



INTERNATIONAL CIVIL AVIATION ORGANIZATION

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

MIDANPIRG/14
(Jeddah, Saudi Arabia, 15 – 19 December 2013)

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 Fourteenth Meeting of the Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG/14) was hosted by the General Authority for Civil Aviation (GACA) of Saudi Arabia at the Intercontinental Hotel – Jeddah, from 15 to 19 December 2013.

2. OPENING

2.1 On behalf of His Highness Prince Fahd Bin Abdullah Al-Saud, President of General Authority of Civil Aviation (GACA) of Saudi Arabia, His Excellency Eng. Mohammed Al Salmi, Vice President for Air Navigation Services, GACA, opened the meeting. Eng. Al Salmi extended a warm welcome to all participants to the MIDANPIRG/14 meeting and wished them a pleasant stay in Jeddah. He thanked ICAO for its efforts in fostering the implementation of the Middle East (MID) Regional Air Navigation Plan (ANP) and improvement of air navigation services in the MID Region. He emphasized on the need to harmonize the regional air navigation developments with the Global air Navigation Plan (GANP) and with the developments in adjacent Regions.

2.2 Eng. Al Salmi appreciated the work achieved by MIDANPIRG and its subsidiary bodies. He thanked ICAO for arranging this important meeting in Jeddah and restated Saudi Arabia's commitment to support the ICAO MID Regional Office and MIDANPIRG activities. Finally, Eng. Al Salmi wished the meeting fruitful deliberations.

2.3 Mr. Mohamed Khonji, Regional Director, ICAO Middle East (MID) Regional Office welcomed all the participants to Jeddah. He expressed ICAO's sincere gratitude and appreciation to Saudi Arabia and especially to H.H. Prince Fahd Bin Abdullah Al-Saud, President of GACA, H.E. Dr. Faisal Bin Hamad Al-Sugair, Vice President of GACA and H.E. Eng. Mohammed Al Salmi Vice President for Air Navigation Services, for hosting this important meeting and for the generous hospitality extended to all participants. He pointed out that Saudi Arabia has always been supporting the ICAO MID Regional Office and MIDANPIRG activities and played an important and positive role in the MID Region.

2.4 Mr. Khonji highlighted that MIDANPIRG has matured, transforming the MID Region into a more developed active Region over the nineteen years of its existence. In this respect, he highlighted that with the contributions of all Partners, the planning process has been successful and Air Navigation has continued to be safe, economical and more efficient in the MID Region.

2.5 Mr. Khonji highlighted that the continuing growth of traffic in the MID Region placed increased demand on airspace capacity, which necessitates an optimum utilization of the available airspace and Airports. Therefore, the implementation of operational improvements using the latest technologies should be the main objective. In this respect, he recalled that, in accordance with Recommendation 6/1 of the AN-Conf/12 and the outcome of the PIRGs and RASGs Global Coordination Meeting, held in Montreal on 19 March 2013, the DGCA-MID/2 meeting reiterated the need for the establishment of regional priorities and targets for air navigation by May 2014 consistent with the GANP and ASBU framework.

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2.6 Mr. Khonji highlighted that the meeting is expected to agree on a new MIDANPIRG Organizational Structure and revised Terms of Reference for the different subsidiary bodies, taking into consideration the global developments related to air navigation planning and implementation and performance monitoring of the air navigation systems, and based on the outcome of the MIDANPIRG Steering Group.

2.7 Finally, Mr. Khonji thanked all Participants for their presence wishing them successful deliberations, productive meeting and a pleasant stay in Jeddah.

3. ATTENDANCE

3.1 The meeting was attended by a total of Eighty five (85) participants, which included experts from fourteen (14) States (Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Qatar, Saudi Arabia, Sudan, UAE, USA and Yemen) and six (6) International Organizations/Agencies (ACAC, EUROCONTROL, GCC, IATA, IFALPA and MIDRMA). The list of participants is at pages 5-24.

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. Mohamed Smaoui	- Deputy Regional Director (DEPRD)
Mr. Raza A. Gulam	- Regional Officer, Communications, Navigation and Surveillance (CNS)
Mr. Adel Ramlawi	- Regional Officer, Aerodrome and Ground Aids (AGA)
Mr. Elie El Khoury	- Regional Officer, Air Traffic Management and Search and Rescue (ATM/SAR)

4.2 The meeting was also supported by, Mr. Michiel Vreedenburgh, Chief, Implementation Support and Development Section – Safety, ANB/SMM/ISD-SAF from the Air Navigation Bureau of ICAO Headquarters in Montreal and Mr. Christopher Keohan, Regional Officer Meteorology (MET) from the ICAO EUR/NAT Office, 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: Follow-up on the outcome of MIDANPIRG/13 Meeting
 - 2.1 Review of action taken by the ANC on MIDANPIRG/13 Report
 - 2.2 Review status of MIDANPIRG/13 Conclusions and Decisions

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- Agenda Item 3: Global, Inter and Intra-Regional Activities
- Agenda Item 4: Performance Framework for Regional Air Navigation Planning and Implementation
- 4.1 MSG
- 4.2 AOP
- 4.3 ATM/SAR
- 4.4 AIM
- 4.5 CNS
- 4.6 CNS/ATM
- 4.7 MET
- Agenda Item 5: Air Navigation Deficiencies and Safety Matters
- 5.1 Air Navigation Deficiencies
- 5.2 Air Navigation Safety
- Agenda Item 6: Future Work Programme
- Agenda Item 7: Election of Chairpersons
- Agenda Item 8: Any other Business

7. CONCLUSIONS AND DECISIONS – DEFINITION

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

- a) **Conclusions** 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

- CONCLUSION 14/1: CONTINUED SUPPORT FOR CAPSCA-MID*
- DECISION 14/2: UPDATED OF THE MIDANPIRG PROCEDURAL HANDBOOK*
- DECISION 14/3: TERMS OF REFERENCE OF THE ATM PERFORMANCE TASK FORCE (APM TF)*
- CONCLUSION 14/4: ASSISTANCE FOR THE DEVELOPMENT/UPDATE OF THE NATIONAL AIR NAVIGATION PERFORMANCE FRAMEWORK*
- CONCLUSION 14/5: MID Region Air Navigation Priorities*
- CONCLUSION 14/6: DRAFT MID REGION AIR NAVIGATION STRATEGY*

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CONCLUSION 14/7:	SECOND REGIONAL RUNWAY SAFETY SEMINAR (MID-RRSS/2)
CONCLUSION 14/8:	SEMINAR ON HELIPORTS
CONCLUSION 14/9:	PROVISIONS FOR PRIOR APPROVAL TO AERODROME DEVELOPMENT
DECISION 14/10:	Transfer of Aerodromes Activities to RASG-MID
CONCLUSION 14/11:	IMPLEMENTATION OF THE TOP TEN ATS ROUTES
CONCLUSION 14/12:	Civil/Military Cooperation
CONCLUSION 14/13:	Flexible Use of Airspace
CONCLUSION 14/14:	MID Civil/Military Go-Team
CONCLUSION 14/15:	MID Region ATM Contingency Plan
DECISION 14/16:	Search and Rescue Cooperation
CONCLUSION 14/17:	MID Region ATM Enhancement Programme (MAEP) – Special Coordination Meeting
CONCLUSION 14/18:	National AIS/AIM Regulations
CONCLUSION 13/19:	NATIONAL PLANS FOR THE TRANSITION FROM AIS TO AIM
DECISION 14/20:	MIDAD SUPPORT TEAM
DECISION 14/21:	ESTABLISHMENT OF MID-AMC STEERING GROUP
CONCLUSION 14/22:	MID-AMC OPERATION
CONCLUSION 14/23:	MID AIDC/OLDI IMPLEMENTATION SEMINAR
DECISION 14/24:	DEVELOPMENT AND ENDORSEMENT OF THE MID eANP
CONCLUSION 14/25:	INFPL POST IMPLEMENTATION-SYSTEM UPGRADES
CONCLUSION 14/26:	MID REGION GNSS IMPLEMENTATION STRATEGY
CONCLUSION 14/27:	MID SURVEILLANCE STRATEGY
CONCLUSION 14/28:	MID REGIONAL PBN IMPLEMENTATION STRATEGY AND PLAN
CONCLUSION 14/29:	ESTIMATING AND REPORTING ENVIRONMENTAL BENEFITS
CONCLUSION 14/30:	ESTABLISHMENT OF MID REGIONAL OPMET CENTRE
DECISION 14/31:	UPDATE TO BULLETIN MANAGEMENT GROUP TERMS OF REFERENCE
CONCLUSION 14/32:	ELIMINATION OF AIR NAVIGATION DEFICIENCIES IN THE MID REGION
CONCLUSION 14/33:	TRAINING ON RVSM SAFETY ASSESSMENT
DECISION 14/34:	SCRUTINY GROUP WORK PROGRAMME
CONCLUSION 14/35:	PROVISION OF REQUIRED DATA TO THE MIDRMA
CONCLUSION 14/36:	RVSM MINIMUM MONITORING REQUIREMENTS
CONCLUSION 14/37:	ARRANGEMENTS FOR THE CONDUCT OF GMU MONITORING MISSIONS
CONCLUSION 14/38:	MID RVSM SMR 2014

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MIDANPIRG/14
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 and adopted the Provisional Agenda as at Para 6 of the History of the Meeting.

MIDANPIRG/14
Report on Agenda Item 2.1

REPORT ON AGENDA ITEM 2: FOLLOW-UP ON THE OUTCOME OF MIDANPIRG/13 MEETING**2.1 REVIEW OF ACTION TAKEN BY THE ANC ON
MIDANPIRG/13 REPORT**

2.1.1 The meeting was presented with actions taken by the Air Navigation Commission (ANC) during their review and approval of the Report of the Thirteenth meeting of the Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG/13), held in Abu Dhabi, UAE, from 22 to 26 April 2012. The meeting noted the specific actions taken by the ANC, and the follow-up by the States and Secretariat on Conclusions and Decisions of the meeting.

2.1.2 The meeting noted in particular the following:

Conclusion 13/10 - Post RVSM Implementation in the Baghdad FIR, which relates to the good progress achieved by Iraq for the Normalization of the Baghdad FIR.

Conclusion 13/16 - Certification of the AIM Services, related to the Air Navigation Bureau (ANB) and Air Navigation Commission (ANC) decisions which indicate that, the proposal as presented was not considered as a priority for global application at this time.

Conclusion 13/61 - Centralized Air Navigation Deficiency Database, related to the Secretariat confirmation that the MID Air Navigation Deficiencies Database (MANDD) continues to be the official application for the management of deficiencies, noting that the Centralized Air Navigation Deficiency Database (ANDEF) application of the Integrated Safety Trend Analysis and Reporting System (iSTARS) scheduled for launch in December 2012 had been postponed indefinitely as a result of lessons learned in its development and feedback received from users during the testing phase.

2.1.3 The meeting noted that the ANC appreciated the good work done by MIDANPIRG for the planning and implementation of air navigation which contributed to the improvement of safety and efficiency of air navigation within the MID Region.

2.1.4 The meeting thanked the ANC for their valuable guidance on various activities of the MIDANPIRG and ensured that it would be taken into account in the development of its future work programme.

2.1.5 It was highlighted that future meeting reports should be reduced in length by including web links to references for supporting material, including the MANDD, rather than incorporating copies of those which had not changed as appendices to the report.

MIDANPIRG/14
Report on Agenda Item 2.2

REPORT ON AGENDA ITEM 2: FOLLOW-UP ON THE OUTCOME OF MIDANPIRG/13 MEETING

**2.2 REVIEW OF ACTION TAKEN BY THE ANC ON MIDANPIRG/13
REPORT**

2.2.1 The meeting recalled that MIDANPIRG/13, held in Abu Dhabi, UAE, from 22 to 26 April 2012 developed 58 Conclusions and 13 Decisions.

2.2.2 The meeting reviewed the progress made on the implementation of MIDANPIRG/13 Conclusions and Decisions. The actions taken by States and the Secretariat on the above mentioned Conclusions and Decisions were reviewed and the updated list is provided at **Appendix 2.2A** to the Report on Agenda Item 2.2.

2.2.3 The meeting noted with appreciation that out of the 71 Conclusions and Decisions, 67 were completed or actioned. The status of the remaining 4 Conclusions is “Ongoing” or “superseded by events”.

