/1998	Sometimes, Communications facilities do not permit communications to be established within 15 seconds	Yemen will be urged to implement Direct Speech Circuits with adjacent centres using dedicated lines ICAO MID Regional Office is following up the matter with ICAO Nairobi Office concerning the African States. Saudi Arabia and Oman are ready to implement a dedicated circuit with S			A

Identification		Deficiencies			Corrective Action			
Requirements	**States/facilities**	**Description**	**Date first Reported**	**Remarks**	**Description**	**Executing body**	**Date of Complete**	**Priority for action****
	Saudi Arabia Eritrea Sudan	The ATS Speech Circuit connecting the following adjacent centres to Jeddah use speed dial: Asmara Khartoum	19/10/1999	Jeddah Khartoum on speed dial Khartoum Jeddah on HF	ICAO MID Regional Office is following-up the matter with ICAO Nairobi Office. Saudi Arabia is ready to implement the dedicated circuits with Asmara and Khartoum			A
AFTN usage (LIM MID RAN Rec 6/2)	States concerned	Recording of statistics in appropriate form, exchange of the circuit loading data with corresponding stations, evaluate circuit loading and take remedial action when occupancy level exceeds permissible levels	22/05/1995	Refer to ICAO fax ref. F.ME 165 reminding States to send data to Regional Office. Copy of Table to be filled is attached to Appendix 3B to the report on Agenda Item 3		States concerned		B

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

AU@ 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.

AA@ 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.

AB@ 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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MIDANPIRG/7
Appendix 7F to the Report on Agenda Item 7

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

*****

*****

*****

***** 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

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

8. a) App

b) Strength of IS (QSA or SINPFEMO-

11. Call sign

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.

14. Bearing (in degrees true) of t

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Appendix 7G to the Report on Agenda Item 7

UPDATED AIR NAVIGATION DEFICIENCIES IN THE MID REGION MET FIELD

Item No			Deficiencies			Corrective Action			
	Requirement	**States/ facilities**	**Description**	**Date first reported**	**Remarks**	**Description**	**Executing body**	**Date of complete**	**Priority of action***
1	MID RAN Rec. 10/13	To be decided	Status of implementation of facilities & services at Aero. MET offices in MID Region	May 95	Lack of reliable data and non-adherence to recommended procedures and coding guidelines		ICAO MID Office (survey)	Ongoing	A
2	All provisions in ANP	Afghanistan Baghdad	**	**	**	**	**	**	U

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

AU@ 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.

AA@ 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.

AB@ 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.

** Due to prevailing situation, little or no information is available regarding the provision of aeronautical MET services to civil aviation.

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.

REPORT ON AGENDA ITEM 8: DEVELOPMENT OF THE FUTURE WORK PROGRAMME

8.1 The Secretary of the meeting mentioned that the list of MID Regional Office tentative schedule of meetings for year 2002, will be updated in accordance with the outcome of the respective Conclusion and Decisions adopted at MIDANPIRG/7.

8.2 The ICAO MID Regional Office will send a letter to States in order to identify the National trainings experts in the Middle East, and collect the appropriate documentation for the preparation of the first meeting of the new CNS/ATM Resources Planning and Training Task Force.

8.3 The following Seminars /Workshops are envisaged for year 2002:

- Aerodrome Certification Seminar/Workshop
- ATN Seminar
- RVSM Implementation Seminar
- Search and Rescue Seminar/Workshop

8.4 Taking into account the various amendments to the first Version of MIDANPIRG hand book a new version will be consolidated for consideration and approval by the next meeting.

8.5 The next MIDANPIRG/8 meeting is tentatively planned for March/April 2003, venue to be determined at a later stage.

MIDANPIRG/7
Report on Agenda Item 9

REPORT ON AGENDA ITEM 9: ANY OTHER BUSINESS

9.1 Several announcements were made in order to inform the MIDANPIRG/7 of other meetings of interest to the MID Region:

- The High level Ministerial Conference on Aviation Security (Montreal, 19-20 February 2002). Explanatory notes (WP/1) and Schedule of the meeting (WP/2) were distributed for information to the participants
- The ICAO Seminar on the Administration of the Technical Cooperation Projects (Cairo, 4-8 February 2002), information paper was distributed
- The ICAO Regional Safety Oversight Seminar/Workshop (Bahrain, 9-20 February 2002), copy of invitation letter and its attachments was distributed.

9.2 Comments were made on the weak attendance of MET experts in the delegation, due to lack of communication/coordination with the corresponding Meteorological Services in the Middle East States. The absence of a permanent MID Regional Officer dedicated to the MET field was noted; whose presence would have added to the sustained follow-up of MIDANPIRG Conclusions/Decisions in the MET field.

9.3 The meeting was invited to envisage the creation of a specific MET Sub-Group of MIDANPIRG separate from the present CNS/MET Sub Group. The suggestion was not accepted by the meeting

9.4 Attention of the meeting was drawn to the ICAO Annex 15 para 3.2, and Annex 3 para 2.2 related to implementation of Quality Systems for AIS and MET.

9.5 The Islamic Republic of Iran announced its readiness to host both the EMARSSH TF/7 meeting (date to be determined), and the AOP Certification Seminar/Workshop tentatively planned for 17-20 June 2002.

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