



INTERNATIONAL CIVIL AVIATION ORGANIZATION

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

MIDANPIRG/9

(Cairo, 11-15 April 2005)

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 Ninth Meeting of the Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG/9) was held at the conference hall of the Egyptian Ministry of Civil Aviation Complex, Cairo from 11 –15 April 2005.

2. OPENING

2.1 A.V.M. Samir Abd Al Maboud, Head of the Egyptian Civil Aviation Authority, representing the Minister of Civil Aviation welcomed the participants to Cairo and wished them a fruitful meeting.

2.2 Mr. Mohamed R. Khonji, ICAO Regional Director, Middle East Office thanked His Excellency Air Marshal Ahmed M. Shafik, the Minister of Civil Aviation of Egypt for the sustained support of the Egyptian Authorities to the ICAO Middle East Regional Office and for hosting the MIDANPIRG/9 meeting in their premises.

2.3 In his opening remarks, Mr. Khonji welcomed the MIDANPIRG Chairman and the participants. He further, expressed his gratitude and thanks to Mr. Ahmed Zerhouni, the former Regional Director and Secretary of MIDANPIRG for his contribution and dedication to the MID Region for approximately 10 years and wished him a well-deserved retirement. Mr. Khonji also urged all concerned States and Organizations to effectively support the activities of the ICAO Middle East Regional Office and MIDANPIRG in order to ensure a sustainable development of international civil aviation in the region and to continue to improve the provision of facilities, services and infrastructures taking into consideration the strategic objectives of ICAO.

2.4 Mr. Khonji gave an overview of global and regional activities and developments since MIDANPIRG/8 meeting in September 2003, namely; the outcome of the 11th Air Navigation Conference, the 35th ICAO General Assembly, the endorsement of the Global ATM Operational Concept, the Roadmap by the users for the short and medium-term requirements, the transition to a comprehensive systems approach in the Universal Safety Oversight Audit Programme (USOAP), the Aviation Security Plan of Action.

2.5 Finally, Mr. Khonji thanked Mr. K. Theil, Regional Director, ICAO EUR/NAT Office, for his excellent cooperation in allowing two of the EUR/NAT Office staff members to attend and assist MIDANPIRG/9 meeting.

2.6 Mr. Abdullah N. Al-Harthy, Chairman of MIDANPIRG also welcomed all delegates to MIDANPIRG, and wished them a fruitful meeting.

2.7 Mr. Vladimir Zubkov, Chief Regional Affairs Office, ICAO Montreal addressed the meeting and provided a summary of the ICAO headquarters activities in relation to the outcome of the 11th Air Navigation Conference, the 35th ICAO General Assembly.

3. ATTENDANCE

3.1 The meeting was attended by a total of 74 participants, which included experts from 13 States and 3 Organizations. The list of participants is at 6-19.

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4. OFFICERS AND SECRETARIAT

4.1 Mr. Mohamed R. M. Khonji, ICAO Middle East Regional Director acted as the Secretary of the Meeting, assisted by the following ICAO MID Regional Officers:

Mr. M.E.B. Zarroug	-	Regional Officer, Air Transport
Mr. D. Ramdoyal	-	Regional Officer, Air Traffic Management and Search and Rescue
Mr. M. Traore	-	Regional Officer, Communications, Navigation and Surveillance
Mr. N. Antypas	-	Regional Officer, Safety Oversight
Mrs. N. Abdel Hady	-	Regional Officer, Aerodrome and Ground Aids
Mr. M. Smaoui	-	Regional Officer, Aeronautical Information Services and Charts
Mr. A. El-Karimy	-	Technical Co-operation, Field Operations Officer

4.2 The meeting was also supported by Mr. V. D. Zubkov, Chief Regional Affairs Officer, Mr. H. V. Sudarshan, Regional Affairs Officer from ICAO Headquarters in Montreal, and Mr. B. Hellroth, Regional Officer, Meteorology/Aeronautical Information Services from ICAO EUR/NAT Office in Paris.

5. LANGUAGE

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

6. AGENDA

6.1 The following Agenda was adopted:

Agenda Item 1 -	Adoption of the Provisional Agenda
Agenda Item 2 -	Review of action taken by the ANC and the Council on the report of MIDANPIRG/8
Agenda Item 3 -	Review status of outstanding Conclusions/Decisions of previous MIDANPIRG meetings
Agenda Item 4-	Latest developments in the Air Navigation field
Agenda Item 5-	Middle East Air Navigation issues:
	5.1 AOP
	5.2 ATM/SAR/AIS
	5.3 CNS/ATM
	5.4 CNS/MET
	5.5 TRAFFIC FORECASTING
	5.6 MIDDLE EAST REGION BASIC ANP AND FASID (DOC. 9708)
Agenda Item 6-	Deficiencies in the Air Navigation Field
Agenda Item 7-	Future Work Programme
Agenda Item 8 -	Any other business

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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** deal with matters that, according to the Group's terms of 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

<i>DECISION 9/1:</i>	<i>REVISED STATEMENT OF BORPC FOR REGIONAL AIR NAVIGATION PLANNING AND IMPLEMENTATION</i>
<i>CONCLUSION 9/2:</i>	<i>MANDATORY IMPLEMENTATION OF CERTIFICATION OF INTERNATIONAL AERODROMES</i>
<i>CONCLUSION 9/3:</i>	<i>REDUCTION OF BIRD STRIKE HAZARDS TO AIRCRAFT OPERATIONS ON OR IN THE VICINITY OF MID AIRPORTS</i>
<i>DECISION 9/4:</i>	<i>CONDUCT A SURVEY ON THE READINESS OF MID AERODROMES TO ACCOMMODATE NEW LARGER AEROPLANES</i>
<i>CONCLUSION 9/5:</i>	<i>CONTROL OF OBSTACLES AT AND AROUND AERODROMES</i>
<i>CONCLUSION 9/6:</i>	<i>RNAV/RNP IMPLEMENTATION STRATEGY FOR THE MID REGION</i>
<i>CONCLUSION 9/7:</i>	<i>IMPLEMENTATION OF T-RNAV</i>
<i>CONCLUSION 9/8:</i>	<i>IMPLEMENTATION OF THE ATS SAFETY MANAGEMENT PROGRAMMES IN THE MID REGION</i>
<i>CONCLUSION 9/9:</i>	<i>MONITORING REQUIREMENTS IN RESPECT OF B-RNAV</i>
<i>CONCLUSION 9/10:</i>	<i>ESTABLISHMENT OF RNAV SIDs AND STARS IN THE MID REGION</i>
<i>CONCLUSION 9/11:</i>	<i>REQUIREMENTS FOR MONITORING</i>
<i>CONCLUSION 9/12:</i>	<i>MONITORING OF SAFETY IN THE MID REGION</i>
<i>CONCLUSION 9/13:</i>	<i>MID REGIONAL MONITORING AGENCY (MID RMA) RE-ESTABLISHMENT</i>
<i>CONCLUSION 9/14:</i>	<i>PROVISION OF UP-TO-DATE INFORMATION TO THE MID RVSM APPROVALS REGISTRY</i>
<i>CONCLUSION 9/15:</i>	<i>EXCLUSION FROM MID RVSM AIRSPACE OF AIRCRAFT AND OPERATORS NOT REGISTERED AS BEING RVSM APPROVED</i>
<i>CONCLUSION 9/16:</i>	<i>REGION-WIDE TRAFFIC SAMPLE AS BASIS FOR FOLLOW-UP AGAINST INCORRECT FLIGHT PLAN FILING</i>

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CONCLUSION 9/17:	METHODOLOGY TO ERADICATE MULTIPLE REPETITIONS AND NON-RECEIPT OF ATS MESSAGES
CONCLUSION 9/18:	ESTABLISHMENT OF AN INTEGRATED INITIAL FLIGHT PLAN PROCESSING SYSTEM (IFPS) IN THE MID REGION
CONCLUSION 9/19:	REPORTING OF ATS INCIDENTS
DECISION 9/20:	DISCONTINUATION OF THE ATS INCIDENT ANALYSIS TASK FORCE
DECISION 9/21:	ASSIGNMENT OF SSR CODES IN THE MID REGION
CONCLUSION 9/22:	AIRWORTHINESS AND OPERATIONAL APPROVAL FOR B-RNAV, RNP 10 AND RVSM OPERATIONS IN THE MID REGION
CONCLUSION 9/23:	DATA FOR SUSTAINED SAFETY ASSURANCE OF RNP AND RVSM WITHIN THE MID REGION
DECISION 9/24:	STATUS OF IMPLEMENTATION OF ICAO REQUIREMENTS IN THE SEARCH AND RESCUE FIELDS
CONCLUSION 9/25:	ASSIGNMENT OF THE RESPONSIBILITY FOR THE PRODUCTION OF THE WAC SHEETS: 2548, 2563 AND 2670
CONCLUSION 9/26:	ENHANCED PRE-FLIGHT INFORMATION SERVICE
CONCLUSION 9/27:	APPROACH TO AIS AUTOMATION
CONCLUSION 9/28:	HARMONIZATION OF AIS, MET AND FPL INFORMATION
CONCLUSION 9/29:	IMPLEMENTATION OF QUALITY SYSTEM WITHIN MID STATES' AISS
CONCLUSION 9/30:	AIS/MAP TIMELINES FOR THE MID REGION
DECISION 9/31:	AIS/MAP TRAINING ACTION PLAN FOR THE MID REGION
DECISION 9/32:	REVISED TERMS OF REFERENCE AND WORK PROGRAMME OF THE AIS/MAP TASK FORCE
CONCLUSION 9/33:	FURTHER TEST ACTIVITIES AND STUDIES OF EGNOS IN THE MID REGION
CONCLUSION 9/34:	WAAS DEMONSTRATION TEST BEDS
CONCLUSION 9/35:	COST-BENEFIT CONSIDERATION FOR AUGMENTATION SYSTEMS
CONCLUSION 9/36:	REVISED STRATEGY OF THE GNSS IMPLEMENTATION IN THE MID REGION
DECISION 9/37:	IMPROVEMENT OF THE WORK OF THE ATN PLANNING GROUP
CONCLUSION 9/38:	USE OF DIGITAL HIGH-SPEED CIRCUITS BETWEEN MAIN CENTERS
CONCLUSION 9/39:	HARMONIZATION BETWEEN VSAT NETWORKS
CONCLUSION 9/40:	ORGANIZATION OF THE ATN SEMINAR IN THE MID REGION

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<i>DECISION 9/41:</i>	<i>MID REGIONAL CONTINGENCY PLAN FOR ATM/CNS</i>
<i>CONCLUSION 9/42:</i>	<i>IMPLEMENTATION OF D-ATIS AND PDC IN THE MID REGION</i>
<i>CONCLUSION 9/43:</i>	<i>ICAO STRATEGY WITH REGARD TO FUTURE ITU WORLD RADIO COMMUNICATION CONFERENCES</i>
<i>CONCLUSION 9/44:</i>	<i>CONVENING OF THE CNS/ATM HR P&T TASK FORCE</i>
<i>CONCLUSION 9/45:</i>	<i>UPGRADE OF THE KUWAIT-KARACHI CIRCUIT</i>
<i>CONCLUSION 9/46:</i>	<i>ADDITION OF THE BAGHDAD-KUWAIT CIRCUIT TO THE MID RATIONALIZED AFTN PLAN</i>
<i>CONCLUSION 9/47:</i>	<i>ADDITION OF THE CAIRO-TRIPOLI CIRCUIT TO THE MID Rationalized AFTN Plan</i>
<i>CONCLUSION 9/48:</i>	<i>PARTICIPATION OF THE MID COM CENTERS IN THE CIDIN MANAGEMENT CENTER (CMC) OF THE EUR REGION</i>
<i>DECISION 9/49:</i>	<i>ESTABLISHMENT OF AN AD-HOC ACTION GROUP FOR THE SUPPORT OF AERONAUTICAL FREQUENCY BANDS</i>
<i>DECISION 9/50:</i>	<i>REVISED TERMS OF REFERENCE AND WORK PROGRAMME FOR THE AFS/ATN TASK FORCE</i>
<i>DECISION 9/51:</i>	<i>MID REGIONAL AFTN CONTINGENCY PLAN</i>
<i>CONCLUSION 9/52:</i>	<i>PROJECT FOR MID VSAT IMPLEMENTATION</i>
<i>CONCLUSION 9/53:</i>	<i>SADIS INTERNET-BASED FTP SERVICE</i>
<i>CONCLUSION 9/54:</i>	<i>IMPLEMENTATION OF SIGMET REQUIREMENTS IN THE MID REGION</i>
<i>CONCLUSION 9/55:</i>	<i>NON-IMPLEMENTATION OF ANNEX 3 PROVISIONS FOR METAR/SPECI AND TAF</i>
<i>DECISION 9/56:</i>	<i>REGIONAL PLANNING FOR MIGRATION TO BUFR CODED OPMET MESSAGES IN THE MID REGION</i>
<i>CONCLUSION 9/57:</i>	<i>INVITATION TO WMO FOR REGULAR PARTICIPATION IN MEETINGS OF THE MIDANPIRG CNS/MET SUBGROUP</i>
<i>CONCLUSION 9/58:</i>	<i>TRAFFIC FORECASTING REQUIREMENTS IN THE MID REGION</i>
<i>CONCLUSION 9/59:</i>	<i>MID BASIC ANP AND FASID (Doc. 9708)</i>
<i>CONCLUSION 9/60:</i>	<i>AMENDMENT PROPOSAL TO THE MID BASIC ANP AND FASID</i>
<i>CONCLUSION 9/61:</i>	<i>AMENDMENT TO THE FORM USED FOR THE IDENTIFICATION, ASSESSMENT AND REPORTING OF AIR NAVIGATION DEFICIENCIES</i>
<i>CONCLUSION 9/62:</i>	<i>REVIEW OF THE REQUIREMENTS PERTAINING TO ATS ROUTES</i>

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<i>CONCLUSION 9/63:</i>	<i>DEVELOPMENT OF A MID REGION'S AIR NAVIGATION DEFICIENCIES DATABASE</i>
<i>CONCLUSION 9/64:</i>	<i>ELIMINATION OF AIR NAVIGATION DEFICIENCIES IN THE MID REGION</i>
<i>DECISION 9/65:</i>	<i>REVISED TERMS OF REFERENCE AND WORK PROGRAMME OF THE ANS WG</i>
<i>CONCLUSION 9/66:</i>	<i>SURVEY OF MET DEFICIENCIES IN THE MID REGION</i>

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MIDANPIRG/9
Report on Agenda Item 1

PART II: REPORT ON AGENDA ITEMS

REPORT ON AGENDA ITEM 1: ADOPTION OF THE PROVISIONAL AGENDA

1.1 The meeting reviewed the Provisional Agenda, and adopted it as at Para 6 of the History of the Meeting.

1.2 The Terms of Reference for MIDANPIRG is at **Appendix 1A** to the report on Agenda Item 1.

MIDANPIRG/9
Appendix 1A to the Report on Agenda Item 1

**TERMS OF REFERENCE FOR THE MIDDLE EAST AIR NAVIGATION PLANNING AND
IMPLEMENTATION REGIONAL GROUP (MIDANPIRG)**

1. THE TERMS OF REFERENCE OF THE GROUP ARE:

- a) ensure the continuous and coherent development of the Middle East Regional Air Navigation Plan and other relevant regional documentation in a manner that is harmonized with adjacent regions, consistent with ICAO SARPs and reflecting global requirements;
- b) facilitate the implementation of air navigation systems and services as identified in the Middle East Regional Air Navigation Plan with due observance to the primacy of air safety and security; and
- c) identification and addressing of specific deficiencies in the air navigation field.

2. IN ORDER TO MEET THE TERMS OF REFERENCE THE GROUP SHALL:

- a) review, and propose when necessary, the target dates for implementation of facilities, services and procedures to ensure the coordinated development of the Air Navigation System in the Middle East Region;
- b) assist the ICAO Middle East Regional office in fostering the implementation of the Middle East Regional Air Navigation Plan;
- c) in line with the Global Aviation Safety Plan (GASP), ensure the conduct of any necessary systems performance monitoring, identify specific deficiencies in the Air Navigation field, especially in the context of safety and security, and propose corrective action;
- d) ensure the development and implementation of an action plan by States to resolve identified deficiencies, where necessary;
- e) promote, support and facilitate the regional implementation of AVSEC provisions;
- f) develop amendment proposals for the update of the Middle East Regional Air Navigation Plan necessary to satisfy any changes in the requirements, thus removing the need for regular regional air navigation meetings;
- g) monitor implementation of air navigation facilities and services and where necessary, ensure interregional harmonization, taking due account of cost/benefit analysis, business case development, environmental benefits and financing issues;

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- h) review and monitor human resource planning and training issues and ensure that the human resource development capabilities in the region are compatible with the Middle East Regional Air Navigation Plan;
 - i) 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;
 - j) invite financial institutions, as required, on a consultative basis in the planning process;
 - k) ensure close cooperation with relevant organizations and State grouping to optimize the use of available expertise and resources;
 - l) conduct the above activities in the most efficient manner possible with a minimum of formality and documentation and call meetings of the MIDANPIRG, through the Secretary and the Chairperson, when it is necessary to do so; and
 - m) invite senior officials of the State, as required, to seek the endorsement of regional air navigation plans, expeditious implementation of air navigation systems elements and the resolution of air navigation deficiencies.

MIDANPIRG/9
Report on Agenda Item 2

**REPORT ON AGENDA ITEM 2: REVIEW OF ACTION TAKEN BY THE ANC AND THE COUNCIL
ON THE REPORT OF MIDANPIRG/8.**

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 Eighth Meeting of the Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG/8) held in Cairo, Egypt, from 7 to 11 September 2003. 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 2A** to the Report on Agenda Item 2.

2.2 The meeting noted that the Commission confirmed the decision of MIDANPIRG/8 to conduct a risk assessment study on bird strike hazard to aircraft operations safety on or in the vicinity of MID airports (Conclusion 8/5 refers) and called upon the Secretary General to extend a similar approach for the remaining regions.

2.3 With reference to regional air traffic services (ATS) incident analysis, the meeting noted that the Commission welcomed MIDANPIRG/8 initiative in addressing the need for analysis of ATS incidents at the regional level (Conclusion 8/15 refers). However, noting that the methodology for the submission and processing of ATS incident reports (Appendix 6H of the Report refers) calls for their submission to IATA and the ICAO Regional Office in Cairo and not to the service provider, the Commission considered that there was a need for a clarification of the relationship of the proposed procedure to the existing Standards and Recommended Practices (SARPs) in Annex 13 — *Aircraft Accident and Incident Investigation and Procedures for Air Navigation Services — Air Traffic Management* (PANS-ATM, Doc 4444) relating to reporting of ATS incidents.

2.4 On the subject of Regional Monitoring Agency for the implementation of RVSM, the meeting was informed that the Commission, while recognizing that the United Arab Emirates (UAE) had initially offered to manage MECMA and also bear all the costs, expressed concern regarding its decision to discontinue its support to MID RMA effective 1 June 2004. Consequently, the Commission requested the Secretary General to take appropriate action for an early resolution of funding requirements for MID RMA.

2.5 The meeting noted that the Council appreciated the initiative of MIDANPIRG/8 in setting up a separate air navigation safety working group to address the issue of deficiencies at the Regional level and also assist States in the elimination of their deficiencies (Decision 8/51 refers).

2.6 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 and delivery of ongoing work programme of the Region.

MIDANPIRG/9
Appendix 2A to the Report on Agenda Item 2

**MIDANPIRG CONCLUSIONS/DECISIONS CONSIDERED FOR SPECIFIC ACTION BY
THE AIR NAVIGATION COMMISSION AND/OR COUNCIL**

REPORT REFERENCE		ACTION BY COUNCIL/ANC	PROPOSED ACTION
CONCL./DEC. NO.	PAGE		
8/1	5-2	ANC	Harmonization of air navigation systems Noted the conclusion and requested the Secretary General to both identify interface issues and address them through an appropriate interregional harmonization mechanism.
8/4	6-2	ANC	Certification of aerodromes implementation mandates Noted the conclusion and requested the Secretary General to urge States to establish the necessary legislation and regulatory procedures for certification of aerodromes.
8/5	6-3	ANC	Conduct of a risk assessment study on bird strike hazard to aircraft operations safety on or in the vicinity of MID airports Noted the conclusion and requested the Secretary General to extend a similar approach in commissioning a study for the remaining Regions.
8/6	6-3	ANC	Impact of new larger aeroplanes (NLAs) operational requirement on existing aerodrome physical characteristics, facilities and services Noted the conclusion and invited the Secretary General to call upon States to plan for appropriate measures to accommodate NLA operations at existing aerodromes in accordance with Annex 14, Volume I, provisions, taking into account the related ICAO circular.
8/12	6-7	ANC	Establishment of a Regional Safety and Monitoring Agency Noted the conclusion and that the terms of reference of the Middle East Central Monitoring Agency had been revised so as to include additional tasks regarding safety and airspace monitoring in respect of RNP/RNAV implementation.

REPORT REFERENCE		ACTION BY COUNCIL/ANC	PROPOSED ACTION
CONCL./DEC. NO.	PAGE		
8/15	6-10	ANC	Methodology for the reporting and analysis of ATS incidents Noted the conclusion and its relationship to Assembly Resolution A31-10: Improving accident prevention in civil aviation, and requested MIDANPIRG to review the proposed methodology in Appendix 6H of the Report so as to clarify it in relation to existing provisions in Annex 13 and Doc 4444, PANS-ATM.
8/16	6-11	ANC	ATC proficiency Noted the conclusion and requested the Secretary General to invite States to evaluate and identify the requirement for ATC refresher courses, including English language training for Air Traffic Controllers.
8/22	6-14	C	Coordination problems over the Red Sea area Noted the conclusion and that the procedure developed for uncoordinated flights operating over the Red Sea has been implemented successfully.
8/23	6-15	C	Implementation of RVSM in the MID Region Noted the conclusion and that RVSM implementation in MID Region except Kabul and Bagdad FIRs on 27 November 2003, in conjunction with similar introduction in the Bay of Bengal and beyond, has improved the availability of efficient cruising levels and thus reduced ground delays for flights from Asia to Europe south of the Himalayas.
8/25	6-18	ANC	Integrated aeronautical information package Noted the conclusion and called upon the Secretary General to remind States not having done so to make their national Aeronautical Information Publication (AIP) available in the new format without further delay.

REPORT REFERENCE		ACTION BY COUNCIL/ANC	PROPOSED ACTION
CONCL./DEC. NO.	PAGE		
8/33 8/34	6-20 6-21	ANC	Automation of aeronautical information services Quality system Noted the conclusions and invited the Secretary General to develop an AIS/MAP Automation Plan for the MID Region and also urge States of MID Region not having done so to take the necessary measures to implement a quality system within their aeronautical information services in conformity with the ISO 9000 series of standards.
8/36	6-21	ANC	WGS-84 implementation in the MID Region Noted the conclusion and requested the Secretary General to remind those States that have not yet implemented WGS-84 to do so as a matter of priority.
8/40	6-25	ANC	MID VSAT feasibility study Noted the conclusion and the need for an agreement by the States concerned to decide on the type of interfaces and interconnection among such networks.
8/43	6-26	ANC	Upgrade of existing communication infrastructures Noted the conclusion with an understanding that such a requirement need to be regionally agreed upon and thereafter reflected in the FASID part of Middle East ANP.
8/49	6-29	ANC	Implementation of the SADIS second generation system (SADIS 2G) Noted the conclusion and recognized that the transition to SADIS 2 G would accrue benefits to States, although there would be an initial cost implication at the system level.

REPORT REFERENCE		ACTION BY COUNCIL/ANC	PROPOSED ACTION
CONCL./DEC. No.	PAGE		
8/50	6-30	ANC	Discontinuation of the current first generation SADIS two-way VSAT programme Noted the conclusion and acknowledged that the discontinuation of the current SADIS two-way VSAT programme effective 1 January 2004 constituted an initial step for migration from first to second generation SADIS broadcast system.
8/51	8-2	C	Safety of air navigation services in the MID Region Noted the decision and called upon the Secretary General to extend this approach to other regions which have not done so and to develop a methodology that would result in the allocation of appropriate priority in addressing the deficiencies.
8/52	8-4	ANC	Protecting GNSS from harmful interference in the MID Region Noted the conclusion and acknowledging its consistency with the Assembly Resolution A32-13, requested the Secretary General to remind States which have not done so to refrain from using or allocating the band 1 559-1610 MHz to fixed service.
8/54	8-5	C	Elimination of air navigation deficiencies in the MID Region Noted the conclusion and called upon the Secretary General, as a follow-up to SL M6/11-02/79 dated 27 September 2002, to remind States, which have not yet done so, to provide information to the respective regional office that includes specifying corrective measures taken, also indicating the completion date and describing any difficulties encountered in addressing deficiencies.
8/55	9-1	C	Revised terms of reference of MIDANPIRG Approved the revised terms of reference of MIDANPIRG, as shown in Appendix C.
8/57	10-1	C	Revised terms of reference and work programme of Traffic Forecasting Sub-Group (TF SG) Approved the integration of MER TFG, hitherto a separate entity, into MIDANPIRG as a TF SG.

MIDANPIRG/9
Report on Agenda Item 3

**REPORT ON AGENDA ITEM 3: REVIEW OF OUTSTANDING CONCLUSIONS/DECISIONS OF
PREVIOUS MIDANPIRG MEETINGS.**

3.1 At each MIDANPIRG meeting, an update on the status of existing Conclusions/Decisions emanating from last MIDANPIRG meeting is carried out, highlighting follow-up action(s) taken by States and the Secretariat.

3.2 The meeting recalled that the Second MIDANPIRG Member States' meeting (MMS/2) held in Bahrain, 19–21 September 2004, highlighted the need to review and consolidate all outstanding Conclusions/Decisions emanating from previous MIDANPIRG meetings, with a view to merge, when possible, those Conclusions/Decisions addressing the same subjects.

3.3 The meeting was presented with the list of outstanding Conclusions and Decisions emanating from MIDANPIRG 5, 6, 7 and 8 meetings and noted the follow-up actions taken pursuant to those Conclusions and Decisions. The meeting was also informed that MIDANPIRG 1 to 4 Conclusions and Decisions were considered but not listed due to either been superseded by new/revised Conclusions/Decisions or merged with other Conclusions/Decisions dealing with the same subject.

3.4 The meeting reviewed the list of current MIDANPIRG Conclusions/Decisions at **Appendix 3A** to the report on Agenda Item 3 and endorsed the consolidated list of Conclusions/Decisions at **Appendix 3B** to the report on Agenda Item 3, which required changes in their wording and/or were merged with other Conclusions/Decisions dealing with the same subject.

LIST OF CURRENT MIDANPIRG CONCLUSIONS/DECISIONS

FOLLOW-UP ACTION ON MIDANPIRG CONCLUSIONS/DECISIONS STILL IN FORCE		
CONCLUSIONS AND DECISIONS	FOLLOW-UP	REMARKS
CONCLUSION 5/4: APPLICATION OF MEASURES TO REDUCE CONGESTION IN THE MID REGION That, planning measures to reduce congestion in the MID Region should be based on the following considerations: a) the feasibility of using capacity enhancement measures should always be considered; b) in developing regional plans for ATFM measures to manage demand, it should be noted that: i) tactical ATFM measures are currently used and should continue to be used, in co-ordination with adjacent FIRs, to manage demand during periods of significant congestion; and ii) strategic ATFM may be required on a seasonal basis for specific airports (e.g. for Haj flights).		Still current
CONCLUSION 5/10: IMPLEMENTATION OF ADDITIONAL CIDIN CIRCUITS IN THE MIDDLE EAST REGION That, States who have not already planned to implement CIDIN in their centres, consider waiting for the outcomes of the co-ordination with the European Region before planning to implement CIDIN, or plan for a direct transition from AFTN to ATN.		Still current

FOLLOW-UP ACTION ON MIDANPIRG CONCLUSIONS/DECISIONS STILL IN FORCE		
CONCLUSIONS AND DECISIONS	FOLLOW-UP	REMARKS
DECISION 5/17: PROPOSAL FOR A JOINT DEVELOPMENT WORK BETWEEN MID REGION AND EGNOS ON VARIOUS ISSUES RELATED TO GNSS IMPLEMENTATION IN MID REGION That MIDANPIRG a) accept the initiative of the European Tripartite Group to: 1. participate in the initiative of ETG in conducting an inter-regional SBAS cost/benefit analysis, together with current ETG international partners, 2. exchange information with ETG on GNSS technical certification requirements drawing upon the work conducted by the ETG safety assessment team; 3. exchange information with ETG on current work on institutional and organizational framework; and 4. participate with ETG and its international partners (AFI region, India and Japan) in Inter-regional SBAS Test bed (ISTB) trials. b) accept any initiative by other SBAS providers to conduct similar trials and demonstrations with the MID region, provided that the mechanism and scope of involvement of the States and users of the MID region and the scenarios are clearly defined and accepted, and stressing that such a participation by the MID region with EGNOS in joint test bed activities would by no means prejudice a future decision on the final choice of an augmentation system by the MID region		Still current

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FOLLOW-UP ACTION ON MIDANPIRG CONCLUSIONS/DECISIONS STILL IN FORCE			
CONCLUSIONS AND DECISIONS		FOLLOW-UP	REMARKS
DECISION 6/24:	FINANCING OF CNS/ATM IMPLEMENTATION		Still current
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.			
CONCLUSION 7/13:	CIVIL/MILITARY COORDINATION		Still current.
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 7/24:	IMPLEMENTATION OF COSPAS/SARSAT IN MCC/LUT STATION IN SAUDI ARABIA	Ongoing	
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.			
CONCLUSION 7/28:	PTT SUPPORT AND COOPERATION FOR AERONAUTICAL TELECOMMUNICATIONS CIRCUITS		Still current
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.			

FOLLOW-UP ACTION ON MIDANPIRG CONCLUSIONS/DECISIONS STILL IN FORCE		
CONCLUSIONS AND DECISIONS	FOLLOW-UP	REMARKS
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.	Actioned Ongoing	
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.		Still current
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.	Actioned	Still current
CONCLUSION 8/1: HARMONIZATION OF AIR NAVIGATION SYSTEMS That, ICAO and the CNS/ATM partners place emphasis on identifying and addressing the interface issues and associated difficulties with a view to facilitating the harmonized planning and implementation of air navigation systems giving rise to a global ATM system.	On-going	

FOLLOW-UP ACTION ON MIDANPIRG CONCLUSIONS/DECISIONS STILL IN FORCE			
CONCLUSIONS AND DECISIONS		FOLLOW-UP	REMARKS
CONCLUSION 8/4:	CERTIFICATION OF AERODROMES IMPLEMENTATION MANDATES		
That,		On going	
a)	MID States be urged to ensure establishment of the necessary regulatory regime to comply with Provisions of Annex 14 Volume I, related ICAO Specifications and guidance material contained in ICAO Manual Doc 9774;		
b)	MID States be invited to incorporate publication of an Incident/Accident Prevention Programme document as part of Safety Management System in the Aerodrome Manual.		
DECISION 8/7:	FOLLOW UP OF STATE SAFETY MEASURES RELATED TO ADEQUACY OF EXISTING INT'L AERODROMES TO ACCOMMODATE NLA OPERATIONS		
That, appropriate mean be studied by AOP SG for follow up safety measures taken by States for the adequacy of their existing aerodromes intended to accommodated NLA operations.		Ongoing	
CONCLUSION 8/10:	TRAFFIC ORIENTATION SCHEME WITHIN CAIRO FIR		
That, In view of the concerns raised by users on the traffic orientation scheme implemented within Cairo FIR, the matter be progressed, initially through informal meetings, between the parties concerned.		Ongoing	Informal meeting was organized with National Air Navigation Services Company (NANSC) and approval is being sought from military authorities regarding some of the requirements.
CONCLUSION 8/16:	ATC PROFICIENCY		
That, States be invited, through their safety management programme, to evaluate and identify the requirement for ATC refresher courses, including English language training for Air Traffic Controllers with a view to ensure that the level and quality of services are maintained.		Ongoing activity	

FOLLOW-UP ACTION ON MIDANPIRG CONCLUSIONS/DECISIONS STILL IN FORCE			
CONCLUSIONS AND DECISIONS		FOLLOW-UP	REMARKS
CONCLUSION 8/19: That, a) In accordance with the provisions of Annexes 11 and 15, States develop and promulgate contingency plans; b) Such contingency plans be developed with the assistance of ICAO as necessary, in close coordination with the air traffic services authorities responsible for the provision of services in adjacent portions of airspace and with airspace users concerned.	THE DEVELOPMENT AND PROMULGATION OF CONTINGENCY PLANS	To follow-up On-going	Most States do have contingency plans.
	CONCLUSION 8/20: ENDORSEMENT OF GUIDANCE MATERIALS DEVELOPED WITHIN THE FRAMEWORK OF THE RVSM TASK FORCE That, States use the provisions of the ATC, Operations/Airworthiness Manuals and the RVSM Model Safety Plan developed within the framework of the RVSM Task Force for regional application and in the development of their own Manuals/Procedures.	Completed	Still current
CONCLUSION 8/22: That, a) with effect from 27 November 2003, the procedures developed at *Appendix 6L to the report on Agenda Item 6, be followed by all uncoordinated flights operating over the Red Sea; b) States concerned publish an AIP Supplement as soon as possible, and no later than 30 October 2003 for the promulgation of these procedures; c) IATA ensures that concerned operators are fully conversant with these procedures; and	COORDINATION PROBLEMS OVER THE RED SEA AREA	Ongoing activity	- Some non-adherence to agreed procedures have been reported - IATA requested to assist - AFI/MID Interface meeting in Nairobi (30 November to 3 December 2004) to address the issue.

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FOLLOW-UP ACTION ON MIDANPIRG CONCLUSIONS/DECISIONS STILL IN FORCE		
CONCLUSIONS AND DECISIONS	FOLLOW-UP	REMARKS
d) State/military aircraft when flying under "Due Regard" over the Red Sea be informed of the procedures to be followed by Civil Uncoordinated Flights and be requested to take into account the restrictions applicable within RVSM airspace. Note:* Procedures have been finalized through: - informal meeting(s)/ consultations by Egypt; - two meetings organized by the Arab Civil Aviation Commission (ACAC); - Sustained support from IATA; - RVSM Task Force; and - Willingness of concerned States to find a solution to the problem in the interest of safety.		
CONCLUSION 8/26: AIRAC SYSTEM That, in accordance with Annex 15 and the MID Basic ANP Chapter VIII provisions: a) A schedule of AIRAC effective dates, publication dates and cut-off dates for the receipt by AIS of the raw information to be promulgated through the AIRAC system should be issued by means of AIC once a year and distributed to all services and agencies responsible for the origination of the raw information. b) States take the necessary actions to improve coordination between AIS and other air navigation services providing aeronautical raw data, to ensure that: i) the required information is supplied to the AIS as promptly and accurately as possible; ii) aeronautical information of operational significance reaches users at least 28 days in advance of the AIRAC effective date. Note: - information/data prepared in hard copy format shall be issued and distributed at least 56 days prior to effective date; and - information/data provided in electronic format shall be issued and distributed at least 35 days prior to effective date.	Ongoing	Action by States

FOLLOW-UP ACTION ON MIDANPIRG CONCLUSIONS/DECISIONS STILL IN FORCE			
CONCLUSIONS AND DECISIONS		FOLLOW-UP	REMARKS
CONCLUSION 8/32:	PROPER STATUS OF AIS		
That, in accordance with the MID Basic ANP Chapter VIII provisions, States are reminded of the requirement for ensuring that:		Ongoing	Action by States
a) AIS, which is a crucial component of the CNS/ATM system playing a critical supporting service role, is given proper status in their Administrations; and b) sufficient funds and trained personnel are made available to AIS.			
Note: investment in the improvement of AIS will contribute overall to increased aviation safety and performance.			
CONCLUSION 8/34:	QUALITY SYSTEM		
That, in accordance with Annex 15 provisions, MID States, not having done so, are urged to take the necessary measures to implement a quality system within their Aeronautical Information Services, in conformity with the ISO 9000 series of standards.		Ongoing	Action by States
Note: The ISO 9000 series of quality management system provide a basic framework for the development of a quality management programme, which has to be formulated by each State and in most cases, is unique to the State organization.			

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FOLLOW-UP ACTION ON MIDANPIRG CONCLUSIONS/DECISIONS STILL IN FORCE			
CONCLUSIONS AND DECISIONS		FOLLOW-UP	REMARKS
CONCLUSION 8/36:	WGS-84 IMPLEMENTATION IN THE MID REGION		
That, States:		Ongoing activity	Action by States
a)	not having done so, are urged to achieve the total implementation of the WGS-84 System;		
b)	use the ICAO uniform format (FASID Table AIS-5) for reporting the status of implementation of WGS-84; and		
c)	report the status of implementation of WGS-84 on a regular basis until the system is fully implemented.		
CONCLUSION 8/38:	PRESENTATION OF CNS/ATM IMPLEMENTATION PROJECTS BY MID STATES TO CNS/ATM/IC SUB-GROUP MEETINGS		
That, MID Region States attending the CNS/ATM/IC Sub Group meetings should submit to ICAO MID Regional Office in sufficient time prior to each meeting of the Sub-Group, working and/or information paper(s) on recent studies, projects, developments, trials and demonstrations related to the implementation of the CNS/ATM systems in their State or group of States.		Ongoing	Still current
CONCLUSION 8/39:	MID REGION STATES SUPPORT FOR THE CNS/ATM HUMAN RESOURCES PLANNING AND TRAINING TASK FORCE		
That, MID region States in addition to that listed in the CNS/ATM Human Resources Planning and Training Task Force composition, having experience in the fields of human resources planning and training, specially those having training schools/colleges, should:		Ongoing	The first MID CNS/ATM Human Resources Planning and Training Task Force Meeting was scheduled on 3-5 October 2004 and due to low level of participation received from States, the meeting was postponed to 26-28 September 2005.
a)	provide the ICAO MID Regional Office with adequate information on their CNS/ATM training programmes; and		
b)	support the Task Force by participating effectively in its meetings.		

FOLLOW-UP ACTION ON MIDANPIRG CONCLUSIONS/DECISIONS STILL IN FORCE			
CONCLUSIONS AND DECISIONS		FOLLOW-UP	REMARKS
CONCLUSION 8/42:	DEVELOPMENT OF MID REGIONAL AFTN CONTINGENCY PLAN That, the MID Regional AFTN Contingency Plan be developed in order to ensure the continuity of AFTN in case of catastrophic failure at any point. States should provide to the ICAO MID Regional Office all the necessary information that would facilitate the development of the plan.	Ongoing	Complementary information from States.
CONCLUSION 8/43:	UPGRADE OF EXISTING COMMUNICATION INFRASTRUCTURES That, a) the States of the MID Region be encouraged, to deploy digital technology and high-speed links, as part of overall improvement of current ground-to-ground communications and provision of an infrastructure that would facilitate the transition to ATN; b) the ground-ground communications chapter of the MID FASID be amended in a view of taking into account the use of these new improvements in AFS communications.	On-going	Many States improved their communications facilities.
DECISION 8/44:	DEVELOPMENT OF THE MID REGIONAL ATN PLANNING DOCUMENT That, the MID Regional ATN Planning Document (Appendix 6U) to be developed in order to provide guidance and information necessary for ATN transition in the Region.	Ongoing	

FOLLOW-UP ACTION ON MIDANPIRG CONCLUSIONS/DECISIONS STILL IN FORCE			
CONCLUSIONS AND DECISIONS		FOLLOW-UP	REMARKS
DECISION 8/45: ATN PLANNING GROUP That, a) the ground-to-ground ATN Study Group established by Decision 6/2 of the AFS/ATN TF/6 be replaced by a new ATN Planning Group consisting of the Experts from: Bahrain, Egypt, Iran, Kuwait, Oman, Pakistan, Saudi Arabia, UAE, Yemen, IATA and ICAO. b) the new ATN Planning Group be tasked, in developing the draft of the MID Regional ATN Planning Document, to emphasize on the economical and operational justifications which are specific to the Region.		Actioned	Still current
CONCLUSION 8/47: NEED TO MONITOR AFTN CIRCUIT OCCUPANCY That, the concerned States closely monitor the occupancy of the following circuits and coordinate upgrading of the circuits capacity, in accordance with the LIM MID RAN meeting Conclusion 6/4 1. Abu Dhabi / Muscat 2. Amman / Cairo 3. Amman / Damascus 4. Bahrain / Singapore 5. Beirut / Kuwait 6. Cairo / Nairobi 7. Jeddah / Addis Ababa 8. Muscat / Mumbai		On-going	
DECISION 8/51: SAFETY OF AIR NAVIGATION SERVICES IN THE MID REGION That, with a view to enhance safety of air navigation services in the MID Region, a MIDANPIRG Air Navigation Safety Working Group is established with Terms of Reference and composition as at Appendix 8H, to address the issue of deficiencies at a regional level and assist States in the elimination of their deficiencies		Actioned	

FOLLOW-UP ACTION ON MIDANPIRG CONCLUSIONS/DECISIONS STILL IN FORCE		
CONCLUSIONS AND DECISIONS	FOLLOW-UP	REMARKS
CONCLUSION 8/52: PROTECTING GNSS FROM HARMFUL INTERFERENCE IN THE MID REGION That, considering, Para. (c) of Conclusion 7/8, regarding the Implementation of GNSS in the MID Region, footnotes 5.362B and 5.362C of ITU WRC - 2003 Conference, regarding the additional allocation of the band 1 559 – 1 610 MHz (which is used for elements of GNSS) to fixed service and in order to protect GNSS from harmful interference in the MID Region: a) MID Region States who have not done so should immediately refrain from using or allocating the band 1 559 – 1 610 MHz to fixed service. b) MID Region States whose name is still in the footnotes should request ITU to delete their country's name from footnotes 5.362B and 5.362C. c) Aeronautical community using GNSS in the MID Region when detecting harmful interference should immediately inform ICAO MID Region office using the Harmful Interference Report Form.	Actioned	Still current Request was sent to States to remove their names from the relevant footnotes.

MIDANPIRG/9
Appendix 3B to the Report on Agenda Item 3

CONSOLIDATED LIST OF CONCLUSIONS/DECISIONS

CONCLUSION 9/X: ICAO STRATEGY WITH REGARD TO FUTURE ITU WORLD RADIO COMMUNICATION CONFERENCES

That,

- a) the CNS/MET SG be tasked to follow up the developments of ICAO position regarding future WRC conferences and their preparatory meetings, and highlighting that position to the MID States;
- b) 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 respective Administrations to ITU conferences;
- c) MID States Civil Aviation Authorities, request their appropriate Ministries to assign aviation experts to participate in their national delegations to the future ITU conferences in order to brief the delegations at those conferences with ICAO position and to support that position; and
- d) MID States Civil Aviation Authorities be urged, as a matter of a priority to explain the ICAO concerns to their respective Ministerial Authorities including the League of Arab States and the Arab Civil Aviation Commission, in order to support the ICAO and IATA concerns with regard to protection of aeronautical frequencies at WRC-2007.

(Note: this Conclusion replaces Conclusions 6/4, 6/5 and 7/29 and Decision 6/3 related to ITU/WRC)

CONCLUSION 9/X: AIRWORTHINESS AND OPERATIONAL APPROVAL FOR ~~RNP-5~~ **B-RNAV, ~~AND RNP 10~~ **AND RVSM** OPERATIONS IN THE MID REGION**

That, with a view to facilitate and harmonize the airworthiness and operational approvals procedures for ~~RNP-5~~ **B-RNAV**, and RNP 10 **and RVSM** 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~~ **B-RNAV** 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; and
- c) 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 be adopted.

(Note: this Conclusion replaces Conclusions 7/7 and 7/18)

CONCLUSION 9/X: DATA FOR SUSTAINED SAFETY ASSURANCE OF RNP AND RVSM WITHIN THE MID REGION

That, considering the on-going requirement for safety assurance related to RVSM and RNP operations within the Middle East Region,

- a) all States report data and incidents necessary for performing collision risk calculations required for sustained safe RVSM operations to MECMA the MID RMA*. The data will include, but not necessarily be limited to:
 - i) assigned altitude deviations of 300 ft or more (monthly);
 - ii) total number of IFR movements (monthly);
 - iii) average time per movement spent in the level band FL290 - FL410;
 - iv) ATC/ATC coordination failures (monthly); and
 - v) traffic data (as requested by MECMA the MID RMA)*;
- b) monitoring States report navigational errors and traffic data in accordance with the Letter of Agreement concerning monitoring associated with RNP;
- c) air operators maintain procedures for reporting of turbulence;
- d) States report data on approval of operators and aircraft for RVSM operations (monthly); and
- e) MECMA the MID RMA* ensures that further processing and evaluation of this data within its Terms of Reference and identifies or develops methodologies for assessing risk associated with operational procedures prevailing within the MID Region.

** MID RMA to be established*

Note: Until the MID RMA is established, States forward to the ICAO Regional Office any relevant information likely to have a negative impact on the safe operations of RNP and RVSM in the region.

(Note: this Conclusion replaces Conclusions 8/24)

CONCLUSION 9/X: TRAFFIC FORECASTING REQUIREMENTS IN THE MID REGION

That,

- a) the Secretariat coordinates with other international and regional organizations; including IATA, with a view to establishing a MID database to support regional traffic forecasting activities;
- b) MID States continue their support to the TFSG by ensuring that their respective nominees to the membership of the Sub-group include, as much as possible, forecasting experts, air traffic management experts and, when required, financial analysts to carry out business case and cost/benefit analysis;
- c) MID States continue to avail required FIR and other data to the Sub-group to facilitate the development of forecasts and other air navigation planning and implementation parameters; and
- d) the Secretariat continues organizing workshops, seminars and other training programmes with a view to upgrading regional traffic forecasting capabilities.

(Note: this Conclusion replaces Conclusions 6/22, 6/32, 7/43 and 8/58)

MIDANPIRG/9
Report on Agenda Item 4

REPORT ON AGENDA ITEM 4: LATEST DEVELOPMENTS IN THE AIR NAVIGATION FIELD***Developments in the modernization of Air Navigation Systems***

4.1 The meeting was presented with an overview of the Global and Regional developments in the modernization of air navigation systems. The meeting noted that through the panels of the Air Navigation Commission and the Secretariat, assisted by study groups, ICAO has made substantial progress in the development of SARPs, PANS and guidance material.

4.2 The meeting noted that various PIRGS, have implemented and also put in place a number of ongoing initiatives enveloping ATM, communications, navigation, surveillance as well as economic and institutional areas. The meeting requested the Secretariat to include the enhanced GPWS as an additional element in the next review of comparative analysis of regional developments. On further examination of the comparative picture of regional developments, the meeting recognized the need to continue the ongoing interregional coordination for the harmonized planning and implementation of air navigation systems and agreed to take into account the development in the work programme of MIDANPIRG.

4.3 The meeting among other things noted the following:

- a) Summary of work of ICAO's (PIRGs) in **Appendix 4A** to the report on Agenda Item 4
- b) Development status of (SARPs) and guidance material detailed in **Appendix 4B** to the report on Agenda Item 4.
- c) Work programmes of various Panels and Study Groups engaged in CNS/ATM related activities detailed in **Appendix 4C** to the report on Agenda Item 4.
- d) Comparative analysis of regional developments in air navigation systems detailed in **Appendix 4D** to the report on Agenda Item 4.

Continuation and expansion of the ICAO Universal Safety Oversight Audit Programme (USOAP)

4.4 The meeting was provided with a report on continuation and expansion of the ICAO USOAP through the concept of a comprehensive systems approach. The meeting was reminded that USOAP was established in 1999, with the objective of promoting global aviation safety through the conduct of regular and mandatory safety oversight audits of all Contracting States.

4.5 Safety oversight audits performed thus far have been planned and conducted on an Annex-by-Annex basis, starting with Annex 1 — *Personnel licensing*, Annex 6 — *Operation of aircraft* and Annex 8 — *Airworthiness* and with a view to progressively introducing other Annexes. While this approach served its purpose and proved effective for the establishment of the Programme and the initial audits, it has become clear that continuing along the same line to assess the capabilities of Contracting States for safety oversight and the implementation of safety-related provisions would be both lengthy and expensive. On the basis of the experience gained, it was time for USOAP to evolve from an Annex-by-Annex to a comprehensive systems approach, which would focus on the States' overall safety oversight capabilities. Consequently, the 35th Session of the ICAO Assembly (Resolution A35-6 refers) resolved that USOAP be further expanded to include the safety-related provisions in all safety-related Annexes to the Convention on International Civil Aviation. With the foreseen expansion of USOAP to cover sixteen of the eighteen Annexes to the *Convention on International Civil Aviation* (Doc 7300), it is inevitable that the workload placed on ICAO and on States will increase significantly.

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Report on Agenda Item 4

4.6 The meeting noted that the envisioned comprehensive systems approach to the conduct of safety oversight audits would consist of two phases. In the first phase, the implementation of Annex provisions and the identification of differences would be determined through the review of the duly completed State Aviation Activity Questionnaire (SAAQ) and Compliance Checklists for all relevant Annexes. In the second phase, the State being audited would be visited by an ICAO audit team, which would validate the information provided by the State and also conduct an on-site audit of the State's overall capability for safety oversight.

Revised Statement of Basic Operational Requirements and Planning Criteria (BORPC)

4.7 The meeting noted that the work of a regional air navigation (RAN) meeting is to be based on the updated Statement of BORPC. Accordingly, the Commission last approved the Statement of BORPC on 17 June 1999 for use, inter alia, at the third Caribbean/South American RAN (CAR/SAM/3) Meeting held in October 1999. As a result of the PIRGs carrying out most of the planning tasks in recent times, RAN meetings are not frequently convened and are consequently held only when specifically required. However to reflect a number of advancements that had take place in many of the fields of air navigation systems, the meeting noted that the task of revising the 1999 Statement of BORPC was initiated by the Commission. After due consultations with States, the Air Navigation Commission on 22 February 2005, approved the revised Statement in the **Appendix 4E** to the report on Agenda Item 4.

4.8 Whereas the Statement of BORPC is considered to be a vision statement and as such should apply equally to every region, the meeting noted that it was until now applicable to all regions except for the European region. However, it was observed that a common approach is being adopted by all the PIRGs, which is based on global requirements such as ICAO SARPs, Global Plan and the recently approved ATM operational concept. Recognizing that a common Statement would be another tool for ensuring interregional harmonization and, eventually, a global ATM system, the meeting was pleased to note the decision of the Commission to extend henceforth the Statement of BORPC to all the regions.

4.9 In light of the above, MIDANPIRG agreed to incorporate the revised Statement of BORPC, through the following decision, into the MID Basic air navigation plan (ANP).

***DECISION 9/1: REVISED STATEMENT OF BORPC FOR REGIONAL
AIR NAVIGATION PLANNING AND IMPLEMENTATION***

That, the revised Statement of BORPC for the regional air navigation planning and implementation be incorporated into the MID Basic Air Navigation Plan (ANP).

Updating the Global Air Navigation Plan for CNS/ATM Systems (DOC 9750)

4.10 The meeting recalled that the *Global Coordinated Plan for Implementation of ICAO CNS/ATM Systems* was re-titled as the *Global Air Navigation Plan for CNS/ATM Systems* (henceforth referred to as Global Plan), which was accepted by the Council. Since the acceptance of the first edition of the revised Global Plan in 1998, a comprehensive proposal for amendment to several parts of the document was developed in June 2001 and, consequently, the second edition was published in 2002.

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4.11 In November 2004, the Commission reviewed the ICAO documentation structure, which included the process for update and acceptance of the Global Plan. Taking into consideration the legal constraints associated with changing the status of the Global Plan and being aware that the Global Plan was created as a living, dynamic document, to be easily updated within a short period of time, the Commission agreed that the present procedure for acceptance and updating of the Global Plan should be retained, with the addition that the Secretary General may, upon recommendation by the Commission, circulate specific proposals, or parts thereof, to States and selected international organizations for comment.

4.12 Furthermore, the meeting noted that, in follow-up to AN-Conf/11, the sixth meeting of the Air Navigation Commission Consultation with industry was held in May 2004. Subsequent to the consultation an Industry Group was formed and an ATM Implementation Roadmap was developed. In November 2004, the Roadmap was presented to the Commission.

4.13 The Industry Roadmap addresses short-and medium-term implementation activities associated with communications, navigation, and surveillance/air traffic management (CNS/ATM) systems, while the longer-term objectives are addressed in the operational concept. Also, the meeting noted that the Commission was of the view that the Roadmap integrates very well with the operational concept and, if implemented successfully, would lead to a convergence with the ATM system envisaged by the operational concept and, together with the Global Plan and operational concept, forms a comprehensive planning structure. Therefore, the meeting was informed that the Roadmap would be fully integrated into the planning process by merging it with the Global Plan.

4.14 Based on the above, the meeting noted that a proposal for second amendment of the Global Plan to incorporate relevant material from the Industry Roadmap was being developed by the Secretariat and would be presented to the Commission for review in June 2005. After its review by the Commission, it will be circulated to States and international organizations for comments. Following this, the revised Global Plan will be reviewed by the Commission and then by the Council for a final determination and acceptance.

Follow-up to the 35th Session of the ICAO Assembly concerning air navigation matters

4.15 The meeting was presented with a report on the outcome of, and actions taken by, the Council, the Air Navigation Commission and the Secretary General of ICAO on the 35th Session of ICAO Assembly (A35), which was held at ICAO Headquarters in Montreal from 28 September to 8 October 2004. The A35 developed number of Resolutions and Decisions enveloping a wide range of issues concerning air navigation matters and call for further follow-up by States and PIRGs.

4.16 The proposed actions on the Resolutions and Decisions, which are analysed in the **Appendix 4F** to the report on Agenda Item 4, were discussed and the meeting decided to include the relevant follow-up actions in the work programme of States and MIDANPIRG.

REGIONAL PLANNING AND IMPLEMENTATION ACTIVITIES RELATED TO AIR NAVIGATION SYSTEMS

1. REGIONAL PLANNING AND IMPLEMENTATION ACTIVITIES RELATED TO AIR NAVIGATION SYSTEMS

1.1 Regional plans

Note.— The following paragraphs summarize the major planning activities which have been reported by recent meetings of the PIRGs.

AFI Planning and Implementation Regional Group

1.1.1 The last meeting of AFI Planning and Implementation Regional Group (APIRG/14) was held in Yaoundé, Cameroon, in June 2003. Although the next meeting (APIRG/15) is scheduled for 2005, APIRG continued to develop the regional air navigation infrastructure through its subgroups. APIRG identified the critical circuits for the up-gradation of aeronautical fixed telecommunication network (AFTN) circuits. The proposed implementation of reduced vertical separation minimum (RVSM) on major traffic flows in the AFI Region is under consideration and the target date is yet to be established. An SBAS test bed, based on European Geostationary Navigation Overlay Service (EGNOS), was implemented. To address air navigation deficiencies for Eastern and Southern Africa, the Air Navigation Infrastructure Enhancement Team was established. The consolidation of digital networks for ground-ground data and voice communications is under consideration. The establishment of a sub-regional safety oversight facility is also being considered.

ASIA/PAC Air Navigation Planning and Implementation Regional Group

1.1.2 The fifteenth meeting of ASIA/PAC Air Navigation Planning and Implementation Regional Group (APANPIRG/15), which took place in Bangkok, Thailand, in August 2004, focused on the development of the Region's air navigation system infrastructure, and marked a major milestone by finalizing the implementation of RVSM in Incheon, Naha and Tokyo FIRs effective 9 June 2005. The meeting agreed to establish an ATS Route Network Review Task Force to undertake a thorough review of current and future Asia/Pacific ATS route network. Regional preparations continue in order to support ICAO's position on the protection of aeronautical frequency spectrum at the forthcoming WRC-2007. The meeting finalized regional procedures for identification, assessment, reporting and monitoring of the status of air navigation deficiencies as a supplement to the uniform methodology. The meeting agreed to support the efforts of the Committee on Aviation Environmental Protection (CAEP) in the development of simplified tools and associated guidance for estimating environmental benefits of communications, navigation, and surveillance/air traffic management (CNS/ATM) systems at the national level.

Caribbean and South American Planning and Implementation Regional Group

1.1.3 The twelfth meeting of the Caribbean/South American (CAR/SAM) Regional Planning and Implementation Group (GREPECAS/12) was held in Havana, Cuba, in June 2004. The major activities undertaken by GREPECAS are as follows: review of the final preparations for the implementation of RVSM in the CAR/SAM Regions in conjunction with the planned implementation in the United States domestic airspace and southern Canadian airspace with effect from 20 January 2005; regional preparations to support ICAO's position on the protection of aeronautical frequency spectrum at the forthcoming WRC-2007 continues; regional agreement was concluded for Phase II implementation of area navigation (RNAV) routes with a target date of March 2005; action plan for the implementation of the fifth meeting of the required navigation performance (RNP/5) in Brazil and Uruguay (Brasilia, Curitiba and Montevideo flight information regions (FIRs)) commencing June 2007

was finalized; regional implementation of ATS quality assurance programme with a target date of December 2006 was agreed upon; the CAR/SAM air navigation deficiency database is being enhanced which would provide a secure online access for the States and international organizations to view and update information.

European Air Navigation Planning Group

1.1.4 The forty-fifth meeting of the European Air Navigation Planning Group (EANPG/45) was convened in Paris, France, in December 2003. The Region has planned for the phased introduction of the further expansion of 8.33 kHz airspace to eventually include all designated controlled airspace by 2009. Significant improvement was made in the ATS route network in southeastern Europe, which was reached within the framework of the ICAO Olympics Preparation Meetings. In order to prevent an early shortage in the availability of secondary surveillance radar (SSR) codes, the meeting recognized the need that States take all necessary measures to improve and rationalize the use of the codes. The *European Guidance Material on Aerodrome Operations under Limited Visibility Conditions* was approved and it was concluded that a workshop on aerodrome operations under low visibility conditions would be organized in the Region. The “ICAO European Region Transition Plan to CNS/ATM” was under revision in order to reflect the latest updates and the outcome of AN-Conf/11. With regard to the funding of the European Regional Monitoring Agency, it was agreed that EUROCONTROL would continue as the European RMA for the existing RVSM airspace area in the European Region, as long as the height-keeping monitoring requirements prevailed. Armenia, Azerbaijan, and Georgia planned to implement RVSM in November 2004.

Middle East Air Navigation Planning and Implementation Regional Group

1.1.5 The eighth meeting of the Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG/8) was held in Cairo, Egypt, in September 2003. Although the next meeting (MIDANPIRG/9) is scheduled for April 2005, the Region continued to develop the regional air navigation infrastructure through its subgroups: the draft MID basic air navigation plan (ANP) and facilities and services implementation document (FASID) have been finalized (available on ICAO website) and are undergoing technical and editorial verification at ICAO Headquarters; as UAE support to the Middle East Central Monitoring Agency (MECMA) for RVSM and RNP/RNAV monitoring discontinued from 1 June 2004; a new monitoring mechanism is being established; the feasibility study for establishing a Middle East regional very small aperture terminal (VSAT) network for ground-ground data/voice communications is being updated; an ATN transition plan is under development, with an initial focus on implementation of ground-ground applications such as ATS message handling system (AMHS) and ATS interfacility data communications (AIDC); the “MID Regional plan for CNS/ATM systems” has been reviewed and updated; the deficiencies of the Middle East Region were reviewed and addressed as a part of the regional work programme; and efforts are ongoing to protect the aeronautical frequency spectrum through the provision of its support of the ICAO position at the forthcoming WRC-2007.

North Atlantic Systems Planning Group

1.1.6 The fortieth meeting of the North Atlantic Systems Planning Group (NAT SPG/40) took place in Paris, France, in June 2004. The meeting endorsed the *NAT Region Flight Planning Manual* which had been posted on the public area of the NAT web site. The NAT SPG reviewed a detailed road map which provided an overview for the gradual phasing out of parts of the current high frequency (HF) infrastructure (for voice communications) and its replacement by data link technologies. While recognizing that the ATN remained the end-state, the NAT Region, like other parts of the world, had opted for FANS-1/A, which was being used successfully in operational trials for ADS and controller-pilot data link communications (CPDLC). The meeting, while endorsing the guidance material relating to satellite communication (SATCOM) voice waypoint position reporting trials, agreed that these trials be extended to the entire NAT Region and that consideration be given to include testing the uplink capabilities.

1.1.7 Furthermore, it was agreed that a road map be developed for the use of SATCOM voice in the NAT Region. The meeting also decided to convene a workshop to address the need to instil a safety management culture in training programmes for air traffic controllers and pilots operating in the NAT Region. The meeting established a Safety Management Coordination Group (SMCG) to address all safety-related issues in NAT region.

1.2 Other Major Implementation Activities

High frequency data link (HFDL)

1.2.1 ARINC has deployed fourteen ground stations worldwide, transmitting on thirty active frequencies with 128 frequencies licensed and providing global coverage. The service was initially intended for aeronautical operational control (AOC) but a number of ATS providers (in Canada, Portugal and the United Kingdom) have implemented pre-operational trials of the link for ATS communication (initially for flight management computer (FMC) way-point position reporting). It is anticipated that these trials will shortly transition to operational status. Between August 2003 and August 2004, the number of aircraft using the service had increased 38 per cent to 363, the monthly amount of traffic increased 42 per cent to 605 000 messages and the uplink message success rate increased to greater than 97 per cent.

VDL Mode 2

1.2.2 CPDLC "Build 1" commenced operational use at the Miami Air Route Traffic Control Center (ARTCC) on 7 October 2002. This first ATN implementation of CPDLC over VDL Mode 2 offered the following four operational services for routine air traffic control communications: "Transfer of Communications", "Initial Contact", "Altimeter Setting", and predefined free text messaging known as "Menu Text". During Build 1's twenty-four months of successful operation, over 80 000 messages have been exchanged, over 2 600 minutes of voice channel occupancy time saved and over 800 menu text "direct to" error-free clearance messages sent.

1.2.3 CPDLC Build 1 will cease operation in late 2004. Build 1 is tightly coupled with the aging host computer system that is to be replaced by the new En-Route Automation Modernization (ERAM) system platform. Lessons learned from the Miami experience are being captured for incorporation into a CPDLC national deployment programme in the United States. This "CPDLC National Build" will interface with the new ERAM system platform and will be deployed at all twenty ARTCCs in the 2010 to 2011 time period.

1.2.4 As part of the LINK 2000+ programme of the European Organisation for the Safety of Air Navigation (EUROCONTROL), CPDLC (over VDL Mode 2 and ATN) is being implemented to supplement air-ground voice communications in Europe. In this context, CPDLC operations commenced at Maastricht upper area control centre (UACC) in March 2004. ARINC and SITA VDL Mode 2 ATN services have been installed to provide coverage for the Maastricht UACC area. The interconnection of the SITA and ARINC networks is in progress to ensure that each airline and each area control centre (ACC) has the freedom to choose one or more communication service providers. To encourage early airline equipage, a pioneer scheme is in place, whereby support is being provided in the form of upgrade funding, integration and pre-operational tests. Beyond the pioneer scheme, work on an incentives scheme based on route charge modulation is underway. This will be backed up by a mandate for datalink in the region of the LINK 2004 programme. It is expected that the mandate will apply in 2009 for forward fit and 2014 for retrofit aircraft.

1.2.5 Other major milestones include operation at seven major ACCs by 2006-2007 and the availability of the service over the entire designated airspace by the applicability date of the mandate. The main objective of the programme is to enhance air traffic management (ATM) capacity and productivity, thus accommodating traffic growth and reducing delays.

GNSS

1.2.6 Since its commissioning in July 2003 in the United States, wide area augmentation system (WAAS) performed well, and its development and implementation programme continued with the objectives of improving level of service and expanding coverage by installing reference stations in Canada and Mexico. A contract for two additional geostationary earth orbit (GEO) satellites was signed to provide dual coverage over North America beginning from 2006-2007.

1.2.7 EGNOS development progressed, and most of the planned thirty-four reference stations were deployed. All four master stations were also deployed and are undergoing testing. EGNOS was broadcasting a signal based on a reduced network since 2003. Assessment of performance results is under way.

1.2.8 It is expected that the first multifunctional transport satellite (MTSAT) in support of multifunctional transport satellite-based augmentation system will be launched by Japan at the end of 2004 or at the beginning of 2005. Ground facilities have been progressing as planned and will be ready when MTSAT is in orbit. Work began in India on developing the infrastructure that will be needed by GPS and GEO Augmented Navigation (GAGAN) reference stations.

1.2.9 The GALILEO programme progressed. An agreement was signed between the European Union and the United States on GALILEO and GPS which covered a number of issues pertaining to civil aviation applications including, inter alia, a common baseline signal structure for the respective open services, unrestricted access to the open services by end-users and other interoperability issues.

Meteorological services

1.2.10 States are preparing for the operational use of GRIB-and BUFR-coded world area forecast system (WAFS) products received through the international satellite communications system (ISCS) and satellite distribution system for information relating to air navigation (SADIS) satellite broadcasts by 1 July 2005.