MIDANPIRG/14
Appendix 2.2A to the Report on Agenda Item 2.2

FOLLOW-UP ACTION PLAN ON MIDANPIRG/13 CONCLUSIONS AND DECISIONS

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
CONCLUSION 13/1: AERODROMES CERTIFICATION IMPLEMENTATION AND ACTION PLAN That, States, that have not yet done so, be urged to take necessary measures to start/complete the Implementation of the Aerodromes Certification Programme in an expeditious manner and provide the ICAO MID Regional Office with the associated Action Plan, before 15 September 2012 , for review by the ADCI TF	Implement the Conclusion	ICAO States	State Letter Action Plan	15 Sep. 2012	Completed AN 5/3 -12/152 dated 05 June 2012
CONCLUSION 13/2: RUNWAY END SAFETY AREA (RESA) That, States, that have not yet done so, be invited to take necessary measures to include in their national regulations the requirements related to Runway End Safety Area (RESA) as reflected in ICAO Annex 14 Recommended Practice in order to reduce the safety risk of Runway Excursion.	Implement the Conclusion	ICAO States	State Letter Update Regulation	Dec. 2012	Completed AN 5/22 - 12/193 dated 04 July 2012
CONCLUSION 13/3: IMPROVEMENT OF THE ATS ROUTE STRUCTURE IN THE MID REGION That, as a first step towards the rationalization of the ATS route network in the MID Region: a) States be urged to; i) identify those ATS Routes that are not economically structured within their airspaces; ii) coordinate and agree with appropriate authorities on the priority of action to replace the identified routes with more economical routes based on the definition of City Pairs, the PBN and FUA concepts; b) Users to; i) identify those ATS Routes that are not economically structured in the MID Region; ii) provide priority of action; and c) States and Users; provide feedback to the ARN TF/6 meeting.	Implement the Conclusion	ICAO States Users	State Letter	Sep. 2012	Closed AN 6/5.8 - 12/164 dated 12 June 2012 (Replaced and superseded by Concl. 14/11)

MIDANPIRG/14-REPORT
APPENDIX 2.2A

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CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
CONCLUSION 13/4: MIDRAR PROJECT That States, be invited to support the MIDRAR Project and assign Focal Points to provide necessary information to the MIDRAR Team	Implement the Conclusion	ICAO States	State Letter	30 Aug. 2012	Closed AN 6/5.8.3 – 12/167 dated 12 June 2012
CONCLUSION 13/5: IMPLEMENTATION OF REDUCED RADAR LONGITUDINAL SEPARATION IN THE MID REGION That, a) States, that have not yet done so; i) be urged to implement the 20 NM radar longitudinal separation; ii) be encouraged to further reduce the radar longitudinal separation within the MID Region to 10 NM, where appropriate; and iii) be invited to agree with their neighbouring FIRs/States on the date of implementation and updating of the LoAs; b) the ATM Regional PFFs be updated to include the reduced radar longitudinal separation as an ATM objective for the MID Region.	Implement the Conclusion	ICAO States	State Letter	30 Aug. 2012	Closed AN 6/3 – 12/165 dated 12 June 2012 Feedback received from States
CONCLUSION 13/6: MID STRATEGY ON SSR CODE ALLOCATION That, the MID Region Strategy on SSR Code Allocation be updated as at Appendix 4.2B to the Report on Agenda Item 4.2	Implement the Strategy	MIDANPIRG/13	Strategy	Apr. 2012	Completed
CONCLUSION 13/7: MID SSR CODE MANAGEMENT PLAN (CMP) That, the MID Region SSR Code Management Plan is endorsed as at Appendix 4.2C to the Report on Agenda Item 4.2.	Implement the Conclusion	States ICAO	State Letter	May 2012	Completed AN 6/17-12/124 dated 10 May 12 AN 6/17 – 12/127 dated 14 May 2012

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CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
DECISION 13/8: DISSOLUTION OF THE SSRCA STUDY GROUP That, recognizing that its work programme has been completed, the SSRCA Study Group is dissolved.	ATM/AIM/SAR SG to address SSR CA issues	MIDANPIRG/13	Dissolve SG	Apr. 2012	Completed
CONCLUSION 13/9: MID REGIONAL CONTINGENCY PLAN That, States and users be urged to review the MID Regional Contingency Plan and the revised version of the CRAME-03 at Appendices 4.2E and 4.2F to the Report on Agenda Item 4.2, respectively; and provide updates and comments to the ICAO MID Regional Office before 1 September 2012 .	Implement the Conclusion	States ICAO	State Letter	Sep. 2012	Closed AN 6/1.2.1 – 12/166 dated 12 June 2012 CRAME III contact list Updated AN 6/1.2.1 – 13/194 dated 21 July 2013 (Replaced and superseded by Concl. 14/15)
CONCLUSION 13/10: POST RVSM IMPLEMENTATION IN THE BAGHDAD FIR That, a) Iraq be urged to implement the actions agreed by the BFPRI-SCM in an expeditious manner to solve the ATC coordination, communication and surveillance issues between Baghdad ACC and the neighbouring ACCs; b) States and all stakeholders be invited to support Iraq in the process of normalization of the Baghdad FIR; and c) in case of low progress of implementation of the necessary actions by Iraq before 15 October 2012 , the RVSM operations be suspended in the Baghdad FIR.	Implement the Conclusion	ICAO States/Stakeholders Iraq	State Letter Provide support Implement the Action Plan	15 Jun. 2012 15 Oct. 2012 15 Oct. 2012	Closed AN 6/5.10.15B-12/172 dated 13 June 2012 Iraq letter dated 23 Sep. 2012 AN 6/5.10.15D-12/318 dated 23 Oct. 2012 ICAO MID Regional Office received: Iraq Letter dated 11 Feb 2013 Updated Action

MIDANPIRG/14-REPORT
APPENDIX 2.2A

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CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
					Plan 22 April 2013 Updated Action Plan 10 September 2013
DECISION 13/11: REVISED TOR OF THE ATM/AIM/SAR SUB-GROUP That, the ATM/SAR/AIS Sub-Group be renamed ATM/AIM/SAR Sub-Group with Terms of Reference as at Appendix 4.2K to the Report on Agenda Item 4.2.	Implement the Work Programme of the ATM/AIM/SAR SG	MIDANPIRG/13	Updated TOR and Procedural Handbook	Apr. 2012	Completed
CONCLUSION 13/12: MEANS OF DISSEMINATION OF THE LIST OF VALID NOTAM That, States be encouraged to: a) use the internet (emails and/or websites) for the dissemination of the monthly printed plain-language list of valid NOTAM and discontinue its dissemination in hardcopy by post; and b) make available on the web on a daily or at least on a weekly basis an updated list of valid NOTAM.	Implement the Conclusion	ICAO States	State Letter Feedback from States	30 Jun. 201 Sep. 2012	Closed AN 8/2.1 – 12/200 dated 1 Jul. 2012
CONCLUSION 13/13: AVOIDANCE OF THE AIRAC DATE 15 NOVEMBER 2012 That, taking into consideration the worldwide impact of the ICAO New FPL format implementation, States be invited to avoid the use of the AIRAC date of 15 November 2012 as an effective date for the introduction of significant changes to the aeronautical information publications.	Implement the Conclusion	ICAO States	State Letter Feedback from States	30 Jun. 2012 20 Sep. 2012	Completed AN 8/2.1 – 12/232 dated 6 Aug. 2012
DECISION 13/14: DISSOLUTION OF THE QMS ACTION GROUP That, recognizing that the activities of the QMS AG were very limited, the QMS AG is dissolved.	Implement the Decision	MIDANPIRG/13	QMS AG dissolved	Apr. 2012	Completed
CONCLUSION 13/15: QMS IMPLEMENTATION That, in accordance with Annex 15 provisions, States, that have not yet done so, be urged to take necessary measures to:	Implement the Conclusion	ICAO	State Letter	30 Jun. 2012	Closed AN 8/4.1 – 12/199 dated 1

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CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
a) organize at the National level, awareness campaigns and training programmes to promote and expedite the process of implementation of QMS for AIS; b) implement/complete the implementation of the required QMS in an expeditious manner; c) arrange for an ISO 9001 certification by an accredited certification body; and d) ensure that quality management is applicable to the whole aeronautical information data chain from data origination to distribution to the next intended user, taking into consideration the intended use of data.		States	Feedback from States	Sep. 2012	Jul. 2012
CONCLUSION 13/16: CERTIFICATION OF THE AIM SERVICES That, in order to improve the level of compliance with the Standards and Recommended Practices of Annex 4 and Annex 15 and pave the way for the transition from AIS to AIM, ICAO consider the inclusion of a requirement for the certification of AIM Services in Annex 15.	Implement the Conclusion	ICAO	SARPs/Guidance Material	2016	Closed
DECISION 13/17: ESTABLISHMENT OF THE MIDAD STUDY GROUP (MIDAD STG) That, the MID Region AIS Database (MIDAD) Study Group (MIDAD STG) is established with Terms of Reference as at Appendix 4.3B to the Report on Agenda Item 4.3.	Implement the work programme of the MIDAD STG	MIDANPIRG/13	MIDAD STG established	Apr. 2012	Completed
DECISION 13/18: DISSOLUTION OF THE AIS AUTOMATION ACTION GROUP That, recognizing that the activities of the AIS Automation Action Group (AISA AG) were very limited, the AISA AG is dissolved.	Implement the Decision	MIDANPIRG/13	AIS Automation AG dissolved	Apr. 2012	Completed
CONCLUSION 13/19: MIDAD PROJECT SECOND PHASE That, taking into consideration the results of the first phase of the MIDAD Study, States, Users and all concerned stakeholders be invited to provide all necessary support for the achievement of the second phase of the MIDAD Project.	Implement the Conclusion	ICAO States and Users	State Letter Support the MIDAD Project	Dec. 2012 During Phase 2 of the MIDAD Project	Completed (DGCA-MID/2 Conc.2/7 refers)

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
CONCLUSION 13/20: COMMITMENT TO THE MIDAD PROJECT That, as part of the Second Phase of the MIDAD Project: a) a Memorandum of Agreement (MOA) be signed by Bahrain, Iran, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria and Yemen in order to legally reflect their commitment to the MIDAD Project; and b) other States from within and outside the MID Region, interested to participate in the MIDAD Project, be invited to sign the MOA.	Implement the Conclusion	ICAO Concerned States	MOA signed	2013	Completed (DGCA-MID/2 Conc.2/7 refers)
CONCLUSION 13/21: MIDAD LEGAL FRAMEWORK That, the following options be considered for the endorsement of the MIDAD legal framework by the DGCA-MID/2 meeting: a) a volunteer State/Group of States provides the legal framework by hosting the project; or b) an ICAO TCB Project for the implementation of MIDAD, including the establishment of a MIDAD legal entity or agency (similar to the MIDRMA).	Implement the Conclusion	DGCA-MID/2	Agreement on the best option for the MIDAD legal framework	Apr. 2013	Completed (DGCA-MID/2 Conc.2/7 refers)
DECISION 13/22 TERMS OF REFERENCE OF THE AIM TASK FORCE That, the AIS/MAP Task Force be renamed AIM Task Force with Terms of Reference (TOR) as at Appendix 4.3D to the Report on Agenda Item 4.3.	Implement the work programme of the AIM TF	MIDANPIRG/13	Updated TOR	Apr. 2012	Completed
CONCLUSION 13/23: MID IP NETWORK SURVEY That, States complete the MID IP Network survey as at Appendix 4.4A to the Report on Agenda Item 4.4 and provide feedback to the ATN-IPS WG/4 meeting.	Implement the Conclusion	ICAO States	State Letter Completed Survey	May 2012	Completed AN 7/5.1 – 12/190 dated 1 July 2012

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CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
CONCLUSION 13/24: DEVELOPMENT OF IP BASED MID NETWORKS That, States, that have not yet done so, be urged to: a) develop national plans, in line with the ICAO Manual on the Aeronautical Telecommunication Network (ATN) using Internet Protocol Suite (IPS) Standards and Protocols (Doc 9896), for migration to IPv6 taking the existing IPv4 based aeronautical systems into account; b) consider the use of IPv4/IPv6 protocol translation devices only as a provisional solution during the migration; and c) include a requirement for both IPv4 and IPv6 in their ongoing Air Traffic Services (ATS) Message Handling System (AMHS) implementation programmes in order to ensure seamless transition and interoperability.	Implement the Conclusion	ICAO States	State Letter	Sep. 2012	Completed AN 7/5.1 – 12/190 dated 1 July 2012
CONCLUSION 13/25: UPDATE THE AMC SYSTEM That, States be urged to keep the data related to their COM CENTER updated in the EUR-AMC system.	Implement the Conclusion	ICAO States	State Letter	Sep. 2012	Completed AN 7/5.1 – 12/203 dated 1 July 2012
CONCLUSION 13/26: MID AFTN/CIDIN DIRECTORY That, ICAO MD Regional Office: a) take necessary steps with Jordan to populate the MID AFTN/CIDIN Directory in the MID-AMC; and b) post the MID AFTN/CIDIN Directory in the ICAO MID Website.	Implement the Conclusion	ICAO Jordan States	MID Routing Directory in MID AMC	Dec. 2012	Completed Functions included in the MID-AMC
CONCLUSION 13/27: MID-ATS MESSAGE MANAGEMENT CENTRE (AMC) PROJECT That, a) Jordan complete the development of the MID-AMC;	Implement the Conclusion	ATN-IPS WG ICAO Jordan	Operations of MID-AMC	Dec. 2012	Closed AN 7/5.1 – 12/203 dated 1 July 2012

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
b) ICAO MID Regional Office communicate with EUROCONTROL to provide the necessary support for the project; c) ATN-IPS WG and CNS SG develop the necessary legal framework for the use of the MID-AMC; and d) States be encouraged to use the MID-AMC on trial basis for one year.		States	Trial results	Apr. 2013	(Replaced and superseded by Conc. 14/22)
DECISION 13/28: REVISED TOR OF THE ATN-IPS WORKING GROUP That, the Terms of Reference (TOR) of the ATN-IPS Working-Group be updated as at Appendix 4.4C to the Report on Agenda Item 4.4.	Implement the work programme of the ATN IPS WG	MIDANPIRG	Updated TOR	Apr. 2012	Completed
DECISION 13/29: TERMS OF REFERENCE OF THE CNS SUB-GROUP That, the Terms of Reference (TOR) of the CNS SG be updated as at Appendix 4.4D to the Report on Agenda Item 4.4.	Implement the work programme of the CNS SG	MIDANPIRG	Updated TOR and Procedural Handbook	Apr. 2012	Completed
CONCLUSION 13/30: NATIONAL PERFORMANCE FRAMEWORK That, States be urged to: a) develop, update and/or complete their National Performance Framework, including the National Performance Framework Forms (PFFs), ensuring the alignment with and support to the regional performance objectives; b) incorporate the agreed MID Region Performance Metrics into their National performance monitoring process; and c) report relevant data necessary for performance monitoring of the air navigation systems to the ICAO MID Regional Office, on a regular basis, with a view to update the Regional PFFs and monitor the MID Region Performance Metrics.	Implement the Conclusion	ICAO States	State Letter Feedback and reports	30 Jun. 2012 On regular basis	Closed AN 7/26.1 – 12/233 dated 6 Aug. 2012 (Replaced and superseded by Conc. 14/3)

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CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
CONCLUSION 13/31: ENDORSEMENT OF THE AIM PARTS OF THE MID BASIC ANP AND FASID That, the AIM Parts of the MID Basic ANP and FASID, including the AIM FASID Tables at Appendices 4.5F, 4.5G and 4.5H to the Report on Agenda Item 4.5: a) are endorsed; b) be used as a planning document for the transition from AIS to AIM in the MID Region; and c) be formally included in the MID ANP through a proposal for amendment, when the new structure of the MID ANP is finalized and the AIM FASID Tables are populated with relevant data.	Implement the Conclusion	MIDANPIRG/13	Basic ANP and FASID AIM Parts	Apr. 2012	Completed
DECISION 13/32: ESTABLISHMENT OF THE MID AIR NAVIGATION PLAN AD-HOC WORKING GROUP (ANP WG) That, the MID Air Navigation Plan Ad-hoc Working Group (ANP WG) be established to fulfil the requirements set up by MIDANPIRG through Decision 12/49.	Convene the ANP WG/1 meeting	MIDANPIRG/13	ANP WG established	Apr. 2012	Completed ANP WG/1 held in Cairo, 27-29 May 2013
CONCLUSION 13/33: STATE ACTION PLANS FOR CO₂ EMISSION That, States, that have not yet done so, be urged to: a) send the contact details of their CO₂ emission focal point to the ICAO MID Regional Office; and b) submit their action plan for CO₂ emission to ICAO before 30 June 2012.	Implement the Conclusion	States	Action Plan	30 Jun. 2012	Closed - ENV 4/1-12/45 dated 18 Jun 2012 - AT 4/10-13/286 dated 5 Nov 2013 (Replaced and superseded by Concl. 14/29)

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
DECISION 13/34: ESTABLISHMENT OF THE AIR TRAFFIC MANAGEMENT MEASUREMENT TASK FORCE (ATMM TF) That, the ATMM TF be established with Terms of Reference (TOR) as at Appendix 4.5J to the Report on Agenda Item 4.5.	Convene the ATMM TF/1 meeting	MIDANPIRG/13	ATMM TF established	Apr. 2012	Completed First meeting (8-9 September 2013)
CONCLUSION 13/35: ESTIMATING ENVIRONMENT BENEFITS That, in order to allow the Air Traffic Management Measurement Task Force (ATMM TF) and the CNS/ATM/IC SG to follow-up the implementation of the ATM operational improvements and estimate the fuel savings accrued from the corresponding improvements on regional basis: a) States be urged to: i) use IFSET or a more advanced model/measurement capability available to estimate environment benefits accrued from operational improvements; ii) send the IFSET reports/the accrued environmental benefits to ICAO MID Regional office on a bi-annual basis. b) IATA to: i) encourage users to support the programme; and ii) consolidate users' inputs and report the accrued environmental benefits to ICAO MID Regional office on a bi-annual basis.	Implement the Conclusion	ICAO States/Users ATMM TF and CNS/ATM/IC SG	State Letter Feedback (IFSET reports) Reports of meetings	Dec. 2012 2013	Closed AN 6/15 – 13/028 dated 20 Jan 2013 (Replaced and superseded by Conc. 14/29)
CONCLUSION 13/36: ICAO NEW FLIGHT PLAN FORMAT AWARENESS CAMPAIGNS That, States be urged to conduct internal awareness campaigns on INFPL and invite all stakeholders within their States.	Implement the Conclusion	ICAO States	State letter	Jun. 2012	Completed

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
CONCLUSION 13/37: ICAO NEW FPL FORMAT TESTING SCHEDULE That, States be urged to follow the testing schedule as at Appendix 4.5L to the Report on Agenda Item 4.5.	Implement the Conclusion	ICAO States	State letter	Jun. 2012	Completed
CONCLUSION 13/38: INFPL STRATEGIC SUPPORT TEAM (SST) That, in order to support INFPL implementation in the MID region, those States requiring support request the ICAO MID Regional Office to coordinate with the SST members the provision of the required support.	Implement the Conclusion	States	State Letter	Jun. 2012	Completed
CONCLUSION 13/39: REVISED STRATEGY FOR THE IMPLEMENTATION OF INFPL That, the revised MID Region Strategy for the implementation of INFPL be adopted as at Appendix 4.5M to the Report on Agenda Item 4.5.	Implement the Strategy	MIDANPIRG/13	Strategy	Apr. 2012	Completed
CONCLUSION 13/40: MID REGION INFPL IMPLEMENTATION DOCUMENT That, the MID Region INFPL Implementation document be adopted as at Appendix 4.5N to the Report on Agenda Item 4.5.	Implement the Conclusion	MIDANPIRG/13	Adopted Document	Apr. 2012	Completed
CONCLUSION 13/41: MID REGION PROCESS FOR MODE S IC CODES ALLOCATION That, the process for the allocation of IC codes for Mode S radars in the MID Region be adopted as at Appendix 4.5O to the Report on Agenda Item 4.5.	Implement the Conclusion and follow the IC code allocation process	MIDANPIRG/13	Adopted process	April 2012	Completed
DECISION 13/42: MID REGION SURVEILLANCE STRATEGY That, the CNS SG review MID Surveillance Strategy and ADS-B Strategy at Appendices 4.5P and 4.5Q to the Report on Agenda Item 4.5 and develop a consolidated MID Surveillance Strategy.	Implement the Decision CNS SG/5 develop consolidated Strategy	CNS SG/5	MID Surveillance Strategy	Dec. 2012	Completed (Replaced and superseded by Conc. 14/27)
CONCLUSION 13/43: ALLOCATION OF 24 BIT AIRCRAFT ADDRESS That, States be urged to:	Implement the Conclusion	ICAO States	State Letter	Sep. 2012	Completed AN 7/27 – 12/210 dated 11 Jul.

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APPENDIX 2.2A

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CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
a) allocate 24 bit aircraft address according to Annex 10, Volume III, Part I, Chapter 9, Table 9-1 (allocation of aircraft addresses to States); b) send the allocation list to ICAO MID Regional Office and MIDRMA by 30 September 2012; and c) provide ICAO MID Regional Office and MIDRMA with regular updates to the allocation list.		MIDRMA			2012
CONCLUSION 13/44: PROTECTION OF GNSS SIGNAL That, States that are listed in the footnotes 5.362B and 5.362C be urged to take necessary measures to remove their names from these footnotes as soon as possible.	Implement the Conclusion	ICAO States	State Letter	Jun.2012	Completed AN 6/28-12/217 dated 18 Jul. 2012
CONCLUSION 13/45: STRATEGY FOR THE IMPLEMENTATION OF GNSS IN THE MID REGION That, the Strategy for implementation of GNSS in the MID Region be updated as at Appendix 4.5R to the Report on Agenda Item 4.	Implement the Strategy	MIDANPIRG/13	Strategy	Apr. 2012	Completed (Replaced and superseded by Conc. 14/26)
CONCLUSION 13/46: GNSS SURVEY That, States complete the GNSS questionnaire as at Appendix 4.5S to the Report on Agenda Item 4.5 and send it to the ICAO MID Regional Office before 1 September 2012.	Implement the Conclusion	ICAO States	State Letter Completed Survey	Sep.2012	Completed
CONCLUSION 13/47: MID REGIONAL PBN IMPLEMENTATION STRATEGY AND PLAN That, the MID Regional PBN Implementation Strategy and Plan be updated as at Appendix 4.5T to the Report on Agenda Item 4.5.	Implement the Strategy	MIDANPIRG/13	Strategy	Apr. 2012	Completed (Replaced and superseded by Conc. 14/28)
DECISION 13/48: ESTABLISHMENT OF MID PBN SUPPORT TEAM (MPST) That, MPST be established with TOR as at Appendix 4.5U to the Report on Agenda Item 4.5.	Implement Decision	MIDANPIRG/13	MPST established	Apr. 2012	Completed

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CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
CONCLUSION 13/49: MID PBN SUPPORT TEAM (MPST) That, a) ICAO MID Regional Office provide the leadership for MPST; b) UAE be the champion for the MPST; c) IATA fully commit and support the MPST; and d) States assign members to MPST and allocate necessary resources	Implement the Conclusion	ICAO States UAE IATA	State Letter MPST Visit	Sep. 2012	Closed Coordination ongoing with IATA, Egypt, Jordan and UAE
CONCLUSION 13/50: PBN IMPLEMENTATION PROGRESS REPORT That, for future reporting on the status of PBN implementation, States be urged to: a) use the excel sheet as at Appendix 4.5X to the Report on Agenda Item 4.5, and PBN Implementation Progress Report Template as at Appendix 4.5Y to the Report on Agenda Item 4.5; and b) submit progress reports to ICAO MID Regional Office every six months and whenever major progress is achieved.	Implement the Conclusion	States	Progress Report	Every 6 months	Closed AN 6/28-12/211 dated 11 Jul. 2012
CONCLUSION 13/51: SUPPORTING IMPLEMENTATION OF SECURE SADIS FTP SERVICE IN THE MID REGION That, States, that have not already done so, be urged to register for the Secure SADIS FTP Service in view of noting the cessation of its predecessor, the SADIS FTP Service, on 30 November 2012, in accordance with SADISOPSG/16 Conclusion 16/15.	Implement the Conclusion	ICAO	State Letter	15 Jun. 2012	Completed
CONCLUSION 13/52: SIGMET TEST PARTICIPATION That, States' MID SIGMET Test focal points be invited to participate in the bi-annual SIGMET tests conducted by the EUR Region and report any deficiencies at each MET SG meeting.	Implement the Conclusion	ICAO	State Letter	31 Aug. 2012	Completed

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APPENDIX 2.2A

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CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
CONCLUSION 13/53: UPDATE TO THE MID REGIONAL SIGMET GUIDE That, States with meteorological watch office responsibilities, and that have not yet done so, be invited to provide, by 1 July 2012, the World Meteorological Organization Abbreviated Header Lines used for the issuance of SIGMET for flight information regions (FIRs) under their area of responsibility for inclusion in the MID Regional SIGMET Guide	Implement the Conclusion	ICAO States	State Letter Necessary information	15 Jun. 2012 1 Jul. 2012	Completed
CONCLUSION 13/54: DEVELOP RECOMMENDATION OF MID REGIONAL OPMET CENTRES FOR INTER-REGIONAL EXCHANGE OF OPMET DATA That, a) the MID Bulletin Management Group: - determine requirements associated with the establishment of Regional OPMET Centres (ROC) in the MID Region; and - carry out a survey based on requirements developed in (i) to determine States' capabilities for establishing ROC(s); and b) concerned States be invited to complete the survey by 31 August 2012 in order for the MID BMG to report back to MET SG/4 with a recommendation of potential regional designation of ROC(s) for further consideration by MIDANPIRG/14.	Implement the Conclusion	ICAO States	State Letter Completed survey	15 Jun. 2012 31 Aug. 2012	Completed
CONCLUSION 13/55: OPMET DATA ERRORS AND DEFICIENCIES That, a) States be informed of: - incorrect addressing to Regional OPMET Centre (ROC) Vienna as provided at Appendix 4.6A to the Report on Agenda Item 4.6; - multiple bulletins received at ROC Vienna as provided at Appendix 4.6B to the Report on Agenda Item 4.6 and assure only one bulletin is sent to ROC Vienna; - non-receipt of OPMET (SA, FC, FT) requests during monitoring as provided at Appendix 4.6C to the Report on Agenda Item 4.6; and	Implement the Conclusion	ICAO	State Letter	31 Aug. 2012	Completed

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CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
b) States non-compliant with TAF requirements be included in ICAO MID deficiency list.					
CONCLUSION 13/56: TIMELINESS OF OPMET DATA That, States be notified of procedures related to METAR and TAF compilation and dissemination times as per Appendix 4.6D to the Report on Agenda Item 4.6.	Implement the Conclusion	ICAO	State Letter	31 Aug. 2012	Completed
DECISION 13/57: REVISED TOR OF THE MET SG That, the Terms of Reference (ToR) of the Meteorology Sub-Group be updated as at Appendix 4.6E to the Report on Agenda Item 4.6.	Implement the work programme of the MET SG	MIDANPIRG	Updated TOR and Procedural Handbook	April 2012	Completed
CONCLUSION 13/58: PROVISION OF STATISTICAL DATA That, States be urged to provide required airlines, airports and air navigation service providers statistical data to ICAO using the new revised forms as at Appendix 4.7A to the Report on Agenda Item 4.7.	Implement the Conclusion	ICAO States	State Letter Statistics	31 Dec. 2012	Closed Letter ME 3/56.11-12/365 dated 19 Dec. 12
CONCLUSION 13/59: TRAFFIC FORECAST AND PEAK PERIOD ANALYSIS WORKSHOP That, with a view to provide States with a better understanding of the ICAO Statistical data reporting forms and process of development of Traffic Forecasts and Peak Period Analysis: a) a MID Traffic Forecast and Peak Period Analysis Workshop be organised in 2013; and b) States be invited to participate actively in the Workshop.	Implement the Conclusion	ICAO	Workshop	2013	Closed Hands-on training seminar on Civil Aviation statistics for ACAC States held in ICAO HQ 26-30 Nov.2012 A Workshop is planned for 2014 in the MID Region