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

Main field	Elements	SARPs/PANS		Guidance material	
		Target completion date	Status	Target completion date	Status
ATM	Global air traffic management requirements	2005	Annexes 2 and 11 SARPs and PANS-ATM procedures under development.	2003	The ATM operational concept was endorsed by the Eleventh Air Navigation Conference in October 2003 and approved by the Air Navigation Commission (ANC) in January 2004 under delegated authority.
	Interoperability and functional integration of flight operations, ATS, ATFM and tactical ASM	2005 and beyond	Annexes 2 and 11 SARPs and PANS-ATM procedures under development.	2003	The ATM operational concept was endorsed by the Eleventh Air Navigation Conference in October 2003 and approved by the ANC in January 2004 under delegated authority.
	Required total system performance (RTSP)	2005	Draft policy statement under development.	2003	Definition developed. Role and functionality of RTSP being explored as part of work on the global ATM operational concept.
	ATM requirements for communications, navigation and surveillance	2005	Annexes 2, 6 and 11 SARPs and PANS-ATM procedures under development.	2005	Additional guidance material for the <i>Manual of Air Traffic Services Data Link Applications</i> (Doc 9694) under development.
ASM	Airspace infrastructure planning	—	—	2005	<i>Manual on Airspace Planning Methodology for the Determination of Separation Minima</i> (Doc 9689) published. Further guidance material under development by SASP and ATMCP.
	RNP and RNAV for en-route operations	Completed	Annex 11 SARPs and PANS-ATM procedures adopted by Council in 1998.	Completed	Update of the <i>Manual on Required Navigation Performance (RNP)</i> (Doc 9613) completed. Second edition published.

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Main field	Elements	SARPs/PANS		Guidance material	
		Target completion date	Status	Target completion date	Status
ATM	Separation between aircraft	2005	- PANS-ATM procedures approved by Council in 1998 - Further amendment to Annexes 2, 6, 11 and PANS-ATM under development.	2003	- Amendment to the <i>Manual on Vertical Separation Minimum</i> between FL 290 and FL 410 (Doc 9574) completed. - Additional guidance is under development for the <i>Manual on Airspace Planning Methodology</i> (APM) (Doc 9689).
	ATS (uplink of MET data)	Completed	SARPs and procedures concerning D-VOLMET have been included in Annex 3 and PANS-ATM respectively.	2005	<i>Manual on Coordination between Air Traffic Services, Aeronautical Information Services and Aeronautical Meteorological Services</i> (Doc 9377) to be amended to include guidance material.
	ATS (uplink of SIGMET information in graphical format)	Completed	Initial SARPs for graphical SIGMETs have been included in Annex 3.	2005	<i>Manual of Aeronautical Meteorological Practice</i> (Doc 8896) to be amended to include guidance material.
	WAFS planning and implementation (final phase)	On-going	SARPs for global WAFS SIGWX forecasts in binary format (BUFR code) for direct transmission to airline and ATM computers have been included in Amendment 73 to Annex 3.	2005	<i>Manual of Aeronautical Meteorological Practice</i> (Doc 8896) to be amended to include guidance material.
	ATS applications for air-ground data links	2005	Annex 11 SARPs and PANS-ATM procedures are being developed.	Completed	- The <i>Manual of Air Traffic Services Data Link Applications</i> (Doc 9694) published and dispatched in second quarter 1999. - Additional guidance is under development.
ATFM	Data interchange between automated ATS systems	2004	Annex 11 SARPs and PANS-ATM procedures under development.	—	—
	ATFM systems and procedures	2005	Annexes 2 and 11 SARPs and PANS-ATM procedures to be developed.	2003	ATFM part of the ATM operational concept under development.

Main field	Elements	SARPs/PANS		Guidance material	
		Target completion date	Status	Target completion date	Status
CNS/ATM	Human Factors	Completed	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.	Completed	<i>Human Factors Guidelines for Air Traffic Management (ATM) Systems</i> (Doc 9758) was completed and published in 2000.
	Human Resource Planning and Training	—	—	2004	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	—	Completed	—
	UAT	2005	Draft SARPs are near completion.	2005	Manual on UAT near completion.
	ATN	Completed	Completed in 2001.	2005	Updates to detailed technical specifications and guidance material near completion.
NAV	RNP (en-route)	Completed	Adopted/approved by Council in 1994 (Annexes 2, 4, 6, 11, 15 and PANS-ATM).	2004	Second edition of Doc 9613, <i>Manual on Required Navigation Performance (RNP)</i> was published in 1999. Additional guidance material on approval of aircraft and operations for RNP 10 was published in 2001. Similar guidance material for RNP 4 is under development.
	WGS-84 (common reference systems)	Completed	Adopted by Council in 1994, 1995, 1997 and 1998 of WGS-84 Annexes 4, 11, 14 (both volumes) and 15 updated, provisions applicable from 1 January 1998.	Completed	<i>WGS-84 Manual</i> (Doc 9674) Second edition, which was published in 2002, included provisions relating to taxiway and apron surveying points. ICAO WGS-84 Web site is operational.

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Main field	Elements	SARPs/PANS		Guidance material	
		Target completion date	Status	Target completion date	Status
		2004	Updating of WGS-84 (as the horizontal reference system) to include temporal changes in the tectonic plate motion required for precise geodetic and some air navigation applications. Introduction into Annex 15 of the vertical reference system for international civil aviation and consequential amendments to Annexes 4, 11 and 14(both volumes). Introduction into Annex 15 of the temporal reference system for international civil aviation.	2005	Amendment to the <i>World Geodetic System — 1984 (WGS-84) Manual</i> (Doc 9674) to reflect the changes resulting from the Amendment 33 to Annex 15, specifically on the common reference systems for air navigation.
NAV (cont'd)	Aeronautical terrain and obstacle databases	2006	The Secretariat with the assistance of The East Tennessee State University (ETSU) developed an aeronautical communication transfer protocol for the exchange of aeronautical information/data and a new concept for computerized AIS systems. Further development continues in accordance with Rec 1/8 of the 11th AN/Conf.	2006	To be developed by the Secretariat in the form of new manual (guidance material) on all aspects of electronic aeronautical data.
		2006	Initial SARPs for electronic aeronautical charts for cockpit display were incorporated by Amendment 52 to Annex 4 in 2002. Further SARPs for Annex 4 under development.	2006	Under development by the Secretariat.

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Main field	Elements	SARPs/PANS		Guidance material	
		Target completion date	Status	Target completion date	Status
		2004	c SARPs for the electronic terrain and obstacle data format and interchange developed by the Secretariat and incorporated into Annex 15 by Amendment 33, and as a consequence, Annexes 4, 11 and 14 amended. Annex 15 provisions applicable from 20 November 2008 and 18 November 2010.	2005	c New guidance material concerning the electronic terrain obstacle and aerodrome mapping data and their interchange under the development by the Secretariat.
	GNSS performance criteria to support operational requirements	c Completed.		c Completed.	
	GNSS performance criteria to support advance operations (CAT II/III, A-SMGCS and curved approaches)	2005/2007	c Under development.	2005/2007	c To be developed in parallel with SARPs.
	SARPs for the use of existing satellite navigation systems with augmentation sub-systems	c Completed.		c Completed.	c To be published in the form of a manual.
	SARPs for new GNSS elements and signals	2007	c Work on the development of SARPs for new elements of GNSS (GPS second civil frequency, GALILEO, GLONASS-M) is under way.	2007	c Under development
NAV (cont'd)	GBAS CAT I flight procedure criteria	Completed		—	—
	RNP < 0.3 flight procedure criteria	2007	Under development by the OCP	—	—
	Quality assurance in-flight procedure design	2007	Under development by the OCP	—	—

Main field	Elements	SARPs/PANS		Guidance material	
		Target completion date	Status	Target completion date	Status
SUR	Surveillance system specifications for emerging surveillance systems and architectures	2004	Surveillance enhancements (ANC Task No. CNS-9601) being developed by SCRSP.	2004	C A circular on ASAS was completed and is under publication..
	SSR procedures	Completed	C Update of Annex 11 and PANS-ATM.	Completed	
	ADS procedures	2004	C Annex 11 SARPs and PANS-ATM procedures developed by the OPLINKP and SASP.	2003	C <i>Manual of ATS Data Link Applications</i> (Doc 9694) published and dispatched in second quarter 1999. The first amendment is being developed.
	ADS-B and equivalent	2005	C Being developed by OPLINKP.	2005	C Amendment to the <i>Manual of ATS Data Link Applications</i> (Doc 9694) to be developed.
	ADS: inclusion of turbulence reporting	Completed	C Annex 3 SARPs and PANS-ATM turbulence reporting procedures based on the eddy dissipation rate have been developed with the assistance of METLINKSG.	—	—

LEGEND

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

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

PANEL/STUDY GROUP	WORK PROGRAMME			
	TASKS	TITLE	TARGET COMPLETION DATE	STATUS /RECENT PROGRESS
OPLINKP	ATM-9102	ATS applications for air-ground data links	2005 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	On-going	The development of the concept of required communication performance (RCP) was completed and distributed to States and international organizations for comments.
	ATM-9506	Automatic dependent surveillance (ADS) systems and procedures	2005	
	ATM-9103	Data interchange between automated ATS systems	2005	Provisions applicable to air traffic services interfacility data communications (AIDC) are being developed.
	ATM-0002	ADS-B, Traffic situational awareness and airborne separation assurance	On-going	Development of an operational concept has been completed and amendments to PANS-ATM to use ADS-B for ground surveillance should be completed in 2005. Operational requirements for the use of a system to increase aircraft situational awareness and airborne separation assurance are being developed.
ACP (formerly AMCP)	CNS-7002 CNS-0401 CNS-0001	Aeronautical electromagnetic spectrum	On-going task	Work on development and support of ICAO position for WRC-2007 and other interference-related issues is on-going.
	CNS-8702	Aeronautical mobile satellite air-ground data link (AMSS subnetwork)	2005	Restructuring of the AMSS SARPs (separation of core from detailed technical specifications) near completion..
	CNS-9902	Next-generation AMSS systems	2005	Draft NGSS SARPs to be consolidated with restructured AMSS SARPs.
	CNS-9102	VHF air-ground digital link (VDL subnetwork)	Completed	Completed

WORK PROGRAMME					
PANEL/STUDY GROUP	TASKS	TITLE	TARGET COMPLETION DATE	STATUS /RECENT PROGRESS	
	CNS-9603	Air-ground data link to support navigation and surveillance applications	2005	Validation of the VDL Modes 3 and 4 SARPs completed. Development of draft UAT SARPs near completion.	
	CNS-9602	High frequency data link (HF DL)	Completed	Completed.	
ATMCP	ATM-9501	Required total system performance	2005 and beyond	The ATM Operational concept was endorsed by the Eleventh Air Navigation Conference in October 2003 and approved by the Air Navigation Commission in January 2004 under delegated authority. Further work on RTSP is being undertaken by the panel in parallel with and based on its work on ATM system requirements.	
	ATM-9202	Global air traffic management	2005 and beyond		
	ATM-9510	Interoperability and functional integration of flight operations, ATS, ATFM and tactical ASM	2005 and beyond		
ATNP (Disbanded in 2003. Outstanding work is being conducted by the ACP)	CNS-7001	AFS systems planning studies	Completed	SARPs completed. Guidance material being processed for publication.	
	CNS-9403	Aeronautical telecommunication network (ATN)	2005 - 2007	Current work involves the development of provisions to incorporate Internet Protocol (IP) networks in the ATN and the development of optional message encryption provisions.	
	CNS-9901	AFS procedures	Completed	Completed. Further work may become necessary as implementation of new AFS systems progress.	
NSP (formerly GNSSP)	CNS-9401	Global navigation satellite system (GNSS)	Completed	First set of SARPs was adopted and included in Annex 10, Volume I as part of Amendment 76 in 2001. Further enhancements to SARPs were incorporated in Annex 10 as parts of Amendments 77 and 79 (the latter is under development). SARPs and guidance material for new GNSS elements are currently being developed.	
	CNS-7002	Aeronautical electromagnetic spectrum	Ongoing task (in coordination with AMCP)		

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WORK PROGRAMME				
PANEL/STUDY GROUP	TASKS	TITLE	TARGET COMPLETION DATE	STATUS /RECENT PROGRESS
OCP	OPS-8502	Development of procedures, areas and obstacle clearance criteria for the approach, holding and departure phases of flight for inclusion in PANS-OPS, Volumes I and II	2005-2007	Several issues related to GNSS-based procedures are being investigated. Development of procedures for APV, RNP performance levels less than 0.3 and enhanced DME/DME criteria is being progressed.
	OPS-9802	Development of material for inclusion in PANS-OPS on instrument procedure data base integrity requirements	2005	A quality assurance working group has been established and will study a quality assurance requirements in the development of flight procedures to ensure data integrity.
	OPS-9803	Development of obstacle clearance criteria for vertical navigation in all phases of approach procedures	2005	Initial proposals to be available by November 2003.
	OPS-0201	Development of instrument procedures for helicopter operations at heliports	2005 and beyond	Point in space procedures (using basic GNSS) have been completed and other instrument procedures are being developed. Relevant provisions of Annex 14 (relating to surfaces) are being reviewed. Initial proposals to be available for review by OCP/14.
	OPS-008	Procedures for all-weather operations	2006	Operational requirements for performance-based navigation systems and operational priorities for development of material to support instrument approach and landing operations using new technology are being developed. To assist prevention of controlled flight into terrain accidents, procedures concerning the use of the continuous descent final approach technique and the use of minimum descent altitude as a decision altitude are also under development. Operational standards, procedures and guidance material concerning the use of head-up guidance systems, head-up displays and enhanced flight vision systems are also being developed
OPSP				

WORK PROGRAMME				
PANEL/STUDY GROUP	TASKS	TITLE	TARGET COMPLETION DATE	STATUS /RECENT PROGRESS
SASP	ATM-8505	Required navigation performance and area navigation for en-route operations	2004	SARPs completed. Second edition of Doc 9613, Manual on Required Navigation Performance (RNP) published in 1999. Additional guidance material on approval of aircraft and operators for RNP 10 published in 2001. Similar guidance material for RNP 4 under development.
	ATM-6301	Separation between aircraft	2004 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 oceanic lateral and longitudinal minima based on RNP 4 submitted for publication. Procedures for RNP 4 under development. The implementation of RVSM is continuing to be under review and the revision to the <i>Manual on Implementation of a 300 m (1 000 ft) Vertical Separation Minimum Between FL 290 and FL 410 Inclusive</i> (Doc 9574) is completed.
	ATM-9505	Airspace infrastructure planning	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)	Completed	ASAS circular has been developed and is under publication.
	CNS-9701	Airborne separation assurance system (ASAS)	2004	
ADMSG	AIS-9401	Aeronautical data bases	2006	The Secretariat with the assistance of the East Tennessee State University (ETSU) developed an aeronautical communication transfer protocol for the exchange of aeronautical information/data and a prototype of the Computerized Aeronautical Information Services (CAIS) system. Progress on the subject by EURCONTROL/FAA is being taken into account in accordance with the Rec 1/8 of the Eleventh Air Navigation Conference.
	AIS-9806	Transfer and access of aeronautical information from ground-based automated systems.	2006	

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WORK PROGRAMME				
PANEL/STUDY GROUP	TASKS	TITLE	TARGET COMPLETION DATE	STATUS /RECENT PROGRESS
AISMAPSG	AIS-9801	Electronic aeronautical charts for cockpit display	2006	Amendment 52 to Annex 4 contained an interim amendment, applicable in 2002, concerning electronic charts for cockpit display. Further work is being progressed in consultation with the SAE G-10 Aerospace Behavioural Engineering Technology Committee, Aeronautical Charting Subcommittee.
AUPISG	CNS-0301	Aviation use of the public Internet	Completed	Guidelines on the use of the public Internet were developed.
AVSSSG (Disbanded in 2003. Work is being conducted by the ACP)	CNS-7001	AFS systems planning studies	Completed	The Manual on ATS ground-ground voice communications was published in 2003.
HFSG	PEL-9001	Flight safety and human factors	Completed	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.
HRPTSG	PEL-9601	Regional human resource planning and training needs	Completed	A draft of the Human Resource Development Manual is complete. A Human Resource Planning Seminar was developed and conducted for the first time in the CAR/SAM Regions.
METLINKSG	MET-9101	Amendment to Annex 3 concerning automated air-reporting	On-going	The quality assurance of MET information included in ADS reports being studied. The need for the inclusion of additional MET parameters (e.g. icing) in the MET information data block of the ADS report format is being addressed in coordination with the OPLINKP.
	MET-9301	Uplink of OPMET information to aircraft in flight	2004	Amendment 73 to Annex 3 includes meteorological specifications (templates) for D-VOLMET, and other data link applications.
	MET-9601	Development of SIGMET information	2004	Amendment 73 to Annex 3 includes specifications for the dissemination and uplink of graphical SIGMETs.
NOSSSG	PEL-9001	Flight safety and human factors	2005	The study group was established in March 2004 and held its first meeting in July 2004. The main task of the study group is the development of an ICAO NOSS manual.

WORK PROGRAMME				
PANEL/STUDY GROUP	TASKS	TITLE	TARGET COMPLETION DATE	STATUS /RECENT PROGRESS
TRNSG	CNS-9402	Testing of radio navigation aids	Completed	The study group produced a new version of Doc 8071, Volume I, <i>Manual on testing of ground-based radio navigation systems</i> (replacing former Volumes I and II). TRNSG/3, 4 and 5 produced Volume II (GNSS) containing guidance material on testing of GNSS-based non-precision approaches, SBAS and GBAS.
	CNS-9401	Global navigation satellite system (GNSS)	Completed	
WAFSOPSG	MET-8802	WAFS planning and implementation	On-going	Amendment 73 to Annex 3 includes global WAFS SIGWX forecasts in binary format (BUFR) code for direct transmission to airline and ATM computers.

LEGEND

ACP	C	Aeronautical Communications Panel	ADMSG	C	Aeronautical Data Modelling Study Group
ATMCP	C	Air Traffic Management Operational Concept Panel	AISMAPSG	C	Aeronautical Information and Charts Study Group
*ATNP	C	Aeronautical Telecommunication Network Panel	AUPISG	C	Aviation Use of the Public Internet Study Group
**GNSSP	C	Global Navigation Satellite System Panel	*AVSSSG	C	ATS Voice Switching and Signalling Study Group
NSP	C	Navigation Systems Panel	HFSG	C	Flight Safety and Human Factors Study Group
			HRPTSG	C	Human Resource Planning and Training Study Group
OCP	C	Obstacle Clearance Panel	METLINKSG	C	Meteorological Information Data Link Study Group
OPLINKP	C	Operational Data Link Panel	NOSSSG	C	Normal Operations Safety Survey Study Group
SASP	C	Separation and Airspace Safety Panel	***TRNSG	C	Testing of Radio NavAids Study Group
SCRSP	C	Surveillance and Conflict Resolution Systems Panel (Former SICASP)	WAFSOPSG	C	World Area Forecast System Operations Group

* Disbanded in 2003 C outstanding work to be carried out by the ACP

** Renamed NSP in 2003

*** Disbanded in 2003 C outstanding work to be carried out by the NSP

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**COMPARATIVE ANALYSIS OF REGIONAL
DEVELOPMENTS IN AIR NAVIGATION SYSTEMS**

AIR TRAFFIC MANAGEMENT								
No.	System	ASIA/PAC	AFI	EUR	CAR/SAM	MID	NAM	NAT
1	Revision of ATS route structure	Review of ATS routes – Ongoing. APANPIRG/14 established the ATS Route Network Review Task Force (ARNR/TF). Asia to Europe through Middle East via South of Himalayas (EMARSSH) – Implemented 28 Nov. 2002.	Established new ATS routes.	Revision of route structure in eastern and western part of Europe – Ongoing Aegean Sea – major restructure to cater for Athens Olympics and beyond – Implemented Dec 2003. Asia to Europe through Middle East via south of Himalayas (EMARSSH) – Implemented 28 Nov. 2002.	Phase II implementation of ATS RNAV route network in CAR/SAM Regions planned – Effective 31 Mar. 2005.	New Middle East ATS route network is planned – Implemented 22 Dec. 2003 Asia to Europe through Middle East via south of Himalayas (EMARSSH) – Implemented 28 Nov. 2002.	The ATS route structure of NAM Region – Under review. To be included in updated version of the NAM ANP.	—
2	RVSM	Pacific airspace – Implemented 24 Feb. 2000.	Implementation strategy and action plan being considered by States - target date to be established.	Western part of European Region – Implemented 24 Jan. 2002.	EUR/SAM corridor – Implemented 24 Jan. 2002.	Middle East Region – Implemented 27 Nov.2003.	Canada implemented RVSM between FL 290 to FL 410, inclusive, in northern domestic airspace (north of 57N) and transition airspace (between 52N and 57N) on 18 Apr. 2002.	Horizontal RVSM expansion in entire NAT Region from FL 310 to FL 390 – Completed 1 Nov. 2001.

AIR TRAFFIC MANAGEMENT								
No.	System	ASIA/PAC	AFI	EUR	CAR/SAM	MID	NAM	NAT
		Western Pacific and South China Sea airspace – Implemented 21 Feb. 2002 (Phase I) and 31 Oct. 2002 (Phase II).	Parts of Region falling in SAM and EUR corridor – Implemented 24 Jan. 2002.	Planning for expansion in Eastern part of the Region commenced.	CAR/SAM Regions – Implementation scheduled for 20 January 2005 in coordination with NAM and PAC Regions.		RVSM – Implementation in entire domestic airspace scheduled for 20 Jan. 2005, in coordination with CAR, SAM and PAC Regions.	
		Bay of Bengal and beyond – Implemented 27 Nov. 2003. Japanese domestic airspace and Incheon, FIR planned, effective 9 June 2005.	Parts of AFI Region falling in MID region implemented RVSM – Effective 27 Nov. 2003.	EUR/SAM Corridor – Implemented 24 Jan. 2002. EUR/MID corridor (Black Sea) 2005 South Caucasus States – Nov. 2004				Vertical expansion of RVSM throughout NAT Region from FL 290 to FL 410 – Implemented on 24 Jan. 2002.
3	Establishment of Regional airspace safety system performance monitoring structure	Regional Airspace Monitoring Advisory Group established by APANPIRG/14 (Aug. 2003).	Under consideration.	Implemented. Financial mechanism being developed.	CARSAMMA (CAR/SAM Monitoring Agency) was designated as the monitoring agency for CAR/SAM Regions for RVSM and RNP implementation.	UAE support to MECMA (Middle East Central Monitoring Agency) discontinued from 1 June 2004. New regional mechanism to be established.	NAARMO was designated to monitor RVSM implementation.	Implemented.
4	ACAS II	Mandated from 23 March 2000.	Mandated from 1 Jan. 2000.	Mandated from 1 Jan. 2000.	Mandated from 1 Jan., 2003.	Mandated from 1 Jan. 2000.	Implemented in Canada and United States airspace.	Mandated from 31 March 2001
5	RNAV/RNP	RNP 10: 1) North Pacific and Tasman – 23 April 1998; 2) South China Sea – 1 Nov. 2001; 3) Australia and Indonesia – 1 Nov. 2001;	RNP 5 – Implemented in continental Johannesburg FIR 1998.	RNAV/RNP 5 – implemented in ECAC area Jan. 1998.	EUR/SAM corridor RNP 10 – Implemented 4 Oct. 2001. RNP 10 for routes UL 302 and UL 780 – Implemented 22 Jan. 2004.	RNP 5 Phase I – Implemented 14 June 2001.	United States implemented RNP in domestic and oceanic airspace since 1998.	MNPS – Implemented 1981.

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AIR TRAFFIC MANAGEMENT								
No.	System	ASIA/PAC	AFI	EUR	CAR/SAM	MID	NAM	NAT
		4) Bay of Bengal – Nov. 2002. Other routes – Under consideration. RNP 4: Under development in the South Pacific area.	RNP 10 – Implemented in Mauritius 5 Mar. 2003.	Implementation of precision RNAV (nearly equivalent to RNP 1) in terminal areas planned for 2004/2005.	Action plan developed to implement RNP 5 in Brasilia, Curitiba and Montevideo FIRs, with a target date of July 2007.	RNP 5/RNAV Phase 2 – Implementation started effective 28 Nov. 2002 as ongoing process.	Canada planning to implement RNP in domestic airspace 2006.	
		Trial of 30/30 between Australia and New Zealand planned for Dec. 2004.	.		Studies for implementation being carried out by other States of the CAR/SAM Regions.	P-RNAV to be implemented within some busy TMAs and to be superseded by RNP 1 at a later stage.	Implementation of RNAV route structure in NAM Region – Under review in coordination with the CAR/SAM Regions.	

COMMUNICATION								
No.	System	ASIA/PAC	AFI	EUR	CAR/SAM	MID	NAM	NAT
1	ATN (subnetworks, end-systems and intermediate systems and applications such as AMHS and AIDC).	ATN transition plan developed with a target date of 2005 for ground-ground application, namely ATN router and AMHS. AFTN-based AIDC procedure implemented by some States. Interface Control Document (ICD) for AIDC Version 2 adopted by APANPIRG/14. AMHS tests progressing. First ATN Link established between Bangkok and Hong Kong on 15 June 2004. Several interface control documents (ICDs) developed to ensure harmonization and to facilitate the implementation.	ATN implementation – Under study. Focus is more on improving current circuits with long-term plans for migrating to AMHS and AIDC.	ATN transition planning deferred until operational requirements established. Preoperational trials – In progress. Link 2000 programme will gradually introduce operational applications over A-G ATN on VDL2 from 2003 to 2010. A comprehensive CIDIN network operates within the AFTN infrastructure.	ATN transition plan – Under review. With upgrade of CAR digital networks and REDDIG implementation (SAM Digital Network) in 2003, implementation of AMHS and AIDC would be facilitated.	Current AFTN circuits being improved for transition to ATN. Guiding principles being prepared for ground-ground applications, namely AMHS and AIDC. Pending availability of ATN infrastructure, some States are considering implementing AFTN-based AIDC procedure. Document on ICD for AIDC – Under development.	ATN transition plan developed with focus on ground-ground applications. Test, development and validation phases completed. Operational implementation – Under review.	Investigation of operational ATN data link scenarios in Region, with focus on air-ground applications – In progress.

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COMMUNICATION								
No.	System	ASIA/PAC	AFI	EUR	CAR/SAM	MID	NAM	NAT
2	Air-ground communication infrastructure	Further improvements made in VHF voice in continental and terminal areas. VHF data link used for D-ATIS, D-VOLMET and CPDLC.	VHF voice provided in terminal areas. Extension of VHF coverage to en-route areas – In progress in several FIRs.	Implementation of air-ground data link services planned for 2002-2007. Horizontal expansion of 8.33 kHz channel spacing from 7 to 29 States – Implemented 31 Oct. 2002.	VHF voice provided in continental and terminal areas. HF voice provided in oceanic areas. VHF/AMS have been improved. Several States are implementing VDL Mode 2 to support CPDLC and D-ATIS.	VHF voice provided in continental and terminal areas. VDL being studied. AMSS for data and voice in oceanic and remote areas used.	VDL Mode 2, HFDDL and AMSS implementation planned to support CPDLC applications – Ongoing.	HF is main communication, and already saturated with difficulty of obtaining additional frequencies. Use of SATCOM voice for routine ATS being evaluated. Trials to use CPDLC based on FANS-1/A for routine communications being carried out.
3	Ground-ground digital communication infrastructure	Some States have implemented digital networks. Other States also considering upgrading their networks.	3 major satellite networks provided in States of the Region, namely AFISNET, SADC and CAFSAT.	Many States upgraded to digital networks.	Number of digital networks implemented in the Regions. Additional interconnectivity points for regional and interregional digital networks being implemented with aim of achieving harmonized digital platform.	Establishment of regional satellite-based digital network. – Under consideration. The Feasibility study of the MID VSAT being updated and final document will be ready Dec.2004.	CAN/MEX/USA States have implemented digital ground-ground networks.	Well developed. Many States upgraded to digital networks.

NAVIGATION								
No.	System	ASIA/PAC	AFI	EUR	CAR/SAM	MID	NAM	NAT
1	GNSS	Transition to WGS-84 – Nearing completion	Transition to WGS-84 – In progress.	Transition to WGS-84 – Ongoing.	Considerable progress achieved for WGS-84 implementation.	Transition to WGS-84 – In progress.	Transition to WGS-84 completed in Canada and United States; Mexico – In progress.	Transition to WGS-84 completed.
		Strategy for GNSS implementation updated and adopted. Checklist to assist GNSS implementation, developed by APANPIRG, used by States for implementation.	GNSS strategy adopted.	Launching “Galileo”, a new constellation of navigation satellites, decided by the European Council 26 Mar. 2002 with full operation capability 2008.	Strategy for implementation of GNSS adopted.	Strategy for implementation of GNSS adopted.	GNSS/GPS strategy adopted for NPA and APV.	
		Satellite-based augmentation system (MSAS) being developed with a target date of commissioning with 1 satellite in 2004 and 2 satellites in 2006. Technology Demonstration System (TDS) of GAGAN in India will be completed by mid-2006, and target date for FOC is 2008.	SBAS test bed in cooperation with EGNOS implemented.	Satellite-based augmentation system (EGNOS) being developed with a target date of commissioning 2005.	SBAS test bed in cooperation with EGNOS and WAAS are being developed. Preoperational model of SBAS – Under study as a basis for the future operational system. Ionospheric model – Under study in order to apply the NPA. Operation with SBAS test bed.	SBAS test bed, in cooperation with EGNOS, carried out. SBAS test bed based on WAAS planned.	SBAS based on United States-wide area augmentation system (WAAS) commissioned 10 July 2003 for initial operating capability.	
			Development of harmonized GNSS/NPA procedures for SADC States – Completed Dec. 2001, and for ASECNA States 2002. Plans for other FIRs – Under consideration.		Several CAR States/Territories have implemented GNSS/GPS NPA.		GNSS approach implementation programme initiated by all 3 States; GNSS augmentation system agreements completed for future expansion of GNSS concept.	

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NAVIGATION								
No.	System	ASIA/PAC	AFI	EUR	CAR/SAM	MID	NAM	NAT
		GNSS is used for oceanic and remote continental areas for en-route operations and NPA as supplemental means.	GNSS being used for oceanic and continental en-route operations.	GNSS is being used for continental en-route operations.	GNSS being used for oceanic and continental en-route operations.	GNSS being used for continental en-route and NPA operations.	GNSS being used for oceanic and continental en-route operations.	GNSS being used for oceanic operations

SURVEILLANCE								
No.	System	ASIA/PAC	AFI	EUR	CAR/SAM	MID	NAM	NAT
1	SSR Modes A/C and SSR Mode S	Currently, SSR Modes A/C employed.	Surveillance in most FIRs is through pilot voice position reporting.	Currently, SSR Modes A/C employed.	Currently, SSR Modes A/C employed. ORCAM system is implemented.	Region well covered by radars (PSR/SSR Mode A/C).	Substantial improvements achieved in en-route area with upgrading of radar systems. In areas of Gulf of Mexico & Northern Canada, surveillance restricted to position reports sent by pilots via air-ground communications.	Surveillance in most of NAT Region is via position reports using HF voice approx. every 10 degrees of longitude.
			En-route aeronautical surveillance plan with SSR requirements included in AFI FASID.	ORCAM code management extended to entire Region.	Established use of ASTERIX protocol for SSR data sharing.			
		SSR Mode S – Implemented in some terminal areas and high-density en-route.	PSR and SSR Mode A/C employed in some busy terminals and for en-route operations.	SSR Mode S in some terminal areas and high-density en-route planned for implementation: • basic Mode S in 2003 to 2005; • enhanced Mode S in 2005 to 2007.	Implementation of SSR Mode S in some terminal areas and high-density en-route areas – Ongoing.	SSR Mode S planned for some terminal and high-density en-route areas in 2006.	Agreement reached between Canada, Mexico and United States to implement SSR Mode S.	

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SURVEILLANCE								
No.	System	ASIA/PAC	AFI	EUR	CAR/SAM	MID	NAM	NAT
2	ADS	ADS/CPDLC services (using FANS-1/A) operational in PAC Region. Operational trials being established for Southeast & West Asian Region. APANPIRG/15 agreed the use of FANS 1/A Operations Manual (FOM) by States as the basis for ADS and CPDLC operations in conjunction with Annex 10 Vol. II, PANS/ATM and regional guidance material.	ADS will be used for low-density, remote and oceanic airspace as well as outside SSR coverage. ADS trials – In progress in SAT Region.	ADS will be used in some parts of the Region.	ADS will be used initially for oceanic airspace and, later, in remote areas.	ADS will be used initially for oceanic airspace and, later, in remote areas and possibly, in 2006, as backup to SSR in high-density traffic areas.	ADS will be used in oceanic or remote areas; however, further review needed for continental domestic airspace areas.	To improve surveillance, the regional plan specifies ADS over the ATN. Meanwhile, provisions have been made to utilize FANS-1/A-equipped aircraft. ADS and other data link technologies being used for waypoint position reporting.
3	ADS-B	ADS-B deployment in Australia initiated. Trial in Hong Kong China Japan and Mongolia – In progress. 1090 MHz ES adopted for ADS-B link for near term air-ground surveillance service.	To be determined.	To be determined.	ADS-B implementation in Mexico in progress. Implementation plan of ADS-B in CAR/SAM Regions – Under study.	To be determined.	Agreement reached between Canada, Mexico and United States to implement ADS-B from Jan. 2007.	To be determined.
		ADS-B air-ground surveillance expected to be implemented on subregional basis Jan. 2006.		Mode S squitter related applications from 2007.	Mode S extended squitter as the data link for near-term ADS-B implementation was selected by States.			

RELATED ISSUES								
No.	System	ASIA/PAC	AFI	EUR	CAR/SAM	MID	NAM	NAT
1	Transition from current single volume ANP to two volumes Basic ANP and FASID documents	Material finalized and published on website. Document in final preparation stage for official publication. Amendments continue to be processed for both ANP and FASID.	Material finalized and published.	Material finalized and published. Documents being kept up-to-date.	Material finalized and published. Documents being kept up-to-date.	Material finalized and awaiting publication.	Revision programme proposed to update FASID document.	Trial NAT Basic ANP and FASID being reviewed, and scheduled to be completed in 2005.
2	Development and update of Regional Plan for CNS/ATM Systems	Reviewed and updated. New chapter on meteorology included.	Reviewed and updated.	Reviewed and updated.	Reviewed and updated. GREPECAS/12 approved ATM Evolution Tables for en-route and terminal areas operations.	Reviewed and updated.	Reviewed and updated.	New Plan being developed.

RELATED ISSUES								
No.	System	ASIA/PAC	AFI	EUR	CAR/SAM	MID	NAM	NAT
3	Interregional groups which coordinate and ensure seamlessness in implementation of AN systems between Regions	South-West Asia ATS Coordination Group (SWACG).		South-West Asia ATS Coordination Group (SWACG). Joint EUR and NAT Regions data link steering group established to ensure harmonized data link requirements.	Eastern Caribbean and North East SAM Implementation and Coordination Group (E-CAR/NESAM ICG).	South-West Asia ATS Coordination Group (SWACG).	CANADA/MEXICO/USA CNS/ATM Working Group.	Joint EUR and NAT Regions data link steering group established to ensure harmonized data link requirements.
		Indian Ocean ATS Co-ordinating Group (IOACG).	Indian Ocean ATS Co-ordinating Group (IOACG).		Central American Air Navigation Experts Working Group (CA/ANE/WG).			
		Europe/Asia Air Routes Meeting (EAAR).		Europe/Asia Air Routes Meeting (EAAR).	Central Caribbean Working Group (C/CAR WG).			
			Informal interface meetings between EUR/MID and EUR/AFI convened from time to time.	Informal interface meetings between EUR/MID and EUR/AFI convened from time to time.	Eastern Caribbean Working Group (E/CAR WG).	Informal interface meetings between EUR/MID and AFI/MID convened from time to time.		
			South Atlantic Coordination Group (SAT).	South Atlantic Coordination Group (SAT).	South Atlantic Coordination Group (SAT).			
		Informal Trans-Asia, Trans-Siberia and Cross-Polar Routes Steering Group (ITAPS).		Informal Trans-Asia, Trans-Siberia and Cross-Polar Routes Steering Group (ITAPS).			Informal Trans-Asia, Trans-Siberia and Cross-Polar Routes Steering Group (ITAPS).	

RELATED ISSUES								
No.	System	ASIA/PAC	AFI	EUR	CAR/SAM	MID	NAM	NAT
4	Meteorological component of CNS/ATM systems	Migration from T4 charts to WAFS forecasts in digital code forms (i.e. WMO BUFR and GRIB code forms) to be fully implemented by 1 July 2005.						Not an applicable issue as it is being addressed by States as part of EANPG.
		A second workshop on use of GRIB- & BUFR-coded WAFS data to be organized by WAFS Provider States, in coordination with ICAO and WMO in 2005.	Two workshops on use of GRIB- & BUFR-coded WAFS data were organized by WAFS Provider States, in coordination with ICAO and WMO in 2002 and 2003.	Two workshops on use of GRIB- & BUFR-coded WAFS data were organized by WAFS Provider States, in coordination with ICAO and WMO in 2003.	A workshops on use of GRIB- & BUFR-coded WAFS data for Spanish speaking States was organized by WAFS Provider States, in coordination with ICAO and WMO in 2004.	A workshop on use of GRIB- & BUFR-coded WAFS data was organized by WAFS Provider States, in coordination with ICAO and WMO in 2003.	A workshops on use of GRIB- & BUFR-coded WAFS data was organized by WAFS Provider States, in coordination with ICAO and WMO in 2004.	Not applicable.
					Similar workshop will be organized for English-speaking States in 2005.			
		Two world area forecast centres (WAFS London and Washington), nine volcanic ash advisory centres (VAAC Anchorage, Buenos Aires, Darwin, London, Montreal, Tokyo, Toulouse, Washington and Wellington) and seven tropical cyclone advisory centres (TCAC Darwin, Honolulu, Miami, La Réunion, Nadi, New Delhi and Tokyo) to serve all ICAO Regions – Fully implemented.						
		D-VOLMET being implemented by some States. Trials on meteorological data downlink through ADS being conducted.						
		New ATM requirements for MET services being studied (MET/ATM Task Force); MET/ATM seminar planned for 2005						

RELATED ISSUES								
No.	System	ASIA/PAC	AFI	EUR	CAR/SAM	MID	NAM	NAT
5	Review of deficiencies	Addressed as part of APANPIRG work programme.	Addressed as part of APIRG work programme. List of deficiencies grouped on basis of States, in addition to facility-wise. Various COSCAPs also addressing this issue.	Addressed as part of EANPG work programme.	Addressed as a part of GREPECAS work programme.	Addressed as part of MIDANPIRG work programme.	—	Addressed as part of NAT SPG work programme.
		Dedicated task force established to develop appropriate management tools.	Establishment of Aviation Safety Board – Under consideration.		Aviation Safety Board established.	Dedicated Air Navigation Safety Working Group established.		
		APANPIRG/15 (Aug. 2004) developed regional procedures for identification, assessment, reporting and monitoring status of air navigation deficiencies as a supplement to uniform methodology.	Air navigation infrastructure enhancement team for eastern and south Africa established.		Adopted a regional procedure including last resort action to resolve all types of deficiencies in air navigation field.			

RELATED ISSUES								
No.	System	ASIA/PAC	AFI	EUR	CAR/SAM	MID	NAM	NAT
6	Specific to Region	Guidance material to enhance AIS activities within Region developed.	New larger aeroplane task force developed strategy for future work, including evaluation of impact on aerodromes in AFI Region.	Focus on increasing efficiency and capacity at international aerodromes through implementation of safety and capacity enhancing procedures.	Human resources and training issues being addressed. Development of AIS Quality Assurance Programme and its associated activities – Being carried out. ATS Quality Management System Guidance Documents harmonized with ISO 9001:000 developed/approved by GREPECAS/12. SAR Quality Management System Guidance Documents in harmony with ISO 9001:2000 – Under development. Steps to implement an automated AIS system – In progress.	Formulation of plan for developing regional training capabilities in specific training centres will be addressed through dedicated task force.	ICD established for radar interoperability between Canada, Mexico and United States.	Work initiated to develop operational and economic performance indicators for use throughout NAT Region.
		AIS quality assurance manual developed.	Establishment of appropriate body to address regional human resource and training issues – Under consideration.					

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ORGANIZATIONAL ISSUES								
No.	System	ASIA/PAC	AFI	EUR	CAR/SAM	MID	NAM	NAT
1	Establishment of subregional entities/groups to provide air navigation services	Advice provided to States about benefits of cooperative arrangements and mechanism.	Southern Africa Development Community (SADC). Agency for the Safety of Air Navigation in Africa and Madagascar (ASECNA). Common Market for Eastern and Southern Africa (COMESA). Roberts FIR Organization (Guinea, Liberia and Sierra Leone). Harmonization of standards, procedures and regulations being implemented. Establishment of subregional safety oversight facility being implemented.	European Organization for the Safety of Air Navigation (EUROCONTROL). Regional Air Navigation Services Development Association (RADANA). International Organization for Standardization on Air Navigation Charges (IKSANO). Central European Air Traffic Services (CEATS). Central Flow Management Unit (CFMU). Maastricht ACC	Central American Corporation for Air Navigation Services (COCESNA). SAM Subregional Group for Digital Network (REDDIG). Eastern Caribbean subregional group for digital network (E-CAR). Central Caribbean subregional group for digital network (MEVA). Trinidad and Tobago provides ATS within Piaco FIR that embraces all the States and Territories of Eastern Caribbean.	Europe-Middle East Regional Coordination Mechanism on Air Traffic Management (EMAC).	Subregional group comprised of CAN/MEX/USA.	—

ECONOMIC ISSUES								
No.	System	ASIA/PAC	AFI	EUR	CAR/SAM	MID	NAM	NAT
1	Cost-benefit study, business case analysis and cost-recovery system	Advice was provided to national meteorological service providers about application of ICAO's guidance and policies on cost recovery. Development of revenue-sharing model for Nadi FIR (2003).	Business case and cost-benefit analysis carried out for SADC States for UACC project. Similar exercise under consideration for areas of routing AR4 (Europe to southern Africa).	Business case and cost-benefit analysis being carried out by EUROCONTROL. No ICAO Secretariat involvement. Advice provided at two different occasions (workshops) on cost recovery of MET (Nov. 2003) and air navigation services (June-July 2004) for States in Central and Eastern parts of Europe.	ICAO-assisted in economic aspects of the study of the transitional plan (Project RLA/98/003) to CNS/ATM systems through development and integration of financial module. ICAO also participated in organization of two seminars on the economics and institutional aspects of CNS/ATM systems in Honduras (Oct. 2002) and Brazil (May 2004).	Business case illustrative application developed for the Region. SIP workshop on the development of business case for the implementation of CNS/ATM systems was held in Cairo in Sept. 2004.	Business case and cost-benefit analysis being carried out by CAN/MEX/USA. No ICAO Secretariat involvement.	Feasibility of creating common cost-recovery system for provision of AN services in northern part of Region was considered. No changes to current system envisaged.
					GREPECAS Task Force on Institutional Aspects for CNS/ATM implementation reactivated; held its first meeting in Brazil, May 2004.			Cost-effectiveness of implementing new systems studied as ongoing exercise through NAT cost-effectiveness programme.

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TRAFFIC FORECASTS								
No.	System	ASIA/PAC	AFI	EUR	CAR/SAM	MID	NAM	NAT
1	Traffic Forecasting Groups (TFGs)	TFG is in existence since 1991. 12th meeting of TFG, Bangkok 23-30 July 2004. Next meeting: tentatively in 2006.	TFG formed in 1998. 3rd meeting of TFG, Dakar 24-26 March 2003. Next meeting: tentatively in 2005.	Data developed by EUROCONTROL being used.	TFG established in 1996. Next meeting: tentatively in 2005.	TFG created in 1998. The Middle East Regional Traffic Forecasting Group (MER TFG) integrated into MIDANPIRG as Sub-Group (TF SG). First meeting of the TF SG was held in Cairo on 11-13 Sept. 2004.	No ICAO Secretariat involvement.	NAT Forecasting Group established 1965.
2	Traffic forecasts	Passenger and aircraft movement forecasts for transpacific and intra-Asia/Pacific developed up to 2020. Passenger forecasts for major city-pairs developed up to 2007.	Passenger and aircraft movement forecasts developed for major route groups up to 2018.	Forecasting done by EUROCONTROL and IATA. No ICAO Secretariat involvement.	Forecasts prepared for 6 major air routes identified by the TFG up to 2012 and the 18 major traffic flows included in the CAR/SAM ANP.	Forecasts of major traffic flows to/from/within MID Region as well as aircraft movement forecasts for city-pairs within each major traffic flow up to 2015 has been updated. Conducted peak period analysis for some airports in Region.		Medium- and long-term traffic (passenger and aircraft movements) forecasts developed biannually. Forecasts up to 2010, 2015 and 2020 developed in April 2004.

LEGAL ISSUES								
No.	System	ASIA/PAC	AFI	EUR	CAR/SAM	MID	NAM	NAT
1	Addressing legal issues such as universal accessibility, continuity, certification and liability	Legal issues raised, but these are beyond scope of regional bodies. HQ should continue to provide guidance, and address and resolve these issues at global level.	Subject not yet examined by APIRG. HQ should address this issue adequately for benefit of PIRGs.	Legal issues discussed in context of Galileo programme.	Legal issues are beyond resolution at regional level. HQ must provide leadership in this domain.	Issue too large and complex. MIDANPIRG did not look into the matter in depth.	—	—
2	Development of interim legal framework	An interim legal framework, the “Charter on the Rights and Obligations of States relating to GNSS Services”, adopted in 1998 by the 32nd Session of the Assembly in the form of Resolution A32-19, embodies certain fundamental principles applicable to GNSS. The 35th Session of the Assembly adopted Resolution A35-3, which, <i>inter alia</i> , invites Contracting States to consider using regional organizations to develop mechanisms necessary to address any legal or institutional issues that could inhibit the implementation of CNS/ATM in the region, while ensuring that such mechanisms will be consistent with the Chicago Convention, and public international law. It directs the Secretary General to monitor the situation and further directs the Council to register regional initiatives, to consider the value and to make them public as soon as possible.						

**REVISED STATEMENT OF
BASIC OPERATIONAL REQUIREMENTS AND PLANNING CRITERIA (BORPC)
FOR REGIONAL AIR NAVIGATION PLANNING**

On ~~17 June 1999~~ 22 February 2005, the Air Navigation Commission approved this Statement of Basic Operational Requirements and Planning Criteria (BORPC) which is ~~appropriate~~ applicable to all the ICAO regions ~~except the European Region~~.

The Commission has considered that in planning the facilities and services related to ~~the~~ communications, navigation and surveillance/air traffic management (CNS/ATM) systems, the Global Air Traffic Management Operational Concept supplemented by the *Global Air Navigation Plan for CNS/ATM Systems* (Doc 9750), ~~accepted by the Council~~, provides the framework to be followed. ~~Among the information included in the Global Plan, the Statement of ICAO Policy on CNS/ATM Systems Implementation Chapter 2 (ICAO's Planning Structure for CNS/ATM) and Chapter 3 (Global Planning Methodology) are considered particularly pertinent to regional planning~~ In addition, relevant recommendations, accepted by the Council, contained in the report of the Eleventh Air Navigation Conference (Montreal, 22 September to 3 October 2003) should be taken into account. The importance of planning on the basis of homogeneous areas and major traffic flows, as referred to in the Global Plan, is also stressed. As ATM requirements are developed, the BORPC will be updated to take into account most up-to-date work on follow-up activities related to the operational concept.

The Commission has also considered it unnecessary to repeat in this statement any pertinent requirements already contained in the Convention, Annexes or Procedures for Air Navigation Services.

1. GENERAL- (applicable to both international commercial air transport and international general aviation)

1.1 Air navigation facilities, services and procedures recommended for the area under consideration should form an integrated system designed to meet the requirements of all international civil aircraft operations. The plan should meet the requirements of all operations planned to take place in the area during the next five years, but not necessarily limited to that period, taking due account of the long-term planning and implementation strategies regarding the ~~communications, navigation and surveillance/air traffic management (CNS/ATM) systems and its~~. Due account should be taken of the possible effects ~~that changes could have~~ on adjacent regions.

1.2 Traffic forecasts have a special role in planning the implementation of CNS/ATM systems. ~~The forecasts represent the demand for future ATM. Forecasts of aircraft movements within homogeneous ATM areas and along major international air traffic flows form the basis for planning of the infrastructure and arrangements which will supply the required level of ATS. A uniform strategy has been agreed by ICAO for the purpose of preparing traffic forecasts in support of the regional planning process.~~ air traffic services (ATS).

1.3 The planning should be based on historical trends or, if otherwise available, traffic forecasts and should ~~take~~ be used taking into account ~~of the following~~ normal ranges of operating characteristics of the aircraft ~~listed therein. However, the table of aircraft operations referred to in ICAO Doc 8144 (Directives to Regional Air Navigation Meetings and Rules of Procedure for their Conduct) could be used in the absence of traffic forecasts.~~ The system should be sufficiently flexible to accommodate aircraft operational characteristics outside the normal range.

1.3.1 Aircraft, engaged or planned to be engaged, in international operations have been grouped into the following categories:

- a) ~~supersonic turbo-jet aeroplanes;~~
- b) ~~subsonic~~ turbo-jet aeroplanes;
- eb) multi-engine turboprop aeroplanes;
- dc) piston-engine aeroplanes and single-engine turboprop aeroplanes with:
 - 1) a normal cruising speed of more than 260 km/h (140 kt) (type A); and
 - 2) a normal cruising speed up to 260 km/h (140 kt) (type B);
- ed) helicopters; and
- fe) other aircraft (V/STOL, gliders, balloons, etc.).

Note.— Group fe) to be included only to the extent that it requires consideration in regional planning.

1.3.2 The normal operating characteristics listed below for each group of aircraft should be taken into account in the development of facilities, services and procedures to the extent that relevant categories operate, or will operate, within the system.

1.3.3 **~~Supersonic turbo-jet aeroplanes~~**

- a) ~~Climb performance: At subsonic speed 20–50 m/s (4 000–10 000 ft/min); at supersonic speed 8–16 m/s (1 500–3 000 ft/min) during transonic acceleration up to 13 100 m (FL 430); at supersonic cruising speed 2–8 m/s (500–1 500 ft/min) above 13 100 m (FL 430).~~
- b) ~~Speed range in cruising flight: At subsonic speed (Mach 0.95); at supersonic speed above 13 100 m (FL 430) Mach 1.7–2.0.~~
- c) ~~Range of desirable cruising levels: At subsonic speed 7 600–11 200 m (FL 250–370); at supersonic cruise-climb technique speed 15 240–18 280 m (FL 500–600).~~
- d) ~~Descent performance: At supersonic speed: 20–25 m/s (4 000–5 000 ft/min); at subsonic speed 15–20 m/s (3 000–4 000 ft/min).~~
- e) ~~Contingency performance: If unable to obtain or maintain supersonic speed, SST aircraft will use the values shown in a) or d) above against subsonic speed.~~

1.3.4 **~~Subsonic t~~ Turbo-jet aeroplanes**

- a) *Climb performance:* 8 – 25 m/s (1 500 – 5 000 ft/min).
- b) *Speed range in cruising flight:* 780 – 1020 km/h (420 – 550 kt) (Mach 0.71 - 0.92).
- c) *Range of desirable cruising levels:* 8 250 – 13 700 m (FL 270 – 450).
- d) *Descent performance:* 10 – 25 m/s (2 000 – 5 000 ft/min).

1.3.5-4 **Multi-engine turboprop aeroplanes**

- a) *Climb performance*: 5 – 15 m/s (1 000 – 3 000 ft/min).
- b) *Speed range in cruising flight*: 460 – 650 km/h (250 – 350 kt).
- c) *Range of desirable cruising levels*: 5 200 – 8 250 m (FL 170 – 270).
- d) *Descent performance*: 8 – 15 m/s (1 500 – 3 000 ft/min).

1.3.6-5 **Piston-engine aeroplanes and single-engine turboprop aeroplanes**

- a) *Climb performance*:
 - 1) Type A: 2 – 10 m/s (500 – 2 000 ft/min);
 - 2) Type B: 2 – 5 m/s (500 – 1 000 ft/min).
- b) *Speed range in cruising flight*:
 - 1) Type A: 260 – 460 km/h (141 – 250 kt);
 - 2) Type B: 110 – 260 km/h (60 – 140 kt).
- c) *Range of desirable cruising levels*:
 - 1) Type A: up to 6 100 m (FL 200);
 - 2) Type B: up to 3 050 m (FL 100).
- d) *Descent performance*:
 - 1) Type A: 5 – 10 m/s (1 000 – 2 000 ft/min);
 - 2) Type B: 2 – 5 m/s (500 – 1 000 ft/min).

1.3.7-6 **Helicopters**

- a) *Climb performance*: up to 8 m/s (1 500 ft/min).
- b) *Speed range in cruising flight*: up to 370 km/h (200 kt).
- c) *Range of desirable cruising levels*: up to 3 050 m (FL 100).
- d) *Descent performance*: up to 8 m/s (1 500 ft/min).

Note 1,— Further to -1.3-3 above, it is emphasized that the values given in 1.3.3 to 1.3.7-6 represent average values covering the majority of aircraft types in each category. Also, depending on circumstances (e.g. load, stage length of a flight) considerable deviations from them may occur for specific flights.

Note 2,— Performance of military aircraft not covered by the above values may be considerably in excess of those quoted. It is, however, assumed that in such cases national arrangements will be made to cater for these aircraft.

1.4 Planning should not include an aerodrome or other facility or service used only by operators of the State in which the aerodrome or other facility or service is located unless such planning is required to protect the integrity of the plan.

1.5 Planning for facilities and services, in addition to meeting the operational requirements, should take into account the need for:

- a) efficiency in operation; and
- b) economy in equipment and personnel,

with due consideration being given to capability for future expansion without major redesign or replanning.

1.6 Planning should take into account the need for an adequate number of technically ~~trained and competent~~ qualified personnel to be employed in the system to supervise, maintain and operate air navigation facilities and services and should result in recommendations, as necessary, to meet such ~~need~~ needs. Human resource development capabilities should be compatible with the plans to implement facilities and services. A systematic and quantitative approach towards analysing human resource needs should be used to ensure that the consequential training capabilities are available and accessible.

1.7 The facilities, services and procedures recommended for implementation should not result in imposing on flight crew or ground personnel, employed in the system developed in accordance with the plan, a workload level that would impair safety or efficiency. The integration of human factors knowledge into the design and certification of facilities, services and procedures is therefore essential. In order to achieve a workload level that would not impair safety and efficiency, as well as to introduce the capability for future expansion without major redesign or re-planning, human factors issues should be considered during the process of design and certification of facilities, services and procedures, before they are operationally deployed.

1.8 Special operational features of the area under consideration, such as those which may have been associated with causal factors noted in accident investigation reports and incident reports, should be taken into account, particularly if there are indications, such as those given in the "recommendations" of aircraft accident investigation reports and incident reports, that special measures are called for to prevent recurrence of accidents and incidents from the same cause or causes.

1.9 Planning for facilities and services should normally provide for their availability on a 24_hour basis. In cases where part-time availability is deemed adequate to meet the operational requirements, a brief description of the circumstances should be given in the plan. Lighting aids should be planned when use of the aerodromes at night or during ~~low-visibility~~ low visibility conditions is expected.

1.10 It is essential that the over-all plan:

- a) satisfy the requirements of all aircraft, including domestic and military traffic to the extent that it may affect international traffic;
- b) ensure compatibility of facilities, services and procedures with those recommended for operations in adjacent areas;
- c) ensure that operators have access to information necessary to exercise effective operational control;
- d) provide for speedy exchanges of necessary information between the various units providing air navigation services and between such units and operators; and

- e) take account of aircraft performance and navigational capability in specifying requirements for the carriage of airborne equipment, as well as having due regard for the operational environment.

1.11 In the development of the plan, full cognisance should be taken of the cost-effectiveness of the recommended facilities, services and procedures. Planning should be directed towards facilitating implementation of essential improvements required for existing and anticipated operations in the region. The objective should be to expedite the eradication of current deficiencies in the air navigation facilities and services. Project management techniques should be employed for the implementation of ~~communications, navigation and surveillance (CNS)~~ facilities and services to facilitate the phased introduction of ~~air traffic management (ATM)~~ system enhancements.

2. AERODROMES

2.1 International commercial air transport operations

2.1.1 Regular aerodromes and their alternates should be determined ~~to meet the needs of the flights listed in the table of aircraft operations or the use, as approved by the Council, of traffic forecasts~~ based on the needs identified by users. When studying the requirements for alternate aerodromes, the guiding principle should be that, to the greatest practicable extent, the requirements for alternate aerodromes be satisfied by regular aerodromes used for international aircraft operations. Additionally, ~~consideration should be given to provisions to meet the requirements of en-route alternate aerodromes for~~ extended-range twin-engine operations, ~~as and when necessary~~ for en-route alternate aerodromes should also be considered.

2.1.2 Physical characteristics, visual aids, and emergency as well as other services should be determined for each regular and alternate aerodrome required for international operations and should include runway length and strength, as well as the aerodrome reference code(s) selected for runway and taxiway planning purposes.

2.1.3 Where at an aerodrome, planning for Category II or III operations, as the case may be, is not a requirement during the plan period but such operations are contemplated at a time beyond the plan period, planning should take into account the possible requirement for Category II or III operations so that at least one runway and the related ground-air environment may be provided in the future to accommodate such operations.

2.1.4 In cases where the extension or development of an aerodrome to meet infrequent critical operations would entail disproportionate expenditures, alternative solutions should be explored.

Note.— If it is found that the full operational requirements cannot be met at an aerodrome, then the maximum practicable development to facilitate operations should be recommended and the relevant reasons for this included in the report.

2.1.5 At alternate aerodromes, the physical characteristics should be determined in accordance with the landing requirements of the diverted critical aircraft and the take-off requirements for the aircraft for a flight to the aerodrome of intended destination. -To ensure safe taxiing operations, a specified taxiway route should be determined for the diverted critical aircraft.

Note: The adequacy of the emergency response and rescue and fire fighting services to meet the requirements of the diverted critical aircraft should be reviewed to plan the necessary augmentation from sources nearby.

Note. — Where more than one alternate aerodrome is available, the requirements should be based on the types of aircraft each is intended to serve.

2.2 International general aviation (IGA)

2.2.1 Aerodromes, in addition to those required for international commercial air transport operations, should be determined to meet the needs of the IGA flights ~~listed in the table of aircraft operations or the use, as approved by the Council, of traffic forecasts~~ as identified by user requirements.

2.2.2 Physical characteristics, visual aids, and emergency as well as other services should be determined for each aerodrome to meet at least the needs of the most commonly used aircraft operated or intended to be operated at the aerodrome by IGA and should include runway length and strength, as well as the aerodrome reference code(s) selected for runway and taxiway planning purposes.

2.3 Certification of aerodromes and safety management system

2.3.1 *Annex 14 – Aerodromes, Volume I – Aerodrome Design and Operations*, requires States to certify their aerodromes used for international operations in accordance with the specifications in that Annex as well as other relevant ICAO specifications through an appropriate regulatory framework. Additionally, the Annex recommends that States certify aerodromes open to public use. The regulatory framework should include the establishment of criteria for certification of aerodromes. Furthermore, the certification should be based on the review and approval/acceptance of an aerodrome manual to be submitted by the aerodrome operator which would include all relevant information such as location, facilities, services, equipment, operating procedures, organisation and management structure of the operator. The aerodrome manual should also include details of the aerodrome safety management system as implemented by the aerodrome operator. The intent of a safety management system is to ensure the implementation of aerodrome safety policies by an aerodrome operator, which provide for the control of safety at, and the safe use of, the aerodrome. Therefore, the safety management system of the aerodrome operator should be compatible with those of the air traffic services provider and other agencies working on the aerodrome to ensure total system safety.

2.3.2 The existence of basic aviation law that empowers a suitable aviation civil regulatory agency is a primary requirement. Such an entity may be the Civil Aviation Authority or the Director General of Civil Aviation, which is adequately staffed to assess an application for grant of the aerodrome certificate, inspect and evaluate the aerodrome facilities and services, operating procedures, and coordinate with other appropriate agencies such as the aviation security agency, air traffic services provider, aeronautical information services, meteorological services, etc. as detailed in the aerodrome manual submitted with the application.

Note.— Further guidance on certification of aerodromes can be found in the Manual on Certification of Aerodromes (Doc 9774).

3. AIR TRAFFIC MANAGEMENT

3.1 Air traffic management should enable aircraft operators to meet their planned times of departure and arrival and adhere to their preferred flight profiles with minimum constraints without compromising agreed levels of safety. The air traffic services to be provided, the airspace organization, the associated facilities, and the required navigation performance should be determined on the basis of an agreed network of ATS routes ~~and~~ or organised track system taking account of the type, density and complexity of traffic.

3.2 **Airspace management**

3.2.1 The airspace structure and organization should include a network of ATS routes or organized track system established so as to enable aircraft to operate along, or as near as practicable to, the preferred flight path, in both the horizontal and vertical planes, from the departure aerodrome to the destination aerodrome. ATS routes based on area navigation, ~~also including flexible routes,~~ should be recommended where appropriate and feasible. ~~ATS routes shall be great circles between significant points, wherever possible. Standard instrument arrival routes (STARs) should be established when the density of air traffic justifies their application in a terminal control area (TMA) and to facilitate the description of the route and procedure in air traffic control clearances. Standard instrument departure routes (SIDs) should be established for each instrument runway. SIDs and STARs should be laterally segregated to the extent possible.~~

3.2.2 Whenever the circumstances warrant, the airspace organization should be designed to support the ultimate goal of allowing each aircraft to fly its own optimised flight path. ~~To achieve this, procedures that support collaborative decision-making should be developed.~~

3.2.3 The airspace organization should be indicated in accordance with the ICAO airspace classification.

~~3.2.3.4~~ Airspace restrictions should be subject to a continuing review procedure with the object of eliminating them or reducing their restrictive effects to a minimum, with particular emphasis on the need to achieve effective civil/military co-ordination. Permanent segregation of airspace should be avoided. Temporary airspace reservations, where necessary to cater for large formation flights or other military air operations, should be minimized in time and space, ~~closely~~ co-ordinated, and promulgated in a timely manner. Military operations should not only be promulgated in a timely manner but also through international dissemination (international NOTAM).

~~3.2.4 Planning for routes required for supersonic aircraft should take account of areas that are to be protected from the adverse effect of sonic boom and of the possible need for the pilot-in-command to avoid any hazardous meteorological conditions which may be encountered in the area in which transonic acceleration is planned. To cater for such circumstances, an alternative route or routes should be available, and alternative points for starting transonic acceleration may be required.~~

3.3 **Air traffic services**

3.3.1 Flight information service and alerting service should be provided throughout the area under consideration. ~~The plan of flight information regions (FIRs) should provide for the least number of FIRs compatible with efficiency of service and with economy. In this connection, the evolutionary introduction of CNS/ATM systems should be taken into account and consideration should be given to co-operative efforts for introducing more efficiency in airspace management by reducing the number of FIRs. In delineating FIR boundaries, due consideration should be given to:~~

- a) the need for adequate air-ground communications coverage from the location of the flight information centre/area control centre (FIC/ACC);
- b) the need to minimize frequency and SSR code changes ~~and~~, position reporting by aircraft, and coordination between FICs/ACCs; and
- c) the need to minimize problems relating to climbing and descending traffic at major aerodromes located in the vicinity of FIR boundaries.

3.3.2 Area control service should be provided for ~~IFR flights along all ATS routes to be used by international aircraft operations,~~ instrument flight rules (IFR) flights operating in controlled airspace except where the type and density of traffic clearly do not justify the provision of such

service. ~~Flights by supersonic aircraft, during the transonic and supersonic phases of flight, should be provided with air traffic control service ensuring separation from all other flights.~~ Controlled airspace, in the form of airways, control areas of larger dimensions and terminal control areas, should be recommended to encompass all relevant ATS routes. In delineating control area boundaries, due account should be taken of the factors listed in 3.3.1 above.

3.3.3 Approach control service should be provided at all aerodromes used for international aircraft operations and equipped with navigation aids for instrument approach and landing, except where the type and density of traffic clearly do not justify the provision of such service. Controlled airspace, in the form of terminal control areas and control zones, should be recommended to encompass at least the climb to cruising level of departing aircraft and the descent from cruising level of arriving aircraft.

3.3.4 Aerodrome control service should be provided at all regular and alternate aerodromes to be used for international commercial air transport operations. Aerodrome control service should also be provided at those additional aerodromes used by international general aviation aircraft where the type and density of traffic warrant it. At aerodromes used by international general aviation aircraft, where the type and density of traffic clearly do not justify the provision of aerodrome control service, the provision of aerodrome flight information service by a unit located at the aerodrome should be recommended.

3.3.5 Air traffic advisory service should not be recommended as part of the plan. Where provided (to IFR flights in advisory airspace or on advisory routes), its replacement by air traffic control service at the earliest possible time should be recommended.