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
CONCLUSION 13/60: TRAFFIC FORECASTING AND PEAK PERIOD ANALYSIS REQUIREMENTS IN THE MID REGION That, considering the on-going requirements for development of Traffic Forecasts and Peak Period analysis in the MID Region; States be urged to: a) provide required traffic data in order to facilitate the timely and efficient development of Traffic Forecasts and Peak Period analysis; and b) continue their support to the Traffic Forecasting Sub-Group 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.	Implement the Conclusion	ICAO States	State Letter Statistics and necessary support	31 Dec. 2012	Closed Fax F.ME 12/364 dated 19 December 2012
CONCLUSION13/61: CENTRALIZED AIR NAVIGATION DEFICIENCY DATABASE That, States and international organizations be invited to: a) test the centralized air navigation deficiency database on iSTARS platform using the guidance in Appendix 5.1A to the Report on Agenda Item 5.1; b) update the data as necessary in coordination with the ICAO MID Regional Office; and c) provide feedback to the ICAO MID Regional Office by 31 August 2012	Implement the Conclusion	ICAO States	State Letter Feedback	30 Jun. 2012 31 Aug. 2013	Closed AN 2/2 – 12/189 dated 21 Jun.2012 (superseded by events)
CONCLUSION 13/62: NGAP NATIONAL PLANS That, in order to ensure that enough qualified and competent aviation professionals are available to operate, manage and maintain the future international air transport system, States be urged to: a) develop Next Generation of Aviation Professionals (NGAP) National Plan;	Implement the Conclusion	ICAO States	State Letter Feedback	31 Aug. 2012 31 Jan. 2013	Closed AN 12/11 – 13/022 dated 17 Jan. 2013 (To be monitored by RASG-MID, DGCA-MID/2 refers)

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CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
b) use the ICAO guidance material for the development of the NGAP National Plans, including the information contained in ICAO DOC 9956 (Global and Regional 20-year forecasts) and the traffic forecasts and peak period analysis developed by the TF SG/4 meeting for the period 2010-2030; and c) provide feedback to the ICAO MID Regional Office before 31 January 2013, for review by the DGCA-MID/2 meeting.					
CONCLUSION 13/63: ELIMINATION OF AIR NAVIGATION DEFICIENCIES IN THE MID REGION That, States be urged to: a) review their respective lists of identified deficiencies, develop associated Corrective Action Plans and forward them to the ICAO MID Regional Office prior to 15 June 2012; and b) use the ICAO MID Air Navigation Deficiency Database (MANDDD) for submitting online requests for addition, update, and elimination of air navigation deficiencies, until the official launch of the Centralized Air Navigation Deficiency Database on iSTARS.	Implement the Conclusion	ICAO States	State Letter CAP and necessary updates	15 Jun. 2012	Closed AN 2/2 – 12/189 dated 21 June 2012 (Replaced and superseded by Concl. 14/32)
CONCLUSION 13/64: REPORTING OF LARGE HEIGHT DEVIATIONS (LHD) That, in order to simplify and standardize the reporting of Altitude/Height Deviations and Coordination Failures, in accordance with the ICAO Doc 9937: a) the Form at Appendix 5.2A to the Report on Agenda Item 5.2 be used for the reporting of Altitude/Height Deviations and Coordination Failures; and b) the monthly submission of LHD replaces the monthly submission of ADRs and CFRs.	Implement the Conclusion	MIDANPIRG/13 States	LHD Form endorsed LHD sent to the MIDRMA	Apr 2012 On monthly basis	Completed

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
CONCLUSION 13/65: PROVISION OF REQUIRED DATA TO THE MIDRMA That, considering the on-going requirement for RVSM safety monitoring in the MID Region: a) States provide the required data to the MIDRMA on a regular basis and in a timely manner. The data includes, but is not necessarily limited to: i) approval of operators and aircraft for RVSM operations (on monthly basis or whenever there's a change); ii) Large Height Deviations (LHD) (on monthly basis); iii) traffic data (as requested by the MIDRMA Board); and iv) radar data as, when and where required. b) States not providing the required data to the MIDRMA on a regular basis and in a timely manner: i) be included in the MIDANPIRG list of air navigation deficiencies; and ii) might not be covered by the RVSM SMRs.	Implement the Conclusion	States	Necessary data provided to the MIDRMA	On monthly basis	Closed AN 6/5.10.15A-13/002 dated 6 January 2013 (Replaced and superseded by Conc. 14/35)
CONCLUSION 13/66: SECOND MID RVSM SAFETY ASSESSMENT SEMINAR That, with a view to raise the awareness related to the requirements for sustained RVSM safety assessment activity and improve the knowledge of all involved parties, in particular with respect to the Vertical Collision Risk Methodology and Altimetry System Errors, the MIDRMA, in coordination with ICAO, organize a Second MID RVSM Safety Assessment Seminar, in the last quarter of 2012.	Convene the Seminar	MIDRMA/ICAO	Seminar	Oct. 2012	Closed Seminar cancelled Briefing/training will be provided concurrently with MIDRMA Board/13

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
CONCLUSION 13/67: TRAINING ON RVSM SAFETY ASSESSMENT That, with a view to raise the awareness related to the requirements for sustained RVSM safety assessment activity and improve the knowledge of the ATC and Air Operators personnel: a) the MIDRMA include in its work programme regular missions to the Member States, during which briefings on the MIDRMA activities and RVSM safety assessment requirements be provided to concerned personnel; and b) for improved effectiveness, the MIDRMA visit to a State be conducted, to the extent possible, back-to-back with the GMU height monitoring mission related to the air operator(s) based in this State.	Implement the Conclusion	MIDRMA	Training on RVSM safety assessment provided	2012-2013	Closed (Replaced and superseded by Concl. 14/33)
CONCLUSION 13/68: VERTICAL COLLISION RISK SOFTWARE That, a) the MIDRMA initiate action for the development/purchase of a suitable VCR software for the MID Region; and b) the VCR Software be presented to and validated by the Second MID RVSM Safety Assessment Seminar, to be held in October 2012	Implement the Conclusion	MIDRMA	VCR Software	Oct. 2012	Closed
CONCLUSION 13/69: RVSM APPROVALS That, a) States be urged to take necessary measures to: i) ensure that, before 30 June 2012, their aircraft operators fully comply with Annex 6 provisions related to long term height monitoring requirements, based on the MIDRMA MMR Tables; ii) withdraw the RVSM approvals for their registered aircraft that would not be compliant with Annex 6 provisions related to long term height monitoring requirements; after 30 June 2012;	Implement the Conclusion	ICAO States	State Letter Necessary action and feedback	1 Jun. 2012 2012-2013	Closed AN 6/5.10.15A-12/173 dated 13 June 2012 (Replaced and superseded by Concl. 14/36)

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CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
iii) ban any aircraft without confirmed RVSM approval status from entering the RVSM airspace; and iv) report any case of handover at an RVSM Flight Level of an aircraft without confirmed RVSM approval status from adjacent ACCs to the MIDRMA and the ICAO MID Regional Office. b) the MIDRMA Board Members in coordination with the MID RVSM Programme Managers monitor and follow up this subject at the national level, in order to ensure efficient implementation.					
CONCLUSION 13/70: MID REGION HEIGHT-KEEPING MONITORING STRATEGY That, the MID Region height-keeping monitoring strategy is updated as at Appendix 5.2B to the Report on Agenda Item 5.2.	Implement the Strategy	MIDANPIRG/13	Strategy	April 2012	Completed
CONCLUSION 13/71: MID RVSM SMR 2012-2013 That, a) the FPL/traffic data for the period 1-31 October 2012 be used for the development of the MID RVSM Safety Monitoring Report (SMR 2012-2013); b) only the appropriate Flight Data form available on the MIDRMA website (www.midrma.com) should be used for the provision of FPL/traffic data to the MIDRMA; and c) the draft version of the MID RVSM SMR 2012-2013 be ready before 30 April 2013.	Implement the Conclusion	ICAO States MIDRMA	State Letter Oct. 2012 FPL/traffic data provided to the MIDRMA Draft SMR	15 Sep. 2012 15 Nov. 2012 30 Apr. 2013	Completed AN 6/5.10.15A – 12/271 dated 12 Sep 12

MIDANPIRG/14
Report on Agenda Item 3

REPORT ON AGENDA ITEM 3: GLOBAL, INTER AND INTRA-REGIONAL ACTIVITIES

Outcome of the Twelfth Air Navigation Conference (AN-Conf/12)

3.1 The meeting was apprised of the outcome of the Twelfth Air Navigation Conference (AN-Conf/12) held in Montreal, from 19 to 30 November 2012.

3.2 The meeting noted that the AN-Conf/12 made fifty-six (56) Recommendations. On 28 January 2013, the Air Navigation Commission (ANC) reviewed and acted under delegated authority on forty-eight of the Recommendations and proposed action by the Council on eight Recommendations. Subsequently, on 1 March 2013 the Council considered and approved the Report of the AN-Conf/12. In this respect, the meeting agreed that necessary follow-up actions related to these Recommendations should be taken by all concerned parties.

3.3 The meeting was informed that the AN-Conf/12 had provided the following direction for air navigation planning and implementation:

- Establish Principles and Priorities (Rec. 1/1)
- Set Targets and Measure Performance (Rec. 1/15)
- Project Management of the standards work programme (Rec 6/13)
- Partner with Industry and other Standards Bodies (Rec 6/12 and 6/13)
- Plan for Implementation (Rec. 6/1, 6/12 and 6/13)
- Work on Accompanying Policies (Rec 6/2 and 6/3)

3.4 It was highlighted that, as a follow-up action to *Recommendation 6/11 – Regional Performance Framework – Alignment of Air Navigation Plans and Regional Supplementary Procedures*, the process of alignment of the MID ANP with the ICAO MID Regional Office accreditation area had been already initiated. This concerns Egypt, Libya and Sudan.

3.5 In relation to the question on the follow-up action to *Recommendation 6/14 – Guidelines for conducting aeronautical studies to assess permissible penetration of obstacle limitation surfaces*, the Secretariat mentioned the recently circulated State Letter on the proposed Procedures for Air Navigation Services — Aerodromes (PANS — Aerodromes) which addresses obstacles. Additionally, this recommendation, along with a 38th Assembly proposal to review the OLS SARPs in Chapter 4 of Annex 14, Volume I, has been incorporated in the work programme for the Aerodromes Panel, as part of its future work. The work has just been initiated and it is envisaged that it will be completed in the next 2 to 3 years.

The fourth edition of Global Air Navigation Plan

3.6 The meeting noted that ICAO has developed the fourth edition of the GANP to provide clear guidance on the guiding operational targets and supporting technologies, avionics, procedures, standards and regulatory approvals needed to realize them. The GANP establishes a framework for incremental implementations based on the specific operational profiles and traffic densities of each State. This is accomplished through the aviation system block upgrades (ASBUs) methodology which forms the basis of the revised GANP. The final version of the GANP as approved by the ICAO 38th Assembly can be accessed on the ICAO Secure Portal under ICAO-NET.

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3.7 The meeting noted that the GANP offers a long-term vision that will provide confidence to ICAO, PIRGs, States, service providers, airspace users and industry stakeholders in developing and implementing air navigation infrastructure and avionics advances leading to full global harmonization of the ATM system.

3.8 The meeting was informed that the GANP policy principles are the following:

- commitment to the Implementation of ICAO's Strategic Objectives and KPAs;
- Aviation Safety is the Highest Priority;
- tiered Approach to Air Navigation Planning;
- Global Air Traffic Management Operational Concept (GATMOC);
- Global Air Navigation Priorities;
- Regional and State Air Navigation Priorities;
- Aviation System Block Upgrades (ASBUs), Modules and Roadmaps;
- use of ASBU Blocks and Modules;
- Cost Benefit and Financial issues; and
- review and evaluation of Air Navigation Planning.

3.9 The meeting was also reminded that the global air navigation priorities are:

- Performance Based Navigation (PBN);
- Continuous Descent and Climb Operations (CDO/CCO); and
- Air Traffic Flow Management (ATFM).

Regional Air Navigation Priorities and Targets and Implementation Performance Measurement, Monitoring and Reporting

3.10 The meeting agreed on the need to prioritize regional implementation of the operational improvements for air navigation through ASBU modules for which PIRGs are expected to:

- a) establish, consistent with Recommendations 6/1 and 6/12 of the Twelfth Air Navigation Conference, priorities and targets for air navigation;
- b) share successful initiatives among one another;
- c) utilize specific interface groups, where required, for addressing the harmonization of air navigation plans in adjacent areas of PIRGs; and
- d) develop a coordination mechanism in each region between the PIRGs and RASGs to ensure consistency of action and avoid overlap.

3.11 The meeting noted that based on the revised GANP and ASBU framework, the following regional actions are required, aligned with global requirements but flexible for regional variations and avoiding duplication of efforts:

- revision of regional air navigation plans and associated implementation plans;
- alignment of the PIRGs Terms of References and work programmes;
- establishment of regional implementation priorities, indicators, metrics and targets;
- measurement, monitoring and reporting of implementation through the regional performance dashboards (e.g. www.icao.int/safety/pages/regional-targets.aspx?region=Africa) ; and
- inclusion of regional results in the Global Air Navigation Report.

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- 3.12 The meeting noted that the following will support achieving the above objectives:
- prioritize and select operational improvements and ASBU block modules;
 - cooperation and collaboration for efficient and effective regional implementation;
 - coordination between PIRGs and RASGs in the same region for synergies and to avoid duplication;
 - harmonisation and sharing of lessons learned and best practices between PIRGs in different regions.

Outcome of the DGCA-MID/2 Meeting relevant to Air Navigation

3.13 The meeting was apprised of the outcome of the Second meeting of the Directors General of Civil Aviation in the Middle East Region (DGCA-MID/2) which was held in Jeddah, Saudi Arabia, 20 - 22 May 2013. It was highlighted that necessary follow-up actions were taken/initiated as follows:

- Performance Based Approach to Air Navigation Planning and Implementation in the MID Region. In this respect, the meeting noted the progress achieved in the development of the MID Region Air Navigation Strategy.
- MID Region ATM Enhancement Programme (MAEP). It was highlighted that the MAEP-Special Coordination Meeting (SCM) is planned to be held in Cairo, 18-20 February 2014.
- DGCA-MID/2 Conclusion 2/5 – *Establishment of MID Region Flight Procedure Programme (FPP)*. It was highlighted that the new Terms of Reference (TOR) of the PBN SG included a task related to a study for the establishment of a FPP in the MID Region.
- DGCA-MID/2 Conclusion 2/6 – *Common Contingency Arrangements*. Ongoing.
- DGCA-MID/2 Conclusion 2/7 – *Phase 2 of the MIDAD Project*. Phase 2 initiated.

3.14 The meeting noted that more details on the air navigation subjects addressed by the DGCA-MID/2 meeting would be reviewed under Agenda Item 4.

Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation (CAPSCA) - www.capsca.org

3.15 The meeting reviewed the progress made by the ICAO Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation (CAPSCA) programme. CAPSCA is an ICAO technical assistance programme to support States, ANSPs, airport and aircraft operators' implementation of the public health related SARPs in Annexes 6, 9, 11, 14, PANS-ATM (Doc. 4444) and Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284), and requires no financial contribution from States to participate and benefit. In 2013, the revised ICAO USOAP Safety Audit Protocol Questions incorporated the public health related SARPs.

3.16 The programme provides meetings, training events and assistance visits to States and international airports which strengthen public health preparedness plans at global, regional and national levels. It is managed by ICAO, in close collaboration with the World Health Organization (WHO) and 12 other UN Agency and Aviation International Organization partners, including ACI and IATA, in order to assist States to implement public health-related amendments to the ICAO Annexes, which in turn are based on the WHO International Health Regulations (IHR 2005). Such a multi-sector approach is fundamental to achieving effective communication, coordination, cooperation and collaboration between the main stakeholders, especially the civil aviation and public health sectors, at global, regional, national and local levels.

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3.17 The meeting recalled that the ICAO Assembly Resolution A37-13: Prevention of spread of communicable disease through air travel, urges States to join and participate in CAPSCA. The 38th Session of the ICAO Assembly in 2013 emphasized the significant benefits of CAPSCA to States (evidenced by improved preparedness in the aviation sector to manage a public health event by reducing and delaying the health impact, thereby saving lives); supported the continuation of the CAPSCA programme and encouraged States and international organizations to contribute to CAPSCA financially and/or in kind.

3.18 The meeting noted that sources of funding which are available and have already been provided by some States and partners include the following:

- Voluntary financial contributions by States to ICAO earmarked for CAPSCA
- Cost-recovery for assistance visits to States and airports
- Contributions in kind by States for their Technical Advisors trained by ICAO to participate in assistance and follow-up visits
- States hosting CAPSCA meetings providing venue, facilities and services and funding ICAO Secretariat travel to support the meeting.

3.19 The meeting reviewed the outcome of the Third CAPSCA MID Regional Project meeting (CAPSCA-MID/3) which was held at the ICAO MID Regional Office in Cairo, Egypt, from 18 to 20 November 2013. The CAPSCA-MID/3 developed 15 conclusions aiming at a continued support from MID States and concerned Stakeholders to implement the CAPSCA objectives. In this regard, the meeting noted that the next CAPSCA Global Coordination Meeting is planned to be in the MID Region together with the CAPSCA Middle East Regional meeting and that Egypt had offered to host it from 17 to 20 November 2014.

3.20 The meeting noted that 100 States have joined CAPSCA out of 191 ICAO Member States and 54 visits were conducted. In the MID Region, ten (10) States (Bahrain, Egypt, Iran, Iraq, Jordan, Lebanon, Oman, Qatar, Saudi Arabia, and Sudan) joined the CAPSCA programme and so far, four (4) Assistance Visits have been conducted to Jordan, Oman, Saudi Arabia, and Sudan. The meeting recognized the need for all MID States to join and support the CAPSCA-MID project and benefit from the Assistance Visits. Kuwait, Libya, Syria, UAE and Yemen were encouraged to join CAPSCA, at no cost, by sending a letter to the ICAO Regional Office. All CAPSCA participating States may volunteer officers to be trained by ICAO, and request a voluntary CAPSCA Assistance Visit, on a cost-recovery basis, also by sending a letter to the ICAO Regional Office. Accordingly, the meeting agreed to the following Conclusion:

CONCLUSION 14/1: CONTINUED SUPPORT FOR CAPSCA-MID

That,

- a) the ICAO MID Regional Office and MID States promote the development and growth of CAPSCA in the MID Region at local, national and international levels;*

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b) *MID States,*

- i. *that have not yet done so, join the CAPSCA-MID Project;*
- ii. *request a CAPSCA State and Airport Assistance Visit; and*
- iii. *be encouraged to provide voluntary contributions to the CAPSCA-MID project.*

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**REPORT ON AGENDA ITEM 4: PERFORMANCE FRAMEWORK FOR REGIONAL AIR NAVIGATION
PLANNING AND IMPLEMENTATION ISSUES**

4.1 MSG

4.1.1 The meeting reviewed the outcome of the the Third meeting of the MIDANPIRG Steering Group (MSG/3), held in Cairo, Egypt, 17-19 June 2013, related to the MIDANPIRG Organizational Structure and MID Region Air Navigation Strategy.

MIDANPIRG Organizational Structure and Procedural Handbook

4.1.2 Based on the outcome of the MSG/3 meeting and the feedback received from States; and taking into consideration the global developments related to air navigation planning and implementation and performance monitoring of the air navigation systems, the meeting agreed to a new MIDANPIRG Organizational Structure as at **Appendix 4.1A** to the Report on Agenda Item 4.1. It's to be highlighted that in the new Organizational Structure, the previous Air Traffic Management Measurement Task Force (ATM-M TF) would be renamed Air Traffic Management Performance Measurement Task Force (APM TF) reporting to the ATM Sub-Group.

4.1.3 In accordance with the new MIDANPIRG Organizational Structure and based on the outcome of the different MIDANPIRG subsidiary bodies, the meeting reviewed and updated the Terms of Reference (TOR) of the MSG, ANSIG, AIM SG, ATM SG, CNS SG, MET SG and PBN SG and agreed to amend the MIDANPIRG Procedural Handbook accordingly. The Seventh Edition of the MIDANPIRG Procedural Handbook, dated December 2013 is at **Appendix 4.1B** to the Report on Agenda Item 4.1.

4.1.4 It was highlighted that paragraph 3.1 of Part I of the Procedural Handbook would be amended to add both Libya and Sudan to the MIDANPIRG membership.

4.1.5 Based on the above, the meeting agreed to the following Decisions:

DECISION 14/2: UPDATE OF THE MIDANPIRG PROCEDURAL HANDBOOK

*That, the Seventh Edition of the MIDANPIRG Procedural Handbook be endorsed as at **Appendix 4.1B** to the Report on Agenda Item 4.1.*

DECISION 14/3: TERMS OF REFERENCE OF THE ATM PERFORMANCE TASK FORCE (APM TF)

*That, the Air Traffic Management Measurement Task Force (ATM-M TF) be renamed Air Traffic Management Performance Measurement Task Force (APM TF) with Terms of Reference as at **Appendix 4.1C** to the Report on Agenda Item 4.1.*

MID Region Air Navigation Strategy

4.1.6 The meeting recalled that the Global Air Navigation Plan GANP established a framework for incremental implementations based on the specific operational profiles and traffic densities of each Region and State accomplished through the evaluation of the Aviation System Block Upgrades (ASBU) modules to identify which of those modules best provide the needed operational improvements.

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4.1.7 The meeting noted that the outcome of the Planning and Implementation Regional Groups (PIRGs) and Regional Aviation Safety Groups (RASGs) Global Coordination Meeting (GCM) that was held in Montreal on 19 March 2013 under the Chairmanship of the President of the ICAO Council, included, inter-alia:

- a) agreement on establishing regional priorities and targets for air navigation by May 2014 consistent with the GANP/ASBU framework;
- b) agreement on the need to measure performance improvements to help demonstrate their positive impact on the environment; and
- c) endorsement of the envisioned regional performance dashboard prototype and envisioned determination of an initial set of indicators and metrics for air navigation.

4.1.8 The meeting recalled that, in accordance with Recommendation 6/1 of the AN-Conf/12 and the outcome of the PIRGs and RASGs GCM, the DGCA-MID/2 meeting reiterated the need for the establishment of regional priorities and targets for air navigation by May 2014 consistent with the GANP and ASBU framework. Accordingly, the DGCA-MID/2 meeting:

- a) urged States to:
 - i. establish a performance measurement strategy for their air navigation system;
 - ii. share successful initiatives among each other; and
 - iii. support the ICAO MID Regional Office by providing the requisite information to demonstrate operational improvements; and
- b) tasked MIDANPIRG and its Steering Group (MSG) with:
 - i. the establishment of priorities and targets for air navigation by May 2014, in accordance with Recommendation 6/1 of the Twelfth Air Navigation Conference (AN Conf/12);
 - ii. the monitoring and measurement of the agreed air navigation Metrics and indicators, at regional level; and
 - iii. the identification of necessary measures/action plans to reach the agreed air navigation targets.

4.1.9 The meeting recalled that MIDANPIRG/13 endorsed an initial set of operational improvements for further review/consideration taking into account the outcome of the AN-Conf/12. The meeting noted with appreciation the outcome of the different MIDANPIRG subsidiary bodies related to the development of a MID Region Air Navigation Strategy and the inputs/feedback received from States and Users, including the outcome of the CANSO Middle East Airspace Users and Stakeholder Engagement (MEAUSE) Initiative, which aimed to gather data and conduct analyses of ANSPs, Airspace Users and stakeholders' requirements and future plans, through surveys.

4.1.10 In connection with the above, the meeting noted that the ICAO MID Regional Office collected inputs from States through the questionnaire as at **Appendix 4.1D** to the Report on Agenda Item 4.1.

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4.1.11 In connection with the above, the meeting emphasized that collaboration and cooperation between all stakeholders to achieve the expected results and avoid duplication of efforts (i.e: different surveys, analyses, etc by ICAO, IATA, CANSO, ACI, etc) is a necessity. Moreover, it was highlighted that in the future the process of collection of data from States and users (through questionnaires, State Letters, etc), should be driven by the agreed priorities. Also, it was highlighted that some States have not yet developed/updated their National Air Navigation Performance Framework and close coordination with ICAO, IATA, CANSO, ACI, etc, might be needed to achieve this goal in an effective and timely manner.

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

**CONCLUSION 14/4: ASSISTANCE FOR THE DEVELOPMENT/ UPDATE OF THE
NATIONAL AIR NAVIGATION PERFORMANCE FRAMEWORK**

That, ICAO, in coordination with concerned States and Stakeholders (IATA, CANSO, ACI, etc):

- a) develop a plan for joint missions to identified States to support the development/update of the National Air Navigation Performance Framework in an effective and timely manner; and*
- b) agree on the priorities and plans of action to be reflected in the National Air Navigation Performance Framework to improve the efficiency of air navigation at national and regional level, in accordance with the MID Air Navigation Strategy.*

4.1.13 The meeting encouraged States facing difficulty to develop/update their National Air Navigation Performance Framework to request assistance from the ICAO MID Regional Office. In this respect, the meeting noted that Iran was interested in this assistance.

4.1.14 The meeting noted that the second meeting of the eANP Working Group (eANP WG/2) held in ICAO HQ in Montreal, Canada, from 18 to 22 November 2013 developed a Table for inclusion in Part I – GEN of Volume III to define a minimum set of High-Level Implementation Indicator(s) for each of the 18 ASBU Block 0 Modules and include other information, as deemed necessary, for use by all the ICAO Regions. It was highlighted that the High-Level Implementation Indicators were selected based on the SMART criteria (Specific, Measurable, Achievable, Relevant and Time bound).

4.1.15 Based on the above, the meeting agreed, that as first step, it would be necessary to agree on the prioritization of the ASBU Block 0 Modules. It was emphasized that the initial prioritization would not signify that the rest of the modules could not be assigned higher priority by specific States based on the local operational requirements. It would also not mean that the rest of the modules would be given lower importance by ICAO in pursuing standardization activities. In the same vein, it was highlighted that the ASBU Implementation Plan should be a living document to be reviewed and updated on regular basis. The future objectives would be to include all 18 B0 Modules and gradually B1 Modules, for regional planning, reporting and monitoring mechanisms, as part of the future revisions.