3.3.6 The air traffic services system and procedures should:

- a) permit the most efficient use to be made of the airspace by all users and provide for the most expeditious handling of the various types of traffic;
- b) be so designed that the number of air-ground communications contacts, frequency changes and **secondary surveillance radar** (SSR) code changes required of aircraft, and the amount of coordination required between ATS units, are kept to a minimum;
- c) ensure the prompt and timely transmission to all aircraft concerned of information on hazardous ~~weather~~ **meteorological** conditions, operational flight information and other available information affecting the safety and efficiency of flight;
- d) require the use of uniform altimeter setting procedures throughout the area under consideration when operating below the established transition level or climbing up to the established transition altitude; and
- e) establish a common transition altitude on an area basis and, where possible, on a regional basis.

3.3.7 Information on destination ~~weather~~ **meteorological conditions**, the integrated operational status of facilities associated with the runway in use, and the runway conditions, should be provided to aircraft (in voice or data format) by the transmission of operational flight information service (OFIS) messages, including VOLMET, or by the appropriate area control centre or flight information centre upon request, prior to commencement of descent ~~or, in the case of supersonic aircraft, prior to the deceleration/descent phase.~~ Where this information is transmitted in voice format, a discrete frequency should be assigned for this purpose. Air-ground data links are particularly efficient for this type of service, as well as for clearance delivery, and should be recommended when a sufficient number of aircraft are appropriately equipped.

3.3.8 ~~The flight plan to be submitted for a flight by a supersonic aircraft should provide, within the existing flight plan format, the specific information on transonic and supersonic flight phases necessary for ATS purposes.~~

~~3.3.9 Procedures~~ Contingency plans should be developed to ~~facilitate ATC handling of descent by aircraft from cruise necessitated by solar cosmic radiation.~~

~~3.3.10~~ mitigate the effects of volcanic eruptions or tropical cyclones as required. In addition, contingency plans should be developed to mitigate disruptions in air traffic services due to any other cause.

3.3.9 To assist in the prevention of controlled flight into terrain (CFIT), efforts should be made to implement a minimum safe altitude warning (MSAW) system or equivalent.

3.3.140 To assist in the prevention of CFIT, every effort should be made, in co-operation with the operators, to identify locations at which unwanted ground proximity warning system (GPWS) warnings occur. These warnings can occur due to conflict between ATS procedures, or operator procedures, and the characteristics of the terrain and/or those of the GPWS equipment in use. Effort should further be made, with co-operation between the ATS authority and the operators to eliminate the occurrence of unwanted GPWS warnings by appropriate adjustment of ATS and/or operator procedures.

Note.— Where adjustment of procedures is not possible, or is not effective, it may be possible to eliminate unwanted warnings, at a specific location, by GPWS envelope modulation. This possibility will be based on technical data of the equipment manufacturer and will be proposed by the operator for acceptance by the operator's authority.

3.4 **Air traffic flow management and capacity management**

3.4.1 Air traffic flow management and capacity management should be provided to ensure an optimum flow of air traffic to, from, through or within defined areas during times when demand exceeds, or is expected to exceed, the available capacity of the ATS system, including relevant aerodromes. However, this should not preclude the need for planning airspace to adequately meet demand.

3.5 **Safety management**

3.5.1 The standards and recommended practices relating to the implementation by States of safety management programmes for ATS are contained in Annex 11 – *Air Traffic Services*, Section 2.26. Further provisions relating to the implementation of these safety management programmes are contained in Chapter 2 of the *Procedures for Air Navigation Services – Air Traffic Management* (PANS_ATM, Doc 4444).

3.5.2 Annex 11, Section 2.26 requires States to implement systematic and appropriate safety management programmes in relation to the provision of ATS. It will therefore be necessary for all States to establish regulatory provisions concerning ATS safety management, together with the necessary supporting infrastructure to enable them to discharge their responsibilities in relation to oversight of these provisions. There are two prerequisites for the introduction of a regulatory system. These are:

- a) the provision, in the basic aviation law of the State, for a code of air navigation regulations and the promulgation thereof; and

- b) the establishment of an appropriate State body, hereinafter referred to as the Civil Aviation Authority (CAA), with the necessary powers to ensure compliance with the regulations.

Note. — Further guidance can be found in the Manual on ATS Safety Management (Doc xxxx).

4. SEARCH AND RESCUE (SAR)

4.1 Planning for search and rescue service should take into account, to the maximum practicable extent, existing facilities even if they are provided for purposes not connected with search and rescue. Such planning should take into account the delimitation of maritime search and rescue regions.

4.2 A single SAR point of contact (SPOC) should be designated for each SRR to facilitate co-operation with the associated mission control centre (MCC) of the COSPAS-SARSAT* system.

Note. — A SPOC may be an aeronautical or a maritime RCC.

4.3 Where aircraft of the long-range (LRG) and longer-range categories are required for the provision of air coverage of large oceanic search and rescue regions, but such aircraft cannot be made available by the State responsible for search and rescue services, specific cooperative arrangements should be made for the deployment of such aircraft from other locations in an attempt to meet the requirements for sufficient air coverage of the appropriate regions.

4.4 Search and rescue organization, plans, procedures, operations, and equipment should be in accordance with the provisions of Volumes 1, 2 and 3 of the *International Aeronautical and Maritime Search and Rescue Manual* (Doc 9731), to the extent practicable.

5. COMMUNICATIONS

5.1 Aeronautical fixed service (AFS) planning and engineering

5.1.1 The AFS recommended should be designed to meet the agreed requirements for AIS, ATS, MET, SAR and aircraft operating agencies for voice, message and data communications.

5.1.2 The planning of the aeronautical fixed telecommunication network (AFTN) should be based on the guidance material contained in the *Manual on the Planning and Engineering of the Aeronautical Fixed Telecommunication Network* (Doc 8259) and taking into account the predominating characteristics for conditions in the region or area concerned.

5.1.3 ~~a) — If a meteorological operational telecommunication network is recommended, it~~
The AFS should be designed so as to meet transit time criteria as follows:

In the peak season of the year, even in the average peak hours, at least 95 per cent of the messages should achieve transit times of less than the following:

SIGMET, and AIRMET messages, volcanic ash and
tropical cyclone advisory
messages information and
special air-reports

5 minutes

*COSPAS — Space system for search for vessels in distress

SARSAT — Search and rescue satellite-aided tracking

~~Amendments to Amended aerodrome forecasts~~	~~5 minutes~~
~~Aerodrome reports/landing forecasts/aerodrome forecasts/selected special reports:~~	
~~from 0 to 550 NM~~	~~5 minutes~~
~~forecast~~	
~~(in meteorological code form) (TAF)~~	~~5 minutes~~
~~METAR/SPECI, trend forecasts and TAF~~	
~~from 0 to 900 km (500 NM)~~	~~5 minutes~~
~~for distances exceeding 550 NM-900 km (500 NM)~~	~~10 minutes~~

- b) ~~If~~ Transit times for request/reply for international OPMET data banks ~~are recommended, transit time for request/reply~~ should be less than ~~5 minutes~~ 5 minutes.

5.1.4 ~~Aerodrome forecast messages~~ TAF bulletins originated by meteorological offices in the region should be available, at all locations in the region to which they are addressed, at least 30 minutes before their period of validity commences.

5.1.5 The dissemination means for world area forecast system (WAFS) products should be such as to guarantee availability of these products throughout the region at international aerodromes and other locations as appropriate to meet operational needs.

5.1.6 Planning of ATS ground to ground communication networks comprising direct and switched ATS speech circuits should take account of operational voice-communication requirements. It should also take into account relevant ICAO documentation with regard to the application of analogue and digital voice switching and signalling systems.

5.1.7 With the introduction of automation in air traffic management many coordination functions will be accomplished through data interchange between ATM systems using ATN applications such as ATS Interfacility Data Communication (AIDC) or ATS message handling services (ATSMHS), ~~for example.~~ As such, the planning for ATN should include the provision of ~~AFTN/AMHS~~ suitable gateways to facilitate the exchange of information between existing and newly established networks.

5.1.8 For planning of AFS, attention should be paid to the establishment of institutional arrangements for the implementation by States of co-ordinated digital networks, using appropriate technology to meet, in an integrated way, current and future communication requirements.

5.2 **Aeronautical mobile service (AMS) and aeronautical mobile satellite service (AMSS)**

5.2.1 Air-ground ~~data link~~ and voice communications facilities should be recommended to meet effectively and reliably the agreed requirements for air traffic services as well as, to the extent required, all other classes of traffic acceptable on the AMS. ~~The facilities should employ voice and data communications links based on available transmission media (e.g. HF, VHF, satellite). This decision should be based on system performance and economical criteria to comply with operational needs.~~

5.2.1.1 Regional planning should take into account AMSS ground earth station (GES) redundancy requirements in co-ordination with the AMSS service provider(s) with a view to avoiding an unnecessary proliferation of facilities.

5.2.2 ATIS and VOLMET or OFIS broadcasts should be recommended only if overloading of air-ground channels due to request/reply communications has occurred, or is expected to occur. When justified by the number of aircraft suitably equipped, data links should be recommended for these functions, as well as for certain clearance ~~delivery~~ deliveries.

5.2.3 Aerodromes having a significant volume of international general aviation traffic should be served by stations of the AMS, and such stations should operate on frequencies within the bands normally used by aircraft constituting this traffic.

5.2.4 Selective calling (SELCAL) devices should be employed, wherever possible and necessary, at aeronautical stations.

5.2.5 An air-to-air VHF communication channel (INTERPILOT) ~~is approved for~~ on the frequency 123.450 MHz should be used over remote and oceanic areas, provided users are out of range of VHF ground stations, to enable pilots to exchange the necessary operational information. ~~The recommendation for use of frequency 123.45 MHz for this purpose has been adopted by the Council of ICAO with an applicability date of 4 November 1999.~~

5.3 Frequency assignment plans

5.3.1 Frequency assignment ~~work planning~~ should be done in accordance with the method ~~proposed by the ASIA/PAC/2 RAN Meeting (1983) (Recommendation 6/1, which was approved by the Council of ICAO on 28 June 1983, refers)~~ applicable to the region and using the relevant ICAO ~~R~~ regional ~~O~~ office ~~F~~ frequency ~~L~~ lists.

6. NAVIGATION

6.1 General

6.1.1 The planning of navigation aids should be based on a system basis, recognizing that the requirements for both long range and short range navigation may be met by different navigation systems having area navigation capability, including the global navigation satellite system (GNSS), and it may be practicable to establish ATS routes not provided with ground station-referenced aids for suitably-equipped aircraft. For routes or areas which require that aircraft achieve an acceptable level of navigation accuracy, the requirement should be specified e.g. in the form of a required navigation performance (RNP) type to support a selected horizontal separation minimum, or a minimum aircraft system performance specification (MASPS) to support a selected vertical separation minimum. The navigation systems should meet the needs of all aircraft using it and form an adequate basis for the provision of air traffic services.

6.1.2 Where aircraft are using different systems for navigation and position determination within the same controlled airspace, the facilities involved should, in so far as practicable, be located and oriented to enable a fully integrated air traffic control structure to be established.

6.1.3.1 Planning should take into account the need of civil aircraft for sufficiently accurate navigation guidance to remain clear of restricted, prohibited and danger areas as required.

6.2 International commercial air transport operations

6.2.1 En-route aids

6.2.1.1 The en-route aids to be recommended should provide navigation assistance to permit en-route navigation on the agreed air traffic services route network with the accuracy required.

6.2.1.2 It is expected that GNSS will ultimately meet all requirements for en-route navigation. Planning for other en-route aids should take due account of the need for a gradual transition towards the use of GNSS in lieu of en-route ground-based navigation aids. Pending implementation of GNSS, VHF omni directional radio range (VOR) supplemented as necessary by distance measuring equipment (DME) should be installed as the primary aid for this purpose.

6.2.1.3 Where VOR is used, supplemented as necessary by DME, a total navigation error value for VOR of $\pm 5\%$ (95 per cent probability) should be assumed for planning purposes. However, the specific value of VOR radial signal error for individual facilities/radials should be obtained by flight checking, and if these values are worse than $\pm 3\%$, appropriate precautions should be taken in respect of the routes concerned.

6.2.1.4 Long-distance radio navigation aids continue to be provided where required.

6.2.2 Terminal area aids

6.2.2.1 The terminal area aids should permit navigation for arrival and approach, holding and departure to be carried out with the accuracy required.

6.2.2.2 It is expected that GNSS will ultimately meet all requirements for terminal navigation. Planning for other terminal aids should take due account of the need for a gradual transition towards the use of GNSS in lieu of terminal area ground-based navigation aids.

~~6.2.2.2 The terminal area aids to be recommended should permit navigation for approach, holding and departure to be carried out with the accuracy required.~~ Introduction of GNSS-based navigation services, such as Basic GNSS and satellite-based augmentation system (SBAS), should be considered as initial transition steps.

6.2.2.3 Where VOR is used as the primary aid, it should be so located as to permit the most efficient approach and air traffic control procedures and to give the pilot maximum assistance in adhering to requisite patterns. Whenever possible, VORs should be located and operated so that they can serve both the requirements for en-route and terminal navigation guidance, including holding. Where the provision of VORs for the holding is not practicable, non-directional beacons (NDBs) can be used for this purpose.

6.2.2.4 Consideration should be given to the provision of DME to be collocated with VORs whenever this is required to ensure necessary ATC flexibility in the routing of air traffic in a given TMA using area navigation (RNAV) procedures based on VOR/DME and when improved accuracy in navigation is a prerequisite to such flexibility.

6.2.2.5 Consideration should also be given to the provision of suitably located DMEs in support of RNAV procedures based on DME/DME.

6.2.3 Non-visual aids to final approach and landing

6.2.3.1 The standard non-visual aids to final approach and landing ILS, MLS and augmented GNSS, supporting precision approach and landing operations, shall comply with general provisions in Annex 10, Volume I, 2.1 Annex 10 – Aeronautical Telecommunications, Volume I – Radio Navigation Aids, Chapter 2, 2.1 and technical specifications in Chapter 3, and their introduction and application are expected to be in line with the strategy contained in Attachment B to Volume I.

6.2.3.2 In planning the requirements for aids to final approach and landing, each aerodrome should be considered in relation to its traffic, its ~~weather~~ meteorological conditions and other aspects of its physical environment. In addition, the following two aspects should be taken into consideration in the determination of specific requirements:

a) *The aerodynamic and handling characteristics of the aircraft*

Turbo-jet aeroplanes have need for precise approach path guidance during approach and landing, irrespective of weather conditions. Such guidance should be provided to runways intended to serve these aeroplanes as follows:

- 1) On a runway having significant traffic the facilities to be provided should be an ICAO standard non-visual aid to final approach and landing, complemented by a visual approach slope indicator system. When a standard non-visual aid cannot be implemented in the first instance, this should not delay the installation of a visual approach slope indicator system.
- 2) On a runway not having significant traffic, the facilities to be provided should at least include a visual approach slope indicator system.

b) *Routine auto-coupled approaches*

Where auto-coupled approaches are to be made on a routine basis, an ICAO standard non-visual aid to final approach and landing, i.e. ILS, ~~MLS~~ or ~~MLS~~ GNSS (GBAS), should be provided as appropriate to the type of operation planned at the aerodrome.— In the case of an ILS of facility performance Category I, the ILS should be of Category II signal quality, without necessarily meeting the associated reliability and availability criteria for backup equipment and automatic change-over of facility performance Category II, but it should be adjusted and maintained to the greatest possible extent and accuracy, and its performance characteristics should be published in AIPs or other suitable documents.

6.2.3.3-4 **Precision approach and landing procedures**

6.2.4.1 Precision approach and landing operations are to be based on standard non-visual aids indicated in 6.2.3.1 above.

6.2.5 **Approach with vertical guidance**

6.2.5.1 Consideration should be given to approach with vertical guidance (APV).

6.2.6 **Non-precision instrument approach procedures**

6.2.3.3-6.1 Non-precision instrument approach procedures ~~can~~ are to be based on terminal area aids ~~other than the standard non-visual aids~~ (see 6.2.3.1-2 above) which should also support SIDs and STARs. These approach procedures should be constructed whenever possible in accordance with the concept of the stabilized approach; to provide an equivalent three degree final approach glide path; to eliminate stepped approaches; and to provide a final approach fix.

6.2.3.3-6.2 Particular account should be taken of 6.2.3.3-5.1 in the design of non-precision instrument approach procedures for use with GNSS which should also support SIDs and STARs.

6.2.7 RNAV procedures

6.2.7.1 RNAV procedures can be based on terminal area aids (e.g. VOR/DME, DME/DME) or GNSS (e.g. Basic GNSS, SBAS or GBAS positioning services).

6.3 International general aviation

6.3.1 Short-distance aids

6.3.1.1 Appropriate aids such as GNSS for short-distance navigation should be provided to serve the additional aerodromes referred to in 2.2.1 where the density of traffic and the meteorological conditions so warrant, due account being taken of the airborne equipment carried by aircraft. These aids should, as appropriate, be located so as to permit instrument approaches.

6.4 Flight testing of visual and non-visual navigation aids

6.4.1 Cooperative arrangements for the flight testing of visual and non-visual navigation aids (Annex 10, Volume I, Chapter 2, paragraph 2.7) should be recommended where flight testing on a national basis would be impracticable or uneconomical.

7. SURVEILLANCE

7.1 Surveillance systems should provide ~~an adequate support to and meet the needs of~~ ATM. ~~A table of radar facilities~~ to all phases of flight and meet ATM requirements. A table of surveillance facilities/services (including radars, automatic dependent surveillance (ADS) and automatic dependent surveillance – broadcast (ADS-B)), together with an associated chart, is considered to be a useful tool in the planning and implementation of surveillance systems, ~~including automatic dependent surveillance (ADS).~~

7.2 Surveillance should be provided as an integral part of air traffic control where practicable and desirable or necessary in the interest of safety, efficiency and economy of operations, in particular for those areas where traffic density and/or the multiplicity or complexity of ATS routes create constraints. ~~Primary and/or secondary surveillance radar systems may be used to fulfil this requirement. When technology permits, Subject to availability and cost effectiveness and provided that the required level of safety is maintained, automatic dependent surveillance (ADS) and ADS-B may be used in airspace where surveillance by radar is either impracticable or cannot be justified in terms of traffic volumes and air safety.~~

7.3 Provision should also be made for the use of surveillance systems for the purpose of monitoring air traffic and identifying civil aircraft in areas where they might otherwise be intercepted.

Note,— This requirement does not constitute a justification or operational requirement for installation of new radars. Since interceptions would normally only take place under existing military radar control, this should be interpreted as a requirement for a State to make better use of existing measures and to improve civil/military coordination.

8. METEOROLOGY

8.1 World area forecast system (WAFS) – Regional aspects

8.1.1 Planning for regional aspects of the WAFS should be undertaken, with particular reference to user States' requirements for WAFS products, service areas and areas of coverage of charts to be included in flight documentation.

~~8.1.2~~ Areas of coverage of charts to be provided under the WAFS should be selected so as to ensure the required coverage for flights departing aerodromes ~~in each service area, whilst minimizing, as far as practicable, the workload of regional area forecast centres (RAFCs) and the occupancy of telecommunication channels.~~

~~8.1.3~~ The transmission of RAFC products normally should be completed nine hours before validity time. The time period should be adjusted so as to meet the needs of the majority of the flight stages for which the charts are required.

8.1.4.2 Requirements for the issuance of medium-level significant weather (SIGWX) ~~charts forecasts~~ (FL 100 —250) under the WAFS should only be specified for limited geographical areas having a large number of international flight operations using those flight levels and for extended-range operations.

~~8.1.5~~ Requirements for upper air wind/temperature charts for flight levels additional to flight level 340 should only be specified where such flight levels are used by a significant number of flight operations.

~~8.1.6~~ Where a significant number of SST operations form part of the regional plan, a requirement for SIGWX and upper air wind/temperature charts covering flight levels appropriate to those operations should be specified.

~~8.2~~ Meteorological services ~~to be provided~~ at aerodromes

8.2.1 The meteorological service to be provided for operators and flight crew members should be specified for each ~~regular~~ international aerodrome.

~~8.2.2~~ Aerodrome forecasts

8.3.1 TAF and amendments ~~there to~~ should be exchanged to meet the needs of current flight operations, including ~~flights under centralized operational control~~ international general aviation. ~~Aerodrome forecasts~~ TAF for the aerodromes of departure and destination and their respective alternates, and en-route alternates, ~~including those for extended range operations,~~ should be disseminated so as to be available at departure aerodromes and at ~~stations~~ ATS units designated to provide ~~OFIS (including data link-VOLMET or VOLMET)~~ broadcasts for aircraft in flight. In addition, they should be disseminated to be available at ATS units for transmission to aircraft in flight up to a distance from the aircraft corresponding to two hours' flying time.

~~8.3.2.3~~ The determination of the aerodromes at which landing forecasts are required should take into consideration relevant operational and climatological factors, including the weekly number of flights requiring those forecasts and the incidence of adverse ~~weather~~ meteorological conditions.

~~8.2.4~~ For international general aviation, information concerning weather conditions at aerodromes of destination and at relevant alternate aerodromes and concerning en-route weather conditions should be made available or should be easily procurable.

~~8.3.4~~ Meteorological observations and reports

~~8.3.4.1~~ Meteorological observations and reports should be made at hourly intervals. However, the intervals should be half-hourly at aerodromes where the volume of traffic and the variability of ~~weather~~ meteorological conditions so justify, and/or ~~they~~ reports are required for ~~any~~ ~~OFIS (including data link-VOLMET or VOLMET)~~ broadcasts ~~which may be recommended~~, and relevant OPMET bulletin exchange schemes.

8.34.2 ~~Routine METAR and selected special reports SPECI should be exchanged to meet the needs of current flight operations. Reports METAR and SPECI for final destinations and the aerodromes of departure and destination and their respective alternates, and en-route alternates should be disseminated so as to be available at departure aerodromes within about two hours' flying time from the aerodrome to which those reports refer, and at ATS units designated to provide data link-VOLMET or VOLMET broadcasts for aircraft in flight. In addition, they should be disseminated to be available at ATS units for transmission to aircraft in flight up to a distance from the aircraft corresponding to two hours' flying time. For extended range operations and flights conducted under centralized operational control, reports for final destinations, departure, en-route and destination alternates for the whole route should be exchanged so as to be available at the aerodrome of departure using, to the extent possible, services of international operational meteorological (OPMET) data banks and/or predetermined AFTN distribution.~~

~~8.3.3 Routine reports for significant observing stations along and adjacent to the route* should be disseminated so as to be available at the departure aerodrome for up to a distance corresponding to two hours* flying time from the aerodrome, and for aircraft in flight for a distance corresponding to two hours* flying time from the aircraft.~~

~~8.3.4 Arrangements should be made for the provision of reports of runway visual range for precision approach runways and for runways used for take-off during periods when the visibility or runway visual range is less than 1 500 metres.~~

8.45 Aircraft reports and SIGMET and AIRMET information

8.45.1 For international air routes having a high density of air traffic, air-reporting exemption or designation procedures should be developed to reduce the frequency of routine air-reports commensurate with the minimum requirements of meteorological offices. The procedures should be included in the *Regional Supplementary Procedures* (Doc 7030).

8.45.2 SIGMET and AIRMET messages, as well as special air-reports which have not been used for the preparation of a SIGMET, should be disseminated to meteorological watch-offices so as to enable them to be made available for aircraft prior to departure and be available at departure aerodromes for the whole route and at ATS units designated to provide data link-VOLMET or VOLMET broadcasts for aircraft in flight. In addition, they should be disseminated to be available at the ATS units for transmission to aircraft in flight for the route ahead up to a distance corresponding to two hours' flying time. In the case of non-stop flights operating on especially long routes, SIGMETs and special air reports for the whole route should be made available at the departure aerodrome and for transmission to aircraft in flight.

~~8.4.3 Notwithstanding the requirements stated in 8.4.2, SIGMETs and special air reports related to tropical cyclones and volcanic ash clouds should be available at departure aerodromes for the whole route for non-stop flights intending to cross areas which may be affected by these phenomena.~~

~~8.4.4 Arrangements should be made for the transmission to ATS units of information on hazardous weather conditions, including SIGMET information, special air reports, wind shear warnings, aerodrome warnings and thunderstorms, with a view to ensuring the adequate and timely availability of such information for ground-to-air transmission, including VOLMET broadcasts.~~

8.5 hours flying time.

8.6 International Airways Volcano Watch (IAVW) — Regional aspects

8.56.1 Planning for regional aspects of the IAVW should be undertaken, including the designation of volcanic ash advisory centres (VAAC) ~~responsible for providing advisory information to meteorological watch offices and area control centres on the occurrence, extent and movement of volcanic ash in the atmosphere.~~

~~8.6~~ and selected State volcano observatories.

8.7 Tropical Cyclone Watch – Regional aspects

8.67.1 ~~A~~ Planning for regional aspects of the tropical cyclone ~~advisory centre (TCAC) watch~~ should be ~~designed~~ undertaken for regions affected by tropical cyclones. ~~The TCAC should be responsible for monitoring, including the development designation of tropical cyclones in the region and providing cyclone advisory information to meteorological watch offices regarding the position, forecast direction and speed of movement, central pressure and maximum surface wind of the tropical cyclones.~~ centres (TCAC) amongst the centres of the WMO Tropical Cyclone Programme.

9. AERONAUTICAL INFORMATION SERVICES AND AERONAUTICAL CHARTS

9.1 The designation of international NOTAM offices and their areas of responsibility should be based on maximum efficiency in the dissemination and exchange of aeronautical information/data by telecommunications and on optimum use of the aeronautical fixed service (AFS).

9.2 Arrangements for the international exchange of elements of the Integrated Aeronautical Information Package and aeronautical charts should be established to meet the needs of all forms of international civil aviation.

9.3 Arrangements for the transmission and exchange of NOTAMs should be ~~examined~~ ~~planned~~ with a view to recommending measures to ensure that adequate information is available to users in a timely manner, and that its presentation is efficient as to format and selective as to contents.

9.4 The advantages of using AIS automation integrated systems should be considered when planning the exchange of aeronautical information/data.

9.5 Priority for the planning and implementation of AIS aerodrome units should be based on aerodrome designation (RS, RNS, RG, AS and EAS) as set out in the ANP AOP-1 table.

9.6 Pre-flight information bulletins (PIBs) ~~originated by AIS aerodrome units~~ should be ~~made~~ available at ~~each~~ designated international airports at least one hour before each flight in order to meet the operational requirements of users.

9.7 ~~I~~ Planning and arrangements should be made for the introduction by States of one quality management system for aeronautical information and charts services. The system must include procedures, processes and resources necessary to ensure that the procedures are put in place in all the functional stages of aeronautical data process, from origination until the next intended user.

9.8 Aeronautical geographical coordinates should be stated in terms of the World Geodetic ~~System – 1984 (WGS-84) should be implemented in support of GNSS-based operations and to assist in the prevention of CFIT (paragraph 3.3.13 refers). The status of WGS-84 implementation should be the object of periodic examination.~~

~~—END—~~ System – 1984 (WGS-84).

9.9 Arrangement should be made for those States that have not yet done so, to make available, as applicable, at least the following types of charts:

- a) Aerodrome Obstacle Chart — ICAO Type A;
- b) Aerodrome Obstacle Chart — ICAO Type C;
- c) Precision Approach Terrain Chart — ICAO;
- d) Enroute Chart — ICAO;
- e) Area Chart — ICAO;
- f) Standard Departure Chart — Instrument (SID) — ICAO;
- g) Standard Arrival Chart — Instrument (STAR) — ICAO;
- h) Aerodrome/Heliport Chart — ICAO;
- i) Instrument Approach Chart — ICAO;
- j) Visual Approach Chart; and
- k) World Aeronautical Chart — ICAO 1:1 000 000

9.10 States which have not yet produced the World Aeronautical Chart — ICAO 1:1 000 000 should in accordance with established sheet distribution and regional arrangements, take measures to ensure the preparation of the sheets for which they are responsible, either through individual effort or with the collaboration of other States or specialized cartographic agencies.

Note.— When operational or chart production considerations indicate that operational requirements can effectively be satisfied by Aeronautical Chart - ICAO 1 : 500 000, the chart may be made available instead of World Aeronautical Chart - ICAO 1 : 1 000 000.

MIDANPIRG/9
Appendix 4F to the Report on Agenda Item 4

FOLLOW-UP ACTION ON RESOLUTIONS OF THE 35TH SESSION OF THE ASSEMBLY AS THEY RELATE TO AIR NAVIGATION MATTERS

EXECUTIVE COMMITTEE

Resolution ¹	Subject	Preliminary action approved by Council (C-WP/12316 Revised, C-DEC 173/1)	Suggested follow-up action		
			ANC	Secretary General	PIRGs/States
Resolution 16/1 (16-3 to 16-5, WP/342 Plenary Action Sheet No. 1) [A35-7]	Unified strategy to resolve safety-related deficiencies	Council, subsidiary bodies and the Secretary General to act in accordance with the relevant clauses of the Resolution. Council to further develop practical means to facilitate the sharing of safety information among Contracting States. Council to develop a procedure to inform all Contracting States, within the scope of Article 54 j) of the Chicago Convention, in the case of a State having significant compliance shortcomings with respect to ICAO safety-related SARPs. Secretary General to investigate ways in which the identification of measures may be undertaken at national and regional levels to support States' development of ATM safety oversight capabilities and procedures.	ANC to review and agree on the methodology being developed by the Secretariat for the implementation of the unified strategy, review and agree as the action proposed in AN-WP/7977, and make recommendations to the Council as necessary.	Secretary General to: a) urge all Contracting States to share with other Contracting States critical safety information which may have an impact on the safety of international air navigation and to facilitate access to all relevant safety information;	States: To share critical safety information with other States
				b) encourage Contracting States to make full use of available safety information when performing their safety oversight functions, including during inspections as provided for in Article 16 of the Convention;	States: To make use of available safety information when performing safety oversight functions

¹ The A35 Resolution number (as designated in Resolutions adopted by the 35th Session of the Assembly — Provisional Edition, October 2004) is shown in square parentheses.

EXECUTIVE COMMITTEE

Resolution ¹	Subject	Preliminary action approved by Council (C-WP/12316 Revised, C-DEC 173/1)	Suggested follow-up action		
			ANC	Secretary General	PIRGs/States
Resolution 16/1 (16-3 to 16-5, WP/342 and Plenary Action Sheet No. 1) [A35-7] (continued)				c) develop, for approval by the Council, practical means to facilitate the sharing of such safety information among Contracting States;	To note
				d) urge Contracting States of the need for surveillance of all aircraft operations, including foreign aircraft within their territory and to take appropriate action when necessary to preserve safety;	States: To do surveillance of all aircraft operations, including foreign aircraft within their territory
				e) develop, for approval by the Council, a procedure to inform all Contracting States, within the scope of Article 54 j) of the Chicago Convention, in the case of a State having significant compliance shortcomings with respect to ICAO safety-related SARPs;	To note
				f) promote the concept of regional or sub-regional safety oversight organizations;	PIRGs: To promote the concept of regional/ sub-regional safety oversight organizations
				g) continue to foster coordination and cooperation between USOAP and audit programmes of other organizations related to aviation safety, and specifically with IATA and Eurocontrol;	To note

EXECUTIVE COMMITTEE

Resolution ¹	Subject	Preliminary action approved by Council (C-WP/12316 Revised, C-DEC 173(1))	Suggested follow-up action		
			ANC	Secretary General	PIRGs/States
				h) urge Contracting States to develop regional and sub-regional cooperation and, whenever feasible, partnership initiatives with other States, industry, air navigation service providers, financial institutions and other stakeholders to strengthen safety oversight capabilities in order to foster a safer international civil aviation system and to better discharge their individual responsibilities;	States: To develop regional and sub-regional cooperation and to strengthen safety oversight capabilities
				i) encourage States to foster the creation of regional or sub-regional partnerships to collaborate in the development of solutions to common problems to build their individual safety oversight capability;	States: To foster the creation of regional/ sub-regional partnerships
Resolution 16/1 (16-3 to 16-5, WP/342 and Plenary Action Sheet No. 1) [A35-7]				j) encourage all States able to do so to participate in, or provide tangible support for, the strengthening and furtherance of regional safety oversight organizations;	States: To provide tangible support for strengthening and furtherance of regional safety oversight organizations
(continued)				k) invite Contracting States to use the services of the ICAO Technical Cooperation Bureau (TCB) to resolve deficiencies identified by the USOAP;	To note

EXECUTIVE COMMITTEE

Resolution ¹	Subject	Preliminary action approved by Council (C-WP/12316 Revised, C-DEC 173/1)	Suggested follow-up action		
			ANC	Secretary General	PIRGs/States
				l) invite Contracting States experiencing difficulties in financing measures necessary to correct safety-related deficiencies identified through USOAP to take advantage of the funding opportunity offered by the International Financial Facility for Aviation Safety (IFFAS); m) implement a unified strategy based on the principles of increased transparency, cooperation and assistance; n) foster, where appropriate, partnership among States, users, air navigation service providers, industry, financial institutions and other stakeholders to analyse causes, establish and implement sustainable solutions in order to assist States in resolving safety-related deficiencies;	States: To take advantage of IFFAS if experiencing difficulties in financing measures to correct safety-related deficiencies: PIRGs/States: To implement a unified strategy PIRGs/States: To foster partnership among States, users, air navigation service providers, industry and financial institutions to analyse causes in resolving safety-related deficiencies

EXECUTIVE COMMITTEE

Resolution ¹	Subject	Preliminary action approved by Council (C-WP/12316 Revised, C-DEC 173(1))	Suggested follow-up action		
			ANC	Secretary General	PIRGs/States
Resolution 16/1 (16-3 to 16-5, WP/342 and Plenary Action Sheet No. 1) [A35-7] (continued)				o) adopt a flexible approach for the provision of assistance through the ICAO Regional Offices to support regional and sub-regional organizations responsible for safety oversight tasks and to implement an efficient system to monitor implementation of the unified strategy;	To note
				p) investigate ways in which the identification of measures may be undertaken at national and regional levels to support States' development of ATM safety oversight capabilities and procedures; and	To note
				q) develop ways in which all relevant information from the Audit Findings and Differences Database (AFDD) could be made available to all Contracting States through the use of the ICAO secure website.	To note

Resolution ¹	Subject	Preliminary action approved by Council (C-WP/12316 Revised, C-DEC 173/1)	Suggested follow-up action		
			ANC	Secretary General	PIRGs/States
Resolution 16.2/1 (16.2-2 to 16.2-4, WP/342 and Plenary Action Sheet No. 1) [A35-6]	Transition to a comprehensive systems approach for audits in the ICAO USOAP	Council, subsidiary bodies and the Secretary General to act in accordance with the relevant clauses of the Resolution. Secretary General to make the final safety oversight audit reports available to all Contracting States and also to provide access to all relevant information derived from the Audit Findings and Differences Database (AFDD) through the secure website of ICAO.	ANC to review proposals as necessary and make recommendations to the Council.	Secretary General to: a) further expand USOAP to include the safety-related provisions contained in all safety-related Annexes to the Convention on International Civil Aviation (Doc 7300) as of 2005; b) restructure the ICAO Universal Safety Oversight Audit Programme, as of 1 January 2005, to adopt a comprehensive systems approach in conducting safety oversight audits in all Contracting States;	To note To note
Resolution 16.2/1 (16.2-2 to 16.2-4, WP/342 and Plenary Action Sheet No. 1) [A35-6] (continued)				c) restructure the safety oversight audit reports to reflect the critical elements of a safety oversight system; d) adopt a more flexible approach in the implementation of the Programme on a long-term basis; e) continuously ensure the maintenance of the quality assurance mechanism established to monitor and assess Programme quality;	To note To note To note

EXECUTIVE COMMITTEE

Resolution ¹	Subject	Preliminary action approved by Council (C-WP/12316 Revised, C-DEC 173/1)	Suggested follow-up action		
			ANC	Secretary General	PIRGs/States
				f) call on all Contracting States able to do so to assign qualified and experienced technical staff to ICAO on a long-term secondment basis with a view to enabling the Organization to continue to successfully implement the Programme; g) urge all Contracting States to submit to ICAO, in a timely manner, and keep up-to-date, all the information and documentation associated with the preparation and conduct of an audit, to ensure the effective and efficient implementation of the Programme; h) urge all Contracting States to cooperate with ICAO and, as much as practicable, to accept audit missions as scheduled by the Organization in order to facilitate the smooth functioning of the Programme;	States: To assign qualified and experienced technical staff to ICAO on a long-term secondment basis States: To submit to ICAO, in a timely manner, and keep up-to-date, all information and documentation associated with an audit States: To cooperate with ICAO to accept audit missions as scheduled by the Organization

EXECUTIVE COMMITTEE

Resolution ¹	Subject	Preliminary action approved by Council (C-WP/12316 Revised, C-DEC 173/1)	Suggested follow-up action		
			ANC	Secretary General	PIRGs/States
Resolution 16.2/1 (16.2-2 to 16.2-4, WP/342 and Plenary Action Sheet No. 1) [A35-6] (continued)				i) urge all Contracting States to accept the primacy of USOAP audit results as meeting the established international Recommended Practices and Procedures, when considering the need for additional or supplementary safety oversight audits by States; and j) continue to report to Council at every other session and to the next ordinary session of the Assembly on the overall implementation of the Programme.	States: To accept the primacy of USOAP audit results as meeting the established international SARPs To note
Para 17:2 (17-1, WP/343)	Harmonization and efficiency guiding the standard making process	Council and Air Navigation Commission (ANC) to take into consideration the proposals contained in A35-WP/74 in their future work on enhancement of ICAO Standards.	ANC to continue its work to enhance ICAO Standards taking into account Resolving Clause 3 of A35-14, Appendix A, the action proposed in A35-WP/36 and the proposal contained in A35-WP/74.		

EXECUTIVE COMMITTEE

Resolution ¹	Subject	Preliminary action approved by Council (C-WP/12316 Revised, C-DEC 173/1)	Suggested follow-up action		
			ANC	Secretary General	PIRGs/States
Para 17:3 (17-1, WP/343)	Policy and criteria for making determinations regarding the “commercial air transport” or non-commercial “general aviation” nature of international aircraft operation	Council, subsidiary bodies and the Secretary General to collect information on studies conducted by Contracting States and international organizations on the subject and to take action as required.	ANC to consider the Secretariat review and advise the Council as appropriate.	Secretary General (ATB in coordination with ANB and LEB) to collect and review the work currently conducted by Contracting States on making a determination regarding the “commercial air transport” or non-commercial “general aviation” nature of international aircraft operation. A Council decision will then be sought on whether a draft policy and criteria on the subject should be developed by ICAO	To note
Resolution 19/1 (19-2 to 19-4, WP/343 and Plenary Action Sheet No. 1) [A35-12]	Protection of the health of passengers and crews and prevention of the spread of communicable disease through international travel	States to be informed of the content of this Resolution and urged to implement existing SARP's related to the health of passengers and crews. Council, subsidiary bodies and the Secretary General to act in accordance with the relevant clauses of the Resolution.	ANC to monitor and present reports to Council as necessary.	Secretary General to: a) inform States of the content of the Resolution and draw their attention in particular to resolving clauses 1 and 5; b) urge States to implement existing SARP's related to passenger and crew health c) review existing SARP's related to passenger and crew health and develop new ICAO provisions as necessary; and	To note States: To implement existing SARP's related to passenger and crew health To note

EXECUTIVE COMMITTEE

Resolution ¹	Subject	Preliminary action approved by Council (C-WP/12316 Revised, C-DEC 173/1)	Suggested follow-up action		
			ANC	Secretary General	PIRGs/States
				d) develop SARPs to address contingency plans to prevent the spread of communicable diseases by air transport	To note
Resolution 19/2 (19-4, WP/343 and Plenary Action Sheet No.1) [A35-13]	Non-chemical aircraft disinsection of the cabin and flight deck for international passenger flights	Council, subsidiary bodies and the Secretary General to act in accordance with the relevant clauses of the Resolution.	ANC to monitor and present reports to Council as necessary.	Secretary General to: a) assist WHO in evaluating non-chemical approaches to aircraft disinsection; and b) encourage the exploration of non-chemical approaches to aircraft disinsection.	To note To note
Para 19:7 (19-2, WP/343)	Recommendation to adopt a harmonized contingency phased response plan to address any future recurrence of SARS or similar communicable diseases.	States to be informed of this recommendation and requested to adopt the contingency plan as appropriate.	ANC to monitor and present reports to Council as necessary.	Secretary General to: a) inform States of the recommendation; and b) urge States to adopt a contingency plan as appropriate.	To note States: To adopt a contingency plan as appropriate

TECHNICAL COMMITTEE

Resolution ¹	Subject	Preliminary action approved by Council (C-WP/12316 Revised, C-DEC 173/1)	Suggested follow-up action		
			ANC	Secretary General	PIRGs/States
Para 7:3 (7-1, WP/324)	Advanced surface movement guidance and control system (A-SMGCS): Implementation of surveillance and control requirements for European airports	Secretary General to encourage the use of the A-SMGCS manual for the implementation of surveillance and control function specifications and to support the use of the manual for the development of A-SMGCS procedures.	ANC to note.	Secretary General to inform States, drawing their attention to the Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual (Doc 9830) and encouraging them to take the guidance into account in the development of A-SMGCS procedures.	States: To take Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual (Doc 9830) into account in the development of A-SMGCS procedures
Resolution 22/1 (22-2, WP/330 and Plenary Action Sheet No.3) [A35-14]	Consolidated statement of continuing ICAO policies and associated practices related specifically to air navigation	States to be informed of amended Appendices A, H, M, N and O and requested to implement as appropriate. Council, subsidiary bodies and the Secretary General to act in accordance with the relevant clauses of the Resolution. Particular attention to be drawn to the amendments in Appendix A relating to the requirements for SARPs for complex aeronautical systems, the technical specifications necessary to achieve such requirements and related detailed technical specifications, and to the new resolving clause in Appendix N, stating that established ATS airspace should not be segmented for reasons other than technical, operational, safety and efficiency considerations.	ANC to: a) act in accordance with relevant clauses, with particular attention being given to ensuring compliance with the provisions of newly-amended Appendix A in the development of SARPs for complex aeronautical systems; and	Secretary General to inform States, drawing their attention to the amended appendices, particularly Appendices A and N, requesting that they note and implement as appropriate.	To note

TECHNICAL COMMITTEE

Resolution ¹	Subject	Preliminary action approved by Council (C-WP/12316 Revised, C-DEC 173/1)	Suggested follow-up action		
			ANC	Secretary General	PIRGs/States
Resolution 22/1 (22-2, WP/330 and Plenary Action Sheet No.3) [A35-14] (continued)			b)advise panels to comply with the provisions of newly-amended Appendix A in the development of SARPs for complex aeronautical systems, i.e. “core” SARPs consisting of broad, high-level requirements in Annexes; technical specifications in appendices to Annexes, which are to be limited to the extent possible and be supplemented, as necessary, with related detailed technical specifications in separate documents, published by ICAO or other organizations.		
Para 22:9 (22-29, WP/330)	Expansion of participation in the regional planning process	Council to explore the possibility of expanding the membership of PIRGs to include newly formed international organizations. Secretary General to ensure that the relevant expertise of the Organization is used to support the PIRGs, both technically and economically, in order to improve their capacity in planning for implementation of the regional air navigation infrastructure.	ANC to note.	Secretary General to: a) inform States about the decision of the Assembly and that of the Council on this subject; and	To note

TECHNICAL COMMITTEE

Resolution ¹	Subject	Preliminary action approved by Council (C-WP/12316 Revised, C-DEC 173/1)	Suggested follow-up action		
			ANC	Secretary General	PIRGs/States
Resolution 23/1 (23-1, WP/330 and Plenary Action Sheet No.3) [A35-15]	Consolidated statement of continuing ICAO policies and practices related to a global air traffic management (ATM) system and communication, and navigation surveillance/air traffic management (CNS/ATM) systems	States to be informed of amended appendix and requested to implement as appropriate. Council, subsidiary bodies and the Secretary General to act in accordance with the relevant clauses of the Resolution.	ANC to act in accordance with relevant clauses.	b) urge States to support PIRGs, both technically and economically, in order to improve their capacity in planning for implementation of regional air navigation infrastructure.	States: To support PIRGs, both technically and economically
Para. 23:5 (23-4, WP/330)	Joint AEFMP Plan	States to be informed of the need for ICAO to promote CNS/ATM cooperation among States and ICAO regions.		Secretary General to inform States of the need for ICAO to promote CNS/ATM cooperation among States and ICAO regions.	To note
Para. 23:6 (23-4, WP/330)	Air navigation services performance	Secretary General to prepare proposals for the Air Navigation Commission and the Air Transport Committee, to be presented in the first quarter of 2005, to convene a worldwide conference to address performance of the air navigation system.	Review proposal for the convening of a worldwide conference to address performance of the air navigation system and to take action as necessary.	Secretary General to take action as necessary to convene a worldwide conference to address performance of the air navigation system. This will include suitable proposals for the Air Navigation Commission and the Air Transport Committee, to be presented in the first quarter of 2005.	To note

Resolution¹	Subject	Preliminary action approved by Council (C-WP/12316 Revised, C-DEC 173/1)	Suggested follow-up action	PIRGs/States	
		Council	ANC	Secretary General	
Para 23:8 (23-5, WP/330)	Impact of the new CNS technologies on developing countries	Council, subsidiary bodies and Secretary General to follow guidance recommended by the Eleventh Air Navigation Conference for standardization of new technology systems. States to be encouraged to coordinate, through regional planning and implementation solutions groups (PIRGs), implementation based on the above principles and to consider cooperative efforts with other States for the provision of air traffic services based on the practices in Assembly Resolution A33-14, Appendix X.	In monitoring implementation of CNS/ATM systems and reviewing proposals for new CNS technologies, the ANC to: a) continue to accord high priority to developing a set of ATM functional and operating requirements for a global ATM system; and	Secretary General to: a) inform States, encouraging them to coordinate, through regional planning and implementation groups, the implementation solutions based on the principles endorsed at the Eleventh Air Navigation Conference and to consider cooperative efforts with other States for the provision of air traffic services based on the practices in Assembly Resolution A33-14, Appendix X; and	States: To coordinate, through PIRGS, implementation solutions based on the principles endorsed at AN-Confinf/11 and to consider cooperative efforts with other States for the provision of air traffic services
Para 23:8 (23-5, WP/330) (continued)			b) apply, as appropriate, the guidance recommended by the Eleventh Air Navigation Conference.	To note	
Para. 23:10 (23-6, WP/330)	Development of a global gate-to-gate safety assessment methodology	Council to review the GASP in the context of the proposed actions in A35-WP/220, and, where appropriate, prioritize and amend the programme.	See action concerning para. 23:6.	To note	
Para. 24:1.1 c) (24-1, WP/339)	ICAO Global Aviation Safety Plan (GASP)	States to be informed of the new GASP document and urged to support ICAO's efforts in accomplishing the GASP objectives and tasks.	Secretary General to: a) inform States of the new GASP document and urging them to assist ICAO in accomplishing the GASP objectives; and b) provide a progress report on GASP to future sessions of the Assembly.	To note To note	

TECHNICAL COMMITTEE

Resolution ¹	Subject	Preliminary action approved by Council (C-WP/12316 Revised, C-DEC 173/1)	Suggested follow-up action		
			ANC	Secretary General	PIRGs/States
Para. 24:1.2 a) and b) (24-1, WP/339)	Flight Data Analysis (FDA) programmes	ICAO to develop guidance material for Flight Data Analysis (FDA) programmes and examine the feasibility of lowering the mass limits for aircraft required to be covered by FDA programmes.	ANC to review the need for a change in the mass limits for aircraft required to be covered by the FDA programmes.	Secretary General to publish a revised edition of the Accident Prevention Manual, which will include guidance material on FDA programmes, as soon as possible.	To note
Resolution 24/1 (24-2, WP/339 and Plenary Action Sheet No. 3) [A35-16]	Taking due account of the evolution of specifications concerning flight data recording systems	ICAO to resume work on flight recorders as soon as possible using appropriate means. Council to report to the next session of the Assembly on the implementation of this Resolution.	ANC to review proposals to amend Annex 6 with respect to flight recorder provisions.	Secretary General to: a) resume work on the development of new flight recorder provisions once adequate resources have been obtained to undertake this task; and b) provide a report on the progress of this task to the next regular session of the Assembly.	To note To note
Para. 24:1.5 (24-2, WP/339)	A global model for the implementation of safety management in Air Traffic Management (ATM)	ICAO to foster uniform application of ICAO provisions for ATM safety management, and encourage informal regional and interregional groups to carry out complementary work. ICAO to convene a global meeting (see related action on paragraph 23:6), to adopt a standardized safety management model for States to use in the implementation of safety management systems.	ANC to review proposals to support uniform application of ICAO provisions for ATM safety management. See related action on paragraph 23:6 where the convening of a global meeting would be used to adopt a standardized safety management model for States to use in the implementation of safety management systems.	Secretary General to keep States informed of action taken by ICAO and encourage complementary work where necessary. See related action on paragraph 23:6 where the convening of a global meeting would be used to adopt a standardized safety management model for States to use in the implementation of safety management systems.	To note

TECHNICAL COMMITTEE

Resolution ¹	Subject	Preliminary action approved by Council (C-WP/12316 Revised, C-DEC 173/1)	Suggested follow-up action		
			ANC	Secretary General	PIRGs/States
Para. 24:1.6 (24-3, WP/339)	Common cruising level structure and global universal altitude measurement	States to be informed of the benefits to safety and efficiency if a common cruising level structure were adopted by all States, in accordance with the tables of cruising levels expressed in metres or feet, as outlined in Annex 2.	ANC to pursue, as a long-term goal, a single unit of altitude measurement.	Secretary General to inform States concerned, drawing their attention to the cost benefits to safety and efficiency if a common cruising level structure were adopted by all States, in accordance with the tables of cruising levels expressed in metres or feet, as outlined in Annex 2.	States: To note the cost benefits to safety and efficiency if a common cruising level structure were adopted by all States
Para. 24:1.7 a) and b) (24-3, WP/339)	Safety data collection and sharing	ICAO to develop provisions for the exchange of safety information derived from incident data, and to expand the scope of ICAO's safety data management in order to better manage threats to aviation safety.		Secretary General to: a) develop guidance material for inclusion in the Accident Prevention Manual on incident reporting systems (including the need for a non-punitive reporting environment), and the exchange of safety data; and b) progress the introduction of incident data into the ICAO safety data management system once suitable resources are available to undertake this task.	To note To note
Resolution 24/2 (24.1-1, WP/339 and Plenary Action Sheet No. 3) [A35-17]	Protecting information from safety data collection and processing systems in order to improve aviation safety	Council to develop legal guidance to assist States to enact national laws and regulations to protect safety information. Contracting States to examine and adjust their existing legislation to protect safety information. Council to report to the next ordinary session of the Assembly.	ANC to oversee the implementation of the Flight Safety and Human Factors Plan of Action 2005-2009 including the task on the development of guidance material on the protection of safety data.	Secretary General to: a) develop guidance material on the protection of safety data (Note: This task is included in the Flight Safety and Human Factors Plan of Action 2005-2009 already approved by the ANC (167-2); and	To note

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Resolution ¹	Subject	Preliminary action approved by Council (C-WP/12316 Revised, C-DEC 173/1)	Suggested follow-up action		
			ANC	Secretary General	PIRGs/States
				b) inform States, drawing their attention to Assembly Resolution A35-17.	To note
Para. 24.1:1.4 (24.1-2, WP/339)	Airport oversight safety	States to be invited to adopt regulations requiring the reporting of accidents and incidents occurring at airports to the appropriate authorities.		Secretary General to: a) draw the attention of States to the potential safety consequences of incidents and minor accidents to aircraft on airport ramp areas; and b) invite States to consider introducing requirements for the reporting of such occurrences to the appropriate authorities, including the airport operators concerned.	States: To note the potential safety consequences of incidents and minor accidents to aircraft on airport ramp areas States: To consider introducing requirements for the reporting of such occurrences to the appropriate authorities
Para. 24.2:1.4 (24.2-1, WP/339)	Implementation of APV operations	ICAO to accelerate the development of Standards and guidance material related to APV with a view to completion within two years. Secretary General to urge States to develop and implement APV procedures and to provide electronic terrain and obstacle data.	ANC to review proposals for amendment prepared by the Obstacle Clearance Panel (OCP) and take action as appropriate.	Secretary General to inform States and urge them to develop and implement APV procedures to replace non-precision approach procedures.	States: To develop and implement APV procedures to replace non-precision approach procedures

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Resolution ¹	Subject	Preliminary action approved by Council (C-WP/12316 Revised, C-DEC 173/1)	Suggested follow-up action		
			ANC	Secretary General	PIRGs/States
Para. 24.2:1.6 (24.2-1, WP/339)	ICAO programme for the prevention of controlled flight into terrain (CFIT)	Secretary General to urge States to implement CFIT prevention-related provisions, particularly equipage of GPWS having a forward-looking terrain avoidance function and installation of MSAW systems at airports.	ANC to monitor and present reports to Council as necessary.	Secretary General to inform States and urge them to implement CFIT prevention-related provisions.	States: To implement CFIT prevention-related provisions
Para. 24.3:1.3 (24.3-1, WP/339)	Report on main elements of the flight safety enhancement programme	Council to present a progress report to the next ordinary session of the Assembly.	ANC to monitor and present reports to Council as necessary.		To note
Para.25:7 (25-2, WP/339)	A global design code for aircraft	Secretary General to encourage States to identify and prioritize harmonization items of their design codes, and to invite greater participation in the harmonization process by manufacturing industry and airspace users, and promulgate those items to other Contracting States and ICAO. Secretary General to request States, based on their requirements and certification processes, to provide ICAO with common essential requirements that could be reflected in Annex 8, and/or guidance material, as a basis for a possible common certification process.	ANC to monitor and present reports to Council as necessary.	Secretary General to: a) inform States, encouraging them to participate in the activity; and b) request States to provide ICAO with requirements that could be reflected in Annex 8 and/or guidance material.	States: To participate in the activity States: to provide ICAO with requirements that could be reflected in Annex 8 and/or guidance material

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REPORT ON AGENDA ITEM 5: MIDDLE EAST AIR NAVIGATION PLAN ISSUES**5.1 AOP*****AOP SG/4 Meeting***

5.1.1 Under this Agenda Item, the meeting was provided with the outcome of the fourth meeting of the AOP Sub-Group, which was held in Cairo from 23 to 25 February 2004. It was also noted the follow up actions on the status of Conclusions/Decisions taken by MIDANPIRG/8 meeting in the AOP field.

Review of Decisions/Conclusions emanating from MIDANPIRG/8 Meeting (Cairo, 7-11 September 2003) in the AOP Field

5.1.2 The meeting noted the follow-up action taken by the MID Region States since MIDANPIRG/8 in the AOP field. It identified Conclusions/Decisions, which are still effective and urged all concerned States to take prompt action on outstanding issues, which have been identified. An update on the status of implementation is at Appendix 3A to the report on Agenda Item 3.

Updating “AOP 1 and CNS 3” Tables to the Draft Basic ANP and FASID Documents

5.1.3 The meeting was informed that the AOP SG/4 meeting had updated “AOP 1 and CNS3” Tables contained in the Draft Basic ANP and FASID Documents; and that pursuant to receiving more information from some MID States, further updates were carried out by MID Regional Office with reference to Draft MID Basic ANP and FASID – Part III - Aerodrome Operations (AOP) and Part IV – FASID Table CNS 3.

5.1.4 The meeting agreed that, a proposal for Amendment should be issued according to established procedures to reflect updates to AOP1 & CNS3 tables of MID FASID (Ref. Para. 5.6 Conc. 9/59 of the report on Agenda Item 5).

Follow up on elimination of deficiencies in the AOP field in the MID Region

5.1.5 The meeting urged all concerned States to take prompt remedial actions on elimination of identified deficiencies in the AOP field. An update on the status of implementation is at Appendix 6C to the report on Agenda Item 6.

Implementation of Certification of Aerodromes in the MID Region

5.1.6 The meeting noted the information contained in **Appendix 5A** to the report on Agenda Item 5 on the status of implementation of certification of aerodromes and safety management systems at aerodromes in accordance with Annex 14 Volume I – *Aerodrome Design and Operations* –Chapter 1, Section 1.4 and Doc 9774 - *Certification of Aerodromes*. The meeting expressed its concern regarding the slow rate of progress in the implementation of this requirement and accordingly formulated the following Conclusion:

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CONCLUSION 9/2: MANDATORY IMPLEMENTATION OF CERTIFICATION OF INTERNATIONAL AERODROMES

That, MID States:

- a) *having slow rate of progress or have not yet started the implementation of certification of aerodromes be urged to do so; and to provide information on their implementation plans for Certification of Aerodromes and actions already taken before 12 May 2005;*
- b) *be encouraged to exchange information and experience in implementing certification of aerodromes in the MID region and worldwide; and*
- c) *may seek assistance to implement their safety programmes to benefit from the ICAO Technical Cooperation Bureaux Programme if required.*

5.1.7 The meeting was informed that data at **Appendix 5A** to the report on Agenda Item 5 is the outcome of AOP SG/4 (February 2004), and that updates will be discussed during the next AOP SG/5, June 2005.

Implementation of Safety Management Systems at Aerodromes

5.1.8 The meeting was reminded of the timelines indicated in Annex 14, Vol. I, section 1.4 Para. 1.4.6 that; *a certified Aerodrome shall have in operation a Safety Management System by 24 November 2005*. The meeting retreated its high concern and requested ICAO to urgently develop guidance material on the implementation of SMS at aerodromes to assist them in meeting their responsibilities. The meeting was informed that ICAO HQ is considering this subject.

5.1.9 Following MIDANPIRG/8 *Conclusion 8/8:(b) Need for training of State aerodrome inspectors*; the meeting was briefed on the successful workshop on "Training of Aerodrome Inspectors", that was held in Cairo, 12-17 June 2004. The objective of the workshop was to assist MID States in training their Aerodrome Inspectors by providing guidance on regional training that would contribute to contracting States' safety oversight at aerodromes in accordance with ICAO requirements. The workshop was developed through a coordinated effort between UK CAA and ICAO.

Bird Strike Hazard reduction

5.1.10 The meeting was apprised on the results of a survey that had been conducted early 2004 on bird strike hazards on, or in the vicinity of airports in the MID region and IATA survey to assess bird strike hazard incidents in the MID Region for the year 2003.

5.1.11 The meeting was of the view that good reporting indicates the effectiveness of bird control programme and in some instances, may indicate problems at the site accordingly, States shall report all bird strikes to aircraft. Based on the foregoing the meeting accordingly formulated the following Conclusion:

CONCLUSION 9/3: REDUCTION OF BIRD STRIKE HAZARDS TO AIRCRAFT OPERATIONS ON OR IN THE VICINITY OF MID AIRPORTS

That,

- a) *an integrated approach be developed by State authorities to control Birds Hazards at airports; and*

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- b) operating agencies be urged to advise concerned States of bird strikes occurring or noticed on any of flight phases (especially in departure from airports).*

5.1.12 It was pointed out that Annex 15 does not specify any Section/Table of the AIP where the information related to certification of aerodromes should be published. The need for standard form of Bird TAM and guidelines for the automation of its process was also raised.

New Larger Aeroplanes (NLA)

5.1.13 The meeting recognized that in order to permit unrestricted operations and enhance aerodrome capacity, the level of aerodrome infrastructure must be at least equal to that specified in Annex 14, Volume I if not better. It was noted that some States might have some difficulty in complying with the Annex 14, Volume I requirements at their existing aerodromes before the anticipated entry of NLA into commercial service.

5.1.14 Brief information was presented on ICAO guidance material in the new Circular No. 305 on “*New Larger Aeroplane Operations at Existing Aerodromes*”, that has been developed with the main intent of bringing together in one document all the relevant issues of concern, with necessary cross references to the appropriate ICAO provisions to assist States in their efforts to develop their aerodromes appropriately.

5.1.15 The Circular provides guidance on conducting aeronautical studies, including the development of alternative measures, operational procedures and operating restrictions that could, while preserving safety, allow aerodromes not meeting the relevant Annex 14, Volume I, code F criteria to accommodate a specific NLA on an interim basis. It was stressed that States remain responsible for deciding what is acceptable as a measure, procedure or restriction. In this regard the meeting was informed that the Arabic Version of Circular 305 is now available and that an electronic copy of ICAO Circular No. 305 in English is made available to States’ Civil Aviation Authorities at www.icao.int/icaonet.

5.1.16 The meeting, in order to assist States in planning future developments in their aerodromes, was of the view to start immediately surveying the readiness of MID Aerodromes that are intended to accommodate NLAs. in one or more of their aerodromes as a Principle or an Alternate aerodrome. It was further agreed that a questionnaire as indicated in **Appendix 5B** to the report on Agenda Item 5 be circulated to all MID States and IATA and results to be discussed during next AOP SG/5 scheduled in Cairo from 6 to 8 June 2005. The meeting accordingly formulated the following Decision:

DECISION 9/4: CONDUCT A SURVEY ON THE READINESS OF MID AERODROMES TO ACCOMMODATE NEW LARGER AEROPLANES

That,

- a) A questionnaire be developed and circulated to all MID States and IATA, on the readiness of MID States accommodation of NLA operations at their existing aerodromes, as contained in **Appendix 5B** to the report on Agenda Item 5, and*
- b) Available responses to the questionnaire be analysed by next AOP SG/5 meeting.*

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Highlights on Aerodrome Safety Aspects**Runway Safety**

5.1.17 The meeting recalled that the 11th Air Navigation Conference, September 2003 had discussed Runway Safety issues and formulated Rec. 4/5 (*Runway Safety Programmes*). The meeting was also briefed on Rec. 4/7 (*Global Runway Incursion; Risk Management*).

5.1.18 The meeting was of the view that, protection of a runway from unauthorized entry was essential for safe and efficient operation of a runway and an aerodrome, and that reducing and eliminating aerodrome deficiencies through compliance with Annex 14, Volume I and guidance material contained Doc 9476; Manual of Surface Movement Guidance and control Systems (SMGCS) could be one of the runway protection measures. The meeting was also informed that an Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual (Doc 9830) was published by ICAO in 2004.

5.1.19 The meeting was apprised of the Seminar on “*Runway Safety and Air Traffic Services (ATS) Safety Management*” that was convened in Cairo, 15 to 19 December 2003 which was intended to familiarize aerodrome operators, air traffic services personnel, pilots and airlines officials in the MID region with ICAO provisions to reduce runway incursions and encourage the implementation of ATS safety management programmes in the MID region.

Control of Obstacles at and Around Aerodromes

5.1.20 The meeting noted that national governments generally have the basic authority and primary responsibility to establish national criteria for the limitation of obstacles and to provide guidance and assistance to those directly concerned with control of obstacles, and that obstacle limitation surfaces should be enacted in local zoning laws or ordinances or as part of a national planning consultation scheme.

5.1.21 The meeting agreed that natural features and manmade constructions inside and outside an aerodrome boundary may considerably influence its effective utilization. The meeting was of the opinion that, the surfaces established should allow not only for existing operations but also for the future operations envisaged for each aerodrome, thereby, minimizing future penetrations of obstacle limitation surfaces. The meeting was of the view that Control of obstacles in the vicinity of aerodromes is a matter of concern to national governments, local communities, property owners, CAAs and airport operators and that a high degree of cooperation among government and local authorities, airport operators and property owners is required to control obstacles and to provide a safe environment for efficient operation of aircraft at airports. Accordingly, the meeting formulated the following Conclusion:

CONCLUSION 9/5: CONTROL OF OBSTACLES AT AND AROUND AERODROMES

That, MID States be urged to:

- a) *comply with ICAO Annex 14 and associated documents (relevant Annexes, PANS-OPS, Guidance Manuals,...etc) governing the control of obstacles at and around aerodromes;*
- b) *apprise relevant national authorities of the importance of coordinating with CAAs/Airport Operators, the control of construction heights at and around airports for safe operations of aircraft as per ICAO specifications and national regulations; and*

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- c) *extend every national efforts to develop necessary measures including legislations to expedite the implementation of Annex 14 provisions and other related ICAO specifications.*

Notification of Differences to Annex 14, Volume

5.1.22 The meeting noted with concern that the reporting of differences by States was not entirely satisfactory. In this regard the meeting noted the guidance material on determination and reporting of differences from ICAO Standards and Recommended Practices (SARPs) in compliance with Article 38 of Chicago Convention and the instructions of ICAO Council.

5.2 ATM/SAR/AIS

5.2.1 The meeting was informed of the endorsement of the global ATM operational concept by the Eleventh Air Navigation Conference (AN-Conf/11-Doc 9828) and the revised consolidated statement of ICAO policies and practices related to a global air traffic management (ATM) system and communications, navigation and surveillance/air traffic management (CNS/ATM) systems by the 35th Session of the Assembly. The meeting pointed out that the Global ATM Operational concept will serve as the common framework to guide planning and implementation of CNS/ATM systems and that ICAO, States and PIRGs should develop transition strategies based on the concept.