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4.1.16 Based on all of the foregoing, the meeting endorsed the ASBU Block 0 Modules prioritization Table and Draft MID Air Navigation Strategy as at **Appendices 4.1E** and **4.1F** to the Report on Agenda Item 4.1, respectively; and agreed to the following Conclusions:

CONCLUSION 14/5: MID REGION AIR NAVIGATION PRIORITIES

That,

- a) the ASBU Block 0 Modules prioritization Table at **Appendices 4.1E** to the Report on Agenda Item 4.1 be endorsed as the initial version of the MID ASBU Implementation Plan; and*
- b) the ASBU Block 0 Modules prioritization Table be reviewed on regular basis and be extended to cover Block 1 Modules, as appropriate.*

CONCLUSION 14/6: DRAFT MID REGION AIR NAVIGATION STRATEGY

That,

- a) the Draft MID Region Air Navigation Strategy at **Appendix 4.1F** to the Report on Agenda Item 4.1 be:*
 - i. endorsed as the initial version of the MID Region Air Navigation Strategy; and*
 - ii. further reviewed and completed by the different MIDANPIRG subsidiary bodies*
- b) MID States be urged to:*
 - i. develop their National Air Navigation Performance Framework, ensuring the alignment with and support to the MID Region Air Navigation Strategy;*
 - ii. incorporate the agreed MID Region Performance Metrics into their National reporting and monitoring mechanisms; and*
 - iii. provide the ICAO MID Regional Office, on annual basis, with relevant data necessary for regional air navigation planning and monitoring.*

4.1.17 It was highlighted that the initial version of the MID Region Air Navigation Strategy/ASBU implementation Plan would cater for the reporting period of 2013-2014 and would enable the MID Region to provide the first consolidated report to ICAO HQ by April 2014.

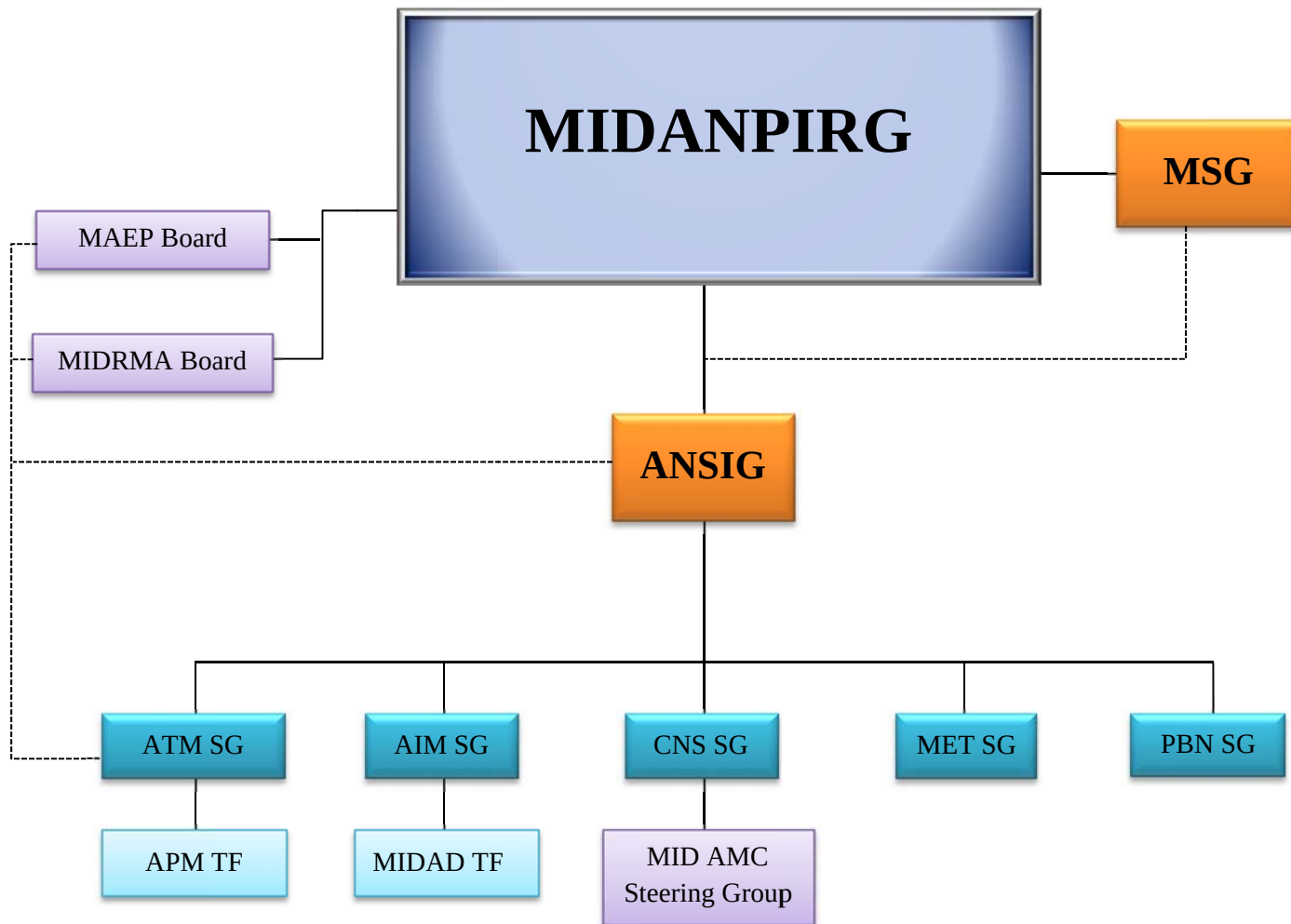
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4.1.18 The meeting noted that an ASBU implementation Workshop will be jointly organised by IATA and ICAO and hosted by Emirates Airlines in Dubai, UAE, 18 – 22 May 2014. The Workshop will bring together all air navigation stakeholders including, States, Regulators, Air Navigation Service Providers, aerodrome operators, International Organizations, aircraft operators and industry, to review and update the Draft MID Air Navigation Strategy, including the agreement on the air navigation performance targets, development of associated action plans and implementation Roadmap for CNS/ATM; based on the ASBU methodology, users' requirements, major traffic flows, cost effectiveness, and global and regional objectives/priorities. Accordingly, the meeting encouraged MID States and all Stakeholders to actively participate in the ASBU implementation Workshop.

4.1.19 The meeting agreed that the final version of the MID Air Navigation Strategy, which would include the Air Navigation Targets and associated Action Plans, should be consolidated based on the outcome of the above-mentioned ASBU implementation Workshop and will be presented for endorsement by the MSG/4 meeting planned for September 2014 (on behalf of MIDANPIRG).

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MIDANPIRG ORGANIZATIONAL STRUCTURE



MSG	MIDANPIRG Steering Group	PBN SG	Performance Based Navigation Sub-Group
ANSIG	Air Navigation Systems Implementation Group	APM TF	ATM Performance Measurement Task Force
AIM SG	Aeronautical Information Management Sub-Group	MIDAD TF	MID Region AIS Database Task-Force
ATM SG	Air Traffic Management Sub-Group	MAEP Board	MID Region ATM Enhancement Programme Board
CNS SG	Communication Navigation Surveillance Sub-Group	MIDRMA Board	Middle East Regional Monitoring Agency Board
MET SG	Meteorology Sub-Group	MID AMC Steering Group	MID Region ATS Message Management Centre Steering Group

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Appendix 4.1B to the Report on Agenda Item 4.1

INTERNATIONAL CIVIL AVIATION ORGANIZATION



**MIDDLE EAST AIR NAVIGATION PLANNING AND
IMPLEMENTATION REGIONAL GROUP
(MIDANPIRG)**

PROCEDURAL HANDBOOK

Seventh Edition – December 2013

MIDANPIRG PROCEDURAL HANDBOOK - GENERAL

FOREWORD

1. Introduction

1.1 The Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG) Procedural Handbook is a publication prepared by the ICAO Secretariat and adopted by the MIDANPIRG. Its purpose is to provide, for easy reference of interested parties, a consolidation of material, particularly of a procedural nature, about the work of the MIDANPIRG and its contributory bodies. It contains the Terms of Reference of the MIDANPIRG and certain other provisions approved by the Council of ICAO. It also contains the working arrangements and internal instructions developed by the Group for the practical application of its Terms of Reference.

1.2 The Handbook has a series of loose-leaf pages, organised in Part and Section headings. The document describes: Terms of Reference; Composition; Position in ICAO; Working Arrangements; Rules of Procedure and Practices governing the Conduct of Business.

1.3 The framework of Part and Section headings in addition to the page numbering has been devised to provide flexibility and the facilitation of the revision of additional or new material. Each Part includes an Introduction giving its purpose and status. A Table of Contents is provided which serves also as a subject index and as a checklist for the current pages.

1.4 Replacement pages will be issued as necessary. Additional material will be incorporated in the existing Sections or will be the subject of new Sections, as required.

1.5 The Procedural Handbook will be distributed to Members and Observers of the Group, the ICAO Secretariat, and to other States and International Organizations participating in meetings, contributing to, or having interest in the work of the Group and/or its Contributory Bodies.

MIDANPIRG PROCEDURAL HANDBOOK

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**MIDDLE EAST AIR NAVIGATION PLANNING AND
IMPLEMENTATION REGIONAL GROUP (MIDANPIRG)**

PROCEDURAL HANDBOOK

PART I

**TERMS OF REFERENCE, COMPOSITION AND POSITION
IN ICAO OF THE MIDANPIRG**

1. Background

1.1 The Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG) was established by the Council of ICAO on 19 November 1993, through CNP/9819 during the 7th meeting of 140th session (C140/7) with the objectives and terms of reference approved then.

1.2 The Council subsequently on 29 June 1994 approved the membership of the Group as follows: Bahrain, Egypt, Iran (Islamic Republic of), Jordan, Lebanon, Oman, Saudi Arabia and United Arab Emirates (UAE).

1.3 The Council on 27 June 2008 considered a revision to membership of Planning and Implementation Regional Groups (PIRGs) and agreed that all ICAO Member States, to which a Regional Office was accredited who are service providers in an air navigation region and part of that region's Air Navigation Plan (ANP), should be included in the membership of that Region's PIRG. Furthermore, user States are entitled to participate in any other PIRG meetings as a non-member. International organizations recognized by the Council may be invited as necessary to attend PIRG meetings as observers.

2. Terms of Reference of the MIDANPIRG

2.1 The Terms of Reference of the Group are to:

- a) ensure 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 Global Air Navigation Plan for CNS/ATM systems (Doc 9750) 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, regularity and efficiency; and
- c) identify and address specific deficiencies in the air navigation field.

2.2 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 system performance monitoring, identify specific deficiencies in the Air Navigation field, especially in the context of safety, and propose corrective action;
- d) facilitate the development and implementation of an action plan by States to resolve identified deficiencies, where necessary;
- e) develop amendment proposals for the update of the Middle East Regional Air Navigation Plan MID BASIC and FASID Doc 9708 and Regional supplementary procedures (SUPPs) Doc 7030 to reflect changes in the operational requirements;

- f) monitor implementation of air navigation facilities and services and where necessary, ensure interregional harmonization, taking due account of organizational aspects, economic issues (including financial aspects cost/benefit analysis, business case studies) and environmental matters;
- g) examine human resources planning and training issues and propose where necessary human resources development capabilities in the region that are compatible with the Middle East Regional Air Navigation Plan;
- h) 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;
- i) request financial institutions on a consultative basis as appropriate to provide advice in the planning process;
- j) maintain close cooperation with relevant organizations and State grouping to optimize the use of available expertise and resources;
- k) conduct the above activities in the most efficient manner possible with a minimum of formality and documentation and call meetings of the MIDANPIRG, when it is necessary to do so;
- l) 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; and
- m) coordinate safety issues with the respective Regional Aviation Safety Group for the Middle East (RASG-MID).

3. Membership

3.1 All ICAO Member States, who are service providers in an air navigation region and part of that region's ANP, should be included in the membership of that region's PIRG. Furthermore, user States are entitled to participate in any other PIRG meetings as a non-member. International organizations recognized by the Council may be invited as necessary to attend PIRG meetings as observers.

3.2 The Group is composed of the members from the following States: Bahrain, Egypt, Iran (Islamic Republic of), Iraq, Jordan, Kuwait, Lebanon, Libya, Oman, Qatar, Saudi Arabia, Sudan, Syria, United Arab Emirates (UAE) and Yemen.

3.4 States should ensure that their designated Representatives on the Group have experience in the provision of the full range of international air navigation systems and serve for a sufficiently lengthy period of time in order to maintain continuity in the activities of the Group. The designated Representative can be assisted, when required, by Technical Advisers during meetings of the Group.

4. Participation in the Group's activities by other States

4.1 The Group may invite States from outside the MID Region to participate in its meetings whenever it feels that such States will be affected by specific aspects of the work of the Group or when this will be of assistance in the general conduct of its work.

4.2 Any State, other than those mentioned in paragraph 3.2 above, having aircraft on its register or an operator whose principal place of business or permanent residence is located in such State, which operates into the MID Region, shall have the right to participate in the meetings of the Group subject to the applicable provisions in paragraphs 3.1 above.

4.3 States not covered by the provisions in paragraphs 4.1 and 4.2 above may participate as observers in meetings of the Group, subject to the applicable provisions in those paragraphs.

5. Participation by International Organizations

5.1 The Group shall normally invite representatives of International Organizations and Regional Bodies recognized by the ICAO Council as representing important civil aviation interests to participate in its work in a consultative capacity. These include AACO, ACAC, ACI, EUROCONTROL, EUROMED, IACA, IATA, IFALPA, IFATCA and WMO. Other International Organizations and/or Middle East Regional Bodies may also participate when specifically invited by the Group.

6. Creation and dissolution of contributory bodies

6.1 In order to assist in its work, the Group may create contributory bodies (Boards, Committees, Sub-Groups, Task Forces & Working Groups, etc), charged with preparatory work on specifically defined subjects. Representation in such contributory bodies should be by specialists in the subjects concerned and familiar with the area under consideration. The establishment and work of contributory bodies shall be governed by the following considerations:

- a) shall only be formed when it has been clearly established that it is likely to be able to make a substantial contribution to the subject in question;
- b) shall be given clear and concise terms of reference describing not only its task but also an expected target date for its completion;
- c) composition shall be such that, while being kept as small as possible, all States and organizations likely to be able to make valid contributions are given the opportunity to participate in it;
- d) their work progress shall be subject to review by the Group, especially in order to avoid duplication of efforts in fields already covered by other activities; and
- e) shall be dissolved as soon as it has either completed its assigned task or it has become apparent that work on the subject in question cannot be usefully continued.

7. Position in ICAO

7.1 The Group shall be the guiding and co-ordinating body for all activities conducted within ICAO concerning the Air Navigation System for the MID Region but shall not assume authority vested in other ICAO bodies except where such bodies have specifically delegated their authority to the Group. The activities of the Group shall be subject to review by the Council.

7.2 The work of other bodies established and meetings (excluding limited, special or full-scale RAN meetings) held within the framework of ICAO, concerned with the MID Air Navigation System shall be co-ordinated as appropriate with the MIDANPIRG in order to ensure coherence of all regional activities regarding the development and operation of that system.

8. MIDANPIRG Steering Group (MSG)

8.1 Taking into consideration, the new regional planning methodologies precipitated by the ICAO Global Plan and business planning requirements and with a view to increase the efficiency of MIDANPIRG, the MIDANPIRG Steering Group (MSG) was established to execute a pivotal function as a coordinating and steering organ with highest possible efficiency in accordance with the goals set by MIDANPIRG.

8.2 The MSG would address regional planning arrangements, including the establishment of regional performance objectives and associated project based work packages as proposed by the different MIDANPIRG subsidiary bodies before submission to MIDANPIRG for endorsement.

8.3 The MSG shall at all times work within a minimum of formality and paperwork. In interval between meetings of the Group, the representatives shall maintain continuity in the work of the Group. Best advantage should be taken of modern communications facilities, particularly e-mails, to keep the Members and the Secretary in permanent contact with each others.

8.4 Term of Reference of the MSG

8.4.1 The Terms of Reference of the MIDANPIRG Steering Group (MSG) are:

- a) execute its pivotal function as a coordinating and steering organ with highest possible efficiency in accordance with the goals set by MIDANPIRG;
- b) define and keep under review the MID Region Air Navigation Strategy, including the air navigation priorities, targets and associated action plans;
- c) ensure that the planning and implementation of air navigation systems in the Region, is coherent and compatible with systems in adjacent Regions, and that it is carried out within the framework of the ATM Operational Concept (Doc 9854) and the Global Air Navigation Plan (GANP, Doc 9750);
- d) manage the MID Air Navigation Plan (Doc 9708) and ensure its alignment with the GANP (Doc 9750);
- e) direct the work of the MIDANPIRG subsidiary bodies in the best manner, commensurate with the overall MIDANPIRG work programme, with clearly defined tasks, deliverables and target dates;
- f) approve, on behalf of MIDANPIRG, those Draft Conclusions/Decisions emanating from MIDANPIRG subsidiary bodies, which necessitate urgent follow-up action(s);

8.4.2 In order to meet the Terms of Reference, the MSG shall:

- a) develop and continuously update the MID Region performance objectives in the light of new developments, taking into consideration the region priorities and MID States national plans;
- b) provide necessary high level assistance and guidance to the MIDANPIRG subsidiary bodies to ensure harmonization and interoperability in line with the GANP, the MID ANP and Aviation System Block Upgrade (ASBU) methodology;

- c) ensure that the work programmes of the different MIDANPIRG subsidiary bodies are in line with the agreed air navigation priorities;
- d) follow-up the on-going work undertaken within the MIDANPIRG framework and make recommendations for further evolution of the framework;
- e) manage the MID Air Navigation Plan (Doc 9708) and related documentation and facilitate the implementation of the international operational requirements contained therein;
- f) identify the issues related to funding, training and resource requirements necessary to support a safety framework that would lay the foundation for successful implementation of the ASBUs;
- g) develop action plans to address the identified impediments to air traffic management modernization as part of ASBU planning and implementation activities;
- h) develop a mechanism for sharing of best practices for the ASBU implementation;
- i) carry out specific tasks assigned to it by MIDANPIRG to advance its work at the required speed; and
- j) address special issues of strategic and/or financial nature for which no agreement has been reached by the appropriate MIDANPIRG subsidiary body, with a view to facilitate their presentation to MIDANPIRG.

8.4.3 Composition

The MSG is composed of:

- a) the Chairperson and in his/her absence the First Vice-Chairperson of MIDANPIRG;
 - b) MIDANPIRG Member States;
 - c) concerned International and Regional Organizations as observers; and
 - d) other representatives from provider States and Industry may be invited on an ad hoc basis, as observers, when required.
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**MIDDLE EAST AIR NAVIGATION PLANNING AND
IMPLEMENTATION REGIONAL GROUP (MIDANPIRG)**

PROCEDURAL HANDBOOK

PART II

WORKING ARRANGEMENTS

1. **Relations with States**

1.1 States located geographically in the MID Region and States having aircraft on their register, which operate in the MID Region, shall be kept fully informed of activities of the MIDANPIRG. To achieve this objective, States should receive, on a regular basis:

- a) The proposed agenda for meetings of the Group
- b) The reports on meetings of the Group; and, as appropriate
- c) The summaries or reports on meetings of its contributory bodies

1.2 States should ensure necessary co-ordination and follow-up of the Group's activities within their Administrations.

1.3 The Group may obtain information from MID provider States on specific questions and offer them advice in the form of specific proposals for action.

1.4 The Group should encourage the integration of the overall facilities and services required for international civil aviation operations with the national civil aviation plans of States, so that duplication may be avoided.

1.4.1 Additionally, the Group should concentrate on a clear identification of existing deficiencies in the MID Air Navigation System, on the establishment of priorities in overcoming them, on the development of methods of achieving implementation and on practical solutions to specific problems, particularly, issues seriously affecting the safety of international civil aviation operations in the MID Region.

2. **Relations with other Bodies and Organizations**

2.1 The Group shall keep itself informed of the activities of other bodies and organizations to the extent that such activities are likely to have an impact on the planning and operation of the Middle East Air Navigation System.

2.2 When necessary, the Group shall provide information and advice to such bodies and organizations, if this is required, in order to:

- a) avoid duplication of studies and/or effort; and
- b) engage their assistance in matters which, while having a bearing on the air navigation system, are outside the competence of ICAO and/or the terms of reference of the MIDANPIRG.

3. **Administration of the Group**

3.1 The Group shall be administered as follows:

- a) by a Chairperson elected from the Representatives designated by Member States of the Group. A First and Second Vice-Chairperson shall also be elected from the said Representatives; and
- b) by a Secretary designated by the Secretary General of ICAO. In the execution of his duties the Secretary will be supported by the MID Regional Office.

Note: ICAO MID Regional Director, Cairo has been designated as Secretary of MIDANPIRG.

3.2 The Chairperson, in close co-operation with the Secretary, shall make all necessary arrangements for the most efficient working of the Group. The Group shall at all times work with a minimum of formality and paper work (paperless meetings).

3.3 Between meetings of the Group or its contributory bodies, some subjects may be dealt with by correspondence among appointed Representatives of its Member States through the Secretary of the MIDANPIRG or of the contributory bodies concerned. However, if States are to be consulted this should be made through the ICAO Regional Director of the Office of accreditation.

4. Meetings of the Group

4.1 Based on the advice of the Members of the Group and of the Secretary, the Chairperson shall decide on the date and duration of meetings of the Group.

4.2 Meetings shall normally be convened at the location of the ICAO Regional Office in Cairo, Egypt. If a State offers to host a meeting, it shall coordinate with the Secretary of the Group as early as possible, but in any case at least six (06) months in advance and, shall be responsible for providing a venue, services and all costs of travel, accommodation and subsistence allowance for Secretariat attendees.

4.3 Members may be accompanied by Advisers. Total attendance should, however, be kept to a minimum consistent with the topics to be discussed in order to maintain the desired informality of proceedings.

4.4 The ICAO MID Regional Office shall normally provide the Secretariat services to the Group.

5. Establishment of Sub-Groups

5.1 To assist in its work, the Group may create Sub-Groups charged with preparatory work on specific subjects requiring expert advice for their resolution.

5.2 Participation in Sub-Groups should be by specialists in the subjects under consideration. Such specialists should be provided by Member States, International Organizations and/or Regional Bodies and Organizations having relevant experience in the field concerned.

5.3 Secretaries of Sub-Groups established by the Group will be appointed by the Secretary of the Group.

6. Task Forces

6.1 The MIDANPIRG or its Sub-Groups may appoint Task Forces composed of specialists either from within and/or outside the Group or the Sub-Group as the case may be to perform studies or prepare supporting documentation on defined subjects for consideration by the Group or Sub-Groups as a whole. International and Regional Organizations may also be invited to provide specialists in these Task Forces, as required.

7. Role of Designated Members

7.1 Representatives of States designated as Members of the Group shall assume the duties and responsibilities of ensuring the normal conduct of business of the Group. Members should attend regularly all the meetings of the Group and maintain the continuity of the Group's work in the interval between meetings. This may take the form of assignment of specific tasks to selected individual Members and/or participation in Task Forces referred to in paragraph 6.1 above.

8. Status of Observers

8.1 Representatives of International Organizations and States which are neither located nor have aircraft on their register operating in the MID Region will have the status of Observers at MIDANPIRG meetings.

9. Co-ordination and reporting lines

9.1 The Group reports to the ICAO Council through its Secretary and the ICAO Secretariat as follows:

- a) proposals for amendment of the MID Air Navigation Plan (facilities, services and Basic Operational Requirements and Planning Criteria-FASID/BORPC) and proposals for amendment of the Regional Supplementary Procedures (SUPPs) originated by the MIDANPIRG will be processed in accordance with the approved amendment procedures;
- b) suggestions by the MIDANPIRG calling for amendment or modification of the provisions in the ICAO world-wide provisions (Annexes, PANS, Manuals, etc..) that may arise, will be submitted to the Air Navigation Commission (ANC) for consideration and action as appropriate;
- c) items concerning serious deficiencies in implementation of the MID Regional Plan are to be brought to the attention of the States concerned and, after all possible efforts for implementation have been exhausted, to the attention of the ANC;
- d) specific policy issues emanating from the work of the MIDANPIRG and matters of impact on other regions will be submitted to the Council;
- e) matters concerning its terms of reference, its composition, working arrangements and position in ICAO; and
- f) other matters as deemed necessary.

9.2 Sub-Groups report to the Group. Co-ordination among Sub-Groups will primarily be ensured by the Group when establishing their terms of reference and work programme or taking action on their reports. In addition, the work of the Sub-Groups should also be co-ordinated through their respective Chairperson and Secretaries, assisted, as required, by the ICAO Secretariat.

9.3 Routine relations between the Group or its Sub-Groups and other ICAO groups and meetings concerning the MID Region shall be conducted through the MIDANPIRG Secretary and/or the ICAO Regional Director of the Office of accreditation as required.

9.4 Relations with representatives of States designated as Members of the Group and representatives of International Organizations attending regularly the meetings of the Group shall be conducted through the Secretary of the Group. Other ICAO Regional Offices shall be kept informed of such correspondence whenever it may have an impact on the work of these Offices, as part of interregional coordination.

9.5 Relations with specialists provided by States as members of MIDANPIRG Sub-Groups shall be conducted by the Secretary of the Sub-Group.

9.6 Relations with States and International Organizations whether or not represented in the Group, as well as relations with Regional Organizations, will normally be conducted through the ICAO Regional Director.

**MIDDLE EAST AIR NAVIGATION PLANNING AND
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PROCEDURAL HANDBOOK

PART III

RULES OF PROCEDURE FOR THE CONDUCT OF MEETINGS OF THE MIDANPIRG

1. General

1.1 The MIDANPIRG shall at all times work with a minimum of formality and paper work (paperless meetings). To achieve this aim, the rules of procedure for the conduct of meetings should be as flexible and simple as possible. The Group is expected to conduct its business by consensus of all interested parties. The following provisions do not include therefore any procedures for handling motions or voting.

1.2 There shall be no minutes for the meetings of the Group. Reports on meetings should not include formal Statements by members or other participants. However, specific divergent views expressed in relation to decisions taken or conclusions reached shall be recorded as an integral part of the report.

2. Participation

Note: The following rules of procedure are based on the provisions contained in paragraphs 3, 4 and 5 of Part I and in paragraphs 2, 7 and 8 of Part II.

2.1 Representatives of Member States of ICAO designated as Members of the MIDANPIRG should strive to ensure continuity and regularity of their participation in all meetings of the Group.

2.1.1 Subject to the applicable provisions in paragraph 4 of Part I, any other Member State of ICAO is entitled to participate in meetings of the MIDANPIRG, if it so wishes. To this effect, the State concerned should notify the Secretary of the MIDANPIRG of its intention of being represented, not later than 30 days prior to the meeting in which it has decided to participate. Such notification should include an indication of the subjects in which that State is interested and the name and title of its Representative(s).