5.2.2 The meeting was apprised of progress achieved within the framework of the different Sub-Groups and Task Forces established by MIDANPIRG, for ensuring the evolutionary implementation of different elements of the CNS/ATM systems in the MID Region. It accordingly reviewed and endorsed draft conclusions and decisions emanating from the report of the Seventh meeting of the ATM/SAR/AIS Sub-Group (ATM/SAR/AIS SG/7) which was held in Cairo from 11 to 14 October 2004. It was noted that the ATM/SAR/AIS SG/7 meeting report contains the reviewed and consolidated list of draft conclusions/decisions emanating from the Seventh meeting of the RNP/RNAV Task Force (RNP/RNAV TF/7), Eleventh meeting of the RVSM Task Force (RVSM TF/11), the Third meeting of the ATS Incident Analysis Task Force and the second meeting of the AIS/MAP Task Force.

5.2.3 The meeting also considered other regional initiatives by States and the ICAO Regional Office on issues likely to have an impact on the safety, efficiency and regularity of air navigation in the region. The following issues were addressed:

- ATS route requirements in the MID Region
- RNP/RNAV
- RVSM
- ATS operational aspects
- Regional ATS Incident Analysis
- Allocation of ICAO five-letter name-code designators (5LNCDs)
- SSR code allotment in the MID Region
- Fuel conservation measures
- Consolidated list of amended Conclusions/Decisions of previous MIDANPIRG meetings
- Status of implementation of Search and Rescue (SAR) provisions

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ATS Route Requirements in the MID Region

5.2.4 The meeting was informed that, due to urgent operational requirements, in particular, the implementation/post implementation of RVSM, States had to take proactive measures for the realignment, implementation and review of some strategic ATS routes in the region with a view to ensure continued adherence to the operational concept forming the basis for MID RVSM implementation and that the established target level of safety is not infringed.

5.2.5 It also noted that a major review of the ATS route network has also been carried out within Baghdad FIR. This would enable the creation of a parallel unidirectional trunk route within the Baghdad FIR for the channelling of long-haul flights to/from Asia and Europe. The meeting expressed its appreciation to regional initiatives by States for assisting Iraq in the process.

5.2.6 It was also noted that, inconsistencies were identified during an interface meeting between the AFI and MID Regions (Nairobi, 30/11-3/12/2004), regarding ATS route designators and harmonization between the two regions.

5.2.7 In view of the foregoing, a proposal for an amendment to the MID Basic Air Navigation Plan- Serial No. MID 05/01 ATS dated 17 February 2005, has been initiated by the Secretariat and it includes all the changes which have already been carried out by States and other operational requirements identified within the framework of the Seventh meeting of the ATM/SAR/AIS Sub-Group.

RNP/RNAV Implementation Strategy

5.2.8 In order to ensure global consistency in the terms being used for indicating RNP and RNAV and on the basis of guidelines associated with concepts, terminology and definitions with RNP naming provided by the Secretariat, the meeting agreed that the term "Precision Area Navigation (P-RNAV)" will be replaced by "Terminal Area Navigation (T-RNAV)" and in the MID Region, RNP 5 will have to be replaced by "B-RNAV". The meeting was apprised of the guidelines provided by the Secretariat and agreed that States consider these guidelines until amendment proposals to relevant ICAO provisions are accomplished and applicable. It also noted that the secretariat, has already taken proactive measures to reflect the above changes in the reports emanating from the ATM/SAR/AIS Sub-Group.

5.2.9 In view of the foregoing, the meeting reviewed and endorsed the following Conclusions:

CONCLUSION 9/6: 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) Where feasible, the MID Region will consider the establishment of RNAV/RNP areas instead of RNP/RNAV routes with a view to make maximum flexible use of 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, if practicable, in lieu of the present bi-directional routing network with a view to introduce parallel/flexible routes in an B-RNAV environment;*

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- d) *plan for a smooth transition towards satellite-based air navigation taking into consideration the requirements of the Global CNS/ATM Implementation Plan; and*
- e) *the military authorities be involved in the planning process.*

CONCLUSION 9/7: IMPLEMENTATION OF T-RNAV

That, taking into account the fact that regulatory criteria, along with guidance on procedure and airspace design, ATC training material and information material for various categories of operational staff has been issued in the European Region:

- a) *MID States are encouraged to introduce airworthiness and operational approval criteria equivalent to JAA TGL-10 in order that MID-based operators can benefit from T-RNAV procedures currently being implemented in Europe;*
- b) *MID Regional Supplementary Procedures be updated to encompass provisions for introduction of T-RNAV. This provision be framed in such a manner that States may proceed with implementation at a time and manner suited to their prevailing requirements;*
- c) *MID States intending to implement T-RNAV provide prior notice through an Aeronautical Information Circular setting out the aircraft and operational approval criteria, RNAV procedure design principles and ATC operational procedures; and*
- d) *operators be consulted and given the longest possible lead time when T-RNAV is to be implemented.*

5.2.10 The meeting also recalled the requirements for the implementation of safety management programmes (SMS) in the MID Region which was endorsed by MIDANPIRG/8 meeting and the need for the introduction of effective safety management programmes by all States as highlighted by the 11th Air Navigation Conference. Taking into account the fact that MECMA is no longer supporting the activities of the MID RMA with effect from 1 June 2004, it accordingly amended/adjusted the conclusion endorsed by MIDANPIRG/8 as follows:

CONCLUSION 9/8: IMPLEMENTATION OF THE ATS SAFETY MANAGEMENT PROGRAMMES IN THE MID REGION

That,

- a) *in accordance with the provisions of Annex 11(Chapter 2 paragraph 2.26), States shall implement systematic and appropriate ATS safety management programme (SMS) with a view to ensure that:*
 - i) *the established level of safety applicable to the provision of ATS within an airspace or at an aerodrome is met; and*
 - ii) *safety-related enhancements be implemented whenever necessary;*
- b) *with a view to ensure that the activities necessary for the implementation of safety management programmes be carried out in a timely manner, adequate budgetary provisions be made;*

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- c) *sustained cooperation and co-ordination with adjacent States/service providers be made in the process; and*
- d) *States explore ways and means of establishing a mechanism for setting up the standards, monitoring requirements and criteria for the regional implementation of ATS safety management programmes.*

5.2.11 The meeting also noted with appreciation the methodology used in Saudi Arabia for the establishment of ATS safety management programme. However, it recalled that guidance on the establishment of safety management programmes is already available in the Draft Manual on Safety Management for Air Traffic Services which was endorsed by the 11th Air Navigation Conference (AN-Conf/11) and was of the view that the matter be addressed by the ATM/SAR/AIS Sub-Group.

5.2.12 The meeting noted that the ATM/SAR/AIS SG/7 expressed its appreciation to the Middle East Central Monitoring Agency (MECMA) for carrying out safety assessments regarding implementation/post-implementation of RNP 5 in the MID Region. It endorsed the view that, taking into account the number of flights which have been monitored, the region has gained enough confidence on the reliability/maturity of the system established, the monitoring mechanism may be discontinued. It accordingly endorsed the following Conclusion:

CONCLUSION 9/9: MONITORING REQUIREMENTS IN RESPECT OF B-RNAV

That,

- a) *taking into account, conclusive reports indicating that the region has gained enough confidence on the reliability/maturity of the system established for the safe implementation and post-implementation of B-RNAV in the MID region, the monitoring mechanism as established by MECMA be discontinued; and*
- b) *the discontinuation of the monitoring mechanism for RNP5/B-RNAV does not absolve States of their responsibilities in ensuring that, within the framework of safety management programmes, appropriate measures are taken for ensuring that:*
 - i) *the agreed level of safety is met and continues to be met; and*
 - ii) *prompt remedial actions be taken in case any adverse trend is noted.*

5.2.13 The meeting also recognized the requirement for the establishment of RNAV SIDs and STARs in the region and accordingly endorsed the following Conclusion:

CONCLUSION 9/10: ESTABLISHMENT OF RNAV SIDs AND STARs IN THE MID REGION

That, in accordance with the requirements of the MID CNS/ATM implementation plan, States develop RNAV SIDs and STARs.

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Implementation of RVSM in the MID Region

Monitoring requirements

5.2.14 The meeting was informed of the requirements for system performance monitoring to ensure that implementation and continued operation of RVSM meets the safety objectives. It was emphasized that the objectives for aircraft height-keeping performance stated in Doc 9574 are applicable to both the pre- and post-implementation phases. In general, however, evidence of Altimetry System Error (ASE) stability would not normally be expected to be a product of the pre-implementation phase monitoring, as this is a long-term consideration.

5.2.15 The continued requirement for *Initial Monitoring* as new operators are formed within the region or extra-regional operators without RVSM experience wish to commence operations into MID RVSM airspace was highlighted. It was agreed that, all new operators that intend to operate in the airspace where RVSM is applied are required to participate in the monitoring programme.

5.2.16 The meeting recalled that ICAO Council adopted on 2 March 2005, Amendment 43 to Annex 11 (State Letter Ref. AN 13/13.1-05/37 dated 24 March 2005), Amendment 29 to Annex 6 Part I (State Letter Ref. AN 11/1.3.18-05/28 dated 24 March 2005) and Amendment 24 to Annex 6 Part II (State Letter Ref. AN 11/6.3.18-05/29 dated 24 March 2005), which will become applicable on **24 November 2005** and include inter-alia provisions related to height-keeping performance and height-monitoring requirements associated with reduced vertical separation. The same height-keeping performance criteria to be applicable on a global basis when issuing approvals have been agreed upon with a view to ensure standardization.

Re-establishment and management of the “MID RMA”

5.2.17 The meeting recalled that the overall responsibility for deciding that RVSM should be implemented and continued rests with MIDANPIRG. The need for clear directives and orientations to the region, by MIDANPIRG and the firm commitment of States and users to support the activities of the Middle East Regional Monitoring Agency (MID RMA) for the safe operation of RVSM in the region was emphasized. The meeting noted with concern that, unless a concrete action plan is developed and the MID RMA is re-established in time, in the interest of safety, the withdrawal of RVSM operations from the MID Region would be considered by ICAO.

5.2.18 The meeting thus reiterated the urgent need for the establishment of a MID RMA in order to take over RVSM related duties and responsibilities as specified in the RMA Handbook and the RVSM Manual (Doc 9574- AN/934). However, the requirement for outside expertise and support from other RMAs (EUROCONTROL and FAA) was recognized.

5.2.19 States indicated their willingness to contribute towards the technical and operational share for the funding of the MID RMA. IATA also indicated its willingness to explore possibilities of contributing and assisting States in the establishment and operation of the MID RMA. It was also clarified that no commitment on the funding modalities has been agreed by MIDANPIRG/9 meeting. The funding mechanism, modalities and organizational structure and the availability of funds which represent the cornerstone of the whole process, will be addressed during the MID RMA meeting (June 2005).

5.2.20 In view of the foregoing, the meeting endorsed:

- the Action Plan for the set up of the MID RMA at **Appendix 5C**;
- the revised duties and responsibilities of the MID RMA at **Appendix 5D**; and

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- some guiding principles addressing the scope, administrative arrangements, and methodology of the MID RMA as shown at **Appendix 5E**.

5.2.21 Based on the foregoing, the meeting accordingly adopted the following Conclusions with the understanding that a new mechanism (MID RMA) will be established to take over the duties and responsibilities from MECMA:

CONCLUSION 9/11: REQUIREMENTS FOR MONITORING

That,

- a) *operators having met the monitoring requirements as tabulated in **Appendix 5F** to the report on Agenda Item 5 for a given fleet/type of aircraft will be accepted as having satisfied the requirements for the Middle East Region. In case of Middle East operators, documentation for monitoring shall be provided to the MID Regional Monitoring Agency;*
- b) *for non-MID operators, about whose approval status doubt exist, documentation for monitoring shall be provided to the Regional Monitoring Agency; and*
- c) *the Regional Monitoring Agency will update the table in the light of data and experience gained in other Regions.*

CONCLUSION 9/12: MONITORING OF SAFETY IN THE MID REGION

That,

- a) *having considered the requirements set out in Annex 11, Doc 9574, Doc 9613, the draft SMS manual for ATS and the draft RMA Handbook, concerning various forms of monitoring, namely:*
 - i) *system performance monitoring is necessary to ensure that the implementation and continued operation of RVSM meet the safety objectives;*
 - ii) *navigation performance monitoring is required to ensure safety objectives are met in the implementation and continued operation of RNP/RNAV; and*
 - iii) *States are required to carry out continuous monitoring and regular assessment of the safety level achieved in conjunction with implementation of ATS safety management (SMS).*
- b) *noting ICAO policy that States be assisted in meeting their responsibilities based, on or related to, monitoring and assessment by a regional monitoring agency (RMA), whose tasking, inter alia, shall include collection and analysis and compilation of data necessary for identification of hazards and trends in safety; and*
- c) *safety-related requirements be addressed through establishment of an RMA with personnel possessing the technical skills and experience required to carry out the main functions summarized under items i) through iii) above.*

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CONCLUSION 9/13: MID REGIONAL MONITORING AGENCY (MID RMA) RE-ESTABLISHMENT

That, taking into account the urgency of the matter and with the firm commitment of all MID Region States:

- a) *the MID Regional Monitoring Agency (MID RMA) be re-established for carrying out RVSM and eventually, RNP and RNAV related duties and responsibilities in the MID Region;*
- b) *the MID RMA is to be operational as soon as possible; and*
- c) *the Action Plan for the setting up of the MID RMA, the revised duties and responsibilities and guiding principles are at **Appendices 5C, 5D, and 5E**, to the Report on Agenda Item 5.*

Note: Appendices in item c) above are not yet finalized. They are subject to further changes, pending the agreement on funding mechanism, modalities and organizational structure.

ATS Operational Aspects

Proper Handling of Flight Plans

5.2.22 The meeting noted the concerns of the users regarding delays in the processing/transmission of flight plans and highlighted that there is an urgent need to ensure that flight plans are properly filed and transmitted over the AFTN. Indications are that most of the time the problem is related to human factors, where improper addressees are being typed or typing errors at the level of manual processing systems, resulting in rejection of the flight plan at the level of automated systems.

5.2.23 The meeting was also informed that some FDPS systems, outside the MID Region, cannot accept more than 7 to 8 characters in item 10 of the flight plan and RVSM status, letter **W** is often truncated. This results in treating those flights as non-RVSM approved in the MID Region and, as a consequence, aircraft are instructed to descent below RVSM flight levels.

Apparent False filings- Update from MECMA

5.2.24 The meeting noted that in the absence of queries from the States, MECMA carried out a check of flight plans for flights within the Emirates FIR (OMAE) with the "W" capability indicator in Item 10 against the RVSM approvals registry. The survey encompasses 67,687 flights, of which 2,161 (3.19%) could not be confirmed as being RVSM-approved based on the contents of the RVSM registry. This percentage is ten times higher than that obtained through a similar survey in the European Region after the first few months of RVSM operations and casts serious doubts on the safety assurance measures associated with MID RVSM.

5.2.25 The meeting noted the concerns of the ATM/SAR/AIS Sub-Group and the 11th meeting of the RVSM Task Force that, either the RVSM approvals registry is incomplete, resulting in flights being included in the list, although operator and aircraft actually are approved; or *operators are erroneously filing flight plans with the RVSM qualifier "W" in item 10.*

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5.2.26 It was noted that 82% of the 2,161 flights being listed as having falsely filed flight plans as being RVSM compliant were operated by agencies registered in States cognizant to other RMAs. As a result of the survey carried out by MECMA which was exchanging data with other RMAs on a regular basis, this type of discrepancies indicate a more widespread problem and it reveals a widespread lack of adherence to ICAO standards and procedures, manifested in:

- late filing of FPL
- no filing of FPL
- use of incorrect aircraft type designators
- incorrect procedures for filing of changes to FPL
- duplicate filing of FPL
- incorrect addressing of FPL
- lack of compliance with ICAO Doc 4444 and Doc 7910 procedures

5.2.27 These deficiencies are hampering ATC units in carrying out their tasks of ensuring that correct separation minima are applied within RVSM airspace. It is clear that serious questions exist with regards to the integrity of the basis upon which access to RVSM airspace is granted. However, the effectiveness of this process hinges on several conditions.

5.2.28 The meeting agreed that, to the extent that queries are not resolved with conclusive and positive responses, it is essential that flights by operators, for which doubt exists, be excluded from access to RVSM airspace.

5.2.28.1 MIDANPIRG noted the concerns of IATA and some States indicating that the systematic refusal by some FIRs/Centres to accept RVSM approved flights from adjacent FIRs to operate within the RVSM level band, when the flight plans have not been received or properly filed. In accordance with established procedures, aircraft are thus required to operate at non-RVSM flight levels.

5.2.28.2 It also agreed that, taking into account the economic impact on RVSM approved flights from adjacent FIRs which are being requested to operate at non-RVSM levels due to improper filing/handling of flight plans, concerned FIRs/Centres be invited to consider the plea from IATA and some MID Region States requesting more flexibility in handling such flights. The meeting recognized the importance of proper filing and timely receipt of flight plans. However, it urged concerned States to address the matter on a bilateral basis and develop appropriate procedures for the mitigation of the problem.

Follow-up by the CNS/ATM/IC SG/2 Meeting

5.2.29 MIDANPIRG noted that problems associated with proper handling/processing of flight plans was also raised and considered by the CNS/ATM/IC SG/2 meeting and agreed that ICAO in coordination with IATA and concerned States carry out a survey on the inconsistencies related to the dissemination of ATS messages in the MID Region. Accordingly, the meeting endorsed the proposed methodology to be used for the elimination or mitigation of problems associated with multiple repetitions and non-receipt of ATS messages, as indicated in **Appendix 5G** to the report on Agenda Item 5. The meeting agreed with the concept that the establishment of an Integrated Initial Flight Plan Processing System (IFPS) in the MID Region would help to resolve significantly the problems associated with multiple repetitions and/or non-receipt of ATS messages. In the meantime, the meeting agreed on the following concrete measures:

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- a) All en-route addresses be standardized and those required in the relevant Flight Data Processing System be made available to all ATC Units so that FPLs can be addressed to them.
- b) Flight Data Processing Systems be able to process all FPL items in accordance with Doc. 4444 procedures.
- c) Encourage the automated filling of FPLs.
- d) ICAO MID Regional Office to inform adjacent regions about problems associated with the omission of the letter "W" in FPL item 10 and/or non-reception of FPLs.

5.2.30 Based on the above, the meeting endorsed the following Conclusions:

CONCLUSION 9/14: PROVISION OF UP-TO-DATE INFORMATION TO THE MID RVSM APPROVALS REGISTRY

That,

- a) *considering the requirement for a correct and up-to-date registry of RVSM approvals of operators and aircraft in the on-going safety efforts related to RVSM operations within the Middle East Region; States are reminded to provide to the MID RMA* regular updates to the regional database of operator and aircraft approvals; and*
- b) *Until the MID RMA* is established and becomes functional, States forward to the ICAO Regional Office any relevant information likely to have a negative impact on the safety of air navigation in the Region.*

** MID RMA to be established*

CONCLUSION 9/15: EXCLUSION FROM MID RVSM AIRSPACE OF AIRCRAFT AND OPERATORS NOT REGISTERED AS BEING RVSM APPROVED

That, considering the on-going requirement for safety assurance related to RVSM operations within the Middle East Region:

- a) *operators for whom positive approval data has not been received, be excluded from MID RVSM airspace with immediate effect until approval status, supported by data from an approved monitoring service provider, has been received;*
- b) *MID RVSM provider States, States of Registry and adjacent RMAs be informed about the exclusion; and*
- c) *Taking into account the economic impact on RVSM approved flights from adjacent FIRs which are being systematically excluded from the RVSM airspace as a result of non receipt or improper filing of flight plans, concerned FIRs/Centres be invited to consider the matter on a bilateral basis.*

**CONCLUSION 9/16: REGION-WIDE TRAFFIC SAMPLE AS BASIS FOR FOLLOW-UP
AGAINST INCORRECT FLIGHT PLAN FILING**

That, considering the need to identify operators who are filing flight plans incorrectly indicating RVSM approval status, traffic samples from all MID RVSM States will be required as the basis for a survey and regulatory action against fraudulent filing of flight plans.

**CONCLUSION 9/17: METHODOLOGY TO ERADICATE MULTIPLE REPETITIONS
AND NON-RECEIPT OF ATS MESSAGES**

*That, the MID Region adopts the working methodology as described in **Appendix 5G** to the report on Agenda Item 5 in order to identify and remedy the inconsistencies related to the multiple repetitions and non-receipt of ATS messages.*

**CONCLUSION 9/18: ESTABLISHMENT OF AN INTEGRATED INITIAL FPL
PROCESSING SYSTEM (IFPS) IN THE MID REGION**

That,

- a) the concept of establishment of an Integrated Initial Flight Plan Processing System (IFPS) in the MID Region is supported by MID States; and*
- b) a feasibility study for the Implementation of an IFPS in the MID Region be carried out.*

Note: this study will be led by Bahrain with the cooperation of all concerned parties, in coordination with ICAO.

Regional ATS Analysis**ATS Incident Analysis**

5.2.31 The meeting recalled that the Air Navigation Commission welcomed MIDANPIRG's initiative in addressing the need for analysis of ATS incidents at the regional level (Conclusion 8/15 refers). However, noting that the methodology for the submission and processing of ATS incident reports calls for the submission to IATA and the ICAO Regional Office in Cairo and not to the service provider, clarification was sought on the relationship of the proposed procedure to the existing Standards and Recommended practices (SARPs) in Annex 13-Aircraft Accident and Incident Investigation and Procedures for Air Navigation Services-Air Traffic Management (PANS-ATM, Doc 4444) relating to reporting of ATS incidents.

5.2.32 The meeting was informed that in view of the foregoing, the ATM/SAR/AIS SG/7 noted that the ATS Incident Analysis TF/3 (Cairo, 10 October 2004) had accordingly reviewed the methodology which was adopted with a view to allay concerns of any misinterpretations to ICAO provisions.

5.2.33 Notwithstanding the above, it was however, pointed out that although simplified reporting forms and methodology for reporting of incidents were developed, very few incident reports were forwarded to consolidate the IATA database and the objectives of the Task Force were far from being met.

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5.2.34 It was clarified that within the framework of safety management programmes many States have already instituted procedures for the gathering of ATS incident reports and a non-punitive reporting system of reporting has also been established.

5.2.35 Taking into account the lack of interest showed by States in providing comprehensive data on ATS incidents, it was noted that the ATM/SAR/AIS Sub-Group even questioned the rationale behind the existence of the ATS Incident Analysis Task Force and was of the view that the Task Force be discontinued. It was however agreed that ATS incident trends be instead addressed within the framework of the ATM/SAR/AIS Sub-Group.

5.2.36 Based on the foregoing, MIDANPIRG/9 accordingly endorsed the following Conclusion emanating from the ATM/SAR/AIS Sub-Group:

CONCLUSION 9/19: REPORTING OF ATS INCIDENTS

That,

- a) *reporting of incidents/accidents will be in accordance with provisions of Annex 13-Aircraft Accident and Incident Investigation and Procedures for Air Navigation Services-Air Traffic Management (PANS-ATM, Doc 4444); and*
- b) *States share information on ATM accidents and incidents.*

DECISION 9/20: DISCONTINUATION OF THE ATS INCIDENT ANALYSIS TASK FORCE

That, in view of the lack of support and enthusiasm from States to provide relevant and comprehensive data on ATS Incidents in the region:

- a) *MIDANPIRG dissolves the ATS Incident Analysis Task Force;*
- b) *the ATM/SAR/AIS Sub-Group be requested to follow-up on the ATS incident trends in the region and its impact on safety of air navigation; and*
- c) *IATA continues to update the ATM/SAR/AIS Sub-Group on ATS incident trends noted within the framework of its safety enhancement mechanisms.*

Allocation of Five-letter Name-code Designators (5LNCDs)

5.2.37 The meeting recalled that the need to facilitate the transfer and allocation of five-letter name-codes for the designation of reporting points was recognized by MIDANPIRG and under Decision 8/11 the Secretariat was requested to coordinate with the ICAO Paris Office to enable the MID Region to use the ICAO Five-Letter Name Codes and Route Designator (ICARD) System being hosted by EUROCONTROL.

5.2.38 The meeting was informed that the Secretariat has accordingly finalized the document which is now available in the EUROCONTROL database and can be accessed on the web at <http://www.eucontrol.int/icard>.

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5.2.39 States/airspace managers will have coded access to select name-codes from the MID list and approval request for transfer will be submitted either to the ICAO Paris or Cairo Offices who will jointly act as database managers. States are also invited to highlight any discrepancy they notice in the database recognizing that the master document has been hand amended for the last 30 years. The meeting noted that with a view to assist States in accessing the database and reserving 5LNCDs, the ICAO EUR/NAT Office has graciously sent one Technical Assistant (ATM) who is also the database manager for the EUR Region, to assist MID Region airspace planners/ States on how to access and use the database.

5.2.40 The meeting also expressed its appreciation to the ICAO Secretariat for the finalization of the web version of the document and to the ICAO Paris Office for their sustained support in the process. It also thanked EUROCONTROL for hosting and managing the database for the MID Region and reiterated that the spirit of cooperation which has always prevailed between the MID Region States and EUROCONTROL cannot be over-emphasized.

Secondary Surveillance Radar (SSR) Code Allocation Plan (CAP) for the MID Region

5.2.41 The meeting recalled that the Secondary Surveillance Radar (SSR) Code Allocation Plan (CAP) for the MID Region was established by the MID/3 RAN meeting in 1984. The Plan was further reviewed by MIDANPIRG/2 meeting (Cairo, 22-26 May 1995) and was endorsed by the LIM MID RAN (COM/MET/RAC) Meeting in 1996 under *Recommendation 2/30: SSR Code Allotment Plan for the Middle East*.

5.2.42 It was noted that the assignment of SSR in Europe is being addressed within the framework of the Originating Region Code Assignment Method (ORCAM) Users Group. Taking into account the significant increase of traffic, a serious potential shortage of codes has been already identified in the European Region and the ORCAM Users Group meeting, to which the ICAO Middle East Region also participates, is exploring ways and means of finding acceptable solutions to overcome this problem.

5.2.43 In this regard, several options are being considered, including the establishment of a Centralized SSR Code Assignment and Management System, the possibility of extending some EUR participating areas (PA) to cover adjacent States in the AFI and the MID Regions or to conclude bilateral agreements. It is projected that, without strong corrective measures, aircraft will soon be held on ground at some European airports due to the non-availability of SSR codes. Indications are that, even in the Mode S environment (2007-2012), some States will continue to keep the Mode A/3 SSR codes.

5.2.44 The meeting noted that in accordance with established procedures, the ICAO MID Regional Office has been assigning codes to MID Region States upon request from the list of SSR codes which have been assigned to the MID Region. It was however emphasized that taking into account the sustained traffic growth in the region, the assignment of codes has to be properly managed/handled. Otherwise, the Region may soon face the same shortage of codes as being experienced in Europe. The meeting also noted that some States have reserved/taken unilaterally a significant number of codes for domestic purposes from the MID list.

5.2.45 The meeting noted that the Secretariat has amended the MID FASID Document in order to align it with the implementation status in the region and has also carried out slight changes to inconsistencies which were identified in the table.

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5.2.46 Based on the foregoing the meeting formulated the following Decision:

DECISION 9/21: ASSIGNMENT OF SSR CODES IN THE MID REGION

That,

- a) *the updated list of SSR codes assignment system for domestic and transit purposes for the MID Region indicated at **Appendix 5H** to the report on Agenda Item 5 replaces the existing requirements indicated in the MID FASID Document; and*
- b) *taking into account acute shortage of SSR codes being experienced in adjacent Participating Areas (PAs) and the sustained traffic growth in the MID Region, the ATM/SAR/AIS Sub-Group reviews, as appropriate, the allocation of SSR codes in the region in order to ensure that the requirements of all FIRs/ACCs continue to be met.*

Fuel conservation measures proposed by IATA

5.2.47 The meeting noted that with the drastic increase in oil prices and its consequent serious financial impact on air transportation, IATA had to launch a Fuel Savings Action Group that is reviewing every aspect of airline operations and compiled industry best practices with a view to improve existing fuel conservation measures. In view of the foregoing, IATA urged States and MIDANPIRG subsidiary bodies to urgently consider areas in their respective airspace and ATS operations where fuel efficiencies can be gained.

Consolidated list of Conclusions/Decisions emanating from previous MIDANPIRG meeting concerning the ATM field

5.2.48 As a follow-up to the MMS/2 meeting recommendations and taking into account the fact the MECMA is no longer supporting the monitoring activities in the MID Region, and changes which have been introduced regarding B-RNAV and T-RNAV, the Secretariat has consolidated with slight amendments the following Conclusions/Decisions of MIDANPIRG. The meeting accordingly endorsed the following Conclusions:

CONCLUSION 9/22: AIRWORTHINESS AND OPERATIONAL APPROVAL FOR B-RNAV, RNP 10 AND RVSM OPERATIONS IN THE MID REGION

That, with a view to facilitate and harmonize the airworthiness and operational approvals procedures for B-RNAV, RNP 10 and RVSM 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 B-RNAV 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; and*

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- c) *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 be adopted.*

CONCLUSION 9/23: DATA FOR SUSTAINED SAFETY ASSURANCE OF RNP AND RVSM WITHIN THE MID REGION

That, considering the on-going requirement for safety assurance related to RVSM and RNP operations within the Middle East Region,

- a) *all States report data and incidents necessary for performing collision risk calculations required for sustained safe RVSM operations to the MID RMA*. The data will include, but not necessarily be limited to:*
- i) assigned altitude deviations of 300 ft or more (monthly);*
 - ii) total number of IFR movements (monthly);*
 - iii) average time per movement spent in the level band FL290 - FL410;*
 - iv) ATC/ATC coordination failures (monthly); and*
 - v) traffic data (as requested by the MID RMA)*;*
- b) *monitoring States report navigational errors and traffic data in accordance with the Letter of Agreement concerning monitoring associated with RNP;*
- c) *air operators maintain procedures for reporting of turbulence;*
- d) *States report data on approval of operators and aircraft for RVSM operations (monthly); and*
- e) *the MID RMA* ensures that further processing and evaluation of this data within its Terms of Reference and identifies or develops methodologies for assessing risk associated with operational procedures prevailing within the MID Region.*

** MID RMA to be established*

Note: Until the MID RMA is established, States forward to the ICAO MID Regional Office any relevant information likely to have a negative impact on the safe operations of RNP and RVSM in the region.

Status of Implementation of Search and Rescue (SAR) Provisions

5.2.49 The meeting recalled that the basic principles, operational requirements and planning criteria related to search and rescue services, have been developed for the MID Region. It was pointed out that these requirements are considered as the minimum necessary for effective planning of SAR facilities and services and are 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 are indicated in the SAR Part of the Facilities and Services Implementation (FASID) Document.

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5.2.50 To this effect, States were requested to complete the forms highlighting the status of implementation of SAR provisions indicated in the MID FASID Document. The updated list indicating the status of implementation of SAR provisions in the MID Region is at **Appendix 5I** to the report on Agenda Item 5. The meeting accordingly reinstated with slight modifications MIDANPIRG/7 meeting Decision 7/23 as follows:

DECISION 9/24: STATUS OF IMPLEMENTATION OF ICAO REQUIREMENTS IN THE SEARCH AND RESCUE FIELDS

That,

- a) *the Secretariat, in consultation with concerned States, regularly updates the status of implementation of Search and Rescue provisions as indicated in the MID Basic Air Navigation Plan; and*
- b) *the updated list indicating the status of implementation of SAR provisions be indicated in the MID FASID Document.*

Review of the report of the AIS/MAP TF/2 meeting

5.2.51 Under this Agenda Item, the meeting was apprised of the outcome of the Seventh meeting of the ATM/SAR/AIS Sub-Group related to the AIS/MAP matters pursuant to the review of the report of the AIS/MAP TF/2 meeting, which was held in Cairo, 15-17 March 2004. It was pointed out that the Task Force:

- a) reviewed and updated the status of implementation of AIS/MAP requirements in the MID Region;
- b) reviewed and updated the FASID AIS Tables as well as the list of deficiencies in the AIS/MAP field;
- c) with regard to the status of implementation of AIS automation in the MID Region, reviewed the results of the survey carried out in the MID region and developed consequently two Draft Conclusions regarding the approach to be used for the implementation of AIS automaton in the MID Region and the harmonization of AIS, MET and FPL information;
- d) reiterated the need to comply with Annex 15 provisions related to the implementation of quality system and to take urgent action on MIDANPIRG/8 Conclusion 8/34 and developed a Draft Conclusion related to a survey on the implementation of quality system within MID States' AISs;
- e) was of view that the development of some AIS/MAP timelines could be a useful planning tool for the MID Region and accordingly framed a Draft Conclusion in this regard;
- f) in discussing the issue pertaining to AIS/MAP personnel training and licensing, and with a view to assist and support the activities of the CNS/ATM Human Resources Planning and Training Task Force, developed a Draft Conclusion related to the development of an AIS/MAP training action plan for the MID Region;

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- g) reviewed the proposed programme for the MID AIS/MAP Seminar, which was successfully held in Cairo, from 6 to 9 December 2004 and agreed on the subjects to be addressed during the seminar, which was attended by 47 participants from 11 States, 1 Organization and 7 companies; and
- h) proceeded to review its Terms of Reference and Work Programme.

5.2.52 Concern was raised regarding the provision of high quality aeronautical information in the MID Region. It was pointed out that most MID States have not made satisfactory progress in the implementation of quality system. However, the meeting noted with appreciation that, in addition to Egypt and UAE, Bahrain AIS has recently implemented a Quality Management System and has been certified ISO 9001 since 10 March 2005. Moreover, ICAO Council has approved for 2005 a Special Implementation Project (SIP) to assist some States in the MID Region in the process of implementation of a Quality Management System. The meeting expressed its appreciation to the initiative taken by ICAO.

5.2.53 With regard to the World Aeronautical Chart (WAC), the meeting recalled that MID Basic ANP and FASID do not assign any responsibility for the production of the WAC sheets: 2548, 2563 and 2670, which cover part of Iran, Oman and UAE. Further to the agreement reached during the ATM/SAR/AIS SG/7 meeting and the acceptance of Oman to be assigned the responsibility of producing the WAC sheets 2563 and 2670, the meeting/endorsed the following Conclusion:

CONCLUSION 9/25: ASSIGNMENT OF THE RESPONSIBILITY FOR THE PRODUCTION OF THE WAC SHEETS: 2548, 2563 AND 2670

That,

- a) *the responsibility for the production of the World Aeronautical Chart — ICAO 1:1000 000:*
 - i) *WAC sheet 2548 is assigned to Iran;*
 - ii) *WAC sheets 2563 and 2670 are assigned to Oman; and*
- b) *MID FASID Table AIS-7 be updated consequently.*

5.2.54 In view of the above, the meeting agreed to the following Conclusions/Decisions emanating from the AIS/MAP TF/2 meeting and reviewed/endorsed by the ATM/SAR/AIS SG/7:

CONCLUSION 9/26: ENHANCED PRE-FLIGHT INFORMATION SERVICE

That, with a view to avoid overloading pilots with aeronautical information, which are either not important or not relevant to their flight, States are encouraged to:

- a) *refrain from retaining NOTAMs in force for indefinite periods;*
- b) *implement in their automated pre-flight information systems:*
 - i) *a selection functionality based on the ICAO NOTAM Selection Criteria, in order to enable the selection of particular information in the Pre-flight Information Bulletins (PIBs), and*

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- ii) *an update briefing functionality in order to enable the notification of updates following an initial briefing.*

CONCLUSION 9/27: APPROACH TO AIS AUTOMATION

That, with a view to ensure progressive implementation of automated AIS systems in accordance with the AIS Manual (Doc 8126) and the MID Basic Air Navigation Plan provisions, States, which have not yet introduced automation within their Aeronautical Information Services, are urged to:

- a) *plan to initially automate their NOTAM and pre-flight information services; or*
- b) *arrange for the provision of automated services on their behalf on the basis of bilateral or multilateral agreements with States or other non-governmental organizations.*

Note: In case a State has an AIS automation plan for, it should be ensured that the automated NOTAM and pre-flight information system to be implemented is modular, expandable and based on data exchange concept to support further developments and applications.

CONCLUSION 9/28: HARMONIZATION OF AIS, MET AND FPL INFORMATION

That, in any approach to AIS automation, States should take the necessary measures to enable users to access both AIS and MET information from a common interface based on the flight plan entry, to support combined AIS/MET/FPL pre-flight briefing.

CONCLUSION 9/29: IMPLEMENTATION OF QUALITY SYSTEM WITHIN MID STATES' AISs

That, with a view to obtain information from MID States regarding the status of implementation of quality system within their Aeronautical Information Service and/or the difficulties they face to implement the required system:

- a) *ICAO MID Regional Office carries out a survey on the implementation of quality system; and*
- b) *the results of this survey should serve as a basis for the development of a Quality Management Plan for the MID Region to guide and assist States in the implementation of a Quality Management System in conformity with the ISO 9000 series of standards.*

CONCLUSION 9/30: AIS/MAP TIMELINES FOR THE MID REGION

*That, as a support to the global ATM operational concept, the AIS/MAP timelines at **Appendix 5J** to the report on Agenda Item 5, be used in the MID Region as an internal planning tool for the implementation of specific AIS/MAP related subjects.*

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DECISION 9/31: AIS/MAP TRAINING ACTION PLAN FOR THE MID REGION

That, with a view to assist and support the activities of the CNS/ATM Human Resources Planning and Training Task Force, the AIS/MAP Task Force should:

- a) *identify the AIS/MAP training resources already available in the MID Region; and*
- b) *propose an AIS/MAP training action plan for the MID Region.*

DECISION 9/32: REVISED TERMS OF REFERENCE AND WORK PROGRAMME OF THE AIS/MAP TASK FORCE

*That, revised Terms of Reference and Work Programme of the AIS/MAP Task Force be adopted as shown at **Appendix 5K** to the report on Agenda Item 5.*

5.2.55 The meeting then, reviewed the status of implementation of WGS-84 and noted that although the implementation of WGS-84 should have been completed since 1998, some MID States have still not completed part or all of the implementation and publication of the WGS-84 coordinates and the associated quality system. The meeting noted with appreciation that geoid undulation has been implemented recently in Iran, Jordan, Oman and Yemen. The meeting was also informed that work is progressing satisfactorily and approaching final phase in Saudi Arabia for the publication of the geoid undulation values.

5.2.56 The Status of implementation of WGS-84 in the MID Region can be summarized as follows:

- a) five (5) States have fully implemented WGS-84;
- b) three (3) States haven't yet implemented WGS-84;
- c) the majority of MID States haven't yet implemented the geoid undulation.

5.2.57 Details related to the status of WGS-84 implementation in the MID Region are contained in the MID FASID Table AIS-5, which is shown at **Appendix 5L** to the report on Agenda Item 5. A simplified Status report (by domain) is also presented at **Appendix 5M** to the report on Agenda Item 5.

5.3 CNS/ATM

Special Implementation Project (SIP) for the assessment of training facilities, activities and requirements in the MID Region

5.3.1 The meeting was apprised of the outcome of the Special Implementation Project (SIP) carried out in the MID Region. The following States were visited during period November/December 2004: Bahrain, Egypt, Jordan Lebanon, Libya, Oman, United Arab Emirates and Yemen.

5.3.2 The objective of the SIP was to gather information on human resources planning and training facilities and programmes in the MID Region with a view to have a broader perspective on regional training activities and capacity so as to respond to regional/global requirements for the harmonization and streamlining of training programmes in accordance with the strategic objectives of ICAO, and in particular, the CNS/ATM Implementation Plan.

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5.3.3 The findings of the SIP are summarized as follows:

- a) The urgent need for the harmonization of training programmes in the region is recognized.
- b) The CNS/ATM Human Resources and Training Task Force be apprised of the outcome of the SIP.
- c) States are conscious of their responsibilities regarding training requirements. However, with a view to meet the future challenges in the air navigation fields, the need for specially tailored courses and advanced courses was highlighted. The need for advanced training to trainers was also recognized.
- d) Some States/Training institutions informally indicated that they would like to join the TRAINAIR programme. However, as they were not founding members of TRAINAIR, the charges for joining the programme at this stage, are in their view, exaggerated and not affordable.
- e) Some training institutions have indicated that they were not aware of activities being carried out by the Regional Office and would like to participate fully in the MID regional planning mechanism (MIDANPIRG). It was agreed that for future activities in the region a specific request be made for States to include participants from their training institutions in their respective delegations.
- f) Only two training institutions have been certified to ISO 9001/2000 specifications. The need for the provision of courses in quality management systems has also been recognized.
- g) Some States/service providers have obtained ISO 9001/2000 certification for the Air Navigation Services (Area Control Centre, AIS, Communications and Automation Sections), the Flight Safety Services and the Administration. This unique experience in the Middle East Region should be further exploited and States may wish to inspire from it.
- h) States/training institutions have been requested to put emphasis on the implementation of ICAO Language Proficiency Requirements, which will become mandatory on 2008.
- i) There is a need to organize a workshop under the aegis of ICAO in the Middle East Region with the participation of all training institutions and concerned States with a view to harmonize training programmes and share experiences so as to cope with the new challenges facing the Region.
- j) There is a requirement to include a link to all training institutions available in the MID Region in the ICAO Middle East office website.

5.3.4 The SIP for the assessment of Training Facilities, activities and requirements for the Middle East Region has been very fruitful. MIDANPIRG/9 shared with all States visited the appreciation and thanks expressed to ICAO for conducting the SIP in the MID Region.

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5.3.5 The meeting recalled that MIDANPIRG/7 meeting held in Cairo, 21-25 January 2002, under Decision 7/37 established the CNS/ATM Human Resource Planning and Training Task Force. It was also noted that MIDANPIRG/8 meeting held in Cairo, 7-11 September 2003, in order to strengthen this Task Force and to expedite the process to accomplish the expected results, adopted Conclusion 8/39 – *MID REGION STATES SUPPORT FOR THE CNS/ATM HUMAN RESOURCES PLANNING AND TRAINING TASK FORCE* and agreed that States having experience in the fields of human resources planning and training, and those having civil aviation training schools, colleges or academies, should assist the ICAO MID Regional Office and support the Task Force by providing adequate information and expertise through the participation of professionals in the meetings of the Task Force.

5.3.6 The meeting was of view that the CNS/ATM Human Resource Planning and Training Task Force (CNS/ATM HR P&T TF) should take into consideration the outcome of the SIP carried out in the MID Region.

GNSS activities

5.3.7 Under this Agenda Item, the meeting noted the results of the EGNOS test campaign carried out in Bahrain, Egypt and Saudi Arabia which showed that the extension of EGNOS architecture was technically feasible in the MID Region. In this regard, the meeting requested the continuation of trials in order to achieve APV1 and APV2 throughout the MID Region.

5.3.8 The meeting was advised that US Trade and Development Agency (USTDA) had made a proposal to carry out a feasibility study for the implementation of a Satellite Based Augmentation System (SBAS) in the MID Region. The meeting noted this proposal with interest and encouraged MID States to participate in the proposed demonstration test beds and consider the implementation strategy taking into accounts the user requirements and implementation trends.

5.3.9 The meeting was apprised of the status and progress made in the feasibility study of the NAVISAT project structured into the following work packages: mission analysis, frequency/regulatory issues, system architecture and economical analysis. The meeting also noted that further study will put emphasis on the two latter work packages to assess the viability of the project and determine the possible implementation scenarios for the system.

5.3.10 The meeting was also informed about the progress made in the development of Package 2 related to some tasks of the GNSS Task Force: Implementation of Requirements in the MID Region. Document showing the accuracy of EGNOS/GALILEO, the number of RIMs/and locations, could be complementary to the GNSS Implementation Strategy in the Middle East Region.

5.3.11 Following the outcome of the ANConf/11, the meeting noted that the vision of GNSS was evolving away from the concept of supplementary, primary or sole means of navigation to the concept of multiple sensors to be used for area navigation and approach, landing and departure operations. Consequently, the meeting adopted the Revised Strategy for the implementation of GNSS capabilities in the MID Region as indicated at **Appendix 5N** to the report on Agenda Item 5.

5.3.12 Based on the above, the meeting developed the following Conclusions:

CONCLUSION 9/33: FURTHER TEST ACTIVITIES AND STUDIES OF EGNOS IN THE MID REGION

That,

- a) *EGNOS test bed based on the ENAV experience during the MIDAN activities be continued until adequate data representative of the region be available;*

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- b) *the feasibility of using additional Ranging Integrity Monitoring Systems (RIMS) for achieving APV1 and APV2 requirements and a proposal for time scale be evaluated by Galileo Joint Undertaking;*
- c) *European Space Agency (ESA), defines the EGNOS architecture scenarios on the number/location of RIMS required for achieving APV 1 and APV 2 requirements throughout the MID Region in order to support the regional cost-benefit analysis (CBA).*

CONCLUSION 9/34: WAAS DEMONSTRATION TEST BEDS

That, the States of the MID Region willing to participate in the study of the WAAS demonstration test beds provide facilities for the reference stations when required.

CONCLUSION 9/35: COST-BENEFIT CONSIDERATION FOR AUGMENTATION SYSTEMS

That,

- a) *no commitment is to be made on the augmentation systems until all other options and implementation trends with associated cost benefit analyses are fully considered; and*
- b) *implementation strategy to be considered with user requirements, implementation trends/options endorsed in adjacent regions in accordance with the operational concept and planning principles of the global air navigation plan for CNS/ATM systems.*

CONCLUSION 9/36: REVISED STRATEGY OF THE GNSS IMPLEMENTATION IN THE MID REGION

*That, the revised strategy for the implementation of GNSS in the Middle East Region be adopted as indicated in **Appendix 5N** to the report on Agenda Item 5.*

5.3.13 The meeting noted that IATA does not support the use of any space based augmentation systems, since the current GPS meets the requirements of the airspace users.

5.3.14 Based on the number of FANS 1/A equipped aircraft already operating in the Region and the forecast of the traffic increase in the Middle East airspace that will require more efficient Air Traffic Management, the meeting urged States to deploy ADS/CPDLC capability where required.

AFS/ATN activities

5.3.15 The meeting noted the work done by the ATN Core Team and urged the ATN Planning Group to improve its work method in order to expedite the finalization of the MID ATN Planning Document. In this regard, the meeting agreed to the following Decision:

DECISION 9/37: IMPROVEMENT OF THE WORK OF THE ATN PLANNING GROUP

That, the ATN Planning Group be invited to establish a working methodology and to appoint a Rapporteur in order to have the work on the development of the MID Regional ATN Planning Document fully coordinated and followed up.

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5.3.16 The meeting also emphasized the Harmonization between VSAT networks and the Use of Digital High-speed Circuits to facilitate a smooth transition towards ATN. Consequently, the meeting developed the following Conclusions:

CONCLUSION 9/38: USE OF DIGITAL HIGH-SPEED CIRCUITS BETWEEN MAIN CENTRES

That, the main Centres of the MID AFTN be requested to use digital high-speed links in their circuits with other main Centres in order to eliminate deficiencies related to the low speed circuits and to facilitate the migration to the ATN in the MID Region.

CONCLUSION 9/39: HARMONIZATION BETWEEN VSAT NETWORKS

That, the interconnectivity of the MID VSAT be done on the basis of hub-less network using a sole satellite in order to constitute an integrated and seamless network, taking into account the harmonization in the Region and between MID Region and other Regions.

5.3.17 Regarding the outcome of the ATN seminar, the meeting expressed its gratitude and appreciation to Jordan Civil Aviation for all the support they provided in successfully organizing this important event, and requested ICAO Office to organize another ATN Seminar before 2007. The summary of discussion of the ATN Seminar is at **Appendix 50** to the report on Agenda Item 5.

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

CONCLUSION 9/40: ORGANIZATION OF THE ATN SEMINAR IN THE MID REGION

That,

- a) *ICAO MID Regional Office makes the required arrangements to organize an ATN Seminar/Workshop in year 2006 to assist States for the initial implementation of AMHS in the Region.*
- b) *MID States cooperate in assisting ICAO MID Regional Office in hosting this important event.*
- c) *MID States take this opportunity to send sufficient participants to this seminar/workshop in order to constitute the nucleus of the core team charged of the ATN implementation in the Region.*

MID Regional Contingency Plan Manual for ATM/CNS

5.3.19 The issue of Regional Contingency Plan for ATM including supporting CNS elements was raised. The meeting recalled in this regard, that the development of National Contingency Plan for ATM is the responsibility of States and the relevant provisions are already included in Annexes 11 and 15. Moreover MIDANPIRG Conclusion 8/19 and Conclusion 8/42 addressed the issue of Contingency Plans for ATM and AFTN Services, respectively.

5.3.20 The meeting was of the view that the MIDANPIRG subsidiary bodies should develop a regional guidance material allowing the Air Navigation Service Providers and Users to maintain the air navigation activities during contingency situations in the MID Region with the required operational safety level. In this regard, the meeting agreed to the following Conclusion:

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DECISION 9/41: MID REGIONAL CONTINGENCY PLAN FOR ATM/CNS

That,

- a) *the relevant subsidiary bodies of MIDANPIRG revise their Terms of Reference (TOR) to include the development of regional guidance material leading to a MID Regional Contingency Plan for ATM including supporting CNS elements;*
- b) *the MID Regional Contingency Plan be updated by the relevant MIDANPIRG subsidiary bodies on a regular basis.*

Harmonization of the MID CNS/ATM Implementation Plan as a result of the outcome of the 11th Air Navigation Conference:

5.3.21 The meeting after reviewing the outcome of, and actions taken by the Council of ICAO on the 11 Air Navigation Conference, agreed that the related recommendations at **Appendix 5P** to the report on Agenda Item 5, in some cases, extended to States and other CNS/ATM partners. In this regard and in order to implement the specific recommendations, the meeting developed a plan which was divided into three packages:

- a) the **package 1** includes those recommendations to be studied by the concerned subsidiary bodies of MIDANPIRG:
Recommendations 1/14, 2/1,4/5, 4/6, 4/7 and 4/8: AOP SG
Recommendations 1/1, 1/10,1/13, 4/1 and 4/2: ATM/AIS/SAR SG
Recommendations 1/1, 1/10,1/13, 4/1, 4/2, 4/4, 6/11, 7/1 and 7/3: CNS/MET SG
Recommendation 4/8: ANS WG
- b) the **package 2** includes those recommendations for action by the MID States:
Recommendations 1/1, 1/2, 1/7, 1/10,1/13, 1/15, 2/2, 2/3, 2/7, 2/8, 4/1, 4/2, 4/5, 4/6, 4/8, 4/9, 5/1, 6/1, 6/2, 6/9, 6/13, 6/14, 7/1, 7/2 and 7/3.
- c) the **package 3** includes those recommendations for action by the International Organizations:
Recommendations 1/1, 1/7, 1/10, 1/13, 4/8, 5/1, 6/1, 6/2, 6/9, 6/13, 7/2 and 7/3.

Update to Timelines of the MID Region CNS/ATM Plan

5.3.22 The meeting noted the outcome of the 11th Air Navigation Conference relating to the role and function of the Global Air Navigation Plan for CNS/ATM systems (Doc. 9750). The meeting reviewed and updated the CNS/ATM systems timelines and agreed on the implementation of D-ATIS and Pre-Departure Clearance in the MID Region. For ease of reference, the meeting was of the view that a glossary should be included in the updated implementation timelines. The meeting also requested that the Terms of Reference/Work Programme of some MIDANPIRG subsidiary bodies be revised with a view to include a specific task related to the update of the appropriate CNS/ATM implementation timelines. Consequently, the meeting agreed to the following Conclusion:

CONCLUSION 9/42: IMPLEMENTATION OF D-ATIS AND PDC IN THE MID REGION

That, MID States not having done so, and where needs justify, are urged to implement in their international airports the dissemination of the ATIS and Pre-Departure Clearance via data link (D-ATIS and PDC).

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ITU World Radio communication Conferences (WRC-03 and WRC-07)

5.3.23 The meeting recommended that MID States who have not done so, delete their names from the ITU **footnotes 5.362B** and **5.362C** in accordance with MIDANPIRG/8 Conclusion 8/52. As regards the preparation for WRC-07, the meeting requested ICAO Office to present to States a table with the summary of the ICAO Position and that of the Telecommunication Conference of Arab States. In order to facilitate the work related to the World Radio communication Conferences, the meeting agreed to merge the MIDANPIRG Conclusions 6/4, 6/5, 7/29 and Decision 6/3 into a single Conclusion as follows:

CONCLUSION 9/43: ICAO STRATEGY WITH REGARD TO FUTURE ITU WORLD RADIO COMMUNICATION CONFERENCES

That,

- a) the CNS/MET SG be tasked to follow up the developments of ICAO position regarding future WRC conferences and their preparatory meetings, and highlighting that position to the MID States;*
- b) 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 respective Administrations to ITU conferences;*
- c) MID States Civil Aviation Authorities, request their appropriate Ministries to assign aviation experts to participate in their national delegations to the future ITU conferences in order to brief the delegations at those conferences with ICAO position and to support that position; and*
- d) MID States Civil Aviation Authorities be urged, as a matter of a priority to explain the ICAO concerns to their respective Ministerial Authorities including the League of Arab States and the Arab Civil Aviation Commission, in order to support the ICAO and IATA concerns with regard to protection of aeronautical frequencies at WRC-2007.*

On Line Data Interchange (OLDI)

5.3.24 The meeting was of view that pending the availability of ATN infrastructure for the implementation of AIDC, the operational benefits provided by OLDI could be considered. In this regard, States intending to implement OLDI should develop an Interface Control Document (ICD) through related Letters of Agreement (LOA).

Human Resource Planning and Training Task Force

5.3.25 The meeting was apprised of the outcome of the Special Implementation Project (SIP) carried out in the Region during period November/December 2004.

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5.3.26 Concern was raised about the non-convening of the CNS/ATM Human Resource Planning and Training Task Force (CNS/ATM HR P&T TF/1) due to limited number of participants. The meeting was of view that the Task Force should take into consideration the outcome of the SIP carried out in the MID Region and accordingly amended the Terms of Reference (TOR) of the CNS/ATM Human Resource Planning and Training Task Force at **Appendix 5Q** to the report on Agenda Item 5.

5.3.27 Based on the above, the meeting agreed on the following Conclusion:

CONCLUSION 9/44: CONVENING OF THE CNS/ATM HR P&T TASK FORCE

That,

- a) *MID States are urged to attend the CNS/ATM Human Resources Planning and Training Task Force meetings;*
- b) *the CNS/ATM HR P&T TF takes into consideration the outcome of the SIP carried in the MID Region during the period November/December 2004; and*
- c) *the Terms of Reference and Work Programme of the Task Force are revised as at **Appendix 5Q** to the report on Agenda Item 5.*

ADS-B Implementation Considerations

5.3.28 The meeting was apprised of the outcome of the 11th Air Navigation Conference Recommendations related to the strategy for near term introduction of ADS-B. The meeting encouraged MID States to implement ADS-B taking into account studies carried out in the other ICAO Regions.

5.4 CNS/MET

CNS/MET SG/6

5.4.1 Under this agenda the meeting noted that the upgrade of the Kuwait-Karachi circuit to 2.4K will make the traffic much more fluid with the ASIA/PAC Region and that the MID AFTN Centres should route all traffic destined to Karachi and Kabul via Kuwait Centre. In this regard, the meeting agreed to the following Conclusion:

CONCLUSION 9/45: UPGRADE OF THE KUWAIT-KARACHI CIRCUIT

That, based on the upgrade of the Kuwait-Karachi circuit to 2.4K, MID COM centres are requested to route via Kuwait centre all traffic to Karachi (OP), Kabul (OA) and other destinations in ASIA PAC Region as appropriate.

5.4.2 The meeting agreed that the new AFTN VSAT circuit, established between Baghdad and Kuwait for operational reasons, be included in the MID Rationalized AFTN Plan as a tributary circuit.

5.4.3 Regarding the circuit Cairo – Tripoli, the meeting agreed with APIRG/14 Conclusion to include the related circuit as a tributary circuit in the MID Rationalized AFTN Plan.

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5.4.4 Based on the above, the meeting developed the following Conclusions:

CONCLUSION 9/46: ADDITION OF THE BAGHDAD-KUWAIT CIRCUIT TO THE MID RATIONALIZED AFTN PLAN

That, the MID Rationalized AFTN Plan be amended to include the new circuit between Baghdad and Kuwait as a tributary circuit.

CONCLUSION 9/47: ADDITION OF THE CAIRO-TRIPOLI CIRCUIT TO THE MID RATIONALIZED AFTN PLAN

That, the MID Rationalized AFTN Plan be amended to include the existing circuit between Cairo and Tripoli as a tributary circuit.

5.4.5 Moreover, the meeting agreed on the proposal made by EUROCONTROL to allow the participation of the MID COM Centres, as external COM Centres, in the CIDIN Management Centre (CMC) of EUR region. Consequently, the meeting agreed to the following Conclusion:

CONCLUSION 9/48: PARTICIPATION OF THE MID COM CENTRES IN THE CIDIN MANAGEMENT CENTRE (CMC) OF THE EUR REGION

That, all MID COM Centres participate as external COM centers in the operation of CIDIN Management Centre (CMC) in the EUR Region and designate a Cooperating CIDIN Centre (CCC) operator for coordination process with EUROCONTROL.

5.4.6 The meeting was of the view that the awareness of aviation community as well as telecommunication regulatory authorities should be raised in order to strengthen the forthcoming position of ICAO in WRC-07. Accordingly, the meeting agreed to the following Decision:

DECISION 9/49: ESTABLISHMENT OF AN AD-HOC ACTION GROUP FOR THE SUPPORT OF AERONAUTICAL FREQUENCY BANDS

That, an Ad-Hoc Group be established and aimed at raising the awareness of the National Telecommunication Regulatory Authorities, Airlines and Civil Aviation Authorities on the aviation spectrum use and requirements to ensure Air navigation Safety in the MID Region

AFS/ATN TF/9 & 10

5.4.7 The meeting agreed to the proposal made by the AFS/ATN TF/9 meeting to revise its Terms of Reference (TOR) and work programme taking into account the introduction of new digital systems and the ATN Plan for transition and implementation in the MID Region. Consequently, the meeting agreed to the following Decision:

DECISION 9/50: REVISED TERMS OF REFERENCE AND WORK PROGRAMME FOR THE AFS/ATN TASK FORCE

*That, the MIDANPIRG meeting approves the revised Terms of Reference and Work programme of the AFS/ATN Task Force as presented at **Appendix 5R** to the Report on Agenda Item 5.*

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5.4.8 Regarding the MID Contingency Plan, the meeting noted the working paper presented by the Kingdom of Bahrain indicating the need for the development of the contingency plan for the ATS Direct Speech Circuits to become part of the MID Regional AFTN Contingency Plan Document. The importance of the continuity of the services of the ATS Direct Speech Circuits to ensure the Safety of Air Navigation, dictates such improvement. Accordingly, the meeting developed the following Decision:

DECISION 9/51: MID REGIONAL AFTN CONTINGENCY PLAN

*That, the MID Regional AFTN Contingency Plan be renamed **MID Regional AFS Contingency Plan** taking into account the need to address the continuity of the services of the ATS Direct Speech circuits to ensure the safety of Air Navigation.*

5.4.9 The meeting noted that the MID VSAT Feasibility Study was completed and made available to MID States, neighbouring States in AFI Region and aeronautical partners. The MID VSAT will be interoperable with the NAFISAT in the AFI Region so as to solve communications deficiencies between the two Regions. In this regard, Egypt, Saudi Arabia and Yemen will be the first node stations of the MID VSAT operating with the NAFISAT.

5.4.10 The meeting also agreed to the tentative phases of implementation of the MID VSAT in the Region:

- **First phase:** Egypt, Saudi Arabia and Yemen in 2006/2007
- **Second phase:** States currently operating with domestic VSAT equipment based on FM-TDMA technique if compatible, in 2007/2008
- **Third phase:** Remaining MID States where required, in 2008/2009

5.4.11 The first phase will start with finalization of the technical documents and the signature of a bilateral agreement between the concerned States and the NAFISAT Network Provider. In this regard, the meeting was of the view that this phase was crucial for the orderly and coordinated implementation of the VSAT equipments. Consequently, the meeting requested ICAO to find the appropriate mechanism to follow this task in order to help the concerned States in the implementation process. In this regard, the meeting encouraged the concerned States to seek assistance from ICAO Technical Cooperation Bureau (TCB).

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

CONCLUSION 9/52: PROJECT FOR MID VSAT IMPLEMENTATION

That, in order to implement the MID VSAT Project in the MID Region, concerned States

- a) be encouraged to seek assistance through ICAO Technical Cooperation Bureau (TCB); and*
- b) carry out the implementation of the MID VSAT Equipment in an orderly and coordinated manner.*

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World Area Forecast System (WAFS) Implementation

5.4.13 The meeting noted the executive summaries of the WAFSOPSG/1 (Lima, 10 to 13 November 2003) and the WAFSOPSG/2 (Bangkok, 8-11 March 2005).

5.4.14 The meeting was informed about an IATA proposal presented at CNS/MET SG/6 to consider the deletion of the requirement for the MID Significant Medium Level (SWM) charts or at least to simplify the production by the exclusion of cloud type. The proposal had however not been supported by the SG in view of the operational needs for flights below FL 250.

SADIS Implementation

5.4.15 The meeting noted the executive summary from SADISOPSG/9 (Dakar 1-4 June 2004).

5.4.16 The CNS/MET SG had reviewed and updated the SADIS strategic assessment tables for the MID Region for the period 2004 to 2008 (inclusive), which had been forwarded to the SADISOPSG.

5.4.17 The meeting noted with satisfaction the successful outcome of the "Training workshop on SADIS workstation operation and display of WAFS products using GRIB and BUFR code forms" hosted by Oman in Muscat 8-9 December 2003 and performed by the UK on behalf of ICAO in coordination with WMO. The workshop had been attended by 38 experts from 7 States in the MID Region. Demonstrations had been provided of different types of software and the operational implementation of the BUFR code for WAFS products had been discussed.

5.4.18 The meeting further noted that the SADIS Provider State currently offered a fully operational SADIS Internet-based FTP service to all authorized SADIS users as a back-up to the SADIS broadcast and that, until now, the back-up service was provided free-of-charge to the authorized SADIS users. It was also noted that the use of Internet for distributing WAFS and OPMET data was fully in accordance with the *Guidelines on the Use of the Public Internet for Aeronautical Applications (available on the ICAO Net, noted by the Air Navigation Commission)*.

5.4.19 The SADISOPSG was of the opinion that the time had come to include the components of the SADIS FTP service in the SADIS inventory, with the understanding that the users of the FTP service would continue to be considered SADIS users and would have to contribute to the mandatory cost recovery irrespective of the mode of reception. The FTP service would not have any influence on the cost share of States concerned. The meeting also noted that the SADIS Provider State would not recover any of the initial capital costs associated with establishing the FTP service; only the costs associated with providing an on-going operational service were proposed for inclusion in the SADIS inventory, as of 1 July 2005. With the proposed change, the management of the SADIS FTP service would become part of the tasks of the SADISOPSG, and the SADIS users would be in a position to impact the development of the SADIS FTP service.

5.4.20 The meeting shared this view and agreed on the following Conclusion:

CONCLUSION 9/53: SADIS INTERNET-BASED FTP SERVICE

That, in parallel with the satellite broadcast, the SADIS Provider State be invited, as of 1 July 2005, to make WAFS forecasts and OPMET data available, as a primary component of the SADIS service, in accordance with the SADIS User Guide, through the Internet-based FTP service.

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International Airways Volcano Watch and SIGMET Implementation

5.4.21 The meeting noted the executive summary of the first meeting of the International Airways Volcano Watch Operations Group, IAVWOPSG/1 (Bangkok, 15 to 19 March 2004).

5.4.22 The MET Divisional Meeting Montreal (9-27 September 2002) had emphasized that the correct implementation of SIGMET procedures was a serious safety issue and had recommended ICAO to initiate regional surveys of the issuance of SIGMET messages and particularly those for volcanic ash and to review the regional SIGMET guides.

5.4.23 The CNS/MET Sub-Group had considered how to deal with all types of SIGMETs and agreed that it was an important but difficult issue to get a precise, complete and useful overview of the quality of the SIGMET production in the MID region. The Sub-Group had agreed to further consider this issue during CNS/MET SG/7.

5.4.24 The CNS/MET SG had reviewed and endorsed a new MID SIGMET guide, which was ready to be published. The ICAO MID Regional Office should draw States attention to this guide, together with a request that States review the operations of the MWOs to ensure that SIGMET messages are being issued as required. In this context the value of operational feed back from the users and through the State safety oversight programmes was emphasized.

5.4.25 Concerning the issuance of SIGMETs for volcanic ash, the meeting was informed about the EUR test procedures involving the Toulouse Volcanic Ash Advisory Centre (VAAC), responsible also for the MID Region. It was agreed that the ICAO MID Regional Office should invite Toulouse VAAC to perform the same type of tests for the MID region.

CONCLUSION 9/54: IMPLEMENTATION OF SIGMET REQUIREMENTS IN THE MID REGION

That, the ICAO MID Regional Office:

- a) publish the MID SIGMET guide;*
- b) request the MID States to review and monitor their procedures to ensure that SIGMET messages are issued as required, and*
- c) invite the Toulouse VAAC to perform tests in the MID Region concerning SIGMETs for volcanic ash.*

MID OPMET Data Procedures

5.4.26 The meeting noted that the CNS/MET SG had reviewed and updated the MID OPMET Procedures and that the scope of work and functions of the MID Bulletin Management Group (BMG) were similar to those being practiced for the EUR and ASIA/PAC Regions. It was however noted that a prerequisite for the proper function of this group was the nomination of national contact persons. All MID States were therefore invited to review their nominations and to inform the ICAO MID Regional Office.

5.4.27 The meeting also noted that the CNS/MET SG had reviewed a draft new edition of the ROBEX Handbook including guidance material on the detailed procedures for OPMET exchange in the ASIA/PAC and MID Regions, published by the ICAO ASIA/PAC Regional Office in consultation with the ICAO MID Regional Office.

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Implementation of METAR/SPECI and TAF procedures

5.4.28 The meeting was informed that several States had not implemented the correct format as provided in Annex 3, causing problems in automated systems for exchange and storage of OPMET data. It was agreed that the MID States should be invited to review their procedures coordinated with the introduction of the new edition of the ROBEX Handbook.

CONCLUSION 9/55: NON-IMPLEMENTATION OF ANNEX 3 PROVISIONS FOR METAR/SPECI AND TAF

That, the ICAO MID Regional Office, invite the MID States to review their procedures concerning the format for METAR/SPECI and TAF in view of ensuring that they are in accordance with Annex 3, MID ANP, and the new edition of the ROBEX Handbook.

Migration to Binary Universal Form for the Representation of meteorological data (BUFR) coded meteorological messages (METAR/SPECI and TAF)

5.4.29 The meeting was informed that that the MET Divisional Meeting (Montreal 9-27 September 2002) had recommended the development of a migration plan for the use of the BUFR code for the dissemination of METAR/SPECI and TAF, based on a previous decision by WMO. Subsequently, all PIRGs had been invited to commence work on regional transition plans. It was pointed out that the migration would not influence the presentation to end-users, which would remain unchanged.

5.4.30 With regard to the timing of the migration, the Meeting noted that it was planned that enabling clauses would be introduced in Annex 3 — *Meteorological Service for International Air Navigation* as part of Amendment 74 (applicable in November 2007) and that some States might start using the BUFR code at that time on the basis of bilateral agreements. It was however pointed out that all States should have completed the migration by around the year 2015. The combination of the use of BUFR coded messages and their possible transition by the ATSMHS in parallel with the same information on AFTN would add significantly to the total AFS traffic. This and other implications would need careful analysis to ensure that the most cost effective implementation strategy would be developed.

5.4.31 The meeting recognized that there were many issues, that required very well coordinated inter-regional transition planning taking due account of the planning in adjacent ICAO Regions.

DECISION 9/56: REGIONAL PLANNING FOR MIGRATION TO BUFR CODED OPMET MESSAGES IN THE MID REGION

That, the CNS/MET SG develop a transition plan for migration to Binary Universal Form for the Representation of meteorological data (BUFR) in the MID Region taking due account of the planning in adjacent ICAO Regions.

New TAF Requirements

5.4.32 The CNS/MET SG had noted a lack of harmonized implementation of the current regional procedures concerning the issuance of TAF. All States were issuing TAFs with a validity time of 18 or 24 hours in accordance with the MID ANP/FASID, while some States were also issuing TAFs with a validity time of 9 hours. The SG had agreed that there was an operational requirement for all international aerodromes in the MID Region to issue TAF with a validity time of 9 hours, which should be included in the MID ANP and a draft conclusion was presented along these lines.

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5.4.33 In the same context IATA expressed a requirement for a review of the whole TAF concept, in particular to meet the requirements for long haul flights. IATA also stated that they had no requirement for both 9 and 18/24 hour TAF for the same aerodrome.

5.4.34 The meeting was informed that the TAF concept, based on these new requirements, currently was under review by ICAO on the global level and it was therefore considered premature with any regional change in this direction. The draft conclusion was consequently not endorsed.

Establishment of a MID Tropical Cyclone Advisory Centre In Muscat, Oman

5.4.35 The CNS/MET SG had reviewed and endorsed a proposal from Oman to establish a Tropical Cyclone Advisory Centre (TCAC) in Muscat for the MID Region west of 65° E, an area currently under the responsibility of TCAC New Delhi. A draft conclusion was presented accordingly.

5.4.36 Based on information provided after the CNS/MET SG/6, it however transpired that the establishment of a TCAC in Muscat would not be appropriate, as all TCACs designated by RAN agreements should be tropical cyclone warning centres with a regional responsibility within the WMO Tropical Cyclone Programme. This was also stated in the recently approved revised Basic Operational Requirements and Planning Criteria (BORPC). Under these circumstances, the meeting agreed not to endorse the Draft Conclusion.

Establishment of a MID OPMET Data Bank

5.4.37 A need had been identified and a proposal presented to the CNS/MET SG to establish a MID OPMET Data Bank to serve States and Operators in the MID Region in view of the number of flights and experienced difficulties to retrieve the required OPMET information from the existing data banks in the ASIA/PAC and EUR Regions. It had however been agreed that a further analysis should be done to establish a clear business case. This analysis should include a survey among the MID States concerning the difficulties in terms of time for retrieval as well as availability of required OPMET information from the existing OPMET data banks. The survey would be performed by the Focal Point of the OPMET Bulletin Management Group (BMG) and reported to CNS/MET SG/7 for further consideration.

Draft Proposal for Amendment of MID ANP and FASID Part VI MET

5.4.38 The Secretariat, supported by the CNS/MET SG, had performed a review of the MID ANP/FASID PART VI METEOROLOGY. The substantial changes introduced in the draft revised ANP/FASID Part VI MET were:

- a) Revised requirements on the World Area Forecast System (WAFS) and International Airways Volcano Watch (IAVW).
- b) Deletion of the current provisions for non-regular exchange of METAR, SPECI and TAF (< five flights per week), considering the improvement of the AFTN and the requirement for regular distribution of all OPMET information by SADIS.
- c) Deletion of the provisions for the issuance of half-hourly METAR at aerodromes included in VOLMET broadcast in view of the prevailing weather conditions in the MID Region; hourly METAR and SPECI should be sufficient.
- e) Designation of the Vienna International OPMET data bank for the MID region.
- f) Deletion of all provisions currently covered by Annex 3

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- g) Deletion of all provision covered by the revised Basic Operational Requirements and Planning Criteria (BORPC).
- h) Restructuring of the content to align it with the current standard of the ANP/FASID, applicable for all ICAO Regions.

5.4.39 The draft proposal for amendment, as presented to the Meeting, was endorsed for further processing following the formal procedure for an amendment proposal to the ANP/FASID.

WMO Participation in the CNS/MET SG

5.4.40 The Meeting agreed that participation by WMO in the same way as in MET Subgroups in other ICAO Regions would be valuable and facilitate the work of the CNS/MET SG:

CONCLUSION 9/57: INVITATION TO WMO FOR REGULAR PARTICIPATION IN MEETINGS OF THE MIDANPIRG CNS/MET SUBGROUP

That, ICAO invites WMO to regularly participate in meetings of the MIDANPIRG CNS/MET Subgroup.

5.5 TRAFFIC FORECASTING

5.5.1 The meeting was briefed on the activities of the Traffic Forecasting Sub-Group since its establishment by MIDANPIRG/8 to replace the former Middle East Regional Traffic Forecasting Group (MER TFG). In this regard, the meeting noted that the Sub-Group held its first meeting in Cairo from 11 to 13 September 2004 immediately following a workshop organized by the Secretariat on the development of business case for the implementation of CNS/ATM systems in the MID region. The objective of the meeting was to review an updated set of forecast of aircraft movements to, from and within the MID region. The forecast is attached at **Appendix 5S** to the report on Agenda Item 5.

5.5.2 The meeting noted that the Sub-Group, while reviewing the forecast, had observed that requests for data from MIDANPIRG and its subsidiary bodies were not clearly defined and had recommended that MIDANPIRG and its subsidiary bodies be requested to clearly define the data they require to enable the Sub-Group fine-tune its outputs. The meeting accepted the recommendation attach at **Appendix 5T** to the report on Agenda Item 5.

5.5.3 The meeting noted that the TF SG had discussed its structure and recommended that membership to the Sub-Group should include all eight members of MIDANPIRG as a core and that the meetings of the Sub-Group should be open to all MID States wishing to participate. The meeting accepted the recommendation.

5.5.4 The meeting was informed that the Sub-Group had designed a special form for the collection of raw FIR data from States with a view to facilitating and fine-tuning the forecasting process and peak-period analysis. The meeting accepted the proposed format attached at **Appendix 5U** to the report on Agenda Item 5.

5.5.5 The meeting was reminded that MIDANPIRG Conclusions 6/22, 6/32, 7/43 and 8/58 have been consolidated into one conclusion that was adopted by the meeting when discussing agenda item 3. In view of the above, the meeting agreed on the following Conclusion:

MIDANPIRG/9
Report on Agenda Item 5

CONCLUSION 9/58: TRAFFIC FORECASTING REQUIREMENTS IN THE MID REGION

That,

- a) *Membership of the Traffic Forecasting Sub-Group shall include all members of MIDANPIRG and that meetings of the Sub-group shall be open to all MID States; as at **Appendix 5T** to the report on Agenda Item 5;*
- b) *the Secretariat coordinates with other international and regional organizations; including IATA, with a view to establishing a MID database to support regional traffic forecasting activities;*
- c) *MID States continue their support to the TFSG by ensuring that their respective nominees to the membership of the Sub-group include, as much as possible, forecasting experts, air traffic management experts and, when required, financial analysts to carry out business case and cost/benefit analysis;*
- d) *MIDANPIRG and its subsidiary bodies clearly identify the data they require for the efficient development and implementation of regional air navigation plans;*
- e) *MID States continue to avail required FIR and other data to the Sub-group in the format agreed by the TFSG to facilitate the development of forecasts and other air navigation planning and implementation parameters; and*
- f) *the Secretariat continues organizing workshops, seminars and other training programmes with a view to upgrading regional traffic forecasting capabilities.*

(Note: this Conclusion replaces Conclusions 6/22, 6/32, 7/43 and 8/58 and includes the outcome of MIDANPIRG/9 discussion)

5.6 MIDDLE EAST REGION BASIC ANP AND FASID (DOC 9708)

5.6.1 The meeting noted the progress made in the process of preparation and approval of the final version of the MID Basic ANP and FASID (Doc 9708).

5.6.2 The meeting recalled that the actual version of the MID Air Navigation Plan is published in three (3) languages (English, French and Spanish). Assuming that the French and Spanish languages are not regularly used/required in the MID Region and with a view to expedite the process of publication of the final version of MID BASIC ANP and FASID, MIDANPIRG/9 meeting endorsed the following Conclusion:

CONCLUSION 9/59: MID BASIC ANP AND FASID (Doc 9708)

That, ICAO gives priority to the publication of the MID BASIC ANP and FASID in English and Arabic versions.

5.6.3 The meeting recalled that some updates to the FASID Tables AOP 1, CNS 3, AIS 1, AIS 2, AIS 4, AIS 5, AIS 6, AIS 7 and AIS 8 have been agreed upon. Moreover, the regional requirements for ATM and MET have been reviewed.

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Report on Agenda Item 5

5.6.4 Based on the above the meeting endorsed the following Conclusion:

CONCLUSION 9/60: AMENDMENT PROPOSAL TO THE MID BASIC ANP AND FASID

That, the ICAO MID Regional Office, on behalf of MIDANPIRG, initiates an amendment proposal to the MID Basic ANP and FASID in order to update the AIS, AOP, ATM, CNS and MET regional requirements and reflect the changes made to the FASID Tables.

MIDANPIRG/9
Appendix 5A to the Report on Agenda Item 5

MIDDLE EAST
**CERTIFICATION OF AERODROMES STATUS OF
IMPLEMENTATION FOLLOW-UP**

(FEBRUARY 2004)

TIMELINES:



Global



Regional



National

5A-1

**MIDDLE EAST - CERTIFICATION OF AERODROMES
STATUS OF IMPLEMENTATION FOLLOW-UP**

(February 2004)

CERTIFICATION OF AERODROMES IMPLEMENTATION							
		2001	2002	2003	2004	2005	2006
Global	Legislation						
MID Region							
States	Afghanistan						
	Bahrain						
	Cyprus						
	Egypt						
	Iran, Islamic Rep. of						
	Iraq						
	Israel						
	Jordan						
	Kuwait						
	Lebanon						
	Libya						
	Oman						
	Qatar						
	Pakistan						
	Saudi Arabia						
	Sudan						
	Syrian						
	United Arab Emirates						
	Yemen						
Global	Formation of Separate Regulatory Entity						
MID Region							
States	Afghanistan						
	Bahrain						
	Cyprus						
	Egypt						
	Iran, Islamic Rep. of						
	Iraq						
	Israel						
	Jordan						
	Kuwait						
	Lebanon						
	Libya						
	Oman						
	Qatar						
	Pakistan						
	Saudi Arabia						
	Sudan						
	Syrian						
	United Arab Emirates						
	Yemen						
Global	Preparation of the Aerodrome Manual						
MID Region							
States	Afghanistan						
	Bahrain						
	Cyprus						
	Egypt						

CERTIFICATION OF AERODROMES IMPLEMENTATION							
		2001	2002	2003	2004	2005	2006
	Iran, Islamic Rep. of						
	Iraq						
	Israel						
	Jordan						
	Kuwait						
	Lebanon						
	Libya						
	Oman						
	Qatar						
	Pakistan						
	Saudi Arabia						
	Sudan						
	Syrian						
	United Arab Emirates						
	Yemen						
Global	Aerodrome Operational Performance Assessment						
MID Region							
States	Afghanistan						
	Bahrain						
	Cyprus						
	Egypt						
	Iran, Islamic Rep. of						
	Iraq						
	Israel						
	Jordan						
	Kuwait						
	Lebanon						
	Libya						
	Oman						
	Qatar						
	Pakistan						
	Saudi Arabia						
	Sudan						
	Syrian						
	United Arab Emirates						
	Yemen						
Global	Issue of an Aerodrome Certificate for Int'l Airports						
MID Region							
States	Afghanistan						
	Bahrain						
	Cyprus						
	Egypt						
	Iran, Islamic Rep. of						
	Iraq						
	Israel						
	Jordan						
	Kuwait						
	Lebanon						
	Libya						
	Oman						
	Qatar						
	Pakistan						
	Saudi Arabia						
	Sudan						

5A-3

CERTIFICATION OF AERODROMES IMPLEMENTATION							
		2001	2002	2003	2004	2005	2006
	Syrian						
	United Arab Emirates						
	Yemen						
SAFETY MANAGEMENT SYSTEM							
Global	Safety Management System						
MID Region							
States	Afghanistan						
	Bahrain						
	Cyprus						
	Egypt						
	Iran, Islamic Rep. of						
	Iraq						
	Israel						
	Jordan						
	Kuwait						
	Lebanon						
	Libya						
	Oman						
	Qatar						
	Pakistan						
	Saudi Arabia						
	Sudan						
	Syrian						
	United Arab Emirates						
	Yemen						
UNIVERSAL SAFETY OVERSIGHT AUDIT PROGRAMME							
Global	Universal Safety Oversight Audit Programme						
MID Region							
States	Afghanistan						
	Bahrain						
	Cyprus						
	Egypt						
	Iran, Islamic Rep. of						
	Iraq						
	Israel						
	Jordan						
	Kuwait						
	Lebanon						
	Libya						
	Oman						
	Qatar						
	Pakistan						
	Saudi Arabia						
	Sudan						
	Syrian						
	United Arab Emirates						
	Yemen						

MIDANPIRG/9
Appendix 5B to the Report on Agenda Item 5

QUESTIONNAIRE

**MIDDLE EAST AERODROMES READINESS TO ACCOMODATE THE NEW LARGER
AIRCRAFTS**

Note 1: Please feel free to use additional pages for answers, if necessary. The completed Questionnaire is to be returned/faxed, before 22 May 2005, to ICAO MID Regional Office at (202) 2674843. Your urgent attention to this matter is much appreciated.

Note 2: § x.x.x: Reference to specifications contained in relevant Annexes to the Convention on International Civil Aviation

1. General information:

1.1 State:

1.2 Name of aerodrome:

**2. Compliance with the applicable Standards & Recommended Practices of Annex 14
Volume I, 4th Edition July 2004**

2.1 AERODROME FACILITIES

Runways and Shoulders

§ 3.1.9 The runway width should be not less than 60m.

§ 3.2.3 Runway shoulders should extend symmetrically on each side of the runway so that the overall width of the runway and shoulders is not less than 75m.

Runway Strips and runway end safety areas

- § 3.4.2 The runway strip shall extend before the threshold and beyond the end of RWY for a distance of at least 60 m.
- § 3.4.3 The runway strip width should extend laterally to a distance of at least 150 m on each side of the centre line of the runway and its extended centre line through the length of the strip.
- § 3.4.3 The runway safety end area should extend from the end of the runway strip to a distance of at least 240 m.
- § 3.5.4 The width of a runway safety end area shall be at least 120 m.

Taxiways and shoulders

- § 3.9.3 The clearance between an outer main wheel of an aeroplane and the taxiway edge should be not less than 4.5m (the same as for Code E); however, a greater clearance than 4.5 m may be provided to permit higher taxiing speeds.
- § 3.9.4 The minimum width of a taxiway should be not less than 25m.
- § 3.10.1 Taxiway shoulders and grading of the taxiway strip should be provided to give a minimum overall width of 60m
- § 3.11.1 The Taxiway strip should extend symmetrically on each side of the centre line of the taxiway throughout the length of the taxiway to at least 57.5 m

Taxiways curves and intersections

- § 3.9.5 The design of curves should be such that, when the cockpit of the aeroplane remains over the taxiway centre line marking, the clearance distance between the outer main wheels of the aeroplane and the edge of the taxiway should be not less than 4.5 m.
- § 3.9.5 The design of fillets at junctions and intersections of taxiways with runways, aprons and other taxiways should ensure that the minimum wheel clearances of 4.5 m are maintained when aeroplane are manoeuvring through the junctions and intersections.

Bridges, tunnels, and culverts under taxiways

- § 3.9.19 The width of that portion of a taxiway bridge capable of supporting aeroplanes, as measured perpendicularly to the taxiway centreline, shall not be less than the width of the graded area of the strip provided for that taxiway.
- §3.9.20 Access should be provided for RFF vehicles to intervene in both directions within the specified response time.

Taxiway minimum separation distance

- § 3.9.7 The following minimum separation distances should apply:
- | | |
|---|-------|
| Table 3-1 | |
| Taxiway centreline to instrument code 4 runway centreline | 190m |
| Taxiway centreline to non-instrument code 4 runway centreline | 115m |
| Taxiway centreline to taxiway centreline | 97.5m |
| Taxiway centreline to object (including taxiway strip) | 57.5m |
| Aircraft stand taxiway centre line –object | 50.5m |
- § 3.11.3 The taxiway strip should provide an area clear of objects which may endanger taxiing aeroplane

Holding bays

- § 3.12.6 The distance between a holding bay, runway-holding position at a taxiway/runway intersection or road-holding position and the centre line of a runway shall be 107.5 m where the code letter is F. The distance may need to be increased to avoid interference with radio navigation aids in case of precision approach runway.
- § 3.12.8 If a holding bay, runway-holding position at a taxiway/runway intersection or road-holding position for a precision approach runway code number 4 is at greater elevation compared to the threshold, the distance of 107.5 m should be further increased 5 m for every metre the bay or position is higher than the threshold.

Aprons

- § 3.13.2 The total apron area should be adequate to permit expeditious handling of aerodrome traffic at its maximum anticipated density.

Adequate stands and size

There should be room enough on the apron to provide for the number and types of aircraft expected to use it with adequate safety margins from obstructions including parked aircraft. The design of the apron should aim at facilitating the movement of aircraft and avoiding difficult manoeuvres, which might require undesirable use of excessive amounts of engine, thrust, or imposes abnormal stress on tyres.

Please indicate the number of stands available for Code F aircraft and other relevant information.

-
-
-
-
- § 3.13.6 The dimensions of the apron should be such that the minimum clearance between a manoeuvring aircraft and any obstruction should not be less than 7.5m and may be reduced when special circumstances so warrant:

- a) between the terminal, including any fixed passenger bridge and the nose of an aircraft;
and

5B-5

-
- b) over any portion of the stand provided with azimuth guidance by a visual docking guidance system.

Strength of pavement

Please indicate pavement strength data for the movement area intended for the operations of NLAs in the aerodrome

2.2 AERODROME OPERATIONAL SAFETY SERVICES

Aerodrome emergency planning

- § 9.1.1 An aerodrome emergency plan shall be established at an aerodrome, commensurate with the aircraft operations and other activities conducted at the aerodrome.
- § 9.1.2 The aerodrome emergency plan shall provide for the coordination of the actions to be taken in an emergency occurring at an aerodrome or in its vicinity.
- § 9.1.3 The plan shall coordinate the response or participation of all agencies which, could be of assistance in responding to an emergency.

Prior to the introduction of NLA the aerodrome emergency plan will need to be reviewed, An aerodrome operator will need to conduct a task resources analysis and generic assessment that should consider the provision of specific resources, trained personnel and rescue equipment commensurate with the level of operation of NLAs (Critical elements to be considered include among others; increased number of passengers, full length upper decks, size of airframe, exceeded fuel quantities, fuel tank locations and additional specialized rescue capability that will be needed in areas of difficult terrain or water).

Please indicate whether the aerodrome emergency plan considering NLAs operations has been established/reviewed, coordinated, assessed and tested.

Rescue and Fire Fighting

§ 9.2.3 The level of protection provided at an aerodrome for rescue and fire fighting shall be appropriate to the aerodrome category with a remission factor of one where the number of movements of the aeroplanes in the highest category normally using the aerodrome is less than 700 in the busiest consecutive three months.

§ 9.2.4 As of 1 January 2005, The RFF category should be equal to the largest aeroplane operating at that aerodrome regardless of the number of movements.

§ 9.2.5 The aerodrome category shall be determined from Annex 14, Volume I, table 9-1 and shall be based on the longest aeroplanes normally using the aerodrome and their fuselage width.

Disabled aircraft removal

§ 9.3.2 The disabled aircraft removal plan should be based on the characteristics of the aircraft that may normally be expected to operate at the aerodrome, and include among others things:

- a) a list of equipment and personnel on, or in the vicinity of, the aerodrome which would be available for such purpose; and
- b) arrangements for the rapid receipt of aircraft recovery equipment kits available from other aerodromes.

Please indicate aerodrome plan for the removal of disabled aircraft on, or in the vicinity of the aerodrome considering NLAs operations:

Ground Servicing of Aeroplanes

- § 9.6.1 Fire extinguishing equipment suitable for at least initial intervention in the event of fuel fire and personnel trained in its use shall be readily available during the ground servicing of the NLA, and shall be a mean of quickly summoning the rescue and fire fighting service in the event of a fire or major fuel spill.

Aerodrome maintenance services

1. With the introduction of NLAs such as the A380, aerodrome maintenance or reconstruction programmes will need to ensure that the specific aircraft requirements in terms of increased aircraft mass, wheelbase and wingspan; the wider location of the outboard engines; and possible jet blast to temporary structures are taken into account. The wing tip track-in whilst negotiating turns will also need to be considered. Where the specific requirements exceed those of current code E aircraft, special arrangements may be necessary.
2. Specific instructions will be required to be given to contractors or maintenance staff in terms of control of safety and work in progress.

Please indicate that the aerodrome maintenance or reconstruction programmes is considering NLAs operations requirements:

2.3 OBSTACLE LIMITATION SURFACES

Obstacle free zone

Annex 14, Volume I, defines OFZ as: "The air space above the inner approach surface, inner transitional surfaces, and balked landing surface and that portion of the strip bounded by these surfaces, which is not penetrated by any fixed obstacle other than a low-mass and frangible mounted one required for air navigation purposes."

- § 4.2.14 & 15 The Obstacle Free Zone (OFZ) shall extend to at least 77.5m either side of the runway centreline for a code 4 precision approach runway Category I, II, or III with regard to code F:

-
- a) the width of the inner horizontal surface has been increased from the code E dimension of 120 m to 155 m .The inner approach surface begins 60 m from the threshold and extends to 900 m. It has a slope of 2 per cent;
 - b) the inner transitional surface has a slope of 33.3 percent; and
 - c) the length o f the inner edge of the balked landing surface has been in creased from the code E dimension of 120 m to 155 m. The distance from the threshold or runway end (whichever is less) is 1 800 m. The divergence (each side) is 10 per cent and the slope is 3.33 per cent.
-
-
-
-

2.4 VISUAL AIDS

Markings and signs

§ 5.4.1.3 Signs shall be frangible. Annex 14, Volume I, Table 5-4 specifies location distances for taxiing guidance signs including runway exit signs and their height to near side of sign.

These distances may need to be increased to ensure that clearance for propellers and the engine pads is obtained for NLAs operations. With an increased distance from the taxiway edge, the angle of signs relative to the taxiway may have to be considered. Signs along some taxiways may have to be strengthened or relocated because they may be subject to excessive jet blast.

Additional signs may be needed:

- a) where ATC procedures require NLA movement along specific taxiway routes,
- b) along service roads that run adjacent to or across an NLA designated taxiing route to alert vehicle drivers to the potential exposure to excessive jet blast
- c) where separation between taxiways are insufficient to allow NLA-NLA or NLA-other aircraft that may require air traffic procedures to control aircraft movement.

Additional information and mandatory instruction markings may be required to identify NLA-permitted taxi routes, speed restriction areas, prohibited movement area and specific NLA holding positions.

Lights

§ 5.3.9.8 The runway edge lights shall show at all angles in azimuth necessary to provide guidance to a pilot landing or taking off in either direction.

Lights may be liable to the effect of jet blast, elevated runway and taxiway lights may have to be replaced with inset units that should meet the requirement of Annex 14 Volume I, § 5.3.9.8

The strength of all lights and fittings over which the NLA may pass may have to be checked for adequacy.

Additional stop bar lights and runway guard lights may be required if runway –holding positions are relocated or new positions provided

3. Information guidelines in ICAO Circular 305 Operation of New Larger Aeroplanes at Existing Aerodromes

The purpose of the Circular is to assist States in addressing various aspects of operating NLAs at existing aerodromes. The Circular provides information on issues concerning aerodrome facilities and services, air traffic management and flight operations that should be considered in accommodating NLAs at existing aerodromes. It also provides guidance on conducting aeronautical studies, including the development of alternative measures, operational procedures and operating restrictions that could, while preserving safety, allow aerodromes that do not meet the relevant Annex 14 Volume I - Code F criteria to accommodate the NLA on an interim basis. States remain responsible for deciding what is acceptable as a measure, procedure, restriction or any other alternative that should be temporary only, so that safety is not compromised.

Please describe the actions taken and/or will be taken by operators to accommodate the NLA at existing aerodromes if no or limited physical modifications are contemplated. (Please use additional pages, if necessary)

4. Target Completion Dates

Please indicate the timelines, that the above provisions in Items 2 and 3; are expected to be completed.

5. Alternate Aerodromes

Annex 6 Vol 1 §4.3.4 requires alternate aerodromes to be selected and specified. The ICAO Doc 9708 Air Navigation Plan requires States to promulgate in Table AOP 1 of both the Basic Air Navigation Plan (Basic ANP) and the Facilities and Services Implementation Document (FASID, inter alia, the names of alternate aerodromes, aerodrome reference code and RFF category. Please indicate the names of alternate (take-off/en-route/destination) aerodromes that have been or will be nominated. Please also indicate if your State aviation authority will be initiating a proposal to amend ICAO Doc 9708.

6. IATA is requested to provide information on Airlines plans to operate NLAs at MID Aerodromes (principle, alternate and en-route aerodromes)

7. Any other information and/or comments:

MIDANPIRG/9
Appendix 5C to the Report on Agenda Item 5

MID RMA SET UP ACTION PLAN

Item No.	Actions	Responsible	Apr 05	May 05	Jun 05	Jul 05	Aug 05	Sep 05	Oct 05	Nov 05	Dec 05	
1	MIDANPIRG Commitment to establish a MID RMA	MIDANPIRG/9										
2	Sec Gen State Letter to MID States to inform them about the MIDANPIRG/9 Conclusion related to MID RMA and asking for States Commitment	ICAO										
3	Sec Gen Letter to FAA , Eurocontrol and IATA	ICAO										
4	Nomination of States Focal points for MID RMA	MID States										
5	Convening of MID RMA meeting	ICAO										
6	Set up of the funding mechanism	MID States + IATA										
7	Availability of funds	MID States + IATA										
8	Staffing (database Expert + FDPS/ASM Expert)	ICAO + (FAA & Eurocontrol)*										
9	Training of appointed Experts	Eurocontrol + FAA										
10	Provision of existent data	Eurocontrol + FAA										
11	Hosting of Premises	ICAO MID Regional Office + MID States										
12	Availability of Equipments (PCs, etc)	ICAO <i>(from the funds allocated to MID RMA)</i>										
13	MID RMA operations	ICAO + MID States + (FAA & Eurocontrol)*										
TBD ⁽¹⁾												

(*) Advice, assistance and support are required

(1) To Be Determined pending MID RMA meeting decision about funding mechanism and availability of funds

MIDANPIRG/9
Appendix 5D to the Report on Agenda Item 5

DUTIES AND RESPONSIBILITIES OF THE MID RMA

The Middle East Regional Monitoring Agency (MID RMA) for RVSM and RNP 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 is 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 **MID RMA** 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 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;
- h) **to carry out post-implementation safety assessments with a view to verify that the defined safety level continues to be met;**
- i) to establish and maintain a database containing the results of navigation error monitoring;
- j) to prepare, each six months, reports setting out the results of navigation error monitoring for the preceding six-month period. These reports shall be presented to the ICAO Middle East Regional Office, Cairo, and States as part of their decision process related to safety management;
- k) to conduct safety assessments in conjunction with expansion or changes to the RNP route structure within the Middle East Region;

- l) to assist States in carrying out safety assessments in relation to requirements identified within the framework of safety management programmes likely to have an impact on the safety of air navigation at a sub-regional level; and
- m) to liaise with other Regional Monitoring Agencies and organizations to harmonise implementation strategies.

Note: The MID RMA will be guided by the working principles indicated in the RMA Manual (Doc....)

- Baghdad and Kabul FIRs

MIDANPIRG/9
Appendix 5E to the Report on Agenda Item 5

AGREED PRINCIPLES FOR THE ESTABLISHMENT OF THE MID RMA

The agreed principles for the establishment of the MID RMA be as follows:

1. SCOPE OF RMA

That the initial scope of the RMA will be limited to:

- a) RVSM
 - i) Pre-implementation safety assessment
 - ii) Post-implementation safety assurance
- b) RNP
 - i) B-RNAV
 - ii) T-RNAV
- c) Safety Management Systems (SMS)

2. MANAGEMENT OF RMA

That the MID RMA will be an autonomous body managed by a board comprised of one member of each of the Participating States and will report to MIDANPIRG.

3. ADMINISTRATIVE ARRANGEMENTS

ICAO Middle East Office will oversee the functioning of the RMA.

4. METHODOLOGY

Work will be subcontracted to suitably qualified and experienced companies and/or organizations for periods ensuring adaptability to new operational developments and stability in provision of services.

MIDANPIRG/9
Appendix 5F to the Report on Agenda Item 5

MIDDLE EAST RVSM MINIMUM MONITORING REQUIREMENTS

AS OF 01 MAY 2004

Initial Monitoring All 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 for initial RVSM monitoring, applicable to operators without previous RVSM status, intending to commence operations in MID RVSM airspace. 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 be maintained after the initial RVSM approval process. A follow-on sampling program for additional operator aircraft shall ensure continued fulfilment of the percentage rules set out in Table 1. Additionally, monitoring shall be carried out every two years to ensure that ASE stability is satisfactory for sustained RVSM operations.

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 European, 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.

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 by the Regional Monitoring Agency.

MONITORING IS REQUIRED IN ACCORDANCE WITH THIS CHART			
Monitoring prior to the issue of RVSM approval is not a requirement			
Category		Aircraft Type	Minimum Operator Monitoring For Each Aircraft Group
1	Group Approved: Data indicates compliance with the RVSM MASPS	[A30B, A306], [A312 (GE) A313(GE)], [A312 (PW) A313(PW)], A318, [A319, A320, A321], [A332, A333], [A342, A343], A345, A346 B712, [B721, B722], B732, [B733, B734, B735], B737(Cargo), [B736, B737/BBJ, B738/BBJ, B739], [B741, B742, B743], B74S, B744 (5" Probe), B744 (10" Probe), B752, B753, [B762, B763], B764, B772, B773 CL60(600/601), CL60(604), C560, [CRJ1, CRJ2], CRJ7, DC10, F100, GLF4, GLF5, LJ60, MD10, MD11, MD80 (All series), MD90, T154	10% or Two airframes from each fleet* of an operator to be monitored as soon as possible but not later than 6 months after the issue of RVSM approval and thereafter as directed by the RMA * Note. For the purposes of monitoring, aircraft within parenthesis [] may be considered as belonging to the same fleet. For example, an operator with six A332 and four A333 aircraft may monitor one A332 and one A333 or two A332 aircraft or two A333 aircraft.
2	Group Approved: Insufficient data on approved aircraft	Other group aircraft other than those listed above including: ASTR, B703, B731, BE20,BE40, C500, C25A, C25B, C525, C550**, C56X, C650, C750, CRJ9, [DC86, DC87], DC93, DC95, [E135, E145], F70, [F900, F900EX], FA20, FA10, GLF2(II), GLF(IIB), GLF3, GALX, GLEX, H25B(700), H25B(800), H25C, IL62, IL96, J328, L101, L29(2), L29(731), LJ31, [LJ35,LJ36], LJ45, LJ55, SBR1, T134, T204, P180, PRM1,YK42	60% of airframes from each fleet of an operator or individual monitoring, as soon as possible but not later than 6 months after the issue of RVSM approval and thereafter as directed by the RMA. ** Refer to aircraft group table for detail on C550 monitoring
3	Non-Group	Aircraft types other than those listed under categories 1 and 2, above.	100% of aircraft shall be monitored as soon as possible, but not later than 6 months after the issue of RVSM approval.

Table 1. MID-RVSM Monitoring Requirements

In order to achieve the operator-monitoring requirement, monitoring results from other regions may be used. An individual aircraft that has demonstrated satisfactory height-keeping performance through monitoring in another region will not require re-monitoring as part of the MID-RVSM monitoring programme.

Table 2. Pre Applied Monitoring Groups for Aircraft Certified
under Group Approval Requirements

Monitoring Group	ICAO Type Designator	A/C Type	A/C Series
A124	A124	AN-124 RUSLAN	ALL SERIES
A300	A306 A30B	A300 A300	600, 600F, 600R, 620, 620R, 620RF B2-100, B2-200, B4-100, B4-100F, B4-120, B4-200, B4-200F, B4-220, C4-200
A310-GE	A310	A310	200, 200F, 300, 300F
A310-PW	A310	A310	220, 220F, 320
A318	A318	A318	ALL SERIES
A320	A319 A320 A321	A319 A320 A321	CJ , 110, 130 110, 210, 230 110, 130, 210, 230
A330	A332, A333	A330	200, 220, 240, 300, 320, 340
A340	A342, A343,	A340	210, 310
A345	A345	A340	540
A346	A346	A340	640
A3ST	A3ST	A300	600R ST BELUGA
AN72	AN72	AN-74, AN-72	ALL SERIES
ASTR	ASTR	1125 ASTRA	ALL SERIES
ASTR-SPX	ASTR	ASTR SPX	ALL SERIES
AVRO	RJ1H, RJ70, RJ85	AVRO	RJ70, RJ85, RJ100
B712	B712	B717	200
B727	B721 B722	B727	100, 100C, 100F, 100QF, 200, 200F
B732	B732	B737	200, 200C
B737CL	B733 B734 B735	B737	300, 400, 500
B737NX	B736 B737 B738 B739	B737 B737 B737 B737	600 700, 700BBJ 800, BBJ2 900
B737C	B737	B737	700C
B747CL	B741 B742 B743	B747	100, 100B, 100F, 200B, 200C, 200F, 200SF, 300
B74S	B74S	B747	SR, SP
B744-5	B744	B747	400, 400D, 400F (With 5 inch Probes)
B744-10	B744	B747	400, 400D, 400F (With 10 inch Probes)
B752	B752	B757	200, 200PF
B753	B753	B757	300

Monitoring Group	ICAO Type Designator	A/C Type	A/C Series
B767	B762 B763	B767	200, 200EM, 200ER, 200ERM, 300, 300ER, 300ERF
B764	B764	B767	400ER
B772	B772	B777	200, 200ER, 300, 300ER
B773	B773	B777	300, 300ER
BE40	BE40	BEECHJET 400A	ALL SERIES
BE20	BE20	BEECH 200 -KINGAIR	ALL SERIES
C500	C500	500 CITATION, 500 CITATION I, 501 CITATION I SINGLE PILOT	ALL SERIES
C525	C525	525 CITATIONJET, 525 CITATIONJET I	ALL SERIES
C525-II	C25A	525A CITATIONJET II	ALL SERIES
C525 CJ3	C25B	CITATIONJET III	ALL SERIES
C550-552	C550	552 CITATION II	ALL SERIES
C550-B	C550	550 CITATION BRAVO	ALL SERIES
C550-II	C550	550 CITATION II, 551 CITATION II SINGLE PILOT	ALL SERIES
C550-SII	C550	S550 CITATION SUPER II	ALL SERIES
C560	C560	560 CITATION V, 560 CITATION V ULTRA, 560 CITATION V ULTRA ENCORE	ALL SERIES
C56X	C56X	560 CITATION EXCEL	ALL SERIES
C650	C650	650 CITATION III , 650 CITATION VI , 650 CITATION VII	ALL SERIES
C750	C750	750 CITATION X	ALL SERIES
CARJ	CRJ1, CRJ2	REGIONALJET	100, 200, 200ER, 200LR
CRJ-700	CRJ7	REGIONALJET	700
CRJ-900	CRJ9	REGIONALJET	900
CL600	CL60	CL-600 CL-601	CL-600-1A11 CL-600-2A12, CL-600-2B16
CL604	CL60	CL-604	CL-600-2B16
BD100	CL30	CHALLENGER 300	ALL SERIES
BD700	GL5T	GLOBAL 5000	ALL SERIES
CONC	CONC	CONCORDE	ALL SERIES
DC10	DC10	DC-10	10, 10F, 15, 30, 30F, 40, 40F
DC86-7	DC86, DC87	DC-8	62, 62F, 72, 72F
DC93	DC93	DC-9	30, 30F
DC95	DC95	DC-9	SERIES 51
E135-145	E135, E145	EMB-135, EMB-145	ALL SERIES
F100	F100	FOKKER 100	ALL SERIES

Monitoring Group	ICAO Type Designator	A/C Type	A/C Series
F2TH	F2TH	FALCON 2000	ALL SERIES
F70	F70	FOKKER 70	ALL SERIES
F900	F900	FALCON 900, FALCON 900EX	ALL SERIES
FA10	FA10	FALCON 10	ALL SERIES
FA20	FA20	FALCON 20 FALCON 200	ALL SERIES
FA50	FA50	FALCON 50, FALCON 50EX	ALL SERIES
GALX	GALX	1126 GALAXY	ALL SERIES
GLEX	GLEX	BD-700 GLOBAL EXPRESS	ALL SERIES
GLF2	GLF2	GULFSTREAM II (G- 1159),	ALL SERIES
GLF2B	GLF2	GULFSTREAM IIB (G- 1159B)	ALL SERIES
GLF3	GLF3	GULFSTREAM III (G- 1159A)	ALL SERIES
GLF4	GLF4	GULFSTREAM IV (G- 1159C)	ALL SERIES
GLF5	GLF5	GULFSTREAM V (G- 1159D)	ALL SERIES
H25B-700	H25B	BAE 125 / HS125	700B
H25B-800	H25B	BAE 125 / HAWKER 800XP, BAE 125 / HAWKER 800, BAE 125 / HS125	ALL SERIES/A, B/800
H25C	H25C	BAE 125 / HAWKER 1000	A , B
IL86	IL86	IL-86	NO SERIES
IL96	IL96	IL-96	M , T, 300
J328	J328	328JET	ALL SERIES
L101	L101	L-1011 TRISTAR	1 (385-1), 40 (385-1), 50 (385-1), 100, 150 (385-1-14), 200, 250 (385-1-15), 500 (385- 3)
L29B-2	L29B	L-1329 JETSTAR 2	ALL SERIES
L29B-731	L29B	L-1329 JETSTAR 731	ALL SERIES
LJ31	LJ31	LEARJET 31	NO SERIES, A
LJ35/6	LJ35 LJ36	LEARJET 35 LEARJET 36	NO SERIES, A
LJ40	LJ40	LEARJET 40	ALL SERIES
LJ45	LJ45	LEARJET 45	ALL SERIES
LJ55	LJ55	LEARJET 55	NO SERIES B, C
LJ60	LJ60	LEARJET 60	ALL SERIES
MD10	MD10	MD-10	ALL SERIES
MD11	MD11	MD-11	COMBI, ER, FREIGHTER, PASSENGER
MD80	MD81, MD82,	MD-80	81, 82, 83, 87, 88

Monitoring Group	ICAO Type Designator	A/C Type	A/C Series
	MD83, MD87, MD88		
MD90	MD90	MD-90	30, 30ER
P180	P180	P-180 AVANTI	ALL SERIES
PRM1	PRM1	PREMIER 1	ALL SERIES
T134	T134	TU-134	A, B
T154	T154	TU-154	A , B, M, S
T204	T204, T224, T234	TU-204, TU-224, TU- 234	100, 100C, 120RR, 200, C
YK42	YK42	YAK-42	ALL SERIES

Note: This list is not considered exhaustive.

MIDANPIRG/9
Appendix 5G to the Report on Agenda Item 5

**WORKING METHODOLOGY FOR THE ELIMINATION/MITIGATION OF PROBLEMS
ASSOCIATED WITH MULTIPLE REPETITIONS
& NON RECEIPT OF ATS MESSAGES**

Taking an average day, MID states should initiate a survey to ascertain:

- a) The number of incidents where a FPL has not been received by a concerned FIR.
- b) The typical number of ATS related messages received, against the number of controlled flights within their respective FIR's.
- c) The number of those ATS related messages that were received once.
- d) The number of those ATS related messages that were received more than once.
- e) The number of those ATS related messages that were received concerning flights that were not entering their FIR.

Having completed the above, the data gathered from the survey should be analysed to determine the following:

- 1) FPL messages that were not received by the concerned FIR to be identified by Operator (airline) and the communications centre of origin. Trace procedures will have to be initiated to determine the reason for non receipt.
- 2) ATS messages that were repeated once to be identified by Operator (airline), the communications centre of origin and the number of scheduled flights from that origin (see attachment "A").
- 3) ATS messages that were repeated more than once to be identified by Operator (airline), flight number, the communications centre of origin and the number of repeated messages for each flight number (see attachment "C").
- 4) ATS messages that were received concerning flights that were not routing through your FIR. These should be identified by Operator (airline), the communications centre of origin and the number of related ATS messages from that origin (see attachment "B").

On completion of the survey, states shall have evidence that can be used to council both the offending operators and communications staff on the correct application of the AFTN provisions and to disseminate their findings on the shortcomings with the ICAO MID Office and other FIR's in the MID region.

MIDANPIRG/9
Appendix 5H to the Report on Agenda Item 5

ALLOCATION AND ASSIGNMENT OF SECONDARY SURVEILLANCE RADAR (SSR) CODES IN THE MID REGION

1. Objectives of the new code allotment plan (CAP)

1.1 The new code allotment plan (CAP) shall provide States in the MID Region with a means to co-ordinate the use of 4096 secondary surveillance radar (SSR) codes in Mode A/3 in the most efficient and economical manner.

1.2 The plan shall foster the early implementation of a method which will ultimately allow an assigned four-digit code to be maintained for the longest possible time during a flight in the MID Region.

2. General principles to meet the objective

2.1 The detailed principles governing the use of SSR codes in the MID Region are based on the following general principles which are complementary to the world-wide provisions (PANS-ATM ~~RAC~~, Doc 4444, **Chapter 8 Part X**). These principles provide for a smooth transition from the present use of SSR to that mentioned in paragraph 1.2.

2.2 *Mode A/3 codes shall be used for ATS purposes only.*

2.2.1 Codes will be allocated to ATS units on the basis of duly justified operational requirements and their number will be established based on the number of aircraft to be handled simultaneously within a specified area and for a determined period of protection during traffic peaks.

2.2.2 Code requirements will be expressed in terms of complete code series (sixty-four four-digit codes in each series) or specified parts thereof. In special cases such requirements may even cover designated four-digit codes only.

2.2.3 Codes intended to be used as international transit codes will be allocated to specific ACCs for use within participating areas (PA) consisting of the areas of ATS responsibility of several States.

2.2.4 Codes intended to be used for domestic purposes will be allotted to States for use by ATS units which require limited geographical protection for such codes only.

3. Operational and technical factors involved

3.1 The following operating conditions are likely to persist for the lifetime of the new CAP concept:

- a) both auto-active and passive SSR decoding equipment will be used for ATS purposes in the MID Region;
- b) because of this, comparatively simple code assignment methods like the assignment by reference to ATC sectors will coexist with, and vertically or laterally adjoin, more sophisticated, computer-assisted code assignment methods; and
- c) as 4096 code capability in Mode A/3 is a prerequisite for a full application of sophisticated code assignment methods, it appears essential to make this capability a mandatory requirement for aircraft operating international transit flights. For this reason, an environment of sixty-four code capability is not taken into account in this context.

3.2 For guidance material detailing the requirements for the development of automated SSR code assignment systems, refer to the **attachment** — Considerations Relevant to the Progressive Sophistication of Treatment of SSR-Derived Data for ATS Purposes.

4. Permanent code distribution and categories

4.1 *Distribution of codes*

4.1.1 Certain codes are reserved for special purposes on a world-wide scale. The remaining codes series for use in the region are, in this CAP, divided into two distinct categories: transit codes for international use and domestic codes for national use.

4.1.2 The number of codes used for international transit purposes has to be relatively high, due to the extended geographical protection required in order to reduce to a minimum the chances of confusion between the identity of two different aircraft assigned the same four-digit code. Sufficient protection must be allowed to prevent interference with affected PAs in neighbouring regions.

4.1.3 The number of codes used for domestic purposes can be kept relatively small, as these may be repeated in different States, or as the case may be, even within the same State.

4.1.4 Where required, the allocation possibilities can be increased significantly by dividing specific code series into eight blocks of eight four-digit codes.

4.2 Special purpose codes

4.2.1 Specific codes in certain series are reserved for special purposes as follows:

Series 00 – Code 0000

Available as a general purpose code for domestic use by any State. *[Codes 0001 – 0077 are available for domestic purposes (cf. paragraph 4.2.2)]*

Series 20 – Code 2000

To be used by flights required to set a code without specific ATC instructions when entering an area where SSR coverage is available. *[Codes 2001 to 2077 are available for international transit purposes.]*

Series 75 – Code 7500

Reserved for use in the event of unlawful interference. *[Codes 7501 to 7577 are available for domestic use subject to specific conditions. (cf. paragraph 4.2.3.)]*

Series 76 – Code 7600

Reserved for use in the event of radio-telephony communication failure. *[Codes 7601 to 7677 are available for domestic use subject to specific conditions (cf. paragraph 4.2.3)]*

Series 77 – Code 7700

Reserved for use in the event of emergencies. *[Codes 7701 to 7777 are temporarily unavailable.]*

4.2.2 Code blocks in the series 00 (with the exception of code 0000) are allotted to States for domestic purposes so that every State in the region is allotted two octal blocks of four-digit codes in such a manner that a code duplication is avoided at the State borders.

4.2.3 States may use discrete codes 7501 to 7577 and 7601 to 7677 for domestic purposes provided that they have ascertained that in the area concerned and in affected adjacent areas:

- a) no sixty-four code ground equipment is in operation; and

- b) 4096-code ground decoding equipment has the capability of permitting the use of such codes without generating the aural or visual alarms associated with the special purpose codes 7500 and 7600 (cf. Annex 10, Volume I, Part I, 2.5.4).

4.3 Transit codes

4.3.1 Transit codes area allocated to specific area control centres (ACCs) or approach control offices (APPs) for assignment to international transit flights. Aircraft will retain the assigned code beyond national boundaries but not normally beyond MID Region PA (paragraph 4.3.4 c) refers).

4.3.2 Initially the allotment of transit codes in the MID Region is based on one participating area which includes the following flight information centres/area control centres (FICs/ACCs):

AMMAN	JEDDAH
BAGHDAD	KABUL
BAHRAIN	KHARTOUM*
BEIRUT	KUWAIT
CAIRO*	MUSCAT
DAMASCUS	SANA'A
EMIRATES	TEHRAN
OTHERS	

**Note.— FICs/ACCs in the AFI Region which must be included in all SSR code allocation plans for the MID Region because of their geographical location.*

4.3.3 Transit codes shall be assigned in accordance with the following principles governing the originating region code assignment method (ORCAM):

- a) when an aircraft enters the MID Region (either on departure or in flight), it will be assigned a specific four-digit code by the first ATS unit concerned in the region. This code will be selected from a given stock of code series allocated in such a manner that duplication of codes assigned by different centres is prevented within the region;
- b) each flight will keep the original code assigned on entering the region for the whole flight time within that region. Appropriate code protection criteria have to be applied in order to avoid duplication by too early reassignment of the same code. Efforts should be made to reduce the "protection period" referred to in paragraph 4.3.4 d) while retaining adequate protection; and

- c) normally a code change will be required at the time a flight crosses the MID Region boundary. However, in specific cases and by specific arrangements agreed between the ATS units affected during the continuation of the flight, the assigned code may be retained beyond the MID Region boundary.

4.3.4 In establishing the number of transit code series, account has been taken of the following factors:

- a) the lifetime of the air navigation plan of which SSR is but one element. At present this does not exceed a maximum of seven years;
- b) the air traffic forecasts for the MID Region in order to determine the likely growth of air traffic classified as international in the region;
- c) the requirement for code series for a given ATC unit is derived from the total number of aircraft requiring assignment of a specific code during the busiest period of activity of that ATC unit;
- d) in calculating the required code series in accordance with c) above, a "protection period" of approximately three hours is used, i.e. any specific code assigned to an aircraft by an ATC unit is normally available for re-use after a period of three hours following the initial assignment of the code; and
- e) the assignment of a specific code to an aircraft is made once the aircraft in question is ready for departure on a flight, or when the aircraft in flight is expected to come under imminent control. Permanent code assignments based on the flight number or any other systematic distinguishing features cannot as a general rule be accepted because of the wasteful effects on the economy in the use of codes required.

4.3.5 Common criteria applying to traffic figures will have to be established to assess the number of transit codes required by each ACC or APP in the region. The distribution of transit codes should be done by reference to the portion of peak international flights originating from the ACC or APP and that will be assigned an SSR code. A fix time evaluation of each facility could be used to determine the SSR code requirements.

4.3.6 All code series allocated to the MID Region must be protected from affected PAs in neighbouring regions.

4.4 *Domestic codes*

4.4.1 Domestic codes are allocated for use by flights which, throughout their flight, remain within the boundaries for the agreed area of use of such codes (normally within one State). The relevant code series are listed in the attached "SSR Code Assignment System" table. In addition codes 0001 to 0077, 7501 to 7577 and 7601 to 7677 may be available in accordance with the conditions specified in paragraphs 4.2.2 and 4.2.3 respectively.

4.4.2 Domestic codes should be used so that utmost economy in the number of codes required is achieved. As national requirements vary considerably, no definite rules can at present be established; however, in order to assist States, and in order to facilitate required international co-ordination of use of domestic codes in border areas, the following guidelines are provided.

4.4.2.1 As a general rule, codes employed primarily for transit purposes may be used for domestic purposes in those States where a buffer of one FIR exists between the area where the code is used for transit and that where it is used for domestic purposes. Based on appropriate agreements between the ATC units affected, exceptions to this rule may be made, provided that it is ensured that this will not lead to difficulties.

4.4.2.2 With regard to domestic codes used primarily for terminal control purposes (terminal control area (TMA)/APP and ground controlled approach system (GCA)), it is assumed that, unless specified otherwise, the area of operational use of the code concerned corresponds to the area of use of the associated air/ground communication channel.

4.4.2.3 Domestic codes used for terminal purposes (TMA/APP and GCA) or used within specified portions of the airspace (sectors) will be ensured protection in these functions. Adjacent States may use such codes for their domestic purposes provided a buffer equal to one sector or a distance of 60 NM between the closest edges of the two areas of use exists.

5. Monitoring of the plan

5.1 Whilst full implementation of the CAP must inevitably be achieved gradually, it is expected that progressive development of improved ground facilities will allow in future an increasing number of States to adhere to the provisions foreseen in the plan.

5.2 Provisions regarding the progressive implementation of the SSR CAP and its monitoring should be agreed by the MID Region. States expecting to introduce SSR facilities are requested to advise the ICAO regional office as to their intended use of codes at least six months in advance, in order to permit timely accomplishment of any necessary co-ordination.

ABBREVIATIONS AND GLOSSARY OF TERMS

PA = Participating area	An area of specified dimensions comprising the areas of ATS responsibility of several States wherein a four-digit code assigned to a specific aircraft engaged in an international flight is normally retained by this aircraft while operating in that area.
CAP = ICAO SSR Code Allotment Plan	
Region = "MID Region" of ICAO	
ORCAM = Originating region code assignment method	(See paragraph 4.3.3)
Basic code	An SSR identity code containing combinations of A and B pulses only (also replies from a 4 096 code transponder where no C or D pulses are present): (Z1,Z2, (0, 0) with Zi = 0, 1, 2, ...7).
Discrete code	An SSR identity code containing all those combinations of A, B, C and D pulses which do not constitute a basic code (cannot be generated by a sixty-four code transponder): (Z1, Z2, Z3, Z4) with Zi = 0, 1, 2,.....7) and Z3 + Z4 P 0.
Four-digit code	An SSR identity code containing combinations of A, B, C and D pulses (any reply generated by a 4 096 code transponder): (Z1, Z2, Z3, Z4) with Zi = 0, 1, 2 7).
Code series	A group of the sixty-four four-digit codes having the same first two digits.
Code block	A continuous sequence of four-digit codes within a code series. Specific "octal" blocks of eight sequential codes having common first three digits may be identified by reference to the third digit of the full four-digit code (e.g. 0-block = codes XX00 to XX07. Codes 0010 to 0017 may be designated as codes 00 (1), codes 0020 to 0027 as codes 00 (2), etc.).
Code assignment	Distribution of SSR codes to aircraft (cf. <i>Procedures for Air Navigation Services — Rules of the Air and Air Traffic Services</i> (PANS-ATM, Doc 4444).
Code allocation	Distribution of SSR codes to services (cf. PANS-ATM).
Code allotment	Distribution of SSR codes to areas or countries (cf. PANS-ATM).
Transit code	A code allocated to a specific ATC unit for assignment to an aircraft engaged in an international flight and which will be retained by this aircraft at least while operating within the related PA.
Domestic code	A code allotted to a specific State for use by a designated ATC unit within that State in relation to flights which remain throughout their operation within the agreed area of use of the code concerned.

**SSR CODE ASSIGNMENT SYSTEM
(INTERNATIONAL AND DOMESTIC)
MIDDLE EAST REGION**

**SISTEMA DE ASIGNACIÓN DE CLAVE
(INTERNACIONAL Y NACIONAL)
REGIÓN ORIENTE MEDIO**

Code Clave	A M M A N	B A G H D A D	B A H R A I N	B E I R U T	C A I R O	D A M A S C U S	E M I R A T E S	J E D D A H	K A B U L	K U W A I T	M U S C A T	S A N ' A	T E H R A N	T E L A V I V
0000	GENERAL PURPOSE//FINES GENERALES													
0001-0077														
0100-0177								D	*					
0200-0277								D			*	*		
0300-0377								*			*	*		
0400-0477	D		*	*	*	*	D	*			*	*	*	*
0500-0577	—	—	—	—	—	—	T	—	—	—	—	—	—	—
0600-0677	—	—	—	—	—	—	—	—	—	T	—	—	—	—
0700-0777	T	—	—	—	—	—	—	—	—	—	—	—	—	—
1000-1077	—	T	—	—	—	—	—	—	—	—	—	—	—	—
1101-1177	—	—	—	—	—	—	—	—	—	—	—	—	T	—
1200-1277		*	D		*			*		*	*	*	*	*
1300-1377			*		*			*			*		*	
1400-1477	*	*	*		D		D	*		D			*	*
1500-1577	D	*	*	*		*	*	*	*	*	*		D	*
1600-1677	*	*	D		D		*	*		*	*	*	*	*
1700-1777							T							
2001-2077		*	*				*		*	*	*			
2100-2177	—	—	T	—	—	—	—	—	—	—	—	—	—	—
2200-2277	—	—	T	—	—	—	—	—	—	—	—	—	—	—
2300-2377	—	—	—	—	T	—	—	—	—	—	—	—	—	—
2400-2477	D		*		*		D	*			*		*	
2500-2577	—	—	—	T	—	—	—	—	—	—	—	—	—	—
2600-2677	—	—	T	—	—	—	—	—	—	—	—	—	—	—
2700-2777	—	—	—	—	T	—	—	—	—	—	—	—	—	—
3000-3077	—	—	—	—	—	T	—	—	—	—	—	—	—	—
3100-3177	—	—	—	—	—	—	—	T	—	—	—	—	—	—
3200-3277	*	*	*	*	*	*	*	*	*	*	*	D	D	D
3300-3377	*				D		D	*			*	*		*
3400-3477	*	D	*		*	*	D	*		*	*		*	
3500-3577	—	—	—	—	—	—	—	T	—	—	—	—	—	—
3600-3677		*	*				*		*	*	*		D	
3700-3777	—	—	—	—	—	—	T	—	—	—	—	—	—	—
4000-4077	—	—	—	—	—	—	—	—	—	—	T	—	—	—
4100-4177	—	—	—	—	—	—	—	—	—	—	—	—	T	—
4200-4277	*	*	*	*	*	*	*	*	*	*	*		D	D
4300-4377	*	*	*	D	*	*	*	D		*	*	*		*
4400-4477	*	*	D		D		*	*		*	*	*	*	*
4500-4577	*	*	*		*		*	D			*	*		*

5H-7

Code Clave	A M M A N	B A G H D A D	B A H R A I N	B E I R U T	C A I R O	D A M A S C U S	E M I R A T E S	J E D D A H	K A B U L	K U W A I T	M U S C A T	S A N A ' A	T E H R A N	T E L A V I V
4600-4677	*	*	*	*	*	D	*	D		*	*	*		*
4700-4777	*		*		D		*	*			D	*	*	*
5000-5077			D											
5100-5177	—	—	—	—	—	—	—	—	—	—	—	—	—	T
5200-5277	*	*	*		*		*	D			*	*	*	*
5300-5377		*	D				*	*	D	*	*	*	*	
5400-5477		*	D				*	*		*	*	*	*	
5500-5577								D						
5600-5677								D						
5700-5777	—	—	—	—	—	T	—	—	—	—	—	—	—	—
6000-6077							T							
6100-6177	—	—	—	—	—	—	—	T	—	—	—	—	—	—
6200-6277							T							
6300-6377		*	*				*	D	*	*	*		D	
6400-6477	—	—	—	—	—	—	—	—	—	—	—	—	—	T
6500-6577			*				*	*			D	*	*	
6600-6677	—	—	—	—	—	—	—	—	—	—	T	—	—	—
700-6777	—	—	—	—	—	—	—	—	—	—	—	—	T	—
7001-7077	—	—	—	—	—	—	—	—	—	—	—	T	—	—
7100-7177	—	—	—	—	—	—	—	—	T	—	—	—	—	—
7200-7277									*		*		*	
7300-7377			*				*	*			D	*	*	
7400-7477	*	D	*			*		*		*	*		*	
7500														
7600 XX														
7700														

T Whole series for transit use

— Transit code retained

* Not available for domestic use

D Domestic use

XX 7601–7612 Red Cross/humanitarian

MIDANPIRG/9
Appendix 5I to the Report on Agenda Item 5

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 Acti	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	✓	✓	✓	✓	✓	X	✓	X	X	X	✓	✓	✓		✓	X	✓	✓	
*Egypt	E	E	C	C	E	D	E	E	D	D	E	E	E	D	A	D	E	A	C
Iran, Islamic Republic																			
Iraq																			
Israel																			
Jordan	✓	✓	✓	✓	*	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	D
Kuwait																			
Lebanon																			
Oman	Y	Y	Y	Y	Y	No	Y	Y	No	Y	Y	Y	MCT Radio	Y	NA	No	NA	Y	NA
*Pakistan	E	D	D	D	C	D	D	D	D	C	E	E	D	E	D	B	C	C	C
Qatar																			
Saudi Arabia																			
Syrian Arab Republic																			
United Arab Emirates	X	X	N/A	N/A	NO	N/A	N/A	N/A	NO	N/A	N/A	✓	N/A	N/A	NO	N/A	N/A	N/A	N/A
Yemen																			

- Egypt and Pakistan have used the categorization as used in Appendix 'A' to Part V11 of Asia/Pacific FASID as follows:
A=not implemented, B=initial implementation, C=meets Annex 12 requirements in some areas, D= meets Annex 12 requirements in most areas,
E=Fully meets Annex 12 requirements, Blank=no response.

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 rescue (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) point of contact (SPOC) for inclusion in Table SAR1 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: 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: 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. 1/17]

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: 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: 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 document

MIDANPIRG/9
Appendix 5J to the Report on Agenda Item 5

Middle East Region
AIS/MAP IMPLEMENTATION PLAN
Updated timelines

TIMELINES:



Global



Regional



National

[illegible]

[illegible]

[illegible]

Middle East — Aeronautical Information Services Implementation																			
		1994	95	96	97	98	99	2000	01	02	03	04	05	06	07	08	09	2010	
Global	Publication of the Integrated Aeronautical Information Package on a CD-ROM and on the website.	SARPs not available																	
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	Implementation of a fully automated AIS Database/System.	SARPs not available																	
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																		

MIDANPIRG/9
Appendix 5K to the Report on Agenda Item 5

**MIDANPIRG
AERONAUTICAL INFORMATION SERVICES AND AERONAUTICAL CHARTS
TASK FORCE (AIS/MAP/TF)**

1. TERMS OF REFERENCE

The AIS/MAP Task Force shall:

- 1) examine the Status of implementation of the ICAO requirements in the field of AIS/MAP;
- 2) identify and review those specific deficiencies related to AIS/MAP and recommend action to be taken to eliminate them;
- 3) prepare amendments to relevant MID Basic ANP and FASID, as appropriate; and
- 4) assist States to implement a quality system for aeronautical information in an expeditious manner;
- 5) monitor and review latest developments in the AIS/MAP field.
- 6) foster the integrated improvement of aeronautical information services through proper training and qualification of the personnel performing technical duties in this aeronautical activity.

The AIS/MAP Task Force shall report to the ATM/SAR/AIS Sub-Group at each Sub-Group meeting.

2. WORK PROGRAMME

Ref	Tasks	Priority	Target Completion Date
1	Identify reasons that hinder States from implementation and adherence to the AIRAC System and suggest ways and means, which would facilitate adherence to the AIRAC System.	A	2004 2005
2	Analyze the status of implementation of WGS-84 in the MID Region and recommend measures to be taken to improve the situation.	A	2004 2005
3	Review the status of implementation of ICAO requirements pertaining to the Integrated Aeronautical Information Package and aeronautical charts in the MID Region.	A	2003 (1)
4	Foster the standardized production of aeronautical charts in the MID Region, identifying the obstacles that States could have in adjusting to the specifications of ICAO Annex 4.	A	2004 2005
5	Recommend possible course of action to be taken by States in order to comply with ICAO Annex 4 requirements.	A	2004 2005
6	Define technical and administrative aspects to facilitate the production of aeronautical charts based on WGS-84.	A	2005
7 6	Foster the implementation of Quality System within the Aeronautical Information Services in the MID Region, identifying the difficulties that States could have to comply with the specifications of ICAO Annex 15.	A	2004 2005
8 7	Recommend possible course of action to be taken by each State in order to comply with ICAO requirements pertaining to Quality system.	A	2004 2005
9 8	Develop a Quality assurance/management Plan for the MID Region to orient/assist States in the implementation of Quality Management System in accordance with ISO 9001-2000.	A	2005
9	Monitor and review technical and operating developments in the area of automation and AIS databases.	A	2005
10	Develop a cohesive Air Navigation Plan concerning for AIS Automation in the MID Region taking into consideration the outcomes of the 11 th Air Navigation Conference. AIS/MAP 98 Divisional meeting in terms of data models, exchange of electronic aeronautical information, electronic aeronautical charts and Study/develop technical requirements for the provision of electronic data.	A	2005
11	Describe the integrated Regional Automated AIS System for the MID Region: ✓ Recommend distribution and fall-back procedures; ✓ Recommend the communications network requirements for the MID Region Automated AIS Systems; ✓ Recommend provisions to meet reliability and redundancy requirements; ✓ Recommend common AIS query procedures;	A	2005
12	Carry out studies for the harmonization and automated processing of AIS, MET and FPL products in the MID Region;	A	2005
13	Prepare amendments to relevant MID Basic ANP and FASID, as appropriate.	A	(1)
14	Ensure Highlight the importance of giving that AIS its given proper status in the Civil Aviation Administrations, and that AIS personnel is well trained; and recommend possible course of action to be taken by each State in order to meet the future CNS/ATM requirements.	A	2004 2005
15	Identify the AIS/MAP training resources available in the MID Region.	A	2005
16	Propose an AIS/MAP training action plan for the MID Region	A	2005

(1) Continuous Task

3. PRIORITIES

- A High priority tasks, on which work should be speeded up.
- B Medium priority tasks, on which work should begin as soon as possible, but without detriment to priority A tasks.
- C Tasks of lesser priority, on which work should begin as time and resources allow, but without detriment to priority A and B tasks.

4. COMPOSITION

All MID **MIDANPIRG Provider** States + IATA + IFALPA

MIDANPIRG/9
Appendix 5L to the Report on Agenda Item 2

FASID TABLE AIS-5 — WGS-84 REQUIREMENTS

Column	<i>EXPLANATION OF THE TABLE</i>
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, shown by an “X” against the State or territory to be covered.
5	Requirement for the WGS-84 coordinates for Enroute points, shown by an “X” against the State or territory to be covered.
6	Requirement for the WGS-84 coordinates for the Terminal Area, shown by an “X” against the aerodrome to be covered.
7	Requirement for the WGS-84 coordinates for the Approach points, shown by an “X” against the runway designation to be covered.
8	Requirement for the WGS-84 coordinates for runways, shown by an “X” against the runway designation to be covered.
9	Requirement for the WGS-84 coordinates for Aerodrome/Heliport points (e.g. aerodrome/heliport reference point, taxiway, parking position, etc.), shown by an “X” against the aerodrome to be covered.
10	Requirement for geoid undulation shown by an “X” against the runway threshold to be covered.
11	Requirement for the WGS-84 Quality System, shown by an “X” against the State or territory to be covered.
12	Requirement for publication of WGS-84 coordinates in the AIP shown by an “X” against the State or territory to be covered.
13	Remarks (timetable for implementation)
	<i>Note.- For Columns 4 to 12 use the following symbols:</i> X- Required but not implemented XI- Required and implemented

WGS-84 Requirements (MID FASID Table AIS-5)

STATE, TERRITORY OR AERODROME FOR WHICH WGS-84 IS REQUIRED			WGS-84 REQUIRED									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			X	X						X	X	
(OAKB) KABUL/Kabul					X			X				
RS	11 29	NPA PA1				X X	X X		X X			
(OAKN) KANDAHAR/Kandahar					X			X				
AS	05 23	NPA NPA				X X	X X		X X			
BAHRAIN			XI	XI						X XI	XI	
(OBBI) Bahrain Intl.					XI			XI				
RS	30 12	PA1 NPA1				XI XI	XI XI		X XI X XI			
EGYPT			XI	XI						XI	XI	
HEAR EL-ARISH/El-Arish Int'l					X XI			X XI				
AS	16 34	NPA NPA				XI XI	XI XI		X XI X XI			
(HEAT) Asyut					X			X XI				
AS	13 31	NINST NPA				X XI	XI XI		X XI			
(HEAX) Alexandria Int'l					XI			XI				
RS	18 36	NINST NPA				X XI	XI XI		X XI			
	04 22	NPA NINST				X XI	XI XI		X XI			
HEAZ CAIRO/Almaza Int'l					X XI			X XI				
ANS	18 36	NPA NPA				X XI X XI	X XI X XI		X XI X XI			
	05 23	NINST NINST					X XI X XI					

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STATE, TERRITORY OR AERODROME FOR WHICH WGS-84 IS REQUIRED			WGS-84 REQUIRED										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	
HEBA ALEXANDRIA/Borg El-Arab RS					X			X					
	14 32	NPA PA1				X X	X X		X X				
(HECA) Cairo RS					XI			XI					
	05L 23R	PA2 PA2				XI XI	XI XI		X X				
	05R 23L	PA2 PA2				XI XI	XI XI		X X				
	16 34	NINST NINST				XI XI	XI XI		X X				
(HEGN) Hurghada RS					XI			XI					
	16 34	NPA PA1				XI XI	XI XI		X X				
(HELX) Luxor RS					XI			XI					
	02 20	NPA PA1				XI XI	XI XI		X X				
HEMA MARSA ALAM/ Marsa Alam RNS					X X			X X					
	15 33	NPA NPA				X X	X X		X X				
HEOW SHARK EL OWEINAT/Shark El-Owenat Int'l AS					X X			X X					
	01 19	NPA NINST				X X	XI XI		X X				
HEPS PORT SAID/Port Said Int'l AS					X X			X X					
	10 28	NPA NPA				X X	X X		X X				
HESC) St. Catherine RS								XI					
	17 35	NINST NINST					XI XI						
(HESH) Sharm-El-Sheikh RS					XI			XI					
	04L 22R	PA1 NINST				XI	XI XI		X X				
	04R 22L	NPA NINST				XI	XI XI		X X				
(HESN) Aswan RS					XI			XI					
	17 35	NPA PA1				XI	XI XI		X X				

5L-4

STATE, TERRITORY OR AERODROME FOR WHICH WGS-84 IS REQUIRED			WGS-84 REQUIRED										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	
(HETB) Taba					XI	XI		XI					
AS	04 22	NPA NINST					XI XI		✗ XI				
IRAN			XI	XI						XI	XI		
(OIKB) Bandar Abbass/ Bandar Abbas Intl RS					XI			XI					
	03R 21L	NPA PA1				✗ XI ✗ XI	XI XI		✗ XI ✗ XI				
	03L 21R	NINST NINST				✗ XI ✗ XI	XI XI						
(OIFM) Esfahan/ Shahid Beheshti Intl RS					XI			XI					
	08L 26R	NPA PA1				✗ XI ✗ XI	XI XI		✗ XI ✗ XI				
	08R 26L	NPA NPA				✗ XI ✗ XI	XI XI		✗ XI ✗ XI				
(OIMM) Mashhad/ Shahid Hashemi Nejad Intl RS					XI			XI					
	13L 31R	NPA PA1				✗ XI ✗ XI	XI XI		✗ XI ✗ XI				
	13R 31L	NPA PA1				✗ XI ✗ XI	XI XI		✗ XI ✗ XI				
(OISS) Shiraz/shahid Dastghaib Intl RS					XI			XI					
	11R 29L	NPA PA1				✗ XI ✗ XI	XI XI		✗ XI ✗ XI				
	11L 29R	NPA PA1				✗ XI ✗ XI	XI XI		✗ XI ✗ XI				
(OITT) Tabriz/Tabriz Intl RNS					XI			XI					
	12L 30R	NPA PA1				✗ XI ✗ XI	XI XI		✗ XI ✗ XI				
	12R 30L	NINST NINST				✗ XI ✗ XI	XI XI						
(OIIL) Tehran/ Mehrabad Intl RS					XI			XI					
	11R 29L	NPA PA1				✗ XI ✗ XI	XI XI		✗ XI ✗ XI				
	11L 29R	NPA NPA				✗ XI ✗ XI	XI XI		✗ XI ✗ XI				
(OIIE) TEHRAN/Emam Khomeini Intl RS (Future)					XI			XI					
	11L 29R	NPA PA1				✗ ✗	✗ XI ✗ XI		✗ XI ✗ XI				

5L-5

STATE, TERRITORY OR AERODROME FOR WHICH WGS-84 IS REQUIRED			WGS-84 REQUIRED										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	
(OIZH) Zahedan/Zahedan Intl RS					X XI			XI					
	17 35	NPA NPA1				XI XI	XI XI		X XI X XI				
IRAQ			X	X						X	X		
(ORBS) Baghdad Saddam Intl. RS					X			X					
	15L 33R	PA2 PA2				X X	X X		X X				
	15R 33L	PA1 PA1				X X	X X		X X				
(ORMM) Basrah Intl. RS					X			X					
	14 32	PA2 PA2				X X	X X		X X				
ISRAEL			X	X						X	X	The end of the implementation process was expected for July 2003	
(LLET) EILAT/Eilat RNS					X			X					
	03 21	NPA NINST				X	X X		X				
(LLHA) HAIFA/Haifa RS					X			X					
	16 34	NINST NINST					X X						
(LLJR)JERUSALEM/Atarot RS					X			X					
	12 30	PA1 NPA				X X	X X		X X				
(LLOV) OVDA/Intl RNS					X			X					
	02L 20R	NINST NPA				X	X X		X				
(LLBG) TEL AVIV/ Ben Gurion RS					X			X					
	03 21	NPA NINST				X	X X		X				
	08 26	NPA PA1				X X			X X				
	12 30	PA1 NPA				X X			X X				
(LLSD) TEL AVIV/ Sde-Dov AS					X			X					
	03 21	NINST NINST					X X						

STATE, TERRITORY OR AERODROME FOR WHICH WGS-84 IS REQUIRED			WGS-84 REQUIRED									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
JORDAN			XI	XI						X XI	XI	
(OJAI) Amman/Queen Alia RS					XI			XI				
	08R 26L	NPA PA1				XI XI	XI XI		X XI X XI			
	08L 26R	PA1 PA1				XI XI	XI XI		X XI X XI			
(OJAM) Amman/Marka Int'l AS					XI			XI				
	24 06	PA1 NINST				XI XI	XI XI		X XI			
(OJAQ) Aqaba/King Hussein RNS					XI			XI				
	01 19	PA1 NPA				XI XI	XI XI		X XI X XI			
(OJJR) JERUSALEM/ Jerusalem RS												
	12 30	NPA PA1										
KUWAIT			XI	XI						X	XI	
(OKBK) Kuwait Intl. RS					XI			XI				
	33L 15R	PA2 PA2				XI XI	XI XI		X X			
	33R 15L	PA2 PA2				XI XI	XI XI		X X			
LEBANON			XI	XI						X	XI	
(OLBA) Beirut Intl. RS					XI			XI				
	17 35	PA1 NINST				XI XI	XI XI		X			RWY 35 not used for landing RWY 36 no Land during night
	18 36	PA1 NINST				XI XI	XI XI		X			
	03 21	PA1 NINST				XI XI	XI XI		X			
OMAN			XI	XI						XI	XI	
(OOMS) Muscat/Seeb RS					XI			XI				
	26 08	PA1 PA1				XI XI	XI XI		X XI X XI			
(OOSA) Salalah AS					XI			XI				
	07 25	NPA PA1				XI XI	XI XI		X XI X XI			
QATAR			XI	XI						X	XI	
(OTBD) Doha Int. Airport RS					XI			XI				
	34 16	PA2 NPA				XI XI	XI XI		X X			

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STATE, TERRITORY OR AERODROME FOR WHICH WGS-84 IS REQUIRED			WGS-84 REQUIRED									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
SAUDI ARABIA			XI	XI						X XI	XI	
(OEDF) DAMMAM/King Fahd Intl RS					X XI			X XI				
	16L 34R	PA1 PA1				XI XI	XI XI		X X			
	16R 34L	PA1 PA1				XI XI	XI XI		X X			
(OEJN) JEDDAH/King Abdulaziz RS					X XI			X XI				
	16R 34L	PA2 PA2				XI XI	XI XI		X X			
	16C 34C	PA2 PA2				XI XI	XI XI		X X			
	16L 34R	PA1 PA1				XI XI	XI XI		X X			
(OEMA)MADINAH/Prince Mohammad Bin Abdulaziz RS					X XI			X XI				
	17 35	PA1 PA1				XI XI	XI XI		X X			
	18 36	NPA PA1				XI XI	XI XI		X X			
(OERK) RIYADH/King Khalid Intl RS					X XI			X XI				
	15L 33R	PA1 PA1				XI XI	XI XI		X X			
	15R 33L	PA1 PA1				XI XI	XI XI		X X			
SYRIA			X	XI						X	X	
(OSAP) Aleppo Intl. RS					XI			X				WGS-84 coordinates published in AIP Supplement 02/01 dated 01Aug.2001
	09 27	NINST NPA				XI XI	XI XI		X			
(OSLK) Bassel Al-Assad RS					X			X				
	17 35	NPA NINST				X X	X X					
(OSDI) Damascus RS					XI			XI				
	05L 23R	NPA PA1				X XI	X XI		X X			
	05R 23L	NPA NPA				X X	X X		X X			

5L-8

STATE, TERRITORY OR AERODROME FOR WHICH WGS-84 IS REQUIRED			WGS-84 REQUIRED									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
UNITED ARAB EMIRATES			XI	XI						XI	XI	
(OMAA) Abu Dhabi Int. Airport					XI			XI				
	31L 13R	PA3 PA1				XI XI	XI XI		XI XI			
	13L 31R	PA3 PA1				XI XI	XI XI		XI XI			
(OMAL) Al Ain Int. Airport					XI			XI				
RS	01 19	PA1 NPA				XI XI	XI XI		XI XI			
(OMDB) Dubai Int. Airport					XI			XI				
RS	12L 30R	PA3 PA3				XI XI	XI XI		XI XI			
	12R 30L	PA2 PA2				XI XI	XI XI		XI XI			
(OMFJ) Fujairah Int. Airport					XI			XI				
RS	11 29	NPA PA1				XI XI	XI XI		XI XI			
(OMRK) Ras Al Khaimah Int. Airport					XI			XI				
RS	16 34	NPA PA1				XI XI	XI XI		XI XI			
(OMSJ) Sharjah Int. Airport					XI			XI				
RS	12 30	NPA PA2				XI XI	XI XI		XI XI			
YEMEN			XI	XI						X	XI	
(OYAA) Aden					X			XI				
RS	08 26	NPA PA1				X X	XI XI		XI XI			
(OYHD) Hodeidah					X			XI				
RS	03 21	NPA NPA				X X	XI XI		XI XI			
(OYRN) Mukalla/Riyan					X			XI				
RS	06 24	NPA NPA				X X	XI XI		XI XI			
(OYSN) Sanna'a					X			XI				
RS	18 36	PA1 NPA				X X	XI XI		XI XI			
(OYTZ) Taiz/Ganad					X			XI				
RS	01 19	NPA NPA				X X	XI XI		XI XI			

(Not yet reported
using uniform
format)

MIDANPIRG/9
Appendix 5M to the Report on Agenda Item 5

STATUS OF IMPLEMENTATION OF WGS-84 IN THE MID REGION

	FIR	ENR	TMA/CTA/CTZ	APP	RWY	AD/HEL	GUND	QUALITY SYSTEM	AIP	REMARKS
AFGHANISTAN	N	N	N	N	N	N	N	N	N	Not reported using uniform format
BAHRAIN	F	F	F	F	F	F	F	F	F	
EGYPT	F	F	F	F	F	F	F	F	F	
IRAN	F	F	F	N	F	F	F	F	F	
IRAQ	N	N	N	N	N	N	N	N	N	Not reported using uniform format
ISRAEL	N	N	N	N	N	N	N	N	N	Ref is made to Israel Fax dated 21 Aug. 2002: Implementation was expected for Nov 2003
JORDAN	F	F	F	F	F	F	F	F	F	
KUWAIT	F	F	F	F	F	F	N	N	F	
LEBANON	F	F	F	F	F	F	N	N	F	
OMAN	F	F	F	F	F	F	F	F	F	
QATAR	F	F	F	F	F	F	N	N	F	
SAUDI ARABIA	F	F	F	F	F	F	N	F	F	GUND implementation under process
SYRIA	N	F	P	P	P	P	N	N	N	Under Process Latest report dated 28/3/02
UNITED ARAB EMIRATES	F	F	F	F	F	F	F	F	F	
YEMEN	F	F	N	N	F	F	F	N	F	Not reported using uniform format

Legend:

F: Fully implemented

P: Partly implemented

N: Not implemented

MIDANPIRG/9
Appendix 5N to the Report on Agenda Item 5

**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 for navigation in remote/oceanic areas.
 - 5) Introduce the use of GNSS with appropriate augmentation systems, as required, for 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 the extent 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 programs to provide necessary knowledge in GNSS theory and operational application.
 - 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/9
Appendix 5O to the Report on Agenda Item 5

INTERNATIONAL CIVIL AVIATION ORGANIZATION

MIDDLE EAST OFFICE

FIRST ATN SEMINAR IN THE MID REGION

(Amman, 22-24 November 2004)

SUMMARY OF DISCUSSIONS

1. INTRODUCTION

1.1 The participants of the Seminar would like to express their sincere gratitude and appreciation to the Hashemite Kingdom of Jordan who hosted the ATN Seminar, the first of its kind in the Region at the premises of Marriott Hotel in Amman from 22 to 24 November 2004.

1.2 The Seminar was conducted in the framework of ATN implementation in the Region, pursuant to MIDANPIRG/7 Conclusion 7/27. The objective of the ATN Seminar was to provide a clear understanding of the initial introduction of ATN applications, such as AMHS and AIDC. Emphasis was put on the identification of needs/benefits and places where such benefits can be accrued using ATN applications.

1.3 The Seminar was attended by a total of 42 participants from 9 States and 5 Organizations. The list of participants and speakers is available in **Attachment A** to this summary. Mr Hanna Najar Director General of Jordan Civil Aviation Authority opened the Seminar.

1.4 Mr. Ali Ahmed, Chairman of AFS/ATN TF and CNS/MET SG, was the moderator of the Seminar. Mr. Mamadou Traore Regional Officer, CNS Middle East Office served as Secretary.

2. PRESENTATIONS AND DISCUSSIONS

2.1 On the first day of the Seminar, participants were provided with presentations covering the following issues: Overview of the ATN, Air-Ground ATN Application addressing DLIC, CPDLC, ADS, FIS, Internet Communication Service and Upper Layers Communications Service.

2.2 Regarding the first presentation, participants were provided with an overview of ATN covering the basic concept, function, components and applications. Emphasis was made on the importance of the interregional coordination for ensuring harmonized implementation of ATN components so as to achieve a seamless and integrated system.

2.3 The second presentation stressed on the Internet Communication Service (ICS), the construction of an ATN Internet and the protocols/functions used. Reference was also made to the addressing aspects of the internetwork where the property of the routing architecture is exploited by the ATN to support mobile routing. During the same presentation, the speaker provided the seminar with an:

- overview of Upper Layer Communications Service (ULCS) functionality and the relationship with other SARPs.
- indication of future direction of the ATN Upper Layers, including a description of the provisions for forward compatibility in the initial edition of ATN SARPs.

2.4 On the second day, the speakers made presentations on the following issues: air-ground and ground-ground applications, regional planning considerations, AMHS and ATN solutions and related operational/implementation issues.

2.5 Regarding air-ground applications, the speaker put emphasis on the communications environment, especially on the mobile subnetworks that are expected to be used in support of the ATN: AMSS, VDL, HF DL and SSR Mode S Data Link. The route initiation procedures were also described in detail using different scenarios between the airborne and ground routers.

2.6 The presentation on ground-ground applications started with the AFTN/AMHS operating concepts. The gateway was introduced to solve the interface problem that might arise between different centers. The speaker stressed also on the operational environment and system architecture, the AMHS model, the AMHS organization and the AMHS naming/addressing.

2.7 The presentation on regional planning considerations suggested the implementation of the two ATN applications (AMHS and AIDC) as first step in the MID Region. To do so, the transition procedures adopted by MIDANPIRG/7 meeting are used as regional guidance: improvement of current circuits and smooth introduction of routers according to operational needs.

2.8 The second day continued with presentation on operational/Implementation aspects of the AMHS. In this regard, AVITECH presented their SARPs-compliant AMHS solutions, which were implemented in Germany and the Republic of Korea in 1997 and 2002, respectively. The presentation concluded with information about the European working group called FIRIT, which is intended to assist States for implementation and reliable test documentation of AMHS.

2.9 The last day of the Seminar started with a presentation made by THALES IC on AMHS operational/implementation issues. Through ECG project, Euro control and ECAC already tested and accepted solutions. While trials are undergoing in three European countries, three others are ready to operate AMHS out of Europe, two other countries are looking for trials and implementation of AMHS.

2.10 Three other presentations followed on current activities: AMHS standardization progress, use of TCP/IP, ongoing implementation activities on AMHS, continental air-ground data link deployment, oceanic data link deployment, performance of interoperability tests regarding bilateral basic, bilateral extended and trilateral network tests.

2.11 The last session of the Seminar was devoted to questions and answers. At first, the speakers answered the questions of those MID experts who could not attend the Seminar. Then, the participants actively reacted during this session and requested that ICAO MID Regional Office organize another seminar/workshop focused specifically on AMHS.

2.12 The forthcoming AFS/ATN Task Force will review the outcome of this meeting.

2.13 The Director General of Jordan Civil Aviation Authority closed the Seminar on 22 November 2004 at 12h00.

**RECOMMENDATIONS OF AN-CONF/11
FOLLOW-UP ACTIONS BY ICAO/PIRGs/STATES/INTERNATIONAL ORGANIZATIONS (IOs)**

RECOMMENDATION		ACTION	
#	ITEM	BY ICAO/PIRGs/ STATES/IOs	ACTION/TASKS
AGENDA ITEM 1: INTRODUCTION AND ASSESSMENT OF A GLOBAL AIR TRAFFIC MANAGEMENT (ATM) OPERATIONAL CONCEPT			
1	Endorsement of the global ATM operational concept That: a) ICAO, States and planning and implementation regional groups (PIRGs), consider the global ATM operational concept as the common global framework to guide planning for implementation of ATM systems and to focus all ATM development work; b) the global ATM operational concept be used as guidance for development of ICAO CNS/ATM related provisions; c) States with the support of the other members of the ATM community undertake work to validate the seven components in the global ATM operational concept; d) ICAO, States and PIRGs develop transition strategies for implementation of ATM systems based on the global ATM operational concept; and e) ICAO align its technical work programme to facilitate future work related to the global ATM operational concept	PIRGs/States/ IOs PIRGs/States/ IOs States/IOs PIRGs/States ICAO	re (a) and (b): Consider the global ATM operational concept as the common global framework and use as guidance for the planning and implementation of CNS/ATM systems. Validate the seven components in the global ATM operational concept. Develop transition strategies based on the global ATM operational concept. Secretary General to align its technical work accordingly.

RECOMMENDATION		ACTION	
#	ITEM	BY ICAO/PIRGs/ STATES/IOs	ACTION/TASKS
2	Coordination with military authorities That States take appropriate action to coordinate the global ATM operational concept with their military authorities with a view to achieving maximum cooperation and integration in an effort to implement a flexible and cooperative approach to airspace organization and management.	States	Coordinate with their military authorities for implementation of a flexible and cooperative approach to airspace organization and management.
3	Development of ATM requirements That ICAO as a high priority develop a set of ATM functional and operating requirements for a global ATM system on the basis of the global ATM operational concept.	ICAO	Requested the Air Traffic Management Operational Concept Panel (ATMCP) to develop relevant proposals before the end of 2005.
4	Development of Standards and Recommended Practices (SARPs) from the global ATM operational concept That ICAO, when developing CNS/ATM-related SARPs, ensure that such SARPs are traceable to ATM requirements.	ICAO	Requested the Secretary General to bring it to the attention of relevant panels.
5	Interoperability and seamlessness That ICAO, when developing ATM requirements, define a corresponding minimum set of requirements for interoperability and seamlessness.	ICAO	Requested the ATMCP to develop relevant proposals before the end of 2005.
6	Endorsement of the automatic dependent surveillance-broadcast (ADS-B) concept of use and recommendations for further work That ICAO: a) follow research and development work in the area of ADS-B applications, and update/maintain the ADS-B concept of use as necessary;	ICAO	Noted.

RECOMMENDATION		ACTION	
#	ITEM	BY ICAO/PIRGs/ STATES/IOs	ACTION/TASKS
	b) work cooperatively with other international bodies to ensure that the ADS-B concept of use is properly aligned with existing operational and technical documents; c) utilize the ADS-B concept of use, in its current form and as it matures, as a basis for development of SARPs and guidance material for air-to-air and air-to-ground surveillance applications; and d) ensure that all future work on the ADS-B concept of use is aligned with the ATM operational concept and meets the emerging ATM requirements that emanate therefrom.		Requested Operational Data Link Panel (OPLINKP) to consider it in its further work to the extent possible. Noted. Noted.
7	Ground and airborne automatic dependent surveillance-broadcast (ADS-B) applications for global interoperability That ICAO and States: a) recognize ADS-B as an enabler of the global ATM operational concept bringing substantial safety and capacity benefits; b) support the cost-effective early implementation of packages of ground and airborne ADS-B applications, noting the early achievable benefits from new ATM applications; and c) ensure that implementation of ADS-B is harmonized, compatible and interoperable with respect to operational procedures, supporting data link and ATM applications.	ICAO/States/ IOs ICAO/States/ IOs States/IOs	To note. To note. Ensure that implementation of ADS-B is harmonized, compatible and interoperable.

RECOMMENDATION		ACTION	
#	ITEM	BY ICAO/PIRGs/ STATES/IOs	ACTION/TASKS
8	Global aeronautical information management and data exchange model That ICAO: a) when developing ATM requirements, define corresponding requirements for safe and efficient global aeronautical information management that would support a digital, real-time, accredited and secure aeronautical information environment; b) urgently adopt a common aeronautical information exchange model, taking into account operational systems or concepts of data interchange, including specifically, AICM/AIXM, and their mutual interoperabilities; and c) develop, as a matter of urgency, new specifications for Annexes 4 and 15 that would govern provision, electronic storage, on-line access to and maintenance of aeronautical information and charts.	ICAO ICAO ICAO	Requested the ATMCP to develop relevant proposals by the end of 2005. Secretary General is taking appropriate action. Secretary General to progress the work.
9	Raising the status of the <i>Global Air Navigation Plan for CNS/ATM Systems</i> (Doc 9750) That ICAO develop a formal review and agreement process for the <i>Global Air Navigation Plan for CNS/ATM Systems</i> (Doc 9750).	ICAO	Noted the intent of the recommendation and requested the ANC to develop relevant proposals.
10	Status of the <i>Global Air Navigation Plan for CNS/ATM Systems</i> (Doc 9750) That States and planning and implementation regional groups (PIRGs) consider the <i>Global Air Navigation Plan for CNS/ATM Systems</i> (Doc 9750) as a catalyst for change, providing a global safety and interoperability framework while allowing regional or local adaptation to efficiently meet regional and local needs.	PIRGs/States/ IOs	To note the intent of the recommendation.

RECOMMENDATION		ACTION		
	#	ITEM	BY ICAO/PIRGs/ STATES/IOs	ACTION/TASKS
11	1/11	Publication of the Global ATM Operational Concept That ICAO publish the global ATM operational concept as a new ICAO manual.	ICAO	Secretary General to develop relevant proposals for an appropriate approval and publication process.
12	1/12	Amendment of Chapter 4 of the <i>Global Air Navigation Plan for CNS/ATM Systems</i> (Doc 9750) That ICAO take action to amend Chapter 4 of the <i>Global Air Navigation Plan for CNS/ATM Systems</i> (Doc 9750), clearly establishing the linkage to the Global ATM Operational Concept.	ICAO	Secretary General to take it into account when developing the next amendment to Doc 9750.
13	1/13	Harmonization of air navigation systems That ICAO and the ATM community explore the possibility of developing a mechanism for implementing the interregional interface applications with a view to facilitating the harmonized implementation of air navigation systems giving rise to a global ATM system in an evolutionary fashion.	PIRGs/States/ IOs	To identify interface issues and address them through appropriate interregional mechanism.
14	1/14	Development of an ICAO air navigation plan database and associated web-based information and charting service That ICAO develop and maintain a database containing all tabular material from all the regional air navigation plans, both Basic Operational Requirements and Planning Criteria (BORPC) and the Facilities and Services Implementation Document (FASID), together with the major traffic flows and other regional data from Part II of the <i>Global Air Navigation Plan for CNS/ATM Systems</i> (Doc 9750), and make this database and associated charts available through the Web.	ICAO	Secretary General to take appropriate action, noting that work was already in progress.

RECOMMENDATION		ACTION	
#	ITEM	BY ICAO/PIRGs/ STATES/IOs	ACTION/TASKS
15	1/15 Implementation of airborne collision avoidance system (ACAS) provisions That States take immediate action to implement, in appropriate national documentation, the ACAS provisions contained in Amendment 28 to ICAO Annex 6 — <i>Operation of Aircraft</i>, Part I — <i>International Commercial Air Transport — Aeroplanes</i>, and in Amendment 12 to the <i>Procedures for Air Navigation Services — Operations</i> (PANS-OPS, Doc 8168), Volume I.	States	Implement, in appropriate national documentation, the ACAS provisions as contained in ICAO Annex/PANS-OPS.
16	1/16 Provisions related to airborne collision avoidance systems (ACAS) That ICAO review current provisions and investigate the need to develop new provisions to enhance the effectiveness of ACAS as follows: a) provisions in Annex 6, Part II concerning training of general aviation pilots in the operation of ACAS; b) provisions in Annex 10, Volume IV concerning performance of the ACAS II collision avoidance logic; c) provisions concerning the training of air traffic control personnel; d) the registering by the parametric flight recorder of resolution advisory commands; and e) air traffic control provisions in ICAO Annexes 2 and 11 and the PANS-ATM.	ICAO	Noted parts (a) (b) and (c) of the recommendation and that work is already in progress; and as far as part (d) of the recommendation, requested that Surveillance and Conflict Resolution Systems Panel (SCRSP) to develop relevant proposals for review by the ANC. Noted the recommendation and that work is already in progress

RECOMMENDATION		ACTION	
#	ITEM	BY ICAO/PIRGs/ STATES/IOs	ACTION/TASKS
AGENDA ITEM 2: SAFETY AND SECURITY IN AIR TRAFFIC MANAGEMENT (ATM)			
17	2/1 A framework for system safety That ICAO investigate appropriate mechanisms for the development and implementation of a framework for a uniform and system-wide approach to safety, and the application of this framework to: a) the harmonization of provisions relating to safety assessment and safety management in relevant Annexes and Procedures for Air Navigation Services (PANS); and b) the harmonization of the approaches to safety assessment in the development of safety-related standards and recommended practices (SARPs).	ICAO	Requested the Secretary General to take appropriate action.
18	2/2 Implementation of ATS safety management programmes and establishment of acceptable levels of safety That States which have not already done so, take action in accordance with Annex 11, 2.26 to: a) implement systematic and appropriate ATS safety management programmes to ensure that safety is maintained in the provision of ATS within airspace and at aerodromes; and b) establish the acceptable levels of safety and safety objectives applicable to the provision of ATS within airspace and at aerodromes.	States States	Implement systematic and appropriate ATS safety management programmes. Establish the acceptable levels of safety and safety objectives to the provision of ATS.

RECOMMENDATION		ACTION	
#	ITEM	BY ICAO/PIRGs/ STATES/IOs	ACTION/TASKS
19	2/3 Sharing of ATM accident and incident data That ICAO: a) develop guidance material on the use of the ADREP 2000 data base; and b) encourage States to share information on ATM accidents and incidents.	ICAO States	Requested the Secretary General to develop the relevant guidance material; and share information on ATM accidents and incidents.
20	2/4 The protection of sources of safety information That ICAO develop guidelines which will provide support to States in adopting adequate measures of national law, for the purpose of protecting the sources and free flow of safety information, while taking into account the public interest in the proper administration of justice.	ICAO	Requested the Secretary General to take appropriate action.
21	2/5 Monitoring of safety during normal operations That ICAO initiate studies on the development of guidance material for the monitoring of safety during normal air traffic service operations, taking into account, but not limited to, the line operations safety audit (LOSA) programmes which have been implemented by a number of airlines.	ICAO	Requested the Secretary General to develop the relevant guidance material.
22	2/6 Safety certification of ATM systems That ICAO investigate the need for the development of provisions for safety certification of ATM systems and service providers.	ICAO	Requested the Secretary General to take appropriate action.
23	2/7 Safety oversight capabilities and procedures That ICAO encourage States to develop ATM safety oversight capabilities and procedures.	States	Develop ATM safety oversight capabilities and procedures.

RECOMMENDATION		ACTION	
#	ITEM	BY ICAO/PIRGs/ STATES/IOs	ACTION/TASKS
24	Harmonization of aviation safety and aviation security That ICAO: a) continue its efforts to encourage and monitor the harmonization of aviation safety and aviation security; and b) encourage States to monitor the impact of aviation security measures on aviation safety, and to take action as necessary.	ICAO States	Requested the Secretary General to take action as necessary; and monitor the impact of aviation security measures on aviation safety and to take action as necessary.
25	In-flight emergency response procedures for air traffic controllers That, consistent with the ICAO Aviation Security Plan of Action and the ATM operational concept, ICAO consider developing in-flight emergency response and coordination procedures for air traffic controllers, together with training guidance, related to the distinctly different types and phases of unlawful interference. These procedures and guidance material should allow for the different conditions which exist in States.	ICAO	Requested the Secretary General to take appropriate action.
AGENDA ITEM 3: AIR TRAFFIC MANAGEMENT (ATM) PERFORMANCE TARGETS FOR SAFETY, EFFICIENCY AND REGULARITY AND THE ROLE OF REQUIRED TOTAL SYSTEM PERFORMANCE (RTSP) IN THIS RESPECT			
26	Required communication performance (RCP) That ICAO: a) continue the development of Standards and Recommended Practices (SARPs), procedures and guidance material on RCP; and b) investigate areas for further work to determine the relationship of the RCP concept to separation studies and interoperability, the standardization of RCP types and allocations, the adequacy of ATS functions and procedures for new CNS/ATM environments, as well as requirements for safety performance monitoring.	ICAO ICAO	Noted. Requested OPLINKP to progress with the work accordingly.

RECOMMENDATION		ACTION	
	#	ITEM	BY ICAO/PIRGs/ STATES/IOs
27	3/2	Standardization of minimum reporting requirements That ICAO continue its work in the field of economic performance of ATM and benchmarking, and assess the need for world-wide standardization of minimum reporting requirements in relation to information disclosure.	ICAO Requested the Secretary General to take appropriate action.
28	3/3	Performance framework That ICAO, in consultation with the other members of the ATM community: a) formulate the performance objectives and targets for a future global ATM system; b) continue the definition of related performance metrics and elementary characteristics in the context of the overall behaviour of the ATM system; and c) coordinate and harmonize all related contributions within the overall performance framework initiated by the Air Traffic Management Operational Concept Panel, including definitions, standards for reporting requirements and guidance for monitoring.	ICAO re (a) and (b): Requested the ATMCP to develop relevant proposals for review by the ANC. Requested the Secretary General to take appropriate action.
AGENDA ITEM 4: CAPACITY-ENHANCEMENT MEASURES			
29	4/1	Harmonization of air navigation systems between regions That ICAO: a) maintain, and develop further, a coordination mechanism between regions for planning and implementation of capacity-enhancing measures and ATM performance improvement between regions for a harmonized evolution aimed at enhancing aviation efficiency and safety;	ICAO/PIRGs Develop further, a coordination mechanism between regions for a harmonized evolution aimed at enhancing aviation efficiency and safety.

RECOMMENDATION		ACTION	
#	ITEM	BY ICAO/PIRGs/ STATES/IOs	ACTION/TASKS
	b) be systematically involved in any regional initiatives aiming at enhancing ATM capacity and performance; and c) urge States, who have not already done so, to establish national CNS/ATM coordination and implementation committees, with a point of contact to be made known to the respective ICAO Regional Office, so as to facilitate harmonized transition to CNS/ATM systems.	ICAO States	Noted. Establish national CNS/ATM coordination and implementation committees, with a point of contact to be made known to the respective ICAO Regional Office.
30	4/2 Investigation of performance-driven planning and implementation methods That States study the approach to planning and implementation commonly adopted by European States, with a view to the possible application of its elements in their respective regions.	PIRGs/States	Study the approach to planning and implementation commonly adopted by European States, with a view to the possible application of its elements.
31	4/3 Collaborative decision-making and global demand/capacity balancing That ICAO: 1) develop SARPs and procedures for global air traffic flow and capacity management based on the concept of demand/capacity balancing as described in the operational concept; and 2) develop guidance material for States to implement global demand/capacity balancing techniques based on collaborative decision-making processes, and sharing of aviation information in accordance with the operational concept.	ICAO	re (a) and (b): Requested the Secretary General to take appropriate action.
32	4/4 Investigation and analysis of the “Single European Sky” approach to global harmonization That ICAO follow the progress of the “Single European Sky” project for possible use in other homogeneous regions or at the global level.	ICAO/PIRGs	Follow the progress of the “Single European Sky” project for possible use in other homogeneous regions or at the global level.

RECOMMENDATION		ACTION	
#	ITEM	BY ICAO/PIRGs/ STATES/IOs	ACTION/TASKS
33	Runway safety programmes That States: a) take appropriate actions to improve runway safety worldwide through the implementation of runway safety programmes; b) collect and share runway incursion incidents in accordance with Annex 13 — <i>Aircraft Accident and Incident Investigation</i>, Chapter 8, <i>Accident Prevention Measures</i>; and c) take into consideration that part of the ICAO <i>Manual on Advanced Surface Movement Guidance and Control Systems (A-SMGCS)</i> related to surveillance and control functions, when implementing such systems at airports.	States States States	Improve runway safety through the implementation of runway safety programmes. Collect and share runway incursion incidents in accordance with Annex 13. To note.
34	Capacity-enhancing procedures That States, when considering capacity-enhancing procedures at aerodromes, conduct appropriate safety studies and take due consideration of the effect on runway safety.	States	When considering capacity-enhancing procedures at aerodromes, conduct appropriate safety studies and take due consideration of the effect on runway safety.
35	Global runway incursion risk management That ICAO: a) urgently progress the development of a formal definition for “runway incursion” as a prerequisite for further actions to be taken in this domain; and b) enhance the Accident/Incident Data Reporting (ADREP) to incorporate a common categorization taxonomy of runway incursion severity, error type and/or factors that contribute to incursions.	ICAO ICAO	The work was already being progressed. Requested the Secretary General to take appropriate action, noting that work was already being progressed.

RECOMMENDATION		ACTION	
#	ITEM	BY ICAO/PIRGs/ STATES/IOs	ACTION/TASKS
36	Rectification of air navigation deficiencies That ICAO: - urge States to: - review their respective lists of identified deficiencies and inform the ICAO Regional Office of those that have been eliminated; - formulate and forward an action plan and time-table for rectification of outstanding deficiencies to the respective ICAO Regional Office for review; and - identify areas, if any, where the establishment of multinational agreements or informal coordination groups may contribute to the resolution of deficiencies; - encourage users of air navigation facilities and services to report to the respective regional office once they note that the remedial action on the deficiency they had reported has been taken; and - continue to provide assistance to States for the purpose of rectifying deficiencies.	States IOs ICAO/PIRGs	re (a): Review respective lists of identified deficiencies; formulate and forward an action plan to the respective ICAO Regional Office for review; and identify areas, where the establishment of multinational agreements may contribute to the resolution of deficiencies. Users to report once they note that the remedial action on the deficiency has been taken. Continue to provide assistance to States for the purpose of rectifying deficiencies.
37	Harmonization of flight level assignment methodology across flight information boundaries That relevant States, when planning for the introduction of reduced vertical separation minimum (RVSM) at interfaces between airspace where different units of measurement are used, taking into account relevant operational and technical considerations, should apply a common cruising levels structure in accordance with the tables of cruising levels expressed in metres or feet, as outlined in Annex 2 — <i>Rules of the Air</i>, Appendix 3.	States	When planning for RVSM, apply a common cruising levels structure in accordance with the tables of cruising levels expressed in metres or feet, as outlined in Annex 2 — <i>Rules of the Air</i>, Appendix 3.

RECOMMENDATION		ACTION	
#	ITEM	BY ICAO/PIRGs/ STATES/IOs	ACTION/TASKS
38	4/10 Tables of cruising levels That ICAO continue to study the common cruising levels structure, as outlined in Annex 2 — <i>Rules of the Air</i>, Appendix 3.	ICAO	Noted the recommendation and its relation to Recommendation 4/9, and agreed that no action was required.
AGENDA ITEM 5: REVIEW OF THE OUTCOME OF THE ITU WORLD RADIO CONFERENCE (2003) (WRC-2003) AND ITS IMPACT ON AERONAUTICAL ELECTROMAGNETIC SPECTRUM UTILIZATION			
39	5/1 Preparation for WRC-2007 That ICAO; a) urge States and international organizations to continue their efforts on implementation of the relevant elements of Assembly Resolution A32-13 and in particular participate in the preparatory work of the ITU and the regional telecommunication organizations for WRC-07; and b) continue to assign high priority to the tasks relating to the protection and availability of radio-frequency spectrum allocated to aeronautical services and in particular actively participates in the relevant activities of the ITU-R and of the regional telecommunication organizations.	States/IOs ICAO	Continue participating in the preparatory work of the ITU and the regional telecommunication organizations for WRC-07. Noted.
40	5/2 ICAO activities on interference That ICAO a) intensify its activities to secure protection of aeronautical communication, navigation and surveillance systems from the adverse effects of electromagnetic interference and develops guidance material, as necessary;	ICAO	The Secretary General to take appropriate action.

RECOMMENDATION		ACTION	
#	ITEM	BY ICAO/PIRGs/ STATES/IOs	ACTION/TASKS
	b) develop material to assist States in assessing interference from FM broadcasting stations; <i>(continued...)</i>	ICAO	re (b) and (d): The Aeronautical Communications Panel (ACP) in coordination with the Navigation Systems Panel (NSP) as required, to develop the necessary guidance material.
40	5/2 ICAO activities on interference (continued) c) support the relevant activities of the ITU and regional telecommunication and standards-making organizations; and d) develop guidance material on the control and removal of interference to aeronautical systems.	ICAO ICAO	Noted. See above.
AGENDA ITEM 6: AERONAUTICAL NAVIGATION ISSUES			
41	6/1 Transition to satellite-based air navigation That: a) ICAO continue to develop as necessary provisions which would support seamless GNSS guidance for all phases of flight and facilitate transition to satellite-based sole navigation service with due consideration of safety of flight, technical, operational and economics factors; b) air navigation service providers move rapidly, in coordination with airspace users, with a view to achieving, as soon as possible, worldwide navigation capability to at least APV I performance; and c) States and airspace users take note of the available and upcoming SBAS navigation services providing for APV operations and take necessary steps towards installation and certification of SBAS capable avionics.	ICAO States/IOs States/IOs	The relevant panels continue the development of SARPs, procedures and guidance material in line with part (a). Implement, in coordination with airspace users, navigation capability to at least APV I performance. Take necessary steps towards installation and certification of SBAS capable avionics.

RECOMMENDATION		ACTION	
#	ITEM	BY ICAO/PIRGs/ STATES/IOs	ACTION/TASKS
42	Guidelines on mitigation of GNSS vulnerabilities That States in their planning and introduction of GNSS services: a) assess the likelihood and effects of GNSS vulnerabilities in their airspace and utilize, as necessary, the mitigation methods as outlined in the guidelines contained in Appendix A to the report on Agenda Item 6; (continued...)	States/IOs ICAO	Assess the likelihood and effects of GNSS vulnerabilities in their airspace. Incorporate the guidelines contained in Appendix A to the report on Agenda Item 6 in the first edition of the <i>Global Navigation Satellite System (GNSS) Manual</i>.
42	Guidelines on mitigation of GNSS vulnerabilities (continued) b) provide effective spectrum management and protection of GNSS frequencies to reduce the possibility of unintentional interference; c) take full advantage of on-board mitigation techniques, particularly inertial navigation; d) where determined that terrestrial navigation aids need to be retained as part of an evolutionary transition to GNSS, give priority to retention of DME in support of INS/DME or DME/DME RNAV for en-route and terminal operations, and of ILS or MLS in support of precision approach operations at selected runways; and e) take full advantage of the future contribution of new GNSS signals and constellations in the reduction of GNSS failures and vulnerabilities.	States States/IOs States States	Reduce the possibility of unintentional interference. To note. As part of an evolutionary transition to GNSS, give priority to retention of DME if required. To note.
43	Assessment of atmospheric effects on SBAS performance in equatorial regions That ICAO, in order to aid the work on mitigation of ionospheric effects on SBAS performance in equatorial regions, assess the results of data collection being carried out in States and develop appropriated guidance material.	ICAO	Requested the Navigation Systems Panel (NSP) to give priority to the development of suitable guidance material.

RECOMMENDATION		ACTION	
	ITEM	BY ICAO/PIRGs/ STATES/IOs	ACTION/TASKS
	#		
44	6/4 Automated means for reporting and assessing the effects of outages on GNSS operations That ICAO consider standardization of an automated means of monitoring and reporting scheduled and unscheduled GNSS outages and assessing their effects on GNSS operations and develop, as necessary, the requisite provisions.	ICAO	Requested the Navigation Systems Panel (NSP) to consider the development of the relevant provisions.
45	6/5 Early resolution of issues arising from implementation of RNAV and RNP That ICAO as a matter of urgency address and progress the issues associated with the introduction of RNP and RNAV.	ICAO	Requested the Secretary General to progress the necessary work with the assistance of the Required Navigation Performance and Special Operational Requirements Study Group (RNPSORSG).
46	6/6 Advanced GNSS procedure design That ICAO develop RNAV procedures supported by GNSS for both fixed and rotary wing aircraft, enabling lower operating minimas in obstacle rich or otherwise constraint environments.	ICAO	Requested the Navigation Systems Panel (NSP) and Obstacle Clearance Panel (OCP) to develop relevant proposals for consideration by the ANC.
47	6/7 Curved RNAV procedures That ICAO develop RNAV procedures supported by GNSS for fixed wing aircraft, providing high track and velocity keeping accuracy to maintain separation through curves and enable flexible approach line-ups.	ICAO	Requested the Navigation Systems Panel (NSP) and Obstacle Clearance Panel (OCP) to develop relevant proposals for consideration by the ANC.
48	6/8 GNSS/INS integration That ICAO develop provisions for the integration of GNSS/INS in order to reduce the vulnerability of GNSS to RF interference and aid the development of advanced GBAS capabilities.	ICAO	Requested the Navigation Systems Panel (NSP) to develop relevant proposals for consideration by the ANC.

RECOMMENDATION		ACTION	
#	ITEM	BY ICAO/PIRGs/ STATES/IOs	ACTION/TASKS
49	Support of and participation in SBAS pre-operational implementation activities That: a) States that develop and introduce satellite-based augmentation systems and other SBAS service providers commence or continue to provide their technical and financial support and participation in the activities leading to the extension of their SBAS service areas into neighbouring States and Regions; and b) States participating in SBAS implementation activities coordinate with other participating States to optimize their effort, minimize duplication of service and facilitate participation of service providers.	States/IOs States	To note States participating in SBAS implementation coordinate with other participating States to optimize their effort.
50	Amendment to Annex 10, Volume I, Attachment B — Updating the strategy for introduction and application of non-visual aids to approach and landing That Attachment B to Annex 10, Volume I be amended as shown in Appendix B to the report on Agenda Item 6.	ICAO	The Air Navigation Commission made a preliminary review of Recommendation 6/10, and agreed that it should be transmitted to Contracting States and interested international organizations for comments, together with the Commission's comments and proposals thereon. Following receipt of these comments, a further review will be conducted by the Commission, which will then present its final proposals to the Council for adoption of the amendments to Annex 10, Volume I.
51	Amendment to the Global Plan — Navigation That: a) the <i>Global Air Navigation Plan for CNS/ATM Systems</i> (Doc 9750) be amended as shown in Appendix C to the report on Agenda Item 6; and	ICAO	Requested the Secretary General to take appropriate action.

RECOMMENDATION		ACTION	
#	ITEM	BY ICAO/PIRGs/ STATES/IOs	ACTION/TASKS
	b) updated CNS/ATM systems implementation time lines contained in Part II of the Global Plan be reviewed by the Regional Implementation Group and consolidated for incorporation in the next edition of the Global Plan.	PIRGs	Update CNS/ATM systems implementation time lines contained in Part II of the Global Plan.
52	6/12 Development of guidance material on applications of new GNSS elements and their combinations That ICAO, in developing standards for new GNSS elements and signals, address the issues associated with the use of multiple signals and their combinations, and develop guidance on the most promising combinations of GNSS elements.	ICAO	Requested the Navigation Systems Panel (NSP) to develop the required guidance material.
53	6/13 Potential constraints on using multiple GNSS signals That States, in their planning for implementation of GNSS services, take full advantage of future benefits accrued from using independent core satellite constellations, other GNSS elements and their combinations, and avoid limitations on the use of specific system elements.	States/IOs	Take full advantage of future benefits, and avoid limitations on the use of specific system elements.
54	6/14 GNSS services in the 960 - 1 215 MHz band That, a) States be encouraged to take into account the need to minimize potential interference to GNSS services in their planning of the deployment of DMEs; and b) an appropriate ICAO body be tasked to review the issues listed in paragraph 6.4.2.4 of the report on Agenda Item 6.	States ICAO	Minimize potential interference to GNSS services in their planning of the deployment of DMEs Requested the Navigation Systems Panel (NSP) to develop proposals for consideration by the ANC.

RECOMMENDATION		ACTION	
#	ITEM	BY ICAO/PIRGs/ STATES/IOs	ACTION/TASKS
55	6/15 Updating of SARPs for radio navigation aids in Annex 10, Volume I That ICAO undertake a review of SARPs and guidance material in Annex 10, Volume I in the areas identified in paragraph 6.4.3.4 of the report on Agenda Item 6.	ICAO	Requested the Navigation Systems Panel (NSP) to develop relevant proposals for consideration by the ANC.
56	6/16 Completion of guidance material on application of data quality SARPs in Annex 15 That ICAO give high priority to the completion of guidance material for the data quality assurance including the data processing from origination to end-use.	ICAO	Requested the Secretary General to expedite publication of the <i>Quality Management System Manual for AIS/MAP Services</i> .
AGENDA ITEM 7: AERONAUTICAL AIR-GROUND AND AIR-TO-AIR COMMUNICATIONS			
57	7/1 Strategy for the near-term introduction of ADS-B That States: a) note that a common element in most of the approaches currently adopted for early implementation of ADS-B is the selection of the SSR Mode S extended squitter as the initial data link; and b) take into account this common element to the extent possible in their national and regional implementation choices in order to facilitate global interoperability for the initial introduction of ADS-B.	PIRGs/States PIRGs/States	To note. Take into account this SSR Mode S extended squitter as a common element in their national and regional implementation choices for the initial introduction of ADS-B.
58	7/2 Support of longer term ADS-B requirements That a) States recognize that in the longer term the current SSR Mode S extended squitter technology may not be able to fully satisfy all of the requirements for ADS-B services in all airspace; and	States/IOs	To note.

RECOMMENDATION		ACTION	
#	ITEM	BY ICAO/PIRGs/ STATES/IOs	ACTION/TASKS
	b) ICAO continue development of technical standards for ADS-B link technologies, including SSR Mode S extended squitter, VDL Mode 4 and UAT, with special attention being paid to ICAO ADS-B operational requirements, frequency spectrum availability and aircraft integration issues.	ICAO	Requested the ACP and the SCRSP, in coordination with other appropriate panels, to continue the development of provisions for ADS-B technologies as required.
59	7/3 Evolutionary approach for global interoperability of air-ground communications That States: a) continue the use of currently implemented ICAO standardized systems for VHF band voice and data communications until such time as either saturation of the VHF band is approached or significant cost/benefit or safety advantages are expected from the implementation of other ICAO Standards; b) continue efforts in maximizing efficient use of existing aeronautical spectrum allocations through spectrum management measures c) continue the progressive deployment of data communications on the basis of applicable ICAO Standards such as aeronautical telecommunication network (ATN) using VDL Mode 2 as dictated by evolving operational requirements with a view to complementing or replacing voice communications for most routine communications; d) provide a forecast of anticipated VHF band saturation in high-density regions; <i>(continued...)</i>	PIRGs/States /IOs PIRGs/States/ IOs PIRGs/States/ IOs States	To note. To note. To note. Provide a forecast of anticipated VHF band saturation in high-density regions.

RECOMMENDATION		ACTION	
	#	ITEM	BY ICAO/PIRGs/ STATES/IOs
59	7/3	Evolutionary approach for global interoperability of air-ground communications (<i>continued</i>) e) in view of the anticipated saturation of the VHF band for voice communication, consider transition to spectrally more efficient ICAO systems, and/or make increased use of data communications; and f) investigate multi-mode avionics as a transitional method of achieving interoperability of air/ground communications, where global harmonization has not been achieved.	States To note. Use multi-mode avionics for achieving interoperability of air/ground communications.
60	7/4	Investigation of future technology alternatives for air-ground communications That ICAO a) investigate new terrestrial and satellite-based technologies, on the basis of their potential for ICAO standardization for aeronautical mobile communications use, taking into account the safety-critical standards of aviation and the associated cost issues; b) continue evolutionary development of existing standardized ICAO technologies with a view to increasing their efficiency and performance; and c) assess the needs for additional aeronautical spectrum to meet requirements for increased communications capacity and new applications, and assist States in securing appropriate additional allocations by the ITU.	ICAO Requested the ACP to carry out the relevant activities in (a), (b) and (c).

RECOMMENDATION		ACTION	
#	ITEM	BY ICAO/PIRGs/ STATES/IOs	ACTION/TASKS
61	Standardization of aeronautical communication systems That, for new aeronautical communication systems, ICAO: a) continue to monitor emerging communication systems technologies but undertake standardization work only when the systems meet all of the following conditions: 1) can meet current and emerging ICAO ATM requirements; 2) are technically proven and offer proven operational benefits; 3) are consistent with the requirements for safety; 4) are cost-beneficial; b) can be implemented without prejudice to global harmonization of the CNS/ATM systems; and 6) are consistent with the <i>Global Air Navigation Plan for CNS/ATM Systems</i> (Doc 9750) c) include in Annex 10 provisions ensuring that the introduction of mandatory carriage of new equipment be based only on appropriate ICAO regional and interregional coordination; and d) further limit SARPs for complex aeronautical systems to broad, system-level, functional and performance requirements and better capitalize on the work of other standard-making organizations so as to reduce the complexity/size of technical provisions.	ICAO	Requested all ICAO bodies involved in the standardization of aeronautical communication systems to apply it in their work.

MIDANPIRG/9
Appendix 5Q to the Report on Agenda Item 5

CNS/ATM HUMAN RESOURCES PLANNING AND TRAINING TASK FORCE

TERMS OF REFERENCE AND WORK PROGRAMME

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/**Regional** 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 experts from Civil Aviation Training Institutions, CNS/ATM, Human Resources Planning and Training fields nominated by MIDANPIRG Provider States.

IATA and IFALPA observers.

~~3.2 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

MIDANPIRG/9
Appendix 5R to the Report on Agenda Item 5

TERMS OF REFERENCE AND WORK PROGRAMME OF THE AFTN/ATN TASK FORCE

1. Terms of Reference

1.1 Follow up on the implementation of the elements of the Aeronautical Fixed Services (AFS) data and digital voice communications and plan for the transition and implementation of ATN in the MID Region to meet performance capacity requirements of the CNS ATM System. The planning function includes the development of necessary recommendations and regional documentation.

2. Work Programme

Item	Description	Target Date
1	Review the AFTN plan with a view to ensure alternate routing capability where required and to ensure the efficiency of the plan and use of AFTN message statistics for the purpose of increasing capacity and circuit planning in the region.	On-going
2	Review and evaluate the effect of increases in capacity and of newly implemented and proposed AFTN connections on existing circuit loadings	On-going
3	Study and develop a contingency plan in case of major failure of the AFTN.	2004
4	Identify any circuits which could be made redundant as a result of the upgrading of existing circuits and recommended closures, as well as the requirement for new circuits to increase efficiency of the AFTN and recommend the establishment of these circuits.	On-going
5	Consider technological advances and changes to the AFTN with due account of the implementation of ground-to ground elements of ATN.	On-going
6	Further review of ATS Voice Communication Plan in order to develop methods to improve reliability and efficiency including the use of digital communications.	On-going
7	Evaluate the use of available technology for the transfer of ATS messages between adjacent centers as an interim step, if required, until the availability of ATN.	2006
8	Continue the development of the MID Regional ATN Planning Document.	On-going
9	Follow up on the deficiencies in the AFS field.	On-going
10	Follow up on the development and implementation of the MID VSAT Project	On-going

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Appendix 5S to the Report on Agenda Item 5

**PRELIMINARY AIRCRAFT MOVEMENT FORECASTS
FOR THE MIDDLE EAST REGION**

September 2004

**PREPARED BY:
FORECASTING AND ECONOMIC PLANNING SECTION
INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO)**

1. INTRODUCTION

Background

1.1 The ICAO Council adopted, at its 149th Session, a uniform strategy and plan of action to support regional air navigation planning and implementation processes through the establishment of regional traffic forecasting groups. The basic function of these groups was to prepare forecasts of aircraft movements from, to, within and across defined air navigation regions.

1.2 In response to the Council decision, the Middle East Regional Traffic Forecasting Group (MER TFG) was formed in November 1997 and started functioning in 1998. Between 1998 and 2003, the group held six meetings and produced, through the Secretariat, two sets of traffic forecasts that were presented to MIDANPIRG and its subsidiary bodies. In addition to the six meetings, the Secretariat organized a basic and three advanced workshops on traffic forecasting and economic planning with a view to upgrading traffic forecasting capacity in the region.

1.3 The 8th meeting of MIDANPIRG discussed the performance of the MER TFG and arrived at certain conclusions that affect the organizational structure, terms of reference and composition of the sub-group. Conclusion MIDANPIRG/8/57 proposed the integration of the MER TFG into MIDANPIRG as a sub-group (Traffic Forecasting Sub-group-TFSG) and approved revised terms of reference and work programme of the Sub-group. Conclusion MIDANPIRG/8/58 dealt with the membership and composition of the Sub-group and Conclusion MIDANPIRG/8/59 identified the support which States are expected extend to traffic forecasting activities in the region. The ICAO Council has approved the integration of MER TFG into MIDANPIRG as a Traffic Forecast subgroup (TFSG) as called for by Conclusion 8/57.

Summary of the activities of MER TFG

1.4 At its second meeting held in Cairo from 7-9 September 1998, the group was informed of the forecast requirements of the CNS/ATM Sub-Group of MIDANPIRG. The group discussed this issue in detail and agreed that they would not be able to respond to this request prior to the forthcoming MIDANPIRG meeting. However, the MER TFG welcomed ICAO's offer to prepare preliminary forecasts, in lieu of its own work.

1.5 A special Meeting of Middle East Regional Traffic Forecasting Group was held in Cairo on 22 February 2001, following the Advanced Seminar on Traffic Forecasting held from 19 to 21 February. The meeting reviewed the composition, terms of reference and work programme of the Group.

1.6 It was agreed that the following tasks shall constitute the Group's future work programme:

- i) Identify the major route groups to, from, and within the region;
- ii) Research and gather traffic, economic, demographic, and other relevant data required for the development of forecasts;
- iii) Develop medium and long-term passenger and aircraft movement forecasts for the major route groups to, from, and within the region;
- iv) Expand the forecasts to meet the requirements for MIDANPIRG; and
- v) Provide other inputs as requested by MIDANPIRG.

1.7 The meeting also discussed the requirements identified by MIDANPIRG and its subsidiary bodies. With respect to data requirements identified by other sub-groups concerned, it was agreed that for data collection purposes related to peak period analysis and forecasts, the week 1-7 July

2000 will be used and that data will be obtained from Jeddah, Cairo, Bahrain, Amman, Tehran and Emirates FIRs.

1.8 The Secretariat presented the meeting with detailed city pair aircraft movements developed using data from the Official Airline Guide. It was felt that this data should be reviewed by members of the Group. Accordingly, the Secretariat transmitted city-pair data in electronic form for review by the members of the Group.

1.9 As agreed during its meeting of 21 February 2001, the fifth meeting of the MER TFG was conducted from 15 to 19 January 2002. The first two days of the meeting were devoted to training in advanced forecasting methods and techniques followed by a review of MER TFG forecasts prepared by the Secretariat. It was concluded that forecasts for traffic overflying the mid region and an analysis of peak-period parameters were considered as urgent requirements. It was also requested that an in-depth review be done by the concerned sub-groups of MIDANPIRG of the work that has already been carried out by the MER TFG. Such requirements identified by the sub-groups would form the basis for MER TFG's future work programme.

1.10 MER TFG held its last meeting on 16 October 2003. Participants were informed during this meeting that MIDANPIRG/8 has recommended to ICAO Council that the MER TFG be redefined as a sub-group of MIDANPIRG (Council later approved the integration). The meeting also examined a preliminary report, prepared by the Secretariat, including the historical data covering the region as a whole and five route groups. The report detailed historical perspectives at the global and regional levels, both in terms of economic situation and traffic growths. The member from the Islamic Republic of Iran made a presentation on the methods developed, by his country for traffic forecasts.

2. GLOBAL OUTLOOK

2.1 Economic Trends and Prospects

2.1.1 During the 1993-2003 period, the aggregate world economy measured in terms of GDP grew at an average annual rate of 3.2 per cent in real terms. The world population increased during the same period at an average annual rate of 1.4 per cent. Hence, the world's GDP per capita increased during the same period at an average annual rate of 1.8 per cent, significantly lower than the growth of GDP itself.

2.1.2 There appears to be consensus among economic forecasters that the global economy will continue to expand over the medium term, although rising crude oil prices may have a dampening effect. After a weak performance (2.3%) in 2001, the world economy recovered to grow at a rate of 3 per cent in 2002, due to improvements in trade and industrial production across all regions. Supported by increasing consumer confidence and demand, the world GDP registered a growth of 3.9 per cent in 2003, the highest growth experienced since 2000. The world economic activity is expected to pick up to around 4.6 per cent in the year 2004 and to grow at around 4.4 per cent in 2005 and 4.2 per cent in 2005. Over the long term, the world economy is projected to grow at an average annual rate of 2.5 per cent in real terms up to 2015.

2.1.3 For the forecast period, the airline industry faces substantial inflationary pressure on operating costs, particularly in the areas of labour and capital. The prospects for airline yields are closely related to cost developments and market conditions in the airline industry. Cost items under particular scrutiny at present are fuel and oil; ticketing, sales and promotion (notably in connection with product distribution); and general/administrative expenses. Productivity improvements in the airline industry should continue to produce some cost savings. However, the magnitude of improvements in cost efficiency

resulting from fleet developments is likely to be significantly less than in the past due to high capital cost of new aircraft and the increase in cost of financing.

2.1.4 For the forecast period, airline yields are expected to decline moderately (0.5 per cent per annum), in real terms for the 2003-2006 period and then remain stable for the following years in real terms.

2.2 Historical Traffic Trends

2.2.1 World airline scheduled traffic, measured in terms of passenger-kilometres performed, grew at an average annual rate of 4.4 per cent between 1993 and 2003. World airline freight traffic measured in terms of tonne-kilometres grew during the same period at an average rate of 6.2 per cent per annum.

2.3 Passenger Traffic Forecast

2.3.1 The global and regional scheduled passenger traffic forecasts for 2004, 2005 and 2006, and over the period to 2015 have been developed based on economic and yield assumptions and other considerations. General economic performance is expected to provide the main support for traffic demand. Global passenger traffic is expected to grow by 6.2, 5.4 and 5.2 per cent for the years 2004, 2005 and 2006, respectively. The long term forecast over the period to the year 2015 provides for an average annual increase of 4.4 per cent.

3. OUTLOOK FOR THE MIDDLE EAST REGION

3.1 Economic Trends and Prospects

3.1.1 The economy of the Middle East region has been characterized by several pronounced cycles over the past decade. With a return to relative political and economic stability in the region after the Gulf war in 1990-1991, GDP growth recovered quite strongly in 1993. Growth, varying in strength, was sustained for the following seven years. In 2000, the economy of the region was boosted by higher oil prices combined with increased oil production and grew by an impressive 6.4 per cent, the highest rate among other regions. In 2001, despite the global downturn, Middle East economy still grew at 3.9 per cent and managed to sustain this growth through 2002. In 2003, the economy achieved a rate of 5.4 per cent in real GDP growth, more than one percentage point higher than the previous year, benefiting from higher oil prices. Over the 1993-2003 period, the aggregate GDP for the Middle East grew at an average annual rate of 3.7 per cent in real terms, while GDP per capita averaged a 1.3 per cent growth rate per annum.

3.1.2 Having shown some resilience to geopolitical tensions and conflicts, the Middle East economy is expected to maintain a higher than world average growth through to the end of the forecast period. They are expected to grow, in aggregate, at 4.1, 5.0 and 5.0 per cent in 2004, 2005 and 2006, respectively. The GDP for the region is expected to increase at an average annual rate of 3.5 per cent for the period 2002-2015.

3.2 Air Passenger Traffic Trends and Forecast

3.2.1 Scheduled passenger traffic (in PKPs) of the airlines of the Middle East region increased at an average annual rate of 7.2 per cent over the 1993-2003 period, substantially higher than the world average. After a slowdown in 2001, traffic rebounded and increased by 9.7 per cent in 2002, and by 10.6 per cent in 2003.

3.2.2 Scheduled passenger traffic for the airlines of the Middle East region is expected to grow by 6.7 per cent per annum in 2004, 6.9 per cent in 2005 and 6.9 per cent in 2006. These rates reflect an expected good economic performance in the region. The long term average annual growth rate to the year 2015 is anticipated to be 6.4 per cent, the highest growth among all regions.

4. PRELIMINARY FORECASTS OF PASSENGER TRAFFIC FOR MAJOR ROUTE GROUPS TO, FROM AND WITHIN THE MIDDLE EAST REGION

4.1 Geographical Scope

4.1.1 In order to facilitate the group's work and the forecasting process, the following major route groups to, from and within the Middle East Region have been identified:

- Between Middle East - Europe
- Between Middle East - Africa
- Between Middle East - Asia/Pacific
- Between Middle East - North America
- Intra Middle East

4.2 Historical Passengers Traffic on Major Identified Route Groups

4.2.1 It is estimated that the air traffic on the identified five major route groups to, from and within the Middle East region increased from some 20.0 million in 1993 to 40.9 million passengers in 2003 at an average annual growth rate of 7.4 per cent. The annual passengers carried and growth rates for each of the route groups concerned are illustrated in **Table 1**.

TABLE 1
Traffic By Major Flows - 1993 -2003

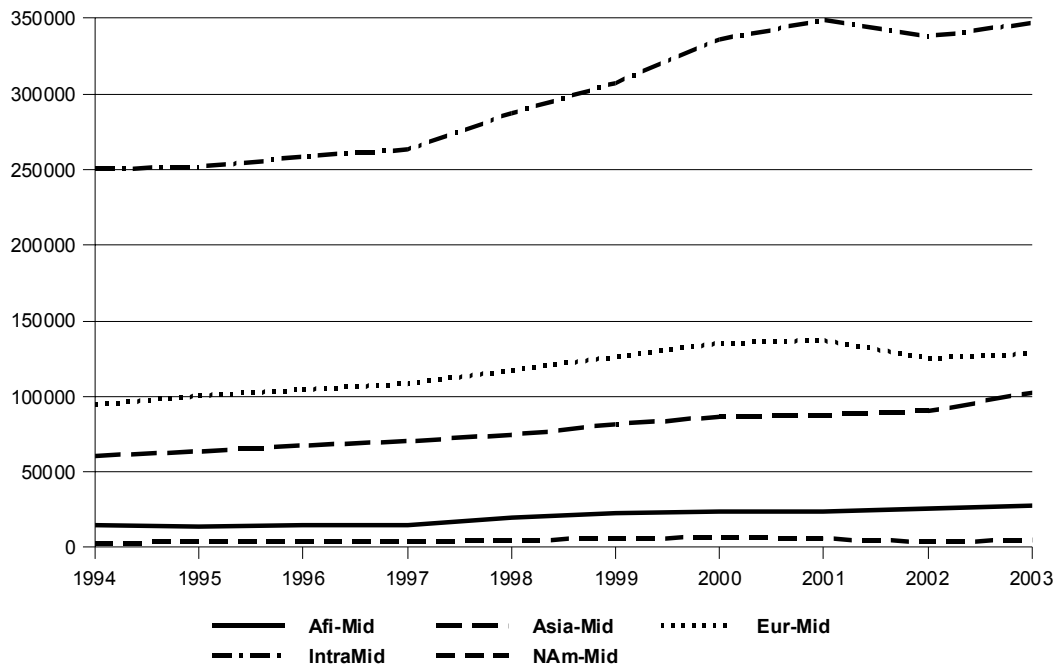
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	Average Annual Growth (1993-2003)
AFR-MEA	3,192	3,412	3,419	3,703	3,955	4113	4179	4162	4275	4676	5205	5
Growth (%)		6.9	0.2	8.3	6.8	4	1.6	-0.4	2.7	9.4	11.3	
ASIA-MEA	5,339	6,369	7,561	8,180	8,786	9181	9676	10682	11163	11844	12922	9.2
Growth (%)		19.3	18.7	8.2	7.4	4.5	5.4	10.4	4.5	6.1	9.1	
EUR-MEA	8,300	8,342	8,959	9,917	10,542	11490	12008	12897	13077	13116	14389	5.7
Growth (%)		0.5	7.4	10.7	6.3	9	4.5	7.4	1.4	0.3	9.7	
INTRA MEA	1,873	2,600	3,036	3,413	3,952	5190	5304	5606	5859	6849	7143	14.3
Growth (%)		38.8	16.8	12.4	15.8	31.3	2.2	5.7	4.5	16.9	4.3	
NAM-MEA	1,300		1,398	1,318	1,362	1040	1081	1178	1025	960	1230	-0.6
Growth (%)				-5.7	3.3	-23.6	3.9	9	-13	-6.4	28.2	
TOTAL	20,004	20,723	24,373	26,532	28,597	31014	32442	34526	35399	37445	40889	7.4
Growth (%)		3.6	17.6	8.9	7.8	8.5	4.6	6.4	2.5	5.8	5.9	

4.2.2 In 2003, the highest passenger share occurred in the Middle East-Europe route group, followed by Middle East-Asia, Intra Middle East, Middle East-Africa, and Middle East-North America route groups.

4.3 Historical Movements Traffic on Major Identified Route Groups

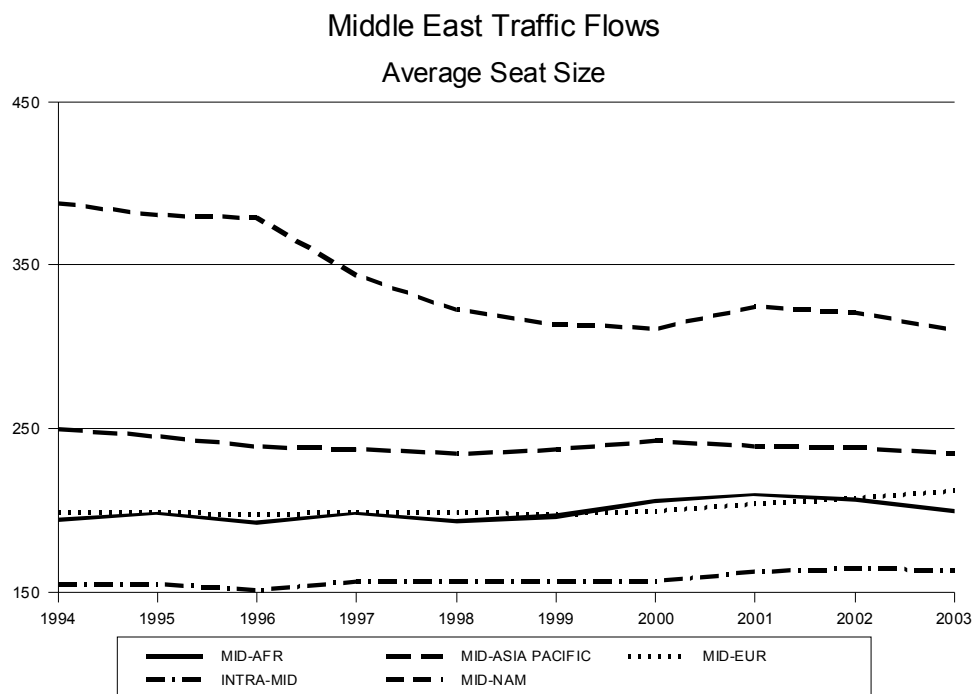
The graph below illustrates the trend in aircraft movements on the major route groups from 1994 to 2003 (using OAG data). The graph shows somewhat similar growth pattern for the two major route-groups: Middle East - Europe and Within the Middle East with a notable decline in the year 2002 and a recovery in 2003. However, the Middle East - Asia Pacific route group experienced an increase in both years. From 1994 to 2003, movements on these route groups grew at average rates of 3.4%, 3.7% and 6.0% respectively.

**Middle East Traffic Flows
Aircraft Movements**



4.4 Historical Average Aircraft Seat Size on Major Identified Route Groups

4.4.1 The average aircraft seat size had slightly decreased (about 0.7% per annum) on the Middle East -Asia Pacific route group during the 1994-2003 period. It had increased by 0.7%, 0.6% and 0.3% per annum on the Middle-Europe, Intra-Middle East and Middle East-Africa route groups respectively, and decreased by around 2.4% per annum on the Middle East - North America route group.



4.5 Historical Load Factor on Major Identified Route Groups

4.5.1 All route groups experienced increases in the Load Factors during the period 1994 to 2003. Middle East - Europe, Middle East-Asia Pacific, Middle East-Africa and Intra-Middle East route groups grew by between 0.7 to 1 percentage point per annum while the Middle East-North America route group grew at about 2.9 percentage point per annum, the highest among all the routes.

4.6 Regional Economic Trends

Middle East

4.6.1 The economic trends and prospects for the Middle East region have been discussed under paragraphs 3.1.1 and 3.1.2.

Asia/Pacific

4.6.2 Over the 1993–2003 period, the aggregate economy of the Asia/Pacific region grew at an average annual rate of 4.2 per cent in real terms, and GDP per capita increased at 2.8 per cent per annum. Asia/Pacific has achieved the largest share in the world economy and has also been the fastest growing region despite a slowdown and recession when GDP growth dropped from 3.9 per cent in 1997 to –0.3 per cent in 1998. Growth in the majority of developing countries of Asia weakened towards the end of 2001 as a result of higher oil prices, slowdown in the U.S. economy, the downturn of the global economic cycle and, in the case of some countries, the lagging pace of corporate and financial restructuring. Despite all the weak performances in other parts of the world, the Asia Pacific GDP still managed to grow at 3.9 percent

in 2001. In 2002, the region's economy grew by about 4.6 per cent. Despite the adverse effects of the SARS outbreak in the first half of 2003, the economy bounced back in the second half of the year with a surge in domestic demand coupled with export growth boosted by increased global activity, the upturn in demand for high technology goods, favorable exchange rates, higher consumer confidence and a boost in tourism. It is estimated that the region's GDP grew at 6.0 per cent in 2003, the highest growth rate among ICAO regions.

4.6.3 In view of these developments, Asia/Pacific GDP expressed in real terms is projected to grow at 6.1 per cent in 2004, 5.5 per cent in 2005 and 5.3 per cent in 2006, maintaining the highest growth in the world. For the 2002-2015 period, it is anticipated that the region's economy will experience an average growth rate of 4.0 per cent.

Europe

4.6.4 The aggregate economy of the European region went into decline starting in 1990, the primary reason being the serious contractions of economies of Eastern Europe and the Commonwealth of Independent States (CIS). By 1997, total output was back to where it had been in 1989, but masked a persistent divergence between countries in Western and Eastern Europe. Over the 1993-2003 period, the GDP for the entire region (including the CIS), grew at an average annual rate of 2.0 per cent in real terms while the aggregate GDP per capita grew at a rate of about 1.6 per cent. It is estimated that the European economy grew by 1.3 per cent in 2003, to which the European Community (EC) contributed at a rate of 0.4 per cent. Economies of Central and Eastern European countries grew in the aggregate at around 4.4 per cent while those of the CIS grew higher, at 7.6 per cent.

4.6.5 The aggregate European economy is expected to grow at 2.1 per cent in 2004. It is projected to improve slightly in 2005 with the GDP growth of 2.8 per cent. For 2006, the economic growth of the region is forecast at 2.6 per cent. For the 2002-2015 period, it is expected that the region will experience an average annual growth rate of 2.0 per cent.

North America

4.6.6 Over the 1993-2003 period, the economy of the North American region grew at an average annual rate of 3.1 per cent in real terms and GDP per capita increased at 2.1 per cent. The U.S. economic expansion, which began in 1991, has been the longest since 1945. By the end of 2000, though, an economic slowdown had affected economic activities with a worsening impact since the events of 11 September 2001. As a result, the year 2001 saw GDP growth of 0.4 per cent only. In the years 2002 and 2003 the region's economic growth was steadily recovering and grew by 2.3 and 3.0 per cent, respectively. The economy of the region is expected to grow at the annual growth rates of 4.5, 3.6 and 3.7 per cent in 2004, 2005 and 2006 respectively. For the 2002-2015 period, it is foreseen that the region will experience an average annual growth rate of about 3 per cent.

4.6.7 **Table 2** depicts the trends in the economic growth rates for the period 1993-2003.

TABLE 2

GDP GROWTHS OF RESPECTIVE REGIONS
(Per Cent)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
NAM	3	3.6	2	2.6	3.8	4.2	4.2	4.1	0.4	2.5	3
EUR	-3.2	0.1	2	2.5	2.8	2.5	2.3	3.8	1.8	1.3	1.3
ASIA/PAC	3.7	4.3	5	3.3	2.1	-0.3	3.5	5.7	3.9	4.8	6
AFR	1.1	2.4	2.9	5	3.4	3.1	2.7	3.1	3.6	3.4	4.1
MEA	3.8	1.6	3.8	5.2	3.2	2.7	2.5	5.4	3.9	3.9	5.4

5. METHODOLOGY

5.1 The demand for air travel is primarily determined by economic developments, notably the growth of world and regional income levels as measured by the aggregate economic activities (GDP), demographic trends, and the cost of air travel measured by airline yields (gross passenger revenue per passenger kilometre flown). It is also assumed that the political and general economic climate are conducive to growth, however, no specific assumptions are made about possible political and economic scenarios beyond those implicit in the basic GDP growth rates forecast. World energy demand, supply, and prices are important to both economic progress and to the cost of air travel. It is assumed that during the forecast period there will be no major disruptions in the availability of fuel, or significant fluctuations in fuel costs for the airlines.

5.2 Econometric models were developed wherever possible to understand the cause and effect relationship between traffic and other causal factors. It was recognized, however, that even where models were developed, the forecasts should incorporate a significant element of judgement.

5.3 In route groups where consistent data were not available, forecasts were developed based on general assessments of traffic trends, economic and other relevant factors.

5.4 Forecasts of aircraft movements in a particular route-group can be derived from forecasts of passengers and assumptions about future trends in load factors and average aircraft size. The link between these variables is given by:

$$\begin{aligned} \text{Aircraft movements} &= \frac{\text{passenger numbers}}{(\text{passenger/seats}) \cdot (\text{seats/aircraft})} \\ &= \frac{\text{passenger numbers}}{(\text{load factor}) \cdot (\text{aircraft size})} \end{aligned}$$

5.5 Judgements would be necessary about whether gradual improvements in load factors could be expected from marketing initiatives and yield programs. Assumptions were made about future trends in average aircraft size based on expectations about the types of aircraft that might be introduced to

the route over the forecast period. Historical trends as well as data concerning aircraft orders were also factored into the development of future trends.

5.6 Having established the aircraft movement growth rates for each of the route-groups concerned, in the manner described above, aircraft movements forecasts for the year 2015 were estimated. These forecasts were developed for each of the major route groups concerned using the 2003 OAG (Official Airline Guide) data as the base year.

5.7 Preliminary Passenger Traffic Forecasts

5.7.1 Based on the methodology described above, passenger traffic forecasts were developed for the major route groups concerned. The traffic to, from and within the Middle East region on the five major route groups concerned for the period 2003-2015 is expected to increase at an average annual rate of 5.9 per cent. The Intra-Middle East route group is expected to experience the highest average annual growth rate of 7.7 per cent per annum, followed by Asia/Pacific-Middle East, Europe-Middle East, Africa-Middle East and North America-Middle East route groups with growth rates of 6.7 per cent, 4.7 per cent, 4.3 per cent and 2.5 per cent respectively for the period concerned as illustrated in **Table 3**.

TABLE 3

PASSENGER FORECAST TO THE YEAR 2015

	Actual		Forecast		Average	Annual	Growths
	1993	2003	2010	2015	1993-2010	(per cent) 2003-2010	2003-2015
AFR-MEA	3192	5205	7083	8618	5	4.5	4.3
ASIA-MEA	5339	12922	20750	28030	9.2	7	6.7
EUR-MEA	8300	14389	20112	25063	5.7	4.9	4.7
INTRA MEA	1873	7143	12645	17417	14.3	8.5	7.7
NAM-MEA	1300	1230	1462	1663	-0.6	2.5	2.5
TOTAL	20004	40899	62051	80792	7.4	6.1	5.8
Excl.NAM-MEA	18704	39659	60589	79128	7.8	6.2	5.9

5.7.2 These forecasts result in the change of the passenger traffic share for the year 2015 as depicted in **Figure 2**.

Passenger Traffic Shares of Selected Route Groups

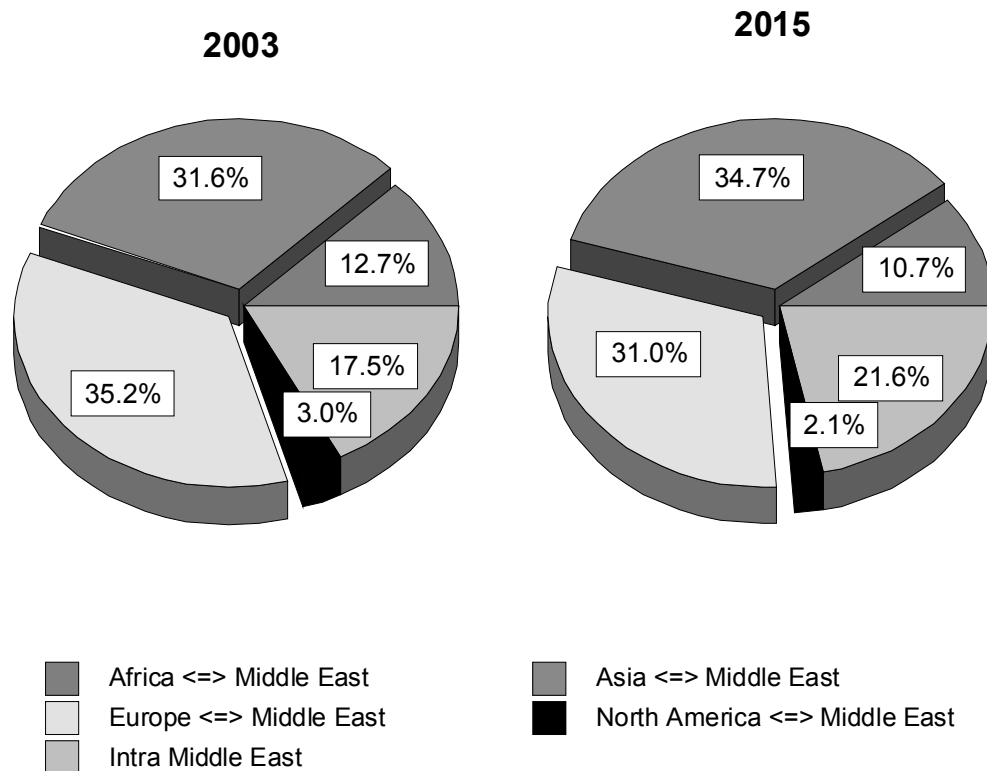


FIGURE 2

6. FORECASTS OF AIRCRAFT MOVEMENTS

6.1 Using the methodology described above, movement forecasts for the major route groups for the 2003-2015 are depicted in Table 6.

6.2 The historical trends in load factors and average seats for the route groups concerned as well as expectations of future trends in average seats are described in **Tables 4 and 5** respectively.

TABLE 4

LOAD FACTORS FOR THE YEARS 1994-2003

	1994	1996	1999	2000	2001	2002	2003
AFR-MEA	56.4	58.9	58.5	58.3	61.1	63.8	65.1
ASIA-MEA	63.3	61.5	66.1	68.9	69.7	72.7	69.8
EUR-MEA	59.7	63.8	65.9	68.1	66.3	69.1	68.1
INTRA MEA	55.9	60.2	58.9	60	61.9	61.2	63.9
NAM-MEA	49.9	67	66.5	71.7	72.8	75.5	75.7

TABLE 5

AVERAGE AIRCRAFT SIZE FORECAST TO THE YEAR 2015

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
AFR-MEA	195	195	198	193	198	194	197	206	210	207	200
ASIA-MEA	248	250	246	240	238	235	238	243	240	239	235
EUR-MEA	198	199	199	198	199	199	198	200	205	208	212
INTRA MEA	156	155	155	152	157	157	157	157	163	165	164
NAM-MEA	388	388	381	379	344	323	314	312	325	321	311

6.3 The estimated aircraft movement growth rates for the respective route groups are given in Table 6.

TABLE 6

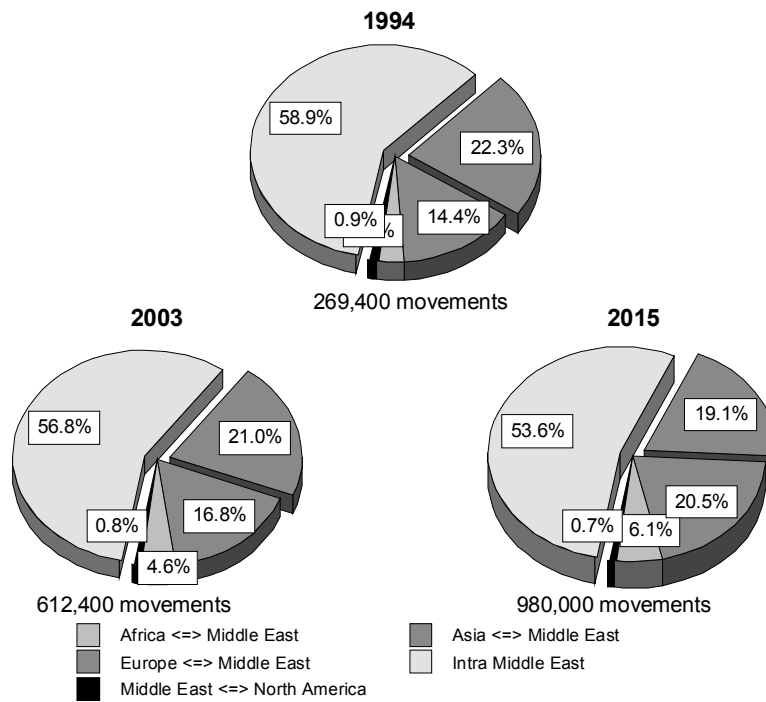
AIRCRAFT MOVEMENTS FORECAST TO THE YEAR 2015

	Traffic			Average Annual Growth	
	1994 (000)	2003 (000)	2015 (000)	1994-2003 (per cent)	2003-2015 (per cent)
AFR-MEA	14.9	28.2	60.1	7.4	6.5
ASIA-MEA	61	103.1	200.6	6	5.7
EUR-MEA	95	128.5	187.5	3.4	3.2
INTRA MEA	250.5	347.3	524.7	3.7	3.5
NAM-MEA	3.7	5.1	7.1	3.6	2.6
Total	269.4	612.3	980	4.1	4

6.4.3 The total aircraft movements to/from and within the Middle East region are estimated to increase from some 612000 in 2003 to around 980000 in 2015 at an average annual growth rate of 4.0 per cent. The resulting movements' shares for the years 1994, 2003 and 2015 are depicted in Figure 3.

Figure 3

Aircraft Movements Shares of Middle East Traffic Flows



- END -

MIDANPIRG/9
Appendix 5T to the Report on Agenda Item 5

**TERMS OF REFERENCE AND WORK PROGRAMME OF
THE TRAFFIC FORECASTING SUB-GROUP (TF SG)**

(April 2005)

Traffic Forecasts, Business Case Studies and Cost/benefit Analysis are critical factors in the planning and implementation of air navigation infrastructure, including the implementation of CNS/ATM systems.

1. TERMS OF REFERENCE

- a) Develop traffic forecasts for major traffic flows within the Middle East region to support the air navigation systems planning and implementation, including CNS/ATM systems.
- b) Develop cost/benefit analysis and business case studies for the implementation of CNS/ATM systems in the Middle East region as required.
- c) Ensure close cooperation with relevant organizations and States or group of States to identify data requirements and resources for the development of forecasts.

2. Work Programme

- 1) Develop medium and long-term passenger, freight and total aircraft movement forecasts on the following route groups:
 - Between Middle East – Europe
 - Between Middle East – Africa
 - Between Middle East – Asia/Pacific
 - Between Middle East – North America
 - Intra-Middle East
 - Between Asia/Pacific – Europe/North America (and vice versa) over flying the Middle East.

Note: Traffic forecasts should also include peak periods of Hajj and other seasonal traffic as determined by the Sub-group.

- 2) Analyse data from selected flight information regions (FIRs) to establish peak-period and other parameters required for planning and implementation purposes.

3. COMPOSITION

- Membership shall include all eight members of MIDANPIRG.
- All MID States shall be invited.
- The Sub-group shall report its meetings and other activities to MIDANPIRG.
- The Sub-group shall meet in the most efficient manner with minimum formalities between the cycles of MIDANPIRG meetings or whenever needed, at a venue and date to be coordinated by the Secretary after consultation with the Chairperson of the Sub-group.

MIDANPIRG/9
Appendix 5U to the Report on Agenda Item 5

DATA REQUIRED FROM MID STATES

Field	Field Type
Call Sign and Flight Number	Text
Aircraft Registration (If available)	Text
Aircraft Type Designator	Text
Departure Aerodrome (ICAO location indicator)	Text
Destination Aerodrome (ICAO Location Indicator)	Text
Entry Point	Text
Entry Date/Time	Date/Time
Entry Flight Level (if available)	Text
Exit Point	Text
Exit Date/Time	Date/Time
Exit Flight Level (if available)	Text
ATS Route(s) (if available)	Text
Flight Classification (Inbound / Outbound /Over-flight /Within FIR)	Text
Flight Type (Scheduled/Non-scheduled/Military/Government/ Business/ General Aviation)	Text
Flight Nature (Passenger/Cargo)	Text

MIDANPIRG/9
Report on Agenda Item 6

REPORT ON AGENDA ITEM 6: DEFICIENCIES IN THE AIR NAVIGATION FIELDS

Review of the ANS WG/1 Report

6.1 Under this agenda item, the meeting was apprised of the outcome of the First meeting of the Air Navigation Safety Working Group (ANS WG/1), held in Cairo from 21 to 23 February 2005.

6.2 The meeting recalled that in discussing methods to resolve air navigation deficiencies, the ICAO Council observed that many deficiencies continue to persist for a number of years thus causing concern.

6.3 The meeting noted that the ANS WG took into consideration the outcome of the second meeting of MIDANPIRG Member States (MMS/2) held in Bahrain 19-21 September 2004 pertaining to air navigation deficiencies.

6.4 The meeting recalled MIDANPIRG/8 Conclusion 8/54 inviting MID States to allocate sufficient resources for the elimination of the air navigation deficiencies and urging them to inform ICAO of any implementation problems they may encounter in this regard within their State(s) giving the rationale for non-elimination of deficiencies. To this end, States were requested to formulate and review on a regular basis an action plan including the rationale for non-elimination of deficiencies. Seven (7) States only have replied to the Regional Office and in most cases without giving the rationale for non-elimination.

6.5 Based on the foregoing, the meeting endorsed an amendment to the form used for the identification, assessment and reporting of air navigation deficiencies proposed by the Secretariat with a view to analyzing the rationale for non elimination of those deficiencies. The updated form is at **Appendix 6A** to the report on Agenda Item 6. It may be noted that 4 different root causes were retained as main rationales for non elimination of deficiencies:

- F: the rationale for non elimination is due to a **Finance** problem
- H: the rationale for non elimination is due to a lack of **Human** resources/expertise
- S: the rationale for non elimination is due to a **State** reason (military/political issue)
- O: for **Other** unknown causes.

6.6 Based on the foregoing, the meeting endorsed the following Conclusion:

CONCLUSION 9/61: AMENDMENT TO THE FORM USED FOR THE IDENTIFICATION, ASSESSMENT AND REPORTING OF AIR NAVIGATION DEFICIENCIES

*That, with a view to analysing the rationale for non-elimination of air navigation deficiencies, ICAO considers the amendment of the uniform methodology for the identification, assessment and reporting of air navigation deficiencies to incorporate the revised form as in **Appendix 6A** to the report on Agenda Item 6.*

6.7 It was also stressed that when dealing with deficiencies, the standard definition of deficiency adopted by the ICAO Council in November 2001 should be used as basis to avoid different interpretations of the problems raised, which could be classified as complaints/mission findings rather than deficiencies.

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6.8 The updating of the list of deficiencies, which is considered a living document, is an on-going activity for the Secretariat to reflect the identified/reported air navigation deficiencies in the MID Region. The updated list of deficiencies in the AIS/MAP, AOP, ATM and CNS fields using the proposed amended form are at **Appendices 6B, 6C, 6D and 6E** respectively.

6.9 The analysis of the list of MID States air navigation deficiencies shows that some of the deficiencies are due to lack of resources; however, this is not the case for all MID States. Either Civil Aviation Administrations are not putting enough pressure on their authorities to allocate funds in their budgets to rectify these deficiencies, or they do not have the autonomous status to use their respective revenues to rectify deficiencies, train personnel and modernize their facilities and air navigation services and to establish a dialogue with the political and military authorities as part of civil/military coordination.

6.10 A quantitative analysis of MID States' air navigation deficiencies is presented hereunder. The tables and graphs presented in **Appendices 6F, 6G, 6H, 6I, 6J and 6K** were developed for this purpose and show that:

- The total number of deficiencies in the air navigation fields varies between 3 and 24 deficiency per State.
- The distribution of these deficiencies between the different fields is as follow:
AIS/MAP: 39%, AOP: 15%, ATM/SAR: 24% and CNS: 22%.
- The priority for the elimination of deficiencies in the different fields of air navigation is at **Appendix 6K**: U: 32%, A: 40% and B: 28%. Their distribution by air navigation field is shown at **Appendix 6I** to the report on Agenda Item 6:
 - ✓ **AIS/MAP:** U: 37%, A: 50% and B: 13%
 - ✓ **AOP:** U: 61%, A: 39% and B: 0%
 - ✓ **ATM/SAR:** U: 0%, A: 31% and B: 69%
 - ✓ **CNS:** U: 37%, A: 33% and B: 30%
- The rationale for non-elimination of deficiencies in the different air navigation fields is shown at **Appendix 6K** to the report on Agenda Item 6: F: 17%, H: 22%, S: 32% and O: 29%. Their distribution by air navigation field is shown at **Appendix 6J** to the report on Agenda Item 6:
 - ✓ **AIS/MAP:** F: 27%, H: 39%, S: 5% and O: 29%
 - ✓ **AOP:** F: 36%, H: 35%, S: 18% and O: 11%
 - ✓ **ATM/SAR:** F: 0%, H: 1%, S: 95% and O: 4%
 - ✓ **CNS:** F: 5%, H: 5%, S: 18% and O: 72%

6.11 While reviewing the list of deficiencies, the meeting noted that the majority of the deficiencies in the ATM field are related to the non-implementation of ATS routes required by the MID Basic ANP. The meeting recognized in this regard, that the rationale for non-implementation does not relate to lack of resources and that those deficiencies are mainly attributed to either State (political issues) and/or Military conditions/reasons. This is reflected also in the priority field where a "B" priority was put for all these deficiencies showing that they are requirements necessary for air navigation regularity and efficiency and that there is no effect on safety. However, the need to review some of the requirements of the MID Basic ANP pertaining to ATS routes, which could not be implemented, was also expressed. In this regard, IATA was requested to take into account the concern of States and review their requirements for implementation of some ATS routes. The meeting agreed that this issue should be discussed during the next ATM/SAR/AIS Sub-Group meeting.

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6.12 The meeting noted that the deficiency related to the lack of Search and Rescue agreements between neighbouring States is a deficiency that concerns all MID States and which is carried over since 1994 and agreed that the idea of organizing a forum by individual State/Group of States that involves all concerned parties, including ICAO MID Regional Office, should be considered in order to find appropriate solutions.

6.13 The meeting pointed out that some deficiencies are of an inter-regional nature and their elimination necessitates inter-regional coordination. It was highlighted, in this regard, that the role of the ICAO MID Regional Office in the elimination of those deficiencies is tremendous. The meeting was appraised that inter-regional coordination meetings are regularly convened with both the AFI and EUR Regions.

6.14 Based on the foregoing, the meeting endorsed the following Conclusion:

CONCLUSION 9/62: REVIEW OF THE REQUIREMENTS PERTAINING TO ATS ROUTES

That, taking into consideration the unlikelihood to implement certain ATS routes in the MID Region:

- a) *IATA reconsiders its requirements for implementation of some ATS routes in the MID Region; and*
- b) *the ATM/SAR/AIS Sub-Group takes into account the concerns of States regarding some ATS route requirements which can not be implemented.*

6.15 When discussing the agenda item related to the methodology for the elimination of Air Navigation Deficiencies in the MID Region, the meeting recalled that the uniform methodology for the identification, assessment and reporting of air navigation deficiencies was amended and approved by the ICAO Council on 30 November 2001 pursuant to the introduction of the new single definition of ‘**deficiency**’ as shown at **Appendix 6L** to the report on Agenda Item 6.

6.16 The meeting was apprised of the outcome of the ICAO Council discussions related to air navigation deficiencies. In this regard, It was recalled, with a view to assist States to remedy the deficiencies identified, the unified strategy attached at **Appendix 6M** to the report on Agenda Item 6 was adopted by the 35th General Assembly (Resolution A35-7: *Unified strategy to resolve safety-related deficiencies*). The unified strategy provides for the identification of root causes of deficiencies, the tailoring of solutions and implementation methods at regional, sub-regional or State level. Increased transparency, cooperation and assistance are the basic principles of the strategy. Another element of the strategy is the establishment of partnerships between ICAO, States, airspace users, air navigation service providers and industry. All these partners share the responsibility for maintaining a safe international air transport system.

6.17 The meeting recalled that the ANS WG was presented with information related to the experience of the APANPIRG, GREPECAS and APIRG in dealing with air navigation deficiencies. It was highlighted in this regard that, GREPECAS has developed a database of regional air navigation deficiencies and posted it on the NACC Office website providing secure Internet access to authorized users (States, international organizations). Recognizing that the development of such a database could be a good tool to enhance the process of identification, assessment, reporting and elimination of deficiencies, the ICAO Council invited all other PIRGs to adopt a similar approach.

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6.18 The meeting recognized that keeping the list of deficiencies up-to-date by Regional Offices and PIRGs proved to be a challenging task. Moreover, the present method, which is a manual one, does not permit any reformatting of the list, for example, based on States, type of deficiency or priority. In addition, and despite numerous contacts with States, updates are not received on a regular basis. The meeting agreed that the development of a MID air navigation deficiencies database could be a good tool to enhance the process of identification, assessment, reporting and elimination of deficiencies and allow authorized users to propose updates to their deficiencies on-line. The final decision to approve or disapprove the proposed updates should rest with the Regional Office.

6.19 Based on the above, the meeting endorsed the following Conclusion:

CONCLUSION 9/63: DEVELOPMENT OF A MID REGION'S AIR NAVIGATION DEFICIENCIES DATABASE

That, ICAO MID Regional Office:

- a) develops an air navigation deficiencies database for the MID Region;*
- b) develops a secure process for managing this database on the Internet;*
- c) gives the possibility of controlled on-line introduction of updated information by States for their respective deficiencies; and*
- d) allows other authorized users on-line access to view the information contained in the database.*

6.20 Taking into consideration the analysis of the lists of air navigation deficiencies in the MID Region and the experiences of the different regions pertaining to air navigation deficiencies, the meeting was of view that the uniform methodology for the identification, assessment and reporting of air navigation deficiencies, with the proposed amendment, and the Resolutions adopted by the 35th General Assembly, particularly Resolutions A35-7 and A35-14, provide clear definition of the responsibilities and obligations of the parties involved in the management of deficiencies. The meeting thus agreed that there is no urgent need to further develop guidance material for the identification, assessment and reporting of air navigation deficiencies.

6.21 Noting that an important number of current MIDANPIRG Conclusions, which are in some cases of repetitive nature, pertain to the elimination of air navigation deficiencies, the meeting agreed to the following Conclusion which consolidates and replaces all the previous MIDANPIRG Conclusions dealing with the issue of deficiencies in the air navigation fields:

CONCLUSION 9/64: ELIMINATION OF AIR NAVIGATION DEFICIENCIES IN THE MID REGION

That,

- a) States review their respective lists of identified deficiencies and formulate and forward an action plan for rectification of outstanding deficiencies to the ICAO MID Regional Office for review;*
- b) States increase their efforts to overcome the delay in mitigating air navigation deficiencies identified by MIDANPIRG and explore ways and means to eliminate deficiencies by reliable ways of funding;*

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- c) *States are encouraged to set up an internal group of experts to examine the list of deficiencies and take appropriate actions with a view to recommend to their higher Civil Aviation Authorities solutions for elimination of deficiencies;*
- d) *States experiencing difficulties in financing the elimination of safety-related deficiencies may wish to take advantage of the funding opportunity offered by the International Financial Facility for Aviation Safety (IFFAS);*
- e) *States be encouraged to foster the creation of regional and sub-regional cooperation and, wherever feasible, partnership initiatives with other States, users, air navigation service providers, industry and financial institutions to improve the safety of international civil aviation;*
- f) *Users of air navigation facilities and services in the MID Region report to the ICAO MID Regional Office when the remedial action on a deficiency has been taken;*
- g) *ICAO continues to provide assistance to States for the purpose of rectifying deficiencies; and*
- h) *when required, States request ICAO assistance through Technical Co-operation Programme and/or Special Implementation Projects (SIP).*

6.22 The meeting appreciated the work done by the ANS WG/1 and reviewed/updated the Terms of Reference and Work Programme of the ANS WG as at **Appendix 6N** to the report on Agenda Item 6 and consequently developed the following Decision:

DECISION 9/65: REVISED TERMS OF REFERENCE AND WORK PROGRAMME OF THE ANS WG

*That, revised Terms of Reference and Work Programme of the ANS WG be adopted as at **Appendix 6N** to the report on Agenda Item 6.*

MET deficiencies in the MID Region

6.23 The CNS/MET SG had completed its review of a questionnaire sent to all MID States concerning the current implementation of the Annex 3 and MID ANP MET provisions. Following a reminder, ten States had completed and returned the questionnaire and it had been concluded that only minor differences to Annex 3 had been reported, none of them considered as a MET deficiency.

6.24 The Meeting recalled its Conclusion 8/53 to perform a second MET survey in the form of a questionnaire in a revised form. However, in view of the outcome the first survey, the meeting reconsidered its position and agreed that a second survey to the MID States with a revised questionnaire would be of little value.

6.25 The important role of the user organizations like IATA was emphasized and IATA also offered to contribute with regular focused surveys among the airlines operating in the MID Region. Regular contacts with IATA before each meeting of the CNS/MET SG and regular contacts with States by the ICAO MID Office were considered as more efficient means in the follow-up of the situation than surveys to States in the form of questionnaires. Regular participation by IATA and other user representatives in the CNS/MET SG deliberations of MET deficiencies would therefore be of great value.

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CONCLUSION 9/66: *SURVEY OF MET DEFICIENCIES IN THE MID REGION*

That, the MID Regional Office surveys deficiencies in the MET Field in the MID Region on a regular basis and focus on surveys and information to be obtained from IATA and other user organizations.

Note: This Conclusion replaces MIDANPIRG Conclusion 8/53.

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Reporting Form on Air Navigation Deficiencies

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*

Note:

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

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

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

“A” priority = Top priority requirements necessary for air navigation safety.

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

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

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

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

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Appendix 6B to the Report on Agenda Item 6

**Deficiencies in the AIS/MAP field
AFGHANISTAN**

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
1	ANNEX 15: Para 4.1.1		Newly Restructured AIP	June 1996		F H O	Afghanistan	Dec. 2005	U
2	ANNEX 15: Para 4.2.9 & 4.3.7		Lack of regular and effective updating of the AIP	January 2003	ICAO to follow up with State	F H O	Afghanistan	Dec. 2005	U
3	ANNEX 15: Para 6.		Lack of implementation of AIRAC System	May 1995	ICAO to follow up with State	F H O	Afghanistan	Sep. 2005	U
4	ANNEX 15: Para 3.6.4		Implementation of WGS-84	December 1997		F H O	Afghanistan	Dec. 2005	U
5	ANNEX 15 Para. 3.2		Implementation of a Quality System	January 2003		F H O	Afghanistan	Dec. 2006	U

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

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Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale ¹ for non-elimination	Description	Executing body	Date of complete	Priority for action*
6	ANNEX 15 Para. 5.2.8.3		Non-production of the monthly printed plain language summary of NOTAM	January 2003		H O	Afghanistan	Jun. 2005	A
7	ANNEX 4 Para. 7.2		Non-production of the Enroute Chart-ICAO	May 1995		F H O	Afghanistan	Dec. 2005	A
8	ANNEX 15: Para 4.1.1		Non-production of Aerodrome Obstacle Chart-ICAO Type A	May 1995		F H O	Afghanistan	Sep. 2005	A
9	ANNEX 15: Para 4.2.9 & 4.3.7		Non-production of Aerodrome/ Heliport Chart - ICAO	May 1995		F H O	Afghanistan	Dec. 2005	A
10	ANNEX 15: Para 6.		Non-production of Instrument Approach Chart-ICAO	January 2003		F H O	Afghanistan	Dec. 2005	A

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale ¹ for non-elimination	Description	Executing body	Date of complete	Priority for action*
11	ANNEX 15: Para 3.6.4		Non-production of World Aeronautical Chart – ICAO 1:1 000 000	May 1995		F H S Need to produce the assigned sheets of the World Aeronautical Chart – ICAO 1:1 000 000	Afghanistan	Dec. 2006	B
12	ANNEX 15 Para. 3.2		Non provision of pre-flight information service at international airports	Mar. 2004		F H O Need to provide a pre-flight information service at all aerodromes used for international air operations.	Afghanistan	Dec. 2005	A

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

Deficiencies in the AIS/MAP field
EGYPT

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
1	ANNEX 4 Para. 3.2		Non-production of Aerodrome Obstacle Chart-ICAO Type A	Mar 2004	For some RWYs in Egypt, the Aerodrome Obstacle Chart-ICAO Type A has not been produced	Need to produce Aerodrome Obstacle Chart-ICAO Type A for all Int'l Airports RWYs, except if a notification to this effect is published in the AIP (if no significant obstacles exist)	Egypt	Sep. 2005	A
2	ANNEX 4 : Chart production requirements		Non-production of Precision Approach Terrain Chart-ICAO	Jan 2003		Need to produce Precision Approach Terrain Chart-ICAO for precision approach RWYs CAT II and III.	Egypt	Dec. 2005	A
3	ANNEX 4 Para. 16.2		Non-production of World Aeronautical Chart – ICAO 1:1 000 000	May 1995		Need to produce the assigned sheets of the World Aeronautical Chart – ICAO 1:1 000 000	Egypt	Dec. 2006	B

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

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Deficiencies in the AIS/MAP field
IRAN

Item No	Identification		Deficiencies			Corrective Action				
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale ¹ for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*	
1	ANNEX 15: Para. 3.2		Implementation of a Quality System	Jan. 2003	ICAO to follow up with State	F H	Need to introduce a properly organized quality system in conformity with ISO 9000 series of quality assurance standards.	Iran	Dec. 2005	U
2	ANNEX 4 Para. 3.2		Non-production of Aerodrome Obstacle Chart-ICAO Type A	May 1995	ICAO to follow up with State	F O	Need to produce Aerodrome Obstacle Chart-ICAO Type A for all Int'l Airports RWYs, except if a notification to this effect is published in the AIP (if no significant obstacles exist)	Iran	Sep. 2005	A

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

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Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale ¹ for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
3	ANNEX 4 Para. 13.2		Non-production of Aerodrome/ Heliport Chart - ICAO	May 1995	F H	Need to produce Aerodrome/ Heliport Chart - ICAO for all Int'l Aerodromes	Iran	Dec. 2005	A
4	ANNEX 4 Para. 6.2		Precision Approach Terrain Chart-ICAO for Tehran Mehrabad Int'l Airport RWY 29L not updated	July 2001	F H	Precision Approach Terrain Chart-ICAO for Tehran Mehrabad Int'l Airport RWY 29L has to be updated	Iran	June 2005	A
5	ANNEX 4 Para. 16.2		Non-production of World Aeronautical Chart - ICAO 1:1 000 000	May 1995	F H S	Need to produce the assigned sheets of the World Aeronautical Chart - ICAO 1:1 000 000	Iran	Dec. 2006	B

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

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**Deficiencies in the AIS/MAP field
IRAQ**

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale ¹ for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
1	ANNEX 15: Para 4.1.1		Newly Restructured AIP	June 1996		F H O	Iraq	Dec. 2005	U
2	ANNEX 15: Para 4.2.9 & 4.3.7		Lack of regular and effective updating of the AIP	January 2003	ICAO to follow up with State	F H O	Iraq	Dec. 2005	U
3	ANNEX 15: Para 6.		Lack of implementation of AIRAC System	May 1995	ICAO to follow up with State	F H O	Iraq	Sep. 2005	U
4	ANNEX 15: Para 3.6.4		Implementation of WGS-84	December 1997		F H O	Iraq	Dec. 2005	U
5	ANNEX 15 Para. 3.2		Implementation of a Quality System	January 2003		F H O	Iraq	Dec. 2006	U
6	ANNEX 15 Para. 5.2.8.3		Non-production of the monthly printed plain language summary of	January 2003		H O	Iraq	Jun. 2005	A

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

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Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
			NOTAM			summary of NOTAM			
7	ANNEX 4 Para. 7.2		Non-production of the Enroute Chart-ICAO	May 1995	F H O	Need to produce the Enroute Chart-ICAO	Iraq	Dec. 2005	A
8	ANNEX 4 Para. 13.2		Non-production of Aerodrome/ Heliport Chart - ICAO	May 1995	F H O	Need to produce Aerodrome/ Heliport Chart - ICAO for all Int'l Aerodromes	Iraq	Dec. 2005	A
9	ANNEX 4 Para. 11.2		Non-production of Instrument Approach Chart-ICAO	January 2003	F H O	Need to produce Instrument Approach Chart-ICAO for all Int'l Aerodromes	Iraq	Dec. 2005	A
10	ANNEX 4 : Chart production requirements		Non-production of Precision Approach Terrain Chart-ICAO	Jan 2003	F H O	Need to produce Precision Approach Terrain Chart-ICAO for precision approach RWYs CAT II and III.	Iraq	Dec. 2005	A
11	ANNEX 4 Para. 16.2		Non-production of World Aeronautical Chart - ICAO 1:1 000 000	May 1995	F H S	Need to produce the assigned sheets of the World Aeronautical Chart - ICAO 1:1 000 000	Iraq	Dec. 2006	B

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

Item No	Identification		Deficiencies			Corrective Action				
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*	
12	ANNEX 15 Para. 8.1		Non provision of pre-flight information service at international airports	Mar. 2004		F H O	Need to provide a pre-flight information service at all aerodromes used for international air operations.	Iraq	Dec. 2005	A

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

Deficiencies in the AIS/MAP field
ISRAEL

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹		Description	Executing body	Date of complete	Priority for action*
1	ANNEX 15: Para 6.		Lack of implementation of AIRAC System	May 1995	ICAO to follow up with State	H O	Need for implementation of AIRAC requirements	Israel	Sep. 2005	U
2	ANNEX 15: Para 3.6.4		Implementation of WGS-84	December 1997		H O	Need to implement WGS-84	Israel	Dec. 2005	U
3	ANNEX 15 Para. 3.2		Implementation of a Quality System	January 2003		H O	Need to introduce a properly organized quality system in conformity with ISO 9000 series of quality assurance standards.	Israel	Dec. 2006	U
4	ANNEX 15 Para. 5.2.8.3		Non-production of the monthly printed plain language summary of NOTAM	January 2003		H	Need to produce the monthly printed plain language summary of NOTAM	Israel	Jun. 2005	A
5	ANNEX 4 Para. 7.2		Non-production of the Enroute Chart-ICAO	May 1995		S O	Need to produce the Enroute Chart-ICAO	Israel	Dec. 2005	A

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
6	ANNEX 15 Para. 8.1		Non provision of pre-flight information service at international airports	Mar. 2004		H O	Israel	Dec. 2005	A

¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

Deficiencies in the AIS/MAP field
JORDAN

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
1	ANNEX 15: Para. 6.		Lack of implementation of AIRAC System	Mar. 2004	ICAO to follow up with State	H O	Jordan	Sep. 2005	U
2	ANNEX 15: Para. 3.2		Implementation of a Quality System	Jan. 2003		F H	Jordan	Dec. 2006	U
3	ANNEX 4: Para. 7.2		Non-production of the En route Chart-ICAO	May. 1995		F H O	Jordan	Dec. 2005	A

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

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Deficiencies in the AIS/MAP field
KUWAIT

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale ¹ for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
1	ANNEX 15: Para 6.		Lack of implementation of AIRAC System	May 1995	ICAO to follow up with State	H O	Need for implementation of AIRAC requirements	Kuwait Sep. 2005	U
2	ANNEX 15: Para. 3.6.4		Implementation of geoid undulation referenced to the WGS-84 ellipsoid.	Jan. 2003	ICAO to follow up with States to determine what action is needed to achieve implementation.	H O	Need to implement geoid undulation referenced to the WGS-84 ellipsoid.	Kuwait Dec. 2005	A
3	ANNEX 15 Para. 3.2		Implementation of a Quality System	January 2003		H O	Need to introduce a properly organized quality system in conformity with ISO 9000 series of quality assurance standards.	Kuwait Dec. 2006	U
4	ANNEX 4 Para. 16.2		Non-production of World Aeronautical Chart – ICAO 1:1 000 000	May 1995		F H S	Need to produce the assigned sheets of the World Aeronautical Chart – ICAO 1:1 000 000	Kuwait Dec. 2006	B

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

Deficiencies in the AIS/MAP field
LEBANON

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
1	ANNEX 15: Para. 3.6.4		Implementation of geoid undulation referenced to the WGS-84 ellipsoid.	Jan. 2003	ICAO to follow up with State to determine what action is needed to achieve implementation.	Need to implement geoid undulation referenced to the WGS-84 ellipsoid.	Lebanon	Dec. 2005	A
2	ANNEX 15: Para. 3.2		Implementation of a Quality System	Jan. 2003		Need to introduce a properly organized quality system in conformity with ISO 9000 series of quality assurance standards.	Lebanon	Dec. 2006	U
3	ANNEX 4 Para. 16.2		Non-production of World Aeronautical Chart – ICAO 1:1 000 000	May 1995		Need to produce the assigned sheets of the World Aeronautical Chart – ICAO 1:1 000 000	Lebanon	Dec. 2006	B

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

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Deficiencies in the AIS/MAP field
OMAN

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
1	ANNEX 15: Para 6.		Lack of implementation of AIRAC System	Mar 2004	ICAO to follow up with State	Need for implementation of AIRAC requirements	Oman	Sep. 2005	U
2	ANNEX 15: Para. 3.2		Implementation of a Quality System	Jan. 2003		Need to introduce a properly organized quality system in conformity with ISO 9000 series of quality assurance standards.	Oman	Dec. 2006	U

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

Deficiencies in the AIS/MAP field
QATAR

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale ¹ for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
1	ANNEX 15: Para. 3.6.4		Implementation of geoid undulation referenced to the WGS-84 ellipsoid.	Jan. 2003	ICAO to follow up with State to determine what action is needed to achieve implementation.	Need to implement geoid undulation referenced to the WGS-84 ellipsoid.	Qatar	Dec. 2005	A
2	ANNEX 15: Para. 3.2		Implementation of a Quality System	Jan. 2003	H O	Need to introduce a properly organized quality system in conformity with ISO 9000 series of quality assurance standards.	Qatar	Dec. 2006	U
3	ANNEX 4 Para. 13.2		Non-production of Aerodrome/ Heliport Chart - ICAO	May 1995	H O	Need to produce Aerodrome/ Heliport Chart - ICAO for all Int'l Aerodromes	Qatar	Dec. 2005	A
4	ANNEX 15 Para. 8.1		Non provision of pre-flight information service at international airports	Mar. 2004	H O	Need to provide a pre-flight information service at all aerodromes used for international air operations.	Qatar	Dec. 2005	A

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

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Deficiencies in the AIS/MAP field
SAUDI ARABIA

Item No	Identification		Deficiencies			Corrective Action				
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action *	
1	ANNEX 15: Para. 3.6.4		Implementation of geoid undulation referenced to the WGS-84 ellipsoid.	Jan. 2003	ICAO to follow up with State to determine what action is needed to achieve implementation.	H	Need to implement geoid undulation referenced to the WGS-84 ellipsoid.	Saudi Arabia	Jun. 2005	A
2	ANNEX 15: Para. 3.2		Implementation of a Quality System	Jan. 2003		H O	Need to introduce a properly organized quality system in conformity with ISO 9000 series of quality assurance standards.	Saudi Arabia	Dec. 2006	U
3	ANNEX 4 Para. 7.2		Non-production of the Enroute Chart-ICAO	May 1995		F O	Need to produce the Enroute Chart-ICAO	Saudi Arabia	May. 2005	A
4	ANNEX 4 Para. 3.2		Non-production of Aerodrome Obstacle Chart-ICAO Type A	Mar 2004	For some RWYs in Saudi Arabia, the Aerodrome Obstacle Chart-ICAO Type A has not been produced	F H O	Need to produce Aerodrome Obstacle Chart-ICAO Type A for all Int'l Airports RWYs, except if a notification to this effect is published in the AIP (if no significant obstacles exist)	Saudi Arabia	May. 2005	A

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

MIDANPIRG/9-REPORT
APPENDIX 6B

6B-18

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale ¹ for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
5	ANNEX 4 Para. 16.2		Non-production of World Aeronautical Chart – ICAO 1:1 000 000	May 1995	F H S	Need to produce the assigned sheets of the World Aeronautical Chart – ICAO 1:1 000 000	Saudi Arabia	Dec. 2005	B

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

6B-19

Deficiencies in the AIS/MAP field
SYRIA

Item No	Identification		Deficiencies			Corrective Action				Priority for action*
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete		
1	ANNEX 15: Para 6.		Lack of implementation of AIRAC System	May 1995	ICAO to follow up with State	F H	Need for implementation of AIRAC requirements	Syria	Sep. 2005	U
2	ANNEX 15: Para. 3.6.4		Implementation of geoid undulation referenced to the WGS-84 ellipsoid.	Jan. 2003	ICAO to follow up with States to determine what action is needed to achieve implementation.	F H	Need to implement geoid undulation referenced to the WGS-84 ellipsoid.	Syria	Dec. 2005	A
3	ANNEX 15: Para. 3.2		Implementation of a Quality System	Jan. 2003		F H	Need to introduce a properly organized quality system in conformity with ISO 9000 series of quality assurance standards.	Syria	Dec. 2006	U
4	ANNEX 4 Para. 3.2		Non-production of Aerodrome Obstacle Chart-ICAO Type A	Mar 2004	For some RWYs in Syria, the Aerodrome Obstacle Chart-ICAO Type A has not been produced	F H	Need to produce Aerodrome Obstacle Chart-ICAO Type A for all Int'l Airports RWYs, except if a notification to this effect is published in the AIP (if no significant obstacles exist)	Syria	Apr. 2005	A

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
5	ANNEX 4 Para. 16.2		Non-production of World Aeronautical Chart – ICAO 1:1 000 000	May 1995		F H S	Syria	Apr. 2005	B

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

6B-21

Deficiencies in the AIS/MAP field
U.A.E

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale ¹ for non-elimination ¹	Description	Executing body	Date of complete	Priority for action *
1	ANNEX 4 Para. 3.2		Non-production of Aerodrome Obstacle Chart-ICAO Type A	Mar 2004	For some RWYs in UAE, the Aerodrome Obstacle Chart-ICAO Type A has not been produced	Need to produce Aerodrome Obstacle Chart-ICAO Type A for all Int'l Airports RWYs, except if a notification to this effect is published in the AIP (if no significant obstacles exist)	UAE	Apr. 2005	A
					O				

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

Deficiencies in the AIS/MAP field
YEMEN

Item No	Identification		Deficiencies			Corrective Action				
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*	
1	ANNEX 15: Para 6.		Lack of implementation of AIRAC System	May 1995	ICAO to follow up with State	H O	Need for implementation of AIRAC requirements	Yemen	Sep. 2005	U
2	ANNEX 15: Para. 3.2		Implementation of a Quality System	Jan. 2003		F H	Need to introduce a properly organized quality system in conformity with ISO 9000 series of quality assurance standards.	Yemen	Dec. 2006	U
3	ANNEX 4 Para. 7.2		Non-production of the Enroute Chart-ICAO	May 1995		F H	Need to produce the Enroute Chart-ICAO	Yemen	Dec. 2005	A
4	ANNEX 4 Para. 11.2		Non-production of Instrument Approach Chart-ICAO	January 2003	Yemen has produced the Instrument Approach Chart-ICAO except for TAIZ/Ganad (OYTZ) Airport	O	Need to produce Instrument Approach Chart-ICAO for all Int'l Aerodromes	Yemen	Dec. 2005	A

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

“O”= Other unknown causes

MIDANPIRG/9
Appendix 6C to the Report on Agenda Item 6

Deficiencies in the AOP field
AFGHANISTAN

Identification		Deficiencies			Corrective Action			
Requirement	States/ Facilities	Description	Date first reported	Remarks/Rationale, for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
Annex 14 Vol. I FASID Table AOP-1 MID/3 RAN Rec. 1/3 ASIA/PAC 3 RAN, Rec.3/1	Kabul Intl. Airport	No VASIS on RWY 11/29	April 2000	Operations should be restricted to daylight VMC only	Operations should be restricted to daylight VMC only	DGCA	Dec. 2005	U
		No ILS RWY 11/29	April 2000	F H S	F H S	DGCA	Dec. 2005	U

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

**Deficiencies in the AOP field
EGYPT**

Identification		Deficiencies			Corrective Action			
Requirement	States/ Facilities	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
Annex 14 Vol. I FASID Table AOP-1 MID/3 Rec. 1/3, ASIA/PAC/3, Rec. 4/2, 4/10	Aswan Int'l Airport	Inadequate runway 35 markings and first 200m RWY unusable while there is no displaced threshold markers	Sep. 2002	F, H	RWY Markings need to be refurbished and displaced threshold markers are required	EAC	Dec. 2005	U
	Cairo Int. Airport	RWY 05R/23L surface is severely coated with rubber deposits, in particular TDZ	Sep. 2002	F, H	Rubber deposits are to be removed	CAC	Dec. 2005	A
		RWY 05R lights have variable luminosity	April 2003	F	Lights to be rectified (Improved and be completely alleviated)	CAC	Dec. 2005	U

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

Identification		Deficiencies			Corrective Action			
Requirement	States/ Facilities	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
		Closeness of the aerobridge power supply cable to number 1 engine position on the A330 and to number two position on the A340 aircrafts while parked at the gate	Feb. 2004	Situation result into, the chances to be sucked into the engines when taxiing in or during engine starts for departure	Safe distance is to be maintained and cable aerobridge is to be shielded	CAC	Dec. 2005	A
Annex 14 Vol. I FASID Table AOP-1 MID/3 Rec. 1/3	Hurghada Int'l Airport	Apron lighting is inadequate	Sep. 2002	F	Apron lighting is to be improved	EAC	Dec. 2005	U
		Runway Marking inadequate	April 2003	F	Markings are to be improved	EAC	April 2005	A
		Heavy rubber accretion on runway	Sep. 2002	F, H	Rubber coats are to be removed	EAC	April 2005	A
Annex 14 Vol. I FASID Table AOP-1 MID/3 Rec. 1/3	Luxor Int'l airport	Runway surface rough with heavy rubber accretion	Sep. 2002	F, H	Rubber deposits are to be removed and RWY Surface to be refurbished	EAC	Dec. 2005	A
		PAPIS/VASIS not available	Sep. 2002	F, H		EAC	Dec. 2005	U

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

**Deficiencies in the AOP field
IRAN**

Identification		Deficiencies		Corrective Action			
Requirement	States/ Facilities	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Priority for action*
Annex 14 Vol. I FASID Table AOP-1 MID/3 Rec. 1/3 MID/3, Conc. 1/6, Rec. 1/3 ASIA/PAC 3 RAN, Rec.3/1	Mehrabad Int'l Airport	Precision approach lighting of RWY 29L has decreased to 600m due to highway interference	July 2001	Require is for ILS APP has increased to 1200m	Lighting needs to be reinstalled on supports (Under progress)	CAO	U
		Apron flood lighting is not adequate	April 2003	F, H		CAO	U

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

6C-5

**Deficiencies in the AOP field
ISRAEL**

Identification		Deficiencies			Corrective Action			
Requirement	States/ Facilities	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
Annex 14 Vol. I FASID Table AOP-1 MID/3 Rec. 1/3 ASIA/PAC/3, Rec. 4/10	Tel Aviv/Ben Gurion Int. Airport	No high speed turn off end of RWYs: 21/03 and RWY 26	Jan. 2003	S, O		EDF	Dec. 2005	A
		No taxiways to RWYs 26 and 21, and from 08 and 03	Jan. 2003		For RWYs 26 and 21, taxiing is on active RWYS	EDF	Dec. 2005	U
		Using visuals to runway 30 for arrivals and for departures	Feb. 2004	S, H, O	ATC insist on maintaining 4000ft until Past abeam runway threshold then cleared visual for runway. Performance requires stay inside 3.8 DME BGN for safety reasons.	EDF	Dec. 2005	U
Annex 14 Vol. I FASID Table AOP-1 MID/3 Rec. 1/3	Elat Int. Airport	Single runway used as taxiway, two turn-offs at south end (other turn-off is restricted) , Runway width is 30 meters	Jan. 2003	F, S	Loop available at end of RWY 03	EDF	Dec. 2005	A
		No approach lighting	Jan. 2003	F	PAPI (RWY 03) and APAPI (RWY 21)	EDF	Dec. 2005	U

¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

Identification		Deficiencies			Corrective Action			
Requirement	States/ Facilities	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
		No taxiway	Jan. 2003	F		EDF	Dec. 2005	A
		Aprons – limited space that is too close to runway	Jan. 2003	S, O		EDF	Dec. 2005	U
		Localizer (LOC) App. and DME plus PAPIs	Jan. 2003	VOR/DME (LOT) available. Unstable LOC App due to ground movement interference (Notamed) <u>Note:</u> Not recommended for use by big jets (wide-body/4 engines)		EDF	Dec. 2005	A
Annex 14 Vol. I FASID Table AOP-1 MID/3 Rec. 1/3	Ovda Int. Airport	Non-Standard taxiways lighting	Jan 2002	H	Lightings are to be rectifies	IDF	Dec. 2005	U
		No approach lighting on RWY 02R/20L.	July 2000	F, H	Usually RWY 02L/20/20R in use (with non-standard PP. lights-SALS and PAPI) – available with VOR App.	IDF	Dec. 2005	U
		No lighted sign with RWY designators	Jan 2002	H	Sign to be provided	IDF	Dec. 2005	U

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

6C-7

Identification		Deficiencies			Corrective Action			
Requirement	States/ Facilities	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
		Threshold markings/lighting do not conform to ICAO SARPs.	July 2000			IDF	Dec. 2005	U
		Limited parking space	Jan 2002	One wide-body plus 3 smaller aircraft <u>Note:</u> Recommended for operations with minima not less than alternate minima	Reconsider Apron planning	IDF	Dec. 2005	A

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

Deficiencies in the AOP field
SYRIA

Identification		Deficiencies				Corrective Action		
Requirement	States/ Facilities	Description	Date first reported	Remarks/Rationale for non- elimination ¹	Description	Executing body	Date of complete	Priority for action*
Annex 14 Vol. I FASID Table AOP-1 MID/3 Rec. 1/3	Damascus int'l Airport	Difficulty parking B747-400 and B777 at Stands A10 and A11	Sep. 2002	Syrian AIP Chart dated 15 May 2004 – Ground surface Movement/Stands is not clear, while no explanatory table was attached State (ref. Fax dated 2 Mar. 05) advised that Difficulty parking B747-400 and B777 at stands A10 & A11 was solved	H, S	DGCA	Dec. 2005	A

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

Deficiencies in the AOP field
U.A.E.

Identification		Deficiencies			Corrective Action			
Requirement	States/ Facilities	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
Annex 14 Vol. I FASID Table AOP-1 MID/3 Rec. 1/3 MID/3, Conc.1 / 4	Dubai Int'l Airport	(X) Category II operations for Dubai -RWY 12L/30/R has been resumed. Category III is expected to take at least one year	Sep. 2002	Refer to CNS List of Deficiencies for same deficiency S	(X) Completion of regulatory process, Refer to CNS descriptions on same deficiency	DCA	Dec. 2005	U

⁽¹⁾ Rationale for non-elimination: "F"= Financial "H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

MIDANPIRG/9
Appendix 6D to the Report on Agenda Item 6

**Deficiencies in the ATM/SAR field
AFGHANISTAN**

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
1	LIM/MID/RAN Concl. 3/7 Cooperation between States in SAR	Most of MID States	Lack of Search and Rescue Agreements between neighboring 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. No significant progress achieved -ICAO to assist	A. States to commence negotiations with neighbors to establish SAR agreements B. Implement operational SAR agreements C. Implement entry agreements for SAR aircraft of other States	All MID States	Dec.2005	A
2	MID ANP Table ATS-1 Plan of ATS routes	Afghanistan Uzbekistan	Segment of ATS route A219 not implemented	5/12/97	ICAO to follow up with States to determine what action is needed to achieve implementation Probably to extend B466 till TERMEZ in the MID Plan and delete requirement for A219.	Segment Kandahar – Termez: Not implemented	Afghanistan Uzbekistan	Dec. 2005	B

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

6D-2

Deficiencies in the ATM/SAR field
BAHRAIN

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale ¹ for non-elimination	Description	Executing body	Date of complete	Priority for action*
4	MID-ANP Table-ATS-4 Plan-of-ATS routes	Bahrain Iran Qatar	-ATS-route-A453 not implemented	5/12/97	Initial direct alignment KISH – BAHRAIN was changed to pass via PJMAL – Still not yet implemented -Economic impact -Not affecting safety	States-to follow-up	Bahrain Iran ICAO	Dec-2005	B
21	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 -Economic impact Subject to military restrictions Saudi Arabia ready to implement	States to continue negotiations with one another and military	Bahrain Qatar Saudi Arabia	Dec. 2006	B

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

6D-3

**Deficiencies in the ATM/SAR field
EGYPT**

Item No	Identification		Deficiencies		Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete
1	LIM/MID/RAN Concl. 3/7 Cooperation between States in SAR	Most of MID States	Lack of Search and Rescue Agreements between neighboring 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. No significant progress achieved -ICAO to assist	A. States to commence negotiations with neighbors to establish SAR agreements B. Implement operational SAR agreements C. Implement entry agreements for SAR aircraft of other States	All MID States	Dec.2005
					S			

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

6D-4

**Deficiencies in the ATM/SAR field
IRAN**

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
1	LIM/MID/IRAN Concl. 3/7 Cooperation between States in SAR	Most of MID States	Lack of Search and Rescue Agreements between neighboring 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. No significant progress achieved ICAO to assist	A. States to commence negotiations with neighbors to establish SAR agreements B. Implement operational SAR agreements C. Implement entry agreements for SAR aircraft of other States	All MID States	Dec.2005	A
2	MID ANP Table ATS-1 Plan of ATS routes	Bahrain Iran Qatar	ATS route A453 not implemented	5/12/97	Initial direct alignment KISH – BAHRAIN was changed to pass via PIMAL. Still not yet implemented Economic impact Not affecting safety	States to follow-up	Bahrain Iran ICAO	Dec. 2005	B

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

6D-5

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
3	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 -economic impact only -not affecting safety	ICAO to follow up with Iran to determine what action is needed to achieve full implementation	ICAO	Dec. 2006	B

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

6D-6

**Deficiencies in the ATM/SAR field
IRAQ**

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ⁽¹⁾	Description	Executing body	Date of complete	Priority for action*
1	MID ANP Table ATS-1	Iraq	With the recent developments in Iraq, the ATS route requirements over Baghdad FIR is being reviewed in consultation with the State, IATA and the coalition forces		-To follow-up with all parties concerned. -Need for review communication coordination procedures have been highlighted	-New requirements being identified in consultation with the State, IATA and the coalition forces -Parallel route network developed within the framework of informal coordination meetings organized by ICAO. Tentative implementation date 25 November 2004	Iraq, ICAO, IATA, Coalition Forces	Dec-2004 Pending LoA signature	A

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

6D-7

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
2	LIM/MID/RAN Concl. 3/7 Cooperation between States in SAR	Most of MID States	Lack of Search and Rescue Agreements between neighboring 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. No significant progress achieved -ICAO to assist	A. States to commence negotiations with neighbors to establish SAR agreements B. Implement operational SAR agreements C. Implement entry agreements for SAR aircraft of other States	All MID States	Dec.2005	A

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

**Deficiencies in the ATM/SAR field
ISRAEL**

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
1	LIM/MID/RAN Concl. 3/7 Cooperation between States in SAR	Most of MID States	Lack of Search and Rescue Agreements between neighboring 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. No significant progress achieved -ICAO to assist	A. States to commence negotiations with neighbors to establish SAR agreements B. Implement operational SAR agreements C. Implement entry agreements for SAR aircraft of other States	All MID States	Dec.2005	A
2	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 <i>(Informed by Jordan that implementation not possible at present -non-technical nature of issue noted)</i> Segment Amman – Tanf shown as A 52)	ICAO to follow up with States to determine what action is needed to achieve implementation	States ICAO to assist	Dec.2006	B

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

6D-9

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹		Description	Executing body	Date of complete	Priority for action*
3	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)	S/O	To be followed by both the ICAO EUR and MID Offices	Israel Cyprus ICAO to assist	Dec. 2006	B
4	MID ANP Table ATS-1 Plan of ATS routes	Israel Jordan	ATS route G664 not implemented	5/12/97	A route exists within Nicosia FIR till boundary of Tel Aviv FIR (APLON-LEDRA-SOLIN) Requirement is from Ben Gurion to Amman Non-technical nature of issue noted	S	The need for the establishment of an ATS route between Ben Gurion and Amman has been identified.	Israel Jordan ICAO to assist	Dec 2006	B
5	MID ANP Table ATS-1 Plan of ATS routes	Israel Jordan Syria	ATS route R653 not implemented	5/12/97	-No sections implemented -Non-technical nature of issue noted -aircraft using alternative routes -economic impact only	S		States/IAT A and ICAO to assist	Dec. 2006	B

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

Deficiencies in the ATM/SAR field
JORDAN

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
1	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 <i>(Informed by Jordan that implementation not possible at present -non-technical nature of issue noted)</i> Segment Amman – Tanf shown as A 52)	ICAO to follow up with States to determine what action is needed to achieve implementation	States ICAO to assist	Dec.2006	B
2	MID ANP Table ATS-1 Plan of ATS routes	Jordan Syria	ATS route B412 not implemented	5/12/97	-Most segments not implemented. Jordan ready to implement. -Only segment RBG - King Abdulaziz implemented	-States to co-ordinate to finalize implementation -Informal meeting proposed by ATM/SAR/AIS SG/7 -Realignment would be considered	Jordan Syria ICAO to assist	Dec. 2006	B
3	MID ANP Table ATS-1 Plan of ATS routes	Jordan Lebanon Turkey	ATS route B545 not implemented	5/12/97	Segment MUT-BALMA: Implemented as UL620. Segment KHALDEH-AMMAN: Not implemented -Non-technical nature -Economic impact Segment BALMA-Khaldeh: B15)	To be discussed in EMAC*** meetings. ICAO to follow-up	Jordan Lebanon Syria	Dec. 2006	B

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

6D-11

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
4	MID ANP Table ATS-1 Plan of ATS routes	Jordan Syria	ATS route G662 not implemented	5/12/97	Not implemented Damascus to Guriat	S States to continue coordination to achieve implementation	Jordan Syria	Dec. 2006	B
5	MID ANP Table ATS-1 Plan of ATS routes	Israel Jordan	ATS route G664 not implemented	5/12/97	A route exists within Nicosia FIR till boundary of Tel Aviv FIR (APLON-LEDRA-SOLIN) Requirement is from Ben Gurion to Amman Non-technical nature of issue noted	S The need for the establishment of an ATS route between Ben Gurion and Amman has been identified.	Israel Jordan ICAO to assist	Dec 2006	B
6	MID ANP Table ATS-1 Plan of ATS routes	Israel Jordan Syria	ATS route R653 not implemented	5/12/97	-No sections implemented -Non-technical nature of issue noted -aircraft using alternative routes -economic impact only	S -No sections implemented -Non-technical nature of issue noted -aircraft using alternative routes -economic impact only	States, IATA and ICAO to assist	Dec. 2006	B

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

6D-12

**Deficiencies in the ATM/SAR field
KUWAIT**

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
1	LIM/MID/RAN Concl. 3/7 Cooperation between States in SAR	Most of MID States	Lack of Search and Rescue Agreements between neighboring 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. No significant progress achieved -ICAO to assist	A. States to commence negotiations with neighbors to establish SAR agreements B. Implement operational SAR agreements C. Implement entry agreements for SAR aircraft of other States	All MID States	Dec.2005	A

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

6D-13

**Deficiencies in the ATM/SAR field
LEBANON**

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
1	LIM/MID/RAN Concl. 3/7 Cooperation between States in SAR	Most of MID States	Lack of Search and Rescue Agreements between neighboring 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. No significant progress achieved	A. States to commence negotiations with neighbors to establish SAR agreements B. Implement operational SAR agreements C. Implement entry agreements for SAR aircraft of other States	All MID States	Dec.2005	A
2	MID ANP Table ATS-1 Plan of ATS routes	Lebanon Syria	ATS route B410 not implemented	5/12/97	UL620 proceeding to BALMA then, R655-Chekka Chekka-Damascus to be implemented -Non –technical nature -Economic impact -Aircraft using longer routes	To be discussed in EMAC*** meetings.	Syria ICAO to assist	Dec. 2006	B

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

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
3	MID ANP Table ATS-1 Plan of ATS routes	Jordan Lebanon Turkey	ATS route B545 not implemented	5/12/97	Segment MUT-BALMA: Implemented as UL620. Segment KHALDEH-AMMAN: Not implemented -Non-technical nature -Economic impact Segment BALMA-Khaldeh: B15)	To be discussed in EMAC*** meetings. ICAO to follow-up	Jordan Lebanon Syria	Dec. 2006	B
4	MID ANP Table ATS-1 Plan of ATS routes	Lebanon Syria	ATS route G202 not implemented	5/12/97	Not implemented DAKWE - Damascus Economic impact- alternative routes available but longer -Not affecting safety	ICAO to follow-up	Lebanon Syria	Dec. 2006	B

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
1	LIM/MID/RAN Concl. 3/7 Cooperation between States in SAR	Most of MID States	Lack of Search and Rescue Agreements between neighboring 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. No significant progress achieved -ICAO to assist	A. States to commence negotiations with neighbors to establish SAR agreements B. Implement operational SAR agreements C. Implement entry agreements for SAR aircraft of other States	All MID States	Dec.2005	A

“O”= Other unknown causes

6D-16

**Deficiencies in the ATM/SAR field
QATAR**

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
1	LIM/MID/RAN Concl. 3/7 Cooperation between States in SAR	Most of MID States	Lack of Search and Rescue Agreements between neighboring 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. No significant progress achieved -ICAO to assist	A. States to commence negotiations with neighbors to establish SAR agreements B. Implement operational SAR agreements C. Implement entry agreements for SAR aircraft of other States	All MID States	Dec.2005	A
2	MID ANP Table ATS-1 Plan of ATS routes	Qatar Saudi Arabia	ATS route A415 not implemented	5/12/97	Doha to King Khalid implemented at variance with the Plan . slightly longer -Military restrictions Economic impact -Not affecting safety	Saudi Arabia and Qatar to continue negotiations to open this route.	Saudi Arabia Qatar	Dec. 2006	B

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

6D-17

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
3	MID ANP Table ATS-1 Plan of ATS routes	Bahrain Iran Qatar	ATS route A453 not implemented	5/12/97	Initial direct alignment KISH – BAHRAIN was changed to pass via PIMAL. Still not yet implemented -Economic impact -Not affecting safety	States to follow-up	Bahrain Iran ICAO	Dec. 2005	B
4	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 -Economic impact Subject to military restrictions Saudi Arabia ready to implement	States to continue negotiations with one another and military	Bahrain Qatar Saudi Arabia	Dec. 2006	B

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

**Deficiencies in the ATM/SAR field
SAUDI ARABIA**

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
1	LIM/MID/RAN Concl. 3/7 Cooperation between States in SAR	All MID States	Lack of Search and Rescue Agreements between neighboring 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. No significant progress achieved ICAO to assist	A. States to commence negotiations with neighbors to establish SAR agreements B. Implement operational SAR agreements C. Implement entry agreements for SAR aircraft of other States	All MID States	Dec.2005	A
2	MID ANP Table ATS-1 Plan of ATS routes	Qatar Saudi Arabia	ATS route A415 not implemented	5/12/97	Doha to King Khalid implemented at variance with the Plan . slightly longer -Military restrictions Economic impact -Not affecting safety	Saudi Arabia and Qatar to continue negotiations to open this route.	Saudi Arabia Qatar	Dec. 2006	B

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

6D-19

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
3	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 -Economic impact Subject to military restrictions Saudi Arabia ready to implement	States to continue negotiations with one another and military	Bahrain Qatar Saudi Arabia	Dec. 2006	B
4	MID ANP Table ATS-1 Plan of ATS routes	Saudi Arabia U.A.E.	ATS route G660 not implemented	5/12/97	Not implemented King Abdulaziz to Abu Dhabi -Economic impact -Not affecting safety	States to organize informal coordination meeting to review route structure from Gulf south into Arabian Peninsula	States	Dec. 2006	B

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

6D-20

**Deficiencies in the ATM/SAR field
SYRIA**

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
1	LIM/MID/RAN Concl. 3/7 Cooperation between States in SAR	Most of MID States	Lack of Search and Rescue Agreements between neighboring 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. No significant progress achieved ICAO to assist	A. States to commence negotiations with neighbors to establish SAR agreements B. Implement operational SAR agreements C. Implement entry agreements for SAR aircraft of other States	All MID States	Dec.2005	A
2	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 <i>(Informed by Jordan that implementation not possible at present -non-technical nature of issue noted) Segment Amman – Tanf shown as A 52)</i>	ICAO to follow up with States to determine what action is needed to achieve implementation	States ICAO to assist	Dec.2006	B

¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

6D-21

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
3	MID ANP Table ATS-1 Plan of ATS routes	Lebanon Syria	ATS route B410 not implemented	5/12/97	UL620 proceeding to BALMA then, R655-Chekka Chekka- Damascus to be implemented -Non -technical nature -Economic impact -Aircraft using longer routes	To be discussed in EMAC*** meetings.	Syria ICAO to assist	Dec. 2006	B
4	MID ANP Table ATS-1 Plan of ATS routes	Jordan Syria	ATS route B412 not implemented	5/12/97	-Most segments not implemented. Jordan ready to implement. -Only segment RBG - King Abdulaziz implemented	-States to co-ordinate to finalize implementation -Informal meeting proposed by ATM/SAR/AIS SG/7 -Realignment would be considered	Jordan Syria ICAO to assist	Dec. 2006	B
5	MID ANP Table ATS-1 Plan of ATS routes	Syria Turkey	ATS route B538 not implemented within Damascus FIR	5/12/97	-(Segment Gaziantep -Aleppo:B544/V836) - (segment Aleppo - Kariatain:W5) -(Not implemented: Kariatain - Damascus) -Economic impact -alternative routes available -Not affecting safety	ICAO to follow up with States to determine what action is needed to achieve implementation	ICAO	Dec. 2006	B

¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

6D-22

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
6	MID ANP Table ATS-1 Plan of ATS routes	Lebanon Syria	ATS route G202 not implemented	5/12/97	Not implemented DAKWE - Damascus Economic impact- alternative routes but available longer -Not affecting safety	ICAO to follow-up	Lebanon Syria	Dec. 2006	B
7	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	Dec. 2006	B
8	MID ANP Table ATS-1 Plan of ATS routes	Israel Jordan Syria	ATS route R653 not implemented	5/12/97	-No sections implemented -Non-technical nature of issue noted -aircraft using alternative routes -economic impact only		States/IAT A and ICAO to assist	Dec. 2006	B

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

6D-23

**Deficiencies in the ATM/SAR field
UNITED ARAB EMIRATES**

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
1	LIM/MID/RAN Concl. 3/7 Cooperation between States in SAR	Most of MID States	Lack of Search and Rescue Agreements between neighboring 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. No significant progress achieved -ICAO to assist	A. States to commence negotiations with neighbors to establish SAR agreements B. Implement operational SAR agreements C. Implement entry agreements for SAR aircraft of other States	All MID States	Dec.2005	A
2	MID ANP Table ATS-1 Plan of ATS routes	Saudi Arabia U.A.E.	ATS route G660 not implemented	5/12/97	Not implemented King Abdulaziz to Abu Dhabi -Economic impact -Not affecting safety	States to organize informal coordination meeting to review route structure from Gulf south into Arabian Peninsula	States	Dec. 2006	B

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

6D-24

**Deficiencies in the ATM/SAR field
YEMEN**

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
1	LIM/MID/RAN Concl. 3/7 Cooperation between States in SAR	All MID States	Lack of Search and Rescue Agreements between neighboring 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. No significant progress achieved -ICAO to assist	A. States to commence negotiations with neighbors to establish SAR agreements B. Implement operational SAR agreements C. Implement entry agreements for SAR aircraft of other States	All MID States	Dec.2005	A

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

MIDANPIRG/9
Appendix 6E to the Report on Agenda Item 6

**Deficiencies in the CNS field
AFGHANISTAN**

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
1	AFTN Rationalized Plan (LIM MID RAN Rec 6/6, 6/9 and MIDANPIRG/4 Conclusion 4/19	Afghanistan-Bahrain Kabul-Bahrain AFTN Circuit	The circuit is not yet implemented	07/10/1998	Bahrain is ready to implement the circuit	Follow-up the matter with IATA concerning Afghanistan	Afghanistan Bahrain	Dec 05	B
2	AFTN Rationalized Plan (LIM MID RAN Rec 6/6, 6/9 and MIDANPIRG/4 Conclusion 4/19	Afghanistan-Iran Kabul-Tehran AFTN Circuit	The circuit is not yet implemented	07/10/1998	VSAT network to be implemented	Follow-up the matter with IATA concerning Afghanistan	Afghanistan Iran	Dec 05	B
3	AFTN usage (LIM MID RAN Rec 6/2)	Kabul AFTN Center	Circuit Loading Statistics	22/05/1995	Monthly statistics should be sent to MID Office	Refer to ICAO fax ref. F.ME 165 reminding States to send data to Regional Office	Afghanistan	Dec 05	B

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

Deficiencies in the CNS field
BAHRAIN

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
1	AFTN Rationalized Plan (LIM MID RAN Rec 6/6, 6/9 and MIDANPIRG/4 Conclusion 4/19)	Afghanistan-Bahrain Kabul-Bahrain AFTN Circuit	The circuit is not yet implemented	07/10/1998	Bahrain is ready to implement the circuit	Follow-up the matter with IATA concerning Afghanistan	Afghanistan Bahrain	Dec 05	B
2	AFTN Rationalized Plan (LIM MID RAN Rec 6/6, 6/9 and MIDANPIRG/4 Conclusion 4/19)	Bahrain – Singapore Bahrain – Singapore AFTN Circuit	Operating satisfactorily on 200 bauds	19/10/1999	Bahrain – Singapore Bahrain – Singapore AFTN Circuit	Planned to be up-graded to medium speed circuit (9.6 K)	Bahrain Singapore	June 05	B

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

6E-3

**Deficiencies in the CNS field
EGYPT**

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
1	AFTN Main Circuits (LIM MID RAN Rec 10/5)	Egypt – Kenya Cairo – Nairobi AFTN Circuit	The circuit is implemented on 50 bauds	19/10/1999	Egypt is ready to up-grade the circuit to 9.6 K	Egypt and Kenya agreed to upgrade the circuit to 1200 bps	Egypt – Kenya	Dec 05	A
2	AFTN Main Circuits (LIM MID RAN Rec 10/5)	Egypt – Tunisia Cairo – Tunis AFTN Circuit	The circuit is implemented on 100 bauds	19/10/1999	Egypt is ready to up-grade the circuit to 9.6 K	Planned to be up-graded to 1200 bauds. Upon Tunis readiness	Egypt - Tunisia	Dec 05	A

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

6E-4

**Deficiencies in the CNS field
IRAN**

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale ¹ for non-elimination	Description	Executing body	Date of complete	Priority for action*
1	AFTN Rationalized Plan (LIM MID RAN Rec 6/6, 6/9 and MIDANPIRG/4 Conclusion 4/19)	Afghanistan-Iran Kabul-Tehran AFTN Circuit	The circuit is not yet implemented	07/10/1998	VSAT network to be implemented	S	Afghanistan Iran	Dec 05	B
2	AFTN Main Circuits (LIM MID RAN Rec10/5)	Iran – Kuwait Kuwait – Tehran AFTN Circuit	The circuit is implemented on 100 bauds	19/10/1999	O	Planned to be upgraded to 9.6K.	Iran Kuwait	Dec 05	A
3	Radio Frequencies	Tehran ACC	123.900 MHz	14/08/2002	O	Interference with India	Bangkok Off. Cairo Office Iran India	Dec 05	U
4	Radio Frequencies	Kerman Shah	119.300 MHz	20/07/2002	O	Interference with Qatar	Qatar Iran	Dec 05	U
5	Radio Frequencies	Abadan Airport Ahwaz	121.900 MHz	20/07/2002	O	Interference with Basra (Iraq)	Iran Iraq	Dec 05	U

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

6E-5

**Deficiencies in the CNS field
IRAQ**

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
1	AFTN usage (LIM MID RAN Rec 6/2)	Baghdad AFTN Center	Circuit Loading Statistics	22/05/1995	Monthly statistics should be sent to MID Office	Refers to ICAO fax ref. F.ME 165 reminding States to send data to ICAO Office	Iraq	Dec 05	B

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

Deficiencies in the CNS field
JORDAN

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
1	AFTN Rationalized Plan (LIM MID RAN Rec 6/6, 6/9 and MIDANPIRG/4 Conclusion 4/19)	Jordan-Lebanon Amman-Beirut AFTN Circuit	The circuit is not yet implemented	07/10/1998	Lebanon is ready to implement the circuit	Jordan will co-ordinate with Lebanon for up-grading	Lebanon – Jordan	Dec 05	A

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

6E-7

**Deficiencies in the CNS field
KUWAIT**

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

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

**Deficiencies in the CNS field
LEBANON**

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
1	AFTN Rationalized Plan (LIM MID RAN Rec 6/6, 6/9 and MIDANPIRG/4 Conclusion 4/19)	Jordan-Lebanon Amman-Beirut AFTN Circuit	The circuit is not yet implemented	07/10/1998	Lebanon is ready to implement the circuit	Another alternative should be proposed in the MID AFTN Plan	Jordan Lebanon	Dec 05	A
2	AFTN Main Circuits (LIM MID RAN Rec10/5)	Lebanon – Saudi Arabia Beirut – Jeddah AFTN Circuit	The circuit is implemented on 100 bauds	19/10/1999	Lebanon is ready to implement the circuit to either 200 Bauds or 9.6 K	Planned to be up-graded to 300 bauds	Lebanon Saudi Arabia	June 05	A
3	AFTN Main Circuits (LIM MID RAN Rec10/5)	Lebanon – Kuwait Beirut – Kuwait AFTN Circuit	The circuit is implemented on 100 bauds	19/10/1999	The circuit is operating satisfactorily on 100 bauds	Planned to be up-graded to 300 bauds	Kuwait Lebanon	June 05	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

6E-9

**Deficiencies in the CNS field
OMAN**

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

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

6E-10

**Deficiencies in the CNS field
QATAR**

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*	
1	AFTN usage (LIM MID RAN Rec 6/2)	Doha AFTN Center	Circuit Loading Statistics	22/05/1995	Refer to ICAO fax ref. F.ME 165 reminding States to send data to Regional Office	Data should be sent to ICAO Office	Qatar	June 05	B	
2	Radio Frequencies	Doha	119.300 MHz	11/02/2003	O	Coordination with concerned States	Qatar Iran	June 05	U	

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

6E-11

**Deficiencies in the CNS field
SAUDI ARABIA**

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
1	AFTN Main Circuits (LIM RAN Rec 10/5)	Lebanon – Saudi Arabia Beirut – Jeddah AFTN Circuit	The circuit is implemented on 100 bauds	19/10/1999	Circuit to be improved O	Planned to be up-graded to 9.6K	Lebanon – Saudi Arabia	Dec 05	A
2	AFTN Main Circuits (LIM RAN Rec 10/5)	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 F	Planned to operate with VSAT network	Ethiopia Saudi Arabia	Dec 06	A
3	ATS Speech Circuit Plan (LIM MID RAN Conclusion 6/11)	Saudi Arabia – Yemen	The ATS Speech Circuit connecting to Sanna'a centre uses speed dial	07/10/1998	Sometimes, Communications facilities do not permit communications to be established within 15 seconds O	Planned to operate with VSAT network	Saudi Arabia Yemen	Dec 06	U

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

6E-12

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*
4	ATS Speech Circuit Plan (LIM MID RAN Conclusion 6/11)	Saudi Arabia – Sudan	The ATS Speech Circuit connecting the following adjacent centres to Jeddah use speed dial: Asmara Khartoum	19/10/1999	Jeddah – Khartoum on speed dial F	Planned to operate with VSAT network.	Saudi Arabia Sudan	Dec 06	U
5	AFTN usage (LIM MID RAN Rec 6/2)	Jeddah AFTN Center	Circuit Loading Statistics	22/05/1995	Refer to ICAO fax ref. F.ME 165 reminding States to send data to Regional Office.	Data should be sent to ICAO Office	Circuit Loading Statistics information is part of a software modification required in the new switching system	Dec 05	B

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

6E-13

**Deficiencies in the CNS field
SYRIA**

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

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

**Deficiencies in the CNS field
U.A.E.**

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*	
1	Radio Frequencies	UAE ACC	121.500 MHz	16/07/2002	Unknown Interference	O Report was sent to Nat. Telecom. Admin	Follow-up by ICAO and State	Dec 05	U	
2	Radio Frequencies	UAE ACC	128.250 MHz	26/01/2002	Atmospheric/ Speech	O Report was sent to Nat. Telecom Admin	Follow-up by ICAO and State	Dec 05	U	
3	Radio Frequencies	UAE ACC	129.500 MHz	29/03/2002	Unknown Interference	O Report was sent to Nat. Telecom Admin	Follow-up by ICAO and State	Dec 05	U	
4	Radio Frequencies	UAE ACC	124.850 MHz	24/01/2002	Atmospheric	O Report was sent to Nat. Telecom Admin	Follow-up by ICAO and State	Dec 05	U	
5	Radio Frequencies	UAE ACC	133.550 MHz	28-02-2002	Unknown Interference	O Report was sent to Nat. Telecom. Admin	Follow-up by ICAO and State	Dec 05	U	
6	Radio Frequencies	UAE ACC	119.300 MHz	29/03/2002	Doha	O Report was sent to Nat. Telecom Admin	Follow-up by ICAO and State	Dec 05	U	
7	Radio Navigation Aids	Dubai ILS	110.900 MHz	26-03-2002	Unknown Interference	O Nat. Telecom. Admin.	Follow-up by ICAO and State	June 05	U	

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

6E-15

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale for non-elimination ¹	Description	Executing body	Date of complete	Priority for action*	
8	Radio Navigation Aids	Dubai ILS	110.100 MHz	26-03-2002	Unknown Interference	O Nat. Telecom. Admin	Follow-up by ICAO and State	June 05	U	
9	Radio Navigation Aids	Dubai ILS	109.500 MHz	22-03-2002	Unknown Interference	O Nat. Telecom. Admin	Follow-up by ICAO and State	June 05	A	
10	Radio Frequencies	AL Ain	129.150 MHz	25-06-2002	Kish Air Dispatch	O Nat. Telecom. Admin	Follow-up by ICAO and State	Dec 05	A	

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

6E-16

**Deficiencies in the CNS field
YEMEN**

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date first reported	Remarks/Rationale ¹ for non-elimination	Description	Executing body	Date of complete	Priority for action*
1	ATS Speech Circuit Plan (LIM MID RAN Conclusion 6/11)	Yemen – Ethiopia- Eritrea – India – Djibouti – Saudi Arabia – Somalia – Oman	All ATS Speech Circuits connecting Sana'a with the following adjacent centres provided by Yemen use speed dial: Addis-Ababa Asmara Mumbai Djibouti Jeddah Mogadishu Muscat	07/10/1998	Communications should be established within 15 seconds O	Yemen will be urged to implement Direct Speech Circuits with adjacent centres VSAT network will operate for some centers	Concerned States and ICAO	Dec 05 for Oman and Saudi Arabia Dec 06 for the others	U

⁽¹⁾ Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

Note:

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

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

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

“A” priority = Top priority requirements necessary for air navigation safety.

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

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

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

Definition:

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

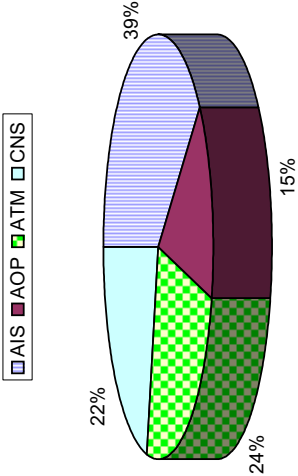
AIR NAVIGATION DEFICIENCIES IN THE THE MID REGION

States	Total AIS		AIS					Total AOP		AOP						Total ATM		ATM					Total CNS		CNS					TOTAL/ State			
			Rationale		Priority					Rationale		Priority						Rationale		Priority					Rationale		Priority						
	F	H	S	O	U	A	B	F	H	S	O	U	A	B	F	H	S	O	U	A	B	F	H	S	O	U	A	B					
Afghanistan	12	3.7	4.2	0.3	3.8	5	6	1	2	0.67	0.67	0.67	0.0	2	0	0	2	0.0	0.0	1.0	1.0	0	1	1	3	0.00	0.00	3.0	0.0	0	3	19	
Bahrain	0	0.0	0.0	0.0	0.0	0	0	0	0	0.0	0.0	0.0	0.0	0	0	0	1	0.0	0.0	1.0	0.0	0	0	1	2	0.0	0.0	0.0	2.0	0	2	3	
Egypt	3	1.5	0.0	0.5	1.0	0	2	1	9	5.5	3.5	0.0	0.0	4	5	0	1	0.0	0.0	1.0	0.0	0	1	0	2	0.0	0.0	0.0	2.0	0	2	15	
Iran	5	2.3	1.8	0.3	0.5	1	3	1	2	0.83	0.50	0.33	0.33	2	0	0	3	0.0	0.0	3.0	0.0	0	1	2	5	0.00	0.00	1.0	4.00	3	1	15	
Iraq	12	3.7	4.2	0.3	3.8	5	6	1	0	0.0	0.0	0.0	0.0	0	0	0	2	0.0	0.3	1.3	0.3	0	2	0	1	0.0	0.0	1.0	0.0	0	0	15	
Israel	6	0.0	3.0	0.5	2.5	2	4	0	13	3	4.67	2.67	2.67	8	5	0	5	0.0	0.0	4.5	0.5	0	1	4	0	0	0.00	0.0	0.00	0	0	0	24
Jordan	3	0.8	1.3	0.0	0.8	2	1	0	0	0.0	0.0	0.0	0.0	0	0	0	6	0.0	0.0	6.0	0.0	0	0	6	1	0.0	0.0	1.0	0.0	0	1	10	
Kuwait	4	0.3	1.8	0.3	1.5	2	1	1	0	0.0	0.0	0.0	0.0	0	0	0	1	0.0	0.0	1.0	0.0	0	1	0	3	0.0	0.0	0.0	3.0	0	2	1	8
Lebanon	3	1.3	1.3	0.3	0.0	1	1	1	0	0.0	0.0	0.0	0.0	0	0	0	4	0.0	0.0	4.0	0.0	0	1	3	3	0.0	0.0	1.0	2.0	0	3	0	10
Oman	2	0.0	1.0	0.0	1.0	2	0	0	0	0.0	0.0	0.0	0.0	0	0	0	1	0.0	0.0	1.0	0.0	0	1	0	1	0.0	0.0	0.0	1.0	0	0	1	4
Qatar	4	0.0	2.5	0.0	1.5	1	3	0	0	0.0	0.0	0.0	0.0	0	0	0	4	0.0	0.0	4.0	0.0	0	1	3	2	0.0	1.0	0.0	1.0	1	0	1	10
Saudi Arabia	5	1.2	2.2	0.3	1.3	1	3	1	0	0.0	0.0	0.0	0.0	0	0	0	4	0.0	0.0	4.0	0.0	0	1	3	5	2.0	0.0	0.0	3.0	2	2	1	14
Syria	5	2.3	2.3	0.3	0.0	2	2	1	1	0.0	0.5	0.5	0.0	0	1	0	8	0.0	0.0	8.0	0.0	0	1	7	1	0.0	1.0	0.0	0.0	0	0	1	15
UAE	1	0.0	0.0	0.0	1.0	0	1	0	1	0.0	0.0	1.0	0.0	1	0	0	2	0.0	0.0	2.0	0.0	0	1	1	10	0.0	0.0	0.0	10.0	8	2	0	14
Yemen	6	1.8	2.3	0.3	1.5	2	3	1	0	0.0	0.0	0.0	0.0	0	0	0	1	0.0	0.0	1.0	0.0	0	1	0	1	0.0	0.0	0.0	1.0	1	0	0	8
	71	19	28.0	3.7	20.3	26	36	9	28	10	9.8	5.2	3.0	17	11	0	45	0	0.3	42.8	1.8	0	14	31	40	2	2.0	7.0	29.0	15	13	12	

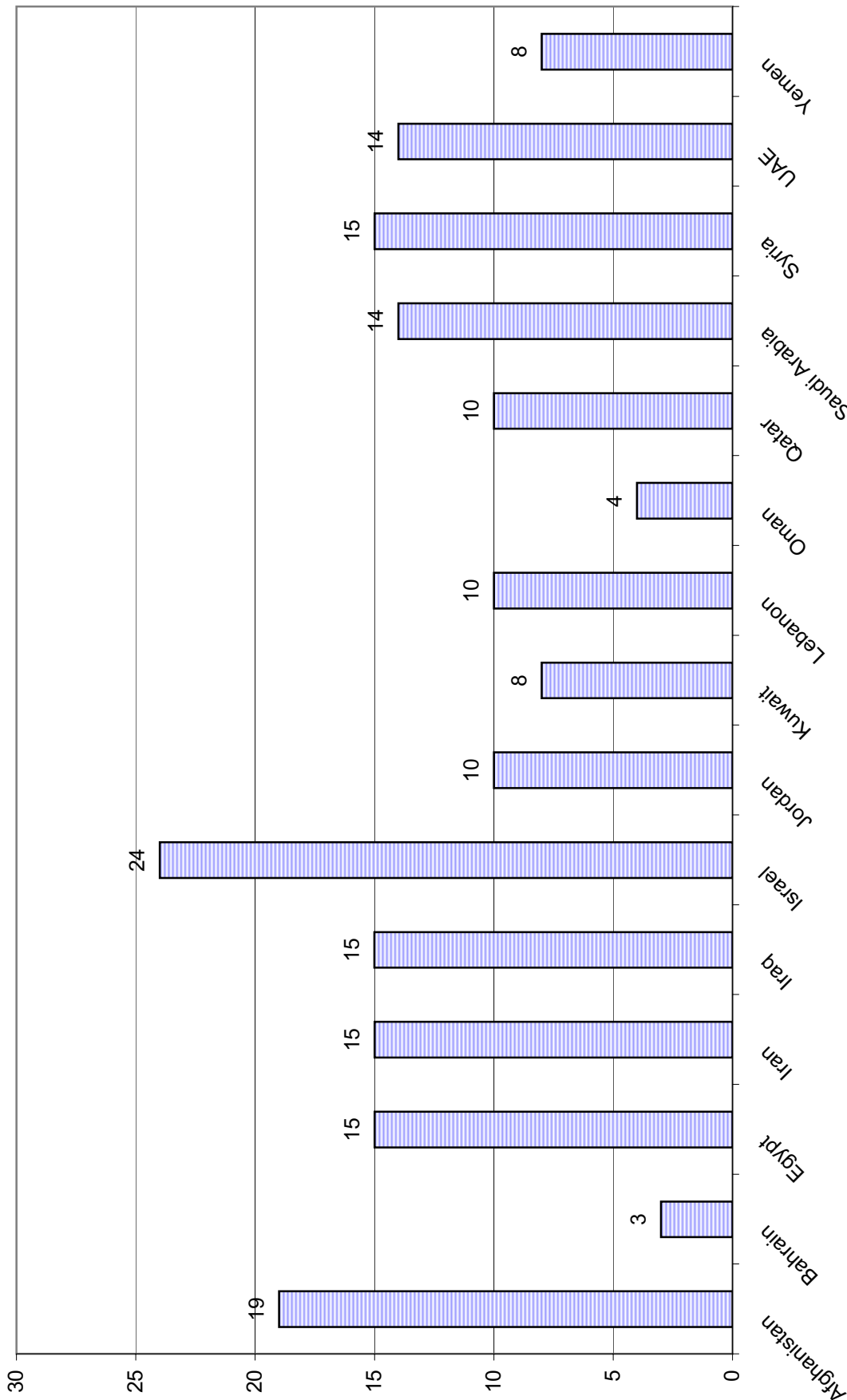
Total by Air Navigation Field, root cause and priority

	AIS	AOP	ATM	CNS	Total
F	19	10	0	2	31
H	28.0	9.8	0.3	2.0	40.2
S	3.7	5.2	42.8	7.0	58.7
O	20.3	3.0	1.8	29.0	54.2
U	26	17	0	15	58.0
A	36	11	14	13	74.0
B	9	0	31	12	52.0
Total	71	28	45	40	184

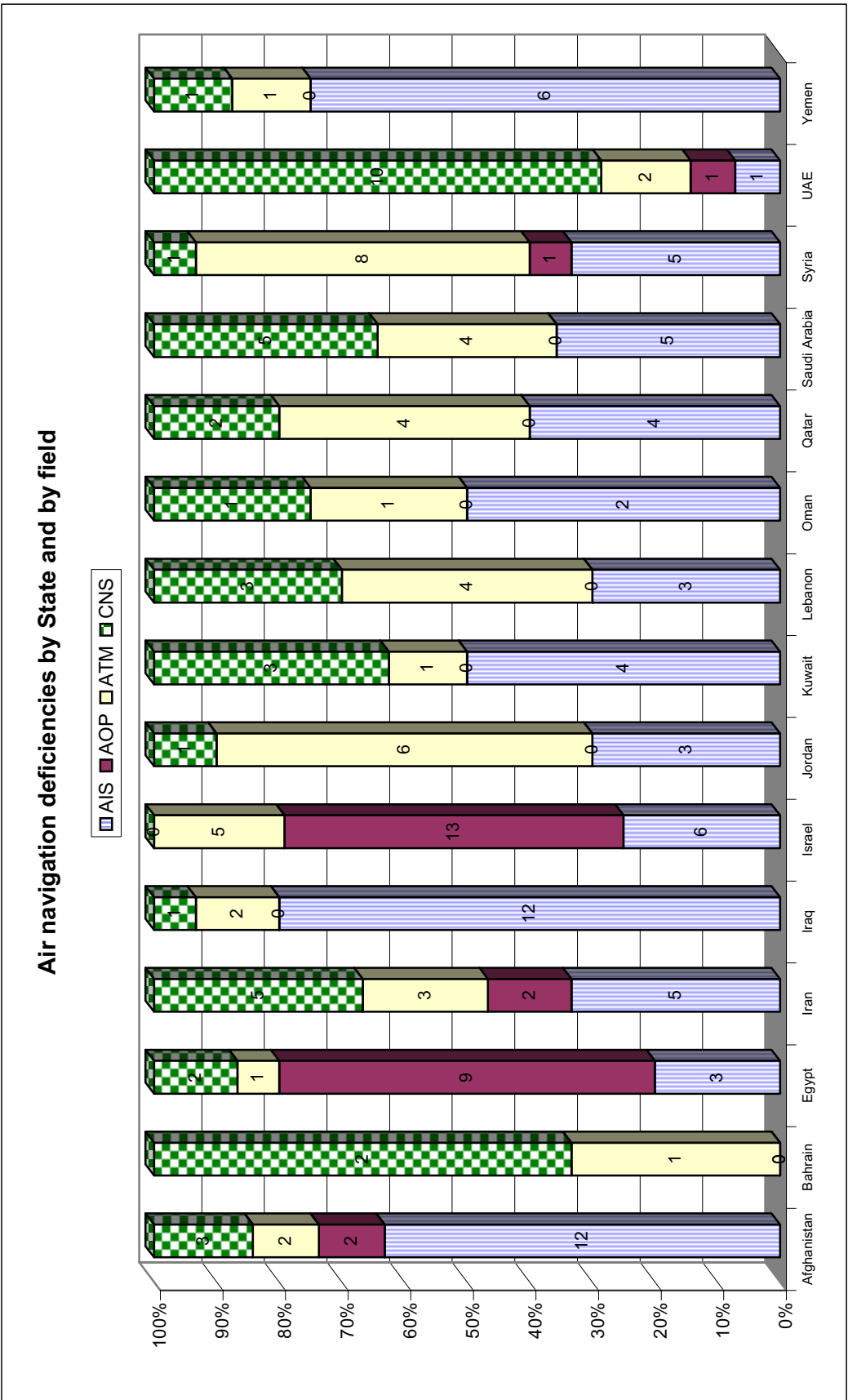
Distribution of the air navigation deficiencies by field



MIDANPIRG/9
Appendix 6G to the Report on Agenda Item 6
Number of air navigation deficiencies by State

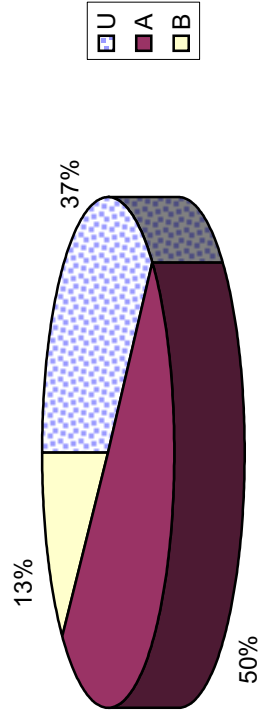


MIDANPIRG/9
Appendix 6H to the Report on Agenda Item 6

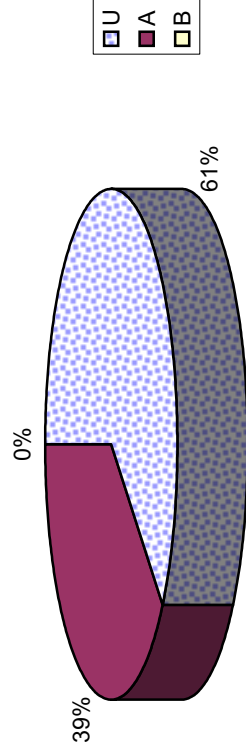


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Appendix 6I to the Report on Agenda Item 6

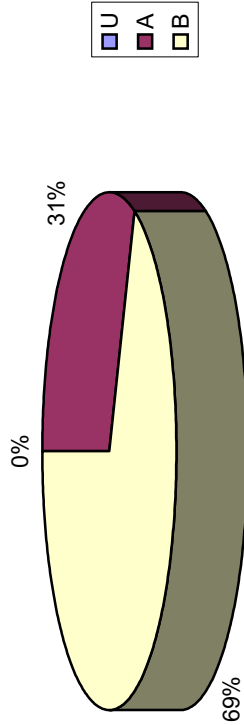
Priority for elimination of deficiencies in the
AIS/MAP field



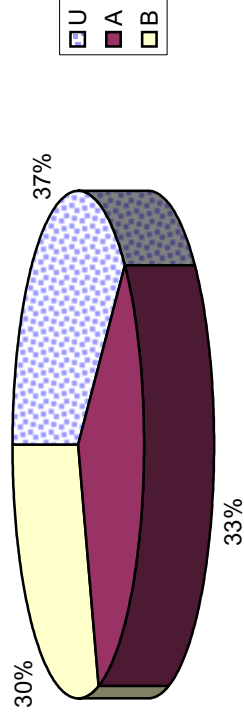
Priority for elimination of deficiencies in the AOP
field



Priority for elimination of deficiencies in the
ATM/SAR field

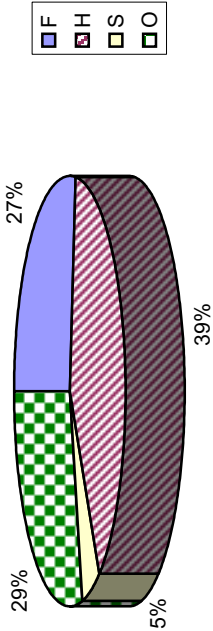


Priority for elimination of deficiencies in the
CNS field

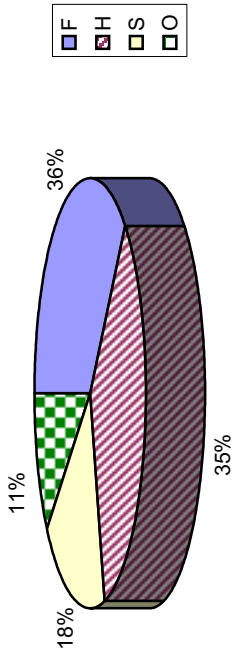


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Appendix 6J to the Report on Agenda Item 6

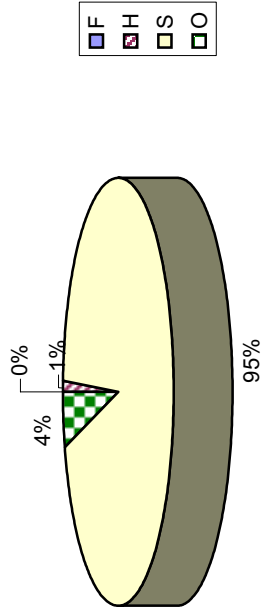
**Rationale for non elimination of deficiencies in
the AIS/MAP field**



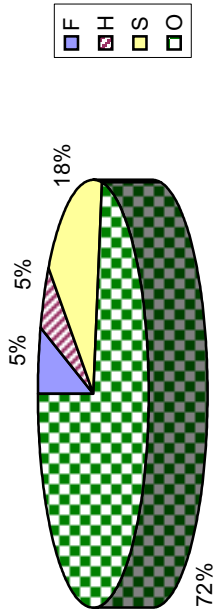
**Rationale for non elimination of deficiencies in
the AOP field**



**Rationale for non elimination of deficiencies in
the ATM/SAR field**

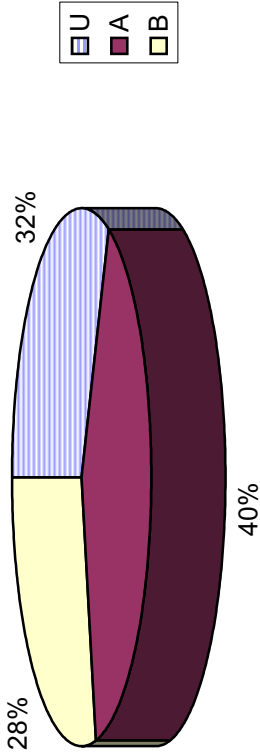


**Rationale for non elimination of deficiencies in
the CNS field**

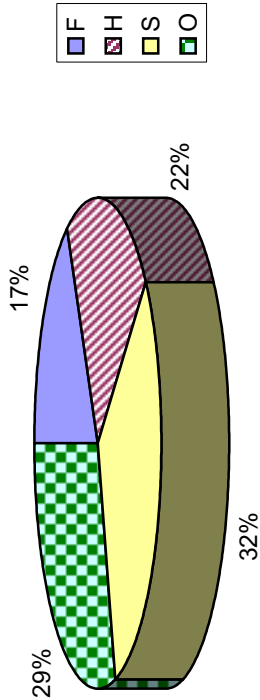


MIDANPIRG/9
Appendix 6K to the Report on Agenda Item 6

Priority for elimination of deficiencies in the air navigation fields



Rationale for non elimination of deficiencies in the air navigation fields



MIDANPIRG/9
Appendix 6L to the Report on Agenda Item 2

**UNIFORM METHODOLOGY FOR THE IDENTIFICATION, ASSESSMENT AND REPORTING OF AIR
NAVIGATION DEFICIENCIES**

(Approved by the Council on 30 November 2001)

1. INTRODUCTION

1.1 The assessment carried out by ICAO on the inputs received from various regions regarding deficiencies in the air navigation field, 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 planning and implementation regional groups (PIRGs).

1.2 This methodology is therefore prepared with the assistance of PIRGs and is approved by the ICAO Council for the efficient identification, assessment and clear reporting of air navigation 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, 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

Regional Office Sources

2.1 As a routine function, the regional offices should maintain a list of specific 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 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 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.

States' Sources

2.2 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.

Users' sources

2.3. 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 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 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 DEFICIENCIES

3.1 In order to enable the ICAO PIRGs to make detailed assessments of 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 deficiency, risk assessment, possible solution, timelines, 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 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 deficiencies should be a top priority for each meeting. The PIRGs, in reviewing lists of deficiencies, should make an assessment of the safety impact or 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 deficiency has been identified and validated, the following fields of information should be provided in the reports on 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, deficiencies would relate to a requirement identified in the regional air navigation plan documents. As a first item in the 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 deficiency

This item identifies the deficiency and would be composed of the following elements:

- i) a brief description of the deficiency;
- ii) date deficiency was first reported; and
- 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
- iv) when appropriate or available, an indication of the cost involved.

* 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.

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 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 deficiencies.

6.2 It is noted that the regional offices should document serious cases of 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 DEFICIENCIES IN THE FIELD IN THE REGION

Identification		Deficiencies			Corrective action			
Requirements	States/facilities	Description	Date first reported	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	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

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

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

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

“A” priority = Top priority requirements necessary for air navigation safety.

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

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

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

MIDANPIRG/9
Appendix 6M to the Report on Agenda Item 2

(RESOLUTION A35-7)

A35-7: UNIFIED STRATEGY TO RESOLVE SAFETY-RELATED DEFICIENCIES

Whereas a primary objective of the Organization continues to be that of ensuring the safety of international civil aviation worldwide;

Whereas ensuring the safety of international civil aviation is also the responsibility of Contracting States both collectively and individually;

Whereas in accordance with Article 37 of the Convention on International Civil Aviation each Contracting State undertakes to collaborate in securing the highest practicable degree of uniformity in regulation, standards, procedures and organization in relation to aircraft, personnel, airports, airways and auxiliary services in all matters in which uniformity will facilitate and improve air navigation;

Whereas the improvement of the safety of international civil aviation on a worldwide basis requires the active collaboration of all stakeholders;

Whereas the Convention and its Annexes provide the legal and operational framework for Contracting States to build a civil aviation safety system based on mutual trust and recognition, requiring that all Contracting States implement the SARPs as far as practicable and adequately perform safety oversight;

Whereas the results of the Universal Safety Oversight Audit Programme (USOAP) indicate that several Contracting States have not yet been able to establish a satisfactory national safety oversight system;

Whereas the ICAO Technical Cooperation Bureau (TCB) can provide the required assistance to States in need;

Whereas the International Financial Facility for Aviation Safety (IFFAS) has been established to assist Contracting States in financing safety-related projects to correct deficiencies primarily identified through USOAP and for which they cannot otherwise provide or obtain necessary financial resources;

Recognizing that not all Contracting States have the requisite human, technical and financial resources to adequately perform safety oversight;

Recognizing that the establishment of regional and sub-regional safety oversight organizations has great potential to assist States in complying with their obligations under the Chicago Convention through economies of scale and promotion of uniformity on a larger scale;

Recognizing that the assistance available to Contracting States experiencing difficulties in correcting deficiencies identified through the safety oversight audits would be greatly enhanced by a unified strategy involving all Contracting States, ICAO and other concerned parties in civil aviation operations;

Recognizing the safety enhancement contributions resulting from audits conducted by international and regional organizations such as the IATA Operational Safety Audit (IOSA) Programme and Eurocontrol ESARR Implementation Monitoring and Support (ESIMS) Programme;

Recognizing that transparency and sharing of safety information is one of the fundamental tenets of a safe air transportation system;

The Assembly:

1. *Urges* all Contracting States to share with other Contracting States critical safety information which may have an impact on the safety of international air navigation and to facilitate access to all relevant safety information;
2. *Encourages* Contracting States to make full use of available safety information when performing their safety oversight functions, including during inspections as provided for in Article 16 of the Convention;
3. *Directs* the Council to further develop practical means to facilitate the sharing of such safety information among Contracting States;
4. *Reminds* Contracting States of the need for surveillance of all aircraft operations, including foreign aircraft within their territory and to take appropriate action when necessary to preserve safety;
5. *Directs* the Council to develop a procedure to inform all Contracting States, within the scope of Article 54 j) of the Chicago Convention, in the case of a State having significant compliance shortcomings with respect to ICAO safety-related SARPs;
6. *Directs* the Council to promote the concept of regional or sub-regional safety oversight organizations;
7. *Requests* the Secretary General to continue to foster coordination and cooperation between USOAP and audit programmes of other organizations related to aviation safety, and specifically with IATA and Eurocontrol;
8. *Urges* Contracting States to further develop regional and sub-regional cooperation and, wherever feasible, partnership initiatives with other States, industry, air navigation service providers, financial institutions and other stake holders to strengthen safety oversight capabilities in order to foster a safer international civil aviation system and to better discharge their individual responsibilities;
9. *Encourages* States to foster the creation of regional or sub-regional partnerships to collaborate in the development of solutions to common problems to build their individual safety oversight capability;
10. *Encourages* all States able to do so to participate in, or provide tangible support for, the strengthening and furtherance of regional safety oversight organizations;
11. *Invites* Contracting States to use the services of the ICAO Technical Cooperation Bureau (TCB) to resolve deficiencies identified by the USOAP;
12. *Invites* Contracting States experiencing difficulties in financing measures necessary to correct safety-related deficiencies identified through USOAP to take advantage of the funding opportunity offered by the International Financial Facility for Aviation Safety (IFFAS);

13. *Requests* the Council to implement a unified strategy based on the principles of increased transparency, cooperation and assistance and to foster, where appropriate, partnership among States, users, air navigation service providers, industry, financial institutions and other stake holders to analyse causes, establish and implement sustainable solutions in order to assist States in resolving safety-related deficiencies;

14. *Directs* the Council to adopt a flexible approach for the provision of assistance through the ICAO Regional Offices to support regional and sub-regional organizations responsible for safety oversight tasks and to implement an efficient system to monitor implementation of the unified strategy.

15. *Requests* the Secretary General to investigate ways in, which the identification of measures may be undertaken at national and regional levels to support States' development of ATM safety oversight capabilities and procedures.

MIDANPIRG/9
Appendix 6N to the Report on Agenda Item 6

MIDANPIRG AIR NAVIGATION SAFETY WORKING GROUP

1. TERMS OF REFERENCE

In accordance with the provision of ICAO Assembly Resolutions A35-7 and A35-14, Appendix M, the Air Navigation Safety Working Group should explore ways and means of assisting States in the elimination of air navigation deficiencies likely to have an impact on the safety of air navigation.

2. WORK PROGRAMME

- a) Review the current practices relating to the identification, assessment, prioritization and reporting of air navigation deficiencies in the MID Region based on the Uniform Methodology approved by ICAO Council on 30 November 2001;
- b) Evaluate, validate and prioritize the air navigation deficiencies reported to MIDANPIRG and its subsidiary bodies;
- c) Analyze the root causes/rationale for non-elimination of air navigation deficiencies;
- d) Review the deficiencies/findings identified within the framework of the Universal Safety Oversight Audit Programme (USOAP) pertaining to MID States;
- e) Propose specific procedures/methodology to be used in the MID Region for the identification, assessment and reporting of air navigation deficiencies, with a view to assist MIDANPIRG and its subsidiary bodies in applying the uniform methodology; and
- f) Provide advice and concise guidance to those involved in the resolution of the air navigation deficiencies in order to find ways and resources for their elimination.

3. COMPOSITION

The MIDANPIRG Air Navigation Safety Working Group will be composed of Senior Officials nominated by Middle East Provider States and experts from IATA and IFALPA.

MIDANPIRG/9
Report on Agenda Item 7

REPORT ON AGENDA ITEM 7: FUTURE WORK PROGRAMME

ICAO MID Office Tentative Schedule of Meetings, Seminars and Workshops from January 2005 to January 2006

7.1 The meeting was presented with the tentative schedule of meetings, seminars and workshops as at **Appendix 7A** to the report on Agenda Item 7. The meeting was also informed that this schedule was subject to updates and should be used for planning purposes only. Meetings, seminars and workshops are confirmed only when an invitation letter is sent by the ICAO MID Regional Office. The schedule would be posted on the MID Regional Office website (<http://www.icao.int/mid>).

7.2 The meeting noted with concern that recently a number of scheduled ICAO MID Regional Office meetings were postponed or cancelled. It was highlighted in this regard that the low level of MID States confirmation is the main reason for postponement/cancellation, and that sending reminders for the convening of each meeting is becoming a general routine. Moreover, the meeting stressed that MID States should support the ICAO MID Regional Office by regularly attending MIDANPIRG and its subsidiary body meetings and submitting working and/or information papers.

Date and Venue for MIDANPIRG/10 Meeting

7.3 The meeting, in accordance with *MIDANPIRG Procedural Handbook, Part III, Rules of Procedures for the Conduct of Meetings of MIDANPIRG, paragraph 3.1*, agreed that MIDANPIRG/10 meeting would tentatively be scheduled for the period between November 2006 and March 2007(inclusive), depending on MIDANPIRG work programme and MID Regional Office workload/activities. The duration would be five (05) working days the venue would be Cairo, unless another State is interested in hosting the meeting.

MIDANPIRG/9
Appendix 7A to the Report on Agenda Item 7



ICAO MID OFFICE
TENTATIVE SCHEDULE OF MEETINGS, SEMINARS AND WORKSHOPS
“January – December 2005”

(Rev.01/05) Date: 29/03/2005

DATE	MEETING/SEMINAR/WORKSHOP	SITE	Remarks
February			
1-2	Safety Oversight Coordinators' Seminar/Workshop	Cairo	Convened.
21-23	ANS WG/4	Cairo	Air Navigation Safety. Convened
March			
14-15	AFS/ATN TF/10	Cairo	Convened.
16-18	CNS/ATM/IC SG/2	Cairo	Back-to-back with AFS/ATN TF/10. Convened.
April			
11-15	MIDANPIRG/9	Cairo	Convened
June			
6-8	AOP SG/5	Cairo	
20-22	TF SG/2	Cairo	Traffic Forecasting.
26-27	RVSM TF/12	Cairo	Postponed (TBD in 2006).
28-30	ATS Safety Management Seminar/2	Cairo	Postponed (TBD in 2006).
September			
12-14	GNSSTF/5	Cairo	
26-28	CNS/ATM HR P&T TF/1	Cairo	
November			
28-30	AIS/MAP TF/3	Cairo	Postponed (1st quarter 2006).
28-1	Middle East Region Global ATM Operational Concept Training Seminar	TBD	Special Implementation Project (SIP) (28 November – 01 December 2005)
December			
2-3	RNP/RNAV TF/8	Cairo	

Notes:

1. Above meetings are subject to confirmation by ICAO MID Regional Office invitation letters.
2. States interested in hosting any of the above are requested to coordinate with the ICAO MID Regional Office, at least three (03) months in advance of the mentioned dates.
3. SG = Sub-Group, TBD = To Be Determined, TF = Task Force, WG = Working Group.

MIDANPIRG/9
Report on Agenda Item 9

REPORT ON AGENDA ITEM 8: ANY OTHER BUSINESS***Outcome of the Second Meeting of The MIDANPIRG Member States (MMS/2)***

8.1 The meeting was briefed on the outcome of the second meeting of the MIDANPIRG Member States (MMS/2) hosted by Bahrain, which was held from 19-21 September 2004 and attended by all MIDANPIRG Member States. The MMS addressed the following issues:

- Review of MIDANPIRG/8 Conclusions/Decisions
- Need for the establishment of an autonomous regional mechanism to take over the duties and responsibilities of the Middle East Central Monitoring Agency (MECMA)
- MID Region projects
- Deficiencies
- ICAO MID Forum

8.2 The Executive Summary of the MMS/2 meeting is at **Appendix 8A** to the report on Agenda Item 8.

Worldwide Air Navigation and Air Transport Conference on the Performance of the Air Navigation system

8.3 The meeting was informed that the 35th Session of the ICAO Assembly and the Eleventh Air Navigation Conference both addressed performance of the future global air traffic management (ATM) system and stressed the importance of developing a performance framework for that system. Consequently, the meeting noted that ICAO has tentatively scheduled a Worldwide Air Navigation and Air Transport Conference on the Performance of the Air Navigation System for September/October 2006. A State letter dated 7 February 2005 had been issued which communicated the proposed list of subjects and requested the views of States and international organizations. In the light of comments to be received from States and international organizations and subsequent recommendation by the Air Navigation Commission, the ICAO Council will consider in October 2005, the need for the meeting, agenda, organizational plan, convening date and site of the conference.

ICAO MID FORUM

8.4 The meeting was briefed on the implementation of ICAO MID Web Based Forum which has been developed by Bahrain in co-ordination with the ICAO MID Regional Office. The purpose of this forum is to provide effective way of communication and sharing of resources between different MID region group of users and to exchange comments on MID Regional Office meeting working papers while in the preparatory stages and prior to convening of meetings. The meeting appreciated Bahrain's initiative and supported the ICAO MID Forum.

8.5 The ICAO MID FORUM URL is: (www.bahraintradanet.com/icao_workspace) or (<http://212.71.33.150/>).

8.6 The meeting was also informed that due to the restrictive nature of the MIDANPIRG reports. The ICAO MID Regional Office website containing MIDANPIRG reports would be changed into a restricted site requiring assigned user ID and password which would be distributed to all MID States and selected visitors. Accordingly, the meeting was handed individual State(s)/Organization(s) user ID and passwords for both the ICAO MID Forum and the ICAO MID Regional Office restricted website.

MIDANPIRG/9
Appendix 8A to the Report on Agenda Item 8

**EXECUTIVE SUMMARY OF THE SECOND MEETING OF THE MIDANPIRG
MEMBER STATES (MMS/2)**

1. Introduction:

1.1 The Second meeting of the MIDANPIRG Member States (MMS/2) hosted by the Kingdom of Bahrain during 19-21 September 2004, was attended by the 8 members States of MIDANPIRG (Bahrain, Egypt, Iran, Jordan, Lebanon, Oman, Saudi Arabia and UAE). The meeting addressed the following issues:

- Review of MIDANPIRG/8 Conclusions/Decisions
- Need for the establishment of an autonomous regional mechanism to taking over the duties and responsibilities of the Middle East Central Monitoring Agency (MECMA)
- MID Region projects
- Deficiencies
- ICAO MID Forum

2. Discussion:

2.1 The following Recommendations were formulated by the meeting:

RECOMMENDATION 1: SCOPE OF RMA

That the initial scope of the RMA be limited to:

a) RVSM

- i) Pre-implementation safety assessment–Afghanistan and Iraq
(*Note: separate funding required*); and
- ii) Post-implementation safety assurance

b) RNP

- i) **B-RNAV**
- ii) **T-RNAV**

c) Safety Management Systems (SMS)

RECOMMENDATION 2: MANAGEMENT OF RMA

That the MID RMA shall be an autonomous body managed by a board comprised of on one member of each of the Participating States and shall report to MIDANPIRG.

RECOMMENDATION 3: ADMINISTRATIVE ARRANGEMENTS

ICAO Middle East Office will oversee the functioning of the RMA.

RECOMMENDATION 4: METHODOLOGY

Work shall be subcontracted to suitably qualified and experienced companies and/or organizations for periods ensuring adaptability to new operational developments and stability in provision of services.

RECOMMENDATION 5: FUNDING (OPTION 1 – A)

That funding of the MID RMA shall be achieved by Participating States sharing equally the cost of establishing and operating the RMA.

RECOMMENDATION 6: FUNDING (OPTION 1 – B)

With a view to cover the cost of establishing and operating the RMA, that funding of the MID RMA shall be achieved by:

- i) participating States contributing an annual fee; and
- ii) participating States collecting a surcharge per FIR flight for monthly remittance to the ***RMA Fund Management Office***.

RECOMMENDATION 7: A special multidisciplinary coordination meeting, to be hosted by Bahrain, be organized as soon as possible under the aegis of ICAO, with a view to finalize the modalities of the arrangements for the funding and operation of the MID RMA and outside expertise be sought from other adjacent regions/RMAs.

RECOMMENDATION 8: ELIMINATION OF DEFICIENCIES

- a) the elimination of deficiencies is the responsibility of State(s). MID Region States should increase their efforts to overcome the delay in mitigating the air navigation deficiencies identified by MIDANPIRG;
- b) resolution of some deficiencies does not require significant expenses by States; ways and means to eliminate such deficiencies should be explored by States(s);
- c) States review their respective lists of identified deficiencies; formulate and forward an action plan to the ICAO MID Regional Office for review; and identify areas, where the establishment of multinational agreements/arrangements may contribute to the resolution of deficiencies; and
- d) reliable ways for funding the elimination of deficiencies should be considered, examples are user charges, ICAO Technical Co-operation Programme and Special Implementation Projects (SIP), IFFAS and/or other means.

3. Any other Business

3.1 ICAO MID Forum

3.1.1 The meeting supported with appreciation the MID Forum initiative which is sponsored and hosted by Bahrain. It was noted that the MID Forum has reached its final operational phase. The meeting was given a live presentation on the operational aspects of the Forum and noted that States will soon be able to access the Forum.

3.2 *Meetings*

3.2.1 The meeting proposed that the duration of some meetings/seminars hosted by ICAO be reviewed as it was having an impact on budgetary provisions of States intending to attend. The possibility of organizing back-to-back meetings with same affinities should also be considered. It was agreed that the MID forum be used to expedite the dissemination of working and discussion papers. The need for sending appropriate experts/personnel to attend meetings/seminars organized by ICAO was also emphasized.

- END -