Note: The notification referred to above is not required in the case of States having decided to attend regularly the meetings of the Group.

2.2 The Group shall normally invite International Organizations recognized by the Council as representing important civil aviation interests to participate in the work of the MIDANPIRG in a consultative capacity. Among the Organizations, ACAC, CANSO, IATA, IFALPA and IFATCA should be invited on a continuous basis. Other International Organizations and/or Regional Organizations may also participate when specifically supported by the Group and approved by the ICAO Council.

Note: The Secretary of the MIDANPIRG, in consultation with the Chairperson shall undertake to keep the total number of participants to a level consistent with the required efficiency and informality of the proceedings.

3. Convening of meetings

Note: In addition to the working arrangements set forth in paragraph 4 of Part I, the rules of procedure below should be followed in convening meetings of the Group.

3.1 At each of its meetings the Group should endeavour to agree on the date and duration of its next meeting.

3.2 In accordance with its objectives the Group shall:

- a) ensure the continuous and coherent development of the MID Region Air Navigation Plan as a whole and in relation to that of adjacent Regions; and

- b) identify specific problems in the air navigation field concerning the MID Region and propose, in appropriate form, resolving action addressed to parties concerned.

Note: To achieve these objectives the convening of at least one meeting every 18 months would generally suffice. However, in order to safeguard coherent and orderly air navigation planning in the interest of States and airspace users in the MID Region, the Group may determine the need for any additional meeting that may arise.

3.3 A convening letter for a meeting shall be addressed by the Secretary of the Group, normally 90 days prior to the meeting, to Representatives of:

- a) States designated as Members;
- b) States, not designated as Members, but which have decided to attend regularly the meetings of the MIDANPIRG; and
- c) International/Regional Organizations invited to participate on a continuous basis in the activities of the Group.

3.4 The convening letter should include the agenda, together with explanatory notes prepared by the Secretary in order to assist participants in preparing for the meeting, and a summary report on its activities and those of its Sub-Groups since the last meeting (Part II, para 1.1 c) refers).

3.5 The ICAO MID Regional Director shall ensure that States and International/Regional Organizations concerned, located within the MID Region area of accreditation, are informed by means of a State Letter of the convening of meetings and the subjects planned for discussion.

4. Establishment of the Agenda

4.1 The Secretary, in consultation with the Chairperson of the MIDANPIRG shall establish a draft agenda on the basis of the work programme adopted and the documentation available.

4.2 The draft agenda with explanatory notes shall be circulated with the convening letter, as specified in sub-paragraph 3.4 above, for comments by expected participants in that meeting.

4.3 Comments in relation to the draft agenda or the work of the group received up to 10 working days prior to the meeting will be submitted to the meeting in the form of a Working Paper.

4.4 At the opening of the meeting any State or International/Regional Organization may propose the inclusion of additional items on the agenda, and this shall be accepted if the majority of States attending the meeting so agree.

5. Languages

5.1 The language of the meetings of the MIDANPIRG shall be English.

5.2 The reports on meetings and supporting documentation for meetings of the Group will be prepared in English.

6. Officers and Secretariat of the MIDANPIRG

Note: The following rules of procedure are supplementary to the working arrangements for the administration of the MIDANPIRG contained in paragraph 3 of Part II.

6.1 In order to ensure the necessary continuity in the work of the Group and unless otherwise determined by special circumstances, the Chairperson, the First Vice-Chairperson and Second Vice-Chairperson of the Group should assume their functions at the end of the meeting at which they are elected and serve for three cycles unless otherwise re-elected, in that case the term would be limited to one additional cycle only.

6.2 States designated as Members of the Group may at any time request that the election of the Chairperson and/or Vice-Chairpersons be included on the agenda.

6.3 The Secretary of the Group will serve as Secretary of the meetings. S/he will be assisted by ICAO Regional Officers, as required.

6.4 Presentation of reports of contributory body shall be made by the secretariat on behalf of concerned Chairperson. Presentation of reports of other ICAO regional planning groups or meetings should normally be made by the Secretary.

7. Supporting documentation

7.1 Documentation for meetings of the MIDANPIRG will be prepared by the Secretariat, States designated as Members of the Group and International/Regional Organizations participating on a continuous basis in the activities of the Group.

7.2 Any State, International/Regional Organization, whether or not attending, may submit material for consideration by a meeting. In cases where the material submitted is in the form of supporting documentation on a specific subject, the originator is expected to attend the meeting to which it is presented, at least during the discussions on the subject concerned.

7.3 To the extent possible States, International/Regional Organizations refrain from presenting Working papers of technical nature directly to MIDANPIRG.

7.4 Subjects which are mature enough and which have been reviewed by the appropriate MIDANPIRG subsidiary bodies will be presented to MIDANPIRG.

7.5 Supporting documentation shall be presented in the form of:

- a) Discussion Papers: are papers prepared on an ad hoc basis in the course of a meeting with the purpose of assisting participants in their discussions on a specific matter or in the development of conclusions for the draft report of the meeting.
- b) Information Papers: are papers prepared on an ad hoc basis in the course of a meeting with the purpose of assisting participants in their discussions on a specific matter or in the development of conclusions for the draft report of the meeting.
- c) Working Papers: constitute the main basis of the discussions on the various items on the agenda.

7.6 Working Papers shall be presented in a standardized format. Each paper should be limited to one agenda item or sub-item and contain, as appropriate, introduction of the matter, brief discussion and conclusions with specific proposals for action.

7.7 All meetings of MIDANPIRG and its subsidiary bodies are conducted in paperless format; all documentations including Working Papers, Information Papers and Discussion Papers should be made available through the MID Regional Office website www.icao.int/mid to all interested parties as early as practicable (15 days, if possible), before the meeting at which they are intended to be considered as follows:

- a) Representatives of States designated as members of the Group;
- b) States having notified the Secretary of their intention of being represented at the relevant meeting;
- c) International and/or Regional Organizations attending MIDANPIRG activities on a continuous basis;
- d) Provider States whose facilities and/or services are the subject of the paper.

7.8 Other States or International/Regional Organizations originating a Working Paper shall also be provided with a copy of that particular Working Paper regardless of whether or not they attend the meeting of the Group to which it is submitted.

7.9 In view of their nature, the distribution of Discussion and Information Papers shall be limited to participants at the meeting to which they relate.

8. Conclusions and Decisions of the Meetings

8.1 Action taken by the Group shall be recorded in the form of:

- a) Conclusions; and
- b) Decisions.

8.2 Each Conclusion and Decision formulated by the Group and its Sub-Groups should respond clearly to the following four questions (4-Ws) :

Why	Why this Conclusion or Decision is needed (subject)
What	What action is required (State Letter, survey, proposal for amendment, seminar, etc)
Who	Who is the responsible of the required action (ICAO, States, etc)
When	Target date

8.3 Conclusions deal with matters which, in accordance with the Group's terms of reference, merit directly the attention of States, or on which further action is required to be initiated by the Secretary in accordance with established procedures.

8.3.1 Conclusions are aimed mainly at the furtherance of studies and programmes being undertaken by the Group, its contributory bodies and other ICAO Groups or meetings. For the implementation of such conclusions, the Secretary shall:

- a) initiate the required action;

- b) through the relevant ICAO Regional Office, invite States and International Organizations or other bodies as appropriate to undertake the tasks called for by the Conclusion concerned; or
- c) refer them to ICAO ANC for appropriate action and through the ANC to ICAO Council, if required.

8.3.2 The Secretary will ensure that conclusions are transmitted to the States concerned through the relevant ICAO Regional Offices and will take whatever action may be required to monitor their implementation.

8.3.3 Decisions relate to the internal working arrangements of the Group and its contributory bodies.

9. Conduct of business

9.1 The meetings of the MIDANPIRG shall be conducted by the Chairperson or, in his absence, by the First or Second Vice-Chairperson of the Group, in that order.

9.2 At the first sitting of each meeting, following the opening by the Chairperson, the Secretary shall inform participants of the arrangements made for the conduct of the meeting, its organization and of the documentation available for consideration of the different items on the agenda.

9.3 Each meeting of the MIDANPIRG will consider, as required:

- a) reports by its Sub-Groups;
- b) reports by regional bodies;
- c) specific implementation issues;
- d) review and up-date of deficiencies; and
- e) consider the Work Programme.

9.4 At each of its meetings, the Group shall also establish a tentative meeting programme (including meetings of subsidiary bodies) for at least the following calendar year (cf. sub-paragraph 3.2, Part IV).

9.5 The Group shall at each of its meetings review its previous meeting outstanding Conclusions/Decisions and Action Plan in order to keep them current and their number at a minimum consistent with the progress achieved in implementation.

10. Reports

10.1 Reports on meetings shall be of a simple layout and as concise as possible and shall include:

- a) a brief history of the meeting (duration, attendance, agenda and list of Conclusions and Decisions;
- b) a summary of the discussions by the Group on the different items of the agenda including, for each of them, the relevant Conclusions and/or Decisions;

- c) the work programme and future action by the Group; and
- d) the tentative programme of future meetings of the Group and of its sub groups.

10.2 A draft report in English will be prepared by the Secretariat for approval by the Group before the closing of each meeting.

10.3 The approved Meeting Report shall be circulated by the Secretary to:

- a) Members of the Group; and
- b) Other States and International/Regional Organizations having attended the relevant meeting.

10.4 The report shall be posted on MID Regional office website and also be circulated, to all Member States in the MID Region as well as to International/Regional Organizations concerned.

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PROCEDURAL HANDBOOK

PART IV

**RULES OF PROCEDURE FOR THE CONDUCT OF MEETINGS
OF THE CONTRIBUTORY BODIES OF MIDANPIRG**

1. General

1.1 Contributory bodies (Sub-Groups, etc.) of the MIDANPIRG shall work with a minimum of formality and paperwork (paperless meetings).

2. Participation

Note: The following rules of procedure are based on the provisions contained in paragraph 5 of Part II.

2.1 Each Sub-Group of the MIDANPIRG shall be composed of specialists to be provided by Member States, International/Regional Organizations and/or bodies and organizations having experience in the relevant field.

2.2 When deciding on the creation and establishing the mandate and terms of reference of any of its Sub-Groups, the Group shall indicate the States, International/Regional Organizations and/or bodies and Organizations which are to be invited to provide experts for that body. The composition of Sub-Groups shall be kept as small as possible in order to ensure efficiency of their work and the informality of proceedings.

2.3 States other than those specified by the MIDANPIRG but which are in a position to make valid contributions to the work of a Sub-Group are entitled to provide specialists for that body if they so wish. To this effect, they should notify the ICAO MID Regional Director of their intention to participate and of the name and title of the specialist(s) designated.

2.4 States and International/Regional Organizations and/or bodies and Organizations should ensure that the specialists nominated for membership in Sub-Groups of the MIDANPIRG have the required qualifications and experience to fully contribute to the work of the body concerned.

3. Convening of meetings

3.1 The date and duration of meetings of a Sub-Group of the MIDANPIRG shall be decided by the Chairperson of the Sub-Group, in consultation with Members and the Secretary of that Sub-Group.

3.2 As a rule, Sub-Groups should agree at each meeting on the date and duration of the next meeting and on a tentative schedule of future meetings in order to assist the Group in establishing its meetings programme (cf. sub-paragraph 9.4 of Part III).

3.3 For each meeting of a Sub-Group of the MIDANPIRG, a convening letter shall be addressed by the Secretary to the Members of that Sub-Group. This convening letter should include the agenda together with explanatory notes, as required, to assist participants in preparing for the meeting.

4. Establishment of the Agenda

4.1 The Secretary of a Sub-Group, after consultation with the Chairperson and coordination with the ICAO MID Regional Office, shall establish a draft agenda on the basis of the work programme adopted and the documentation available.

4.2 The draft agenda shall be circulated with the convening letter and submitted to the meeting to which it refers, for approval.

5. Languages and supporting documentation

5.1 The language of, and supporting documentation for, meetings of contributory bodies of the MIDANPIRG (Sub-Groups, etc.) shall be English.

5.2 The reports of meetings of these bodies shall be in English.

5.3 Documentation for meetings of the contributory bodies will be prepared by the Secretariat, States designated as Members of the Group and International/Regional Organizations participating on a continuous basis in the activities of the Group.

5.4 States, International/Regional Organizations, whether or not attending, may submit material for consideration by a meeting. In cases where the material submitted is in the form of supporting documentation on a specific subject, the originator is expected to attend the meeting to which it is presented, at least during the discussions on the subject concerned.

Note: Documentation prepared by States and International/Regional Organizations should be forwarded to the Secretary of the Sub-Group, etc., if possible, at least 30 days in advance of the meeting for which it is intended, to permit timely processing.

5.5 Supporting documentation shall be presented in the form of:

- a) Discussion Papers;
- b) Information Papers;
- c) Working Papers; and
- d) Power Point Presentations

5.6 Working Papers shall be presented in a standardized format. Each paper should be limited to one agenda item or sub-item and contain, as appropriate, introduction of the matter, brief discussion and conclusions with specific proposals for action.

5.7 Working Papers, Information Papers, Discussion Papers and Power Point Presentations should be made available through the MID Regional Office website www.icao.int/mid to all interested parties as early as practicable (15 days, if possible), before the meeting at which they are intended to be considered.

5.8 In view of their nature, the distribution of Discussion and Information Papers shall be limited to participants at the meeting to which they relate.

6. Officers and Secretariat of Sub-Groups of the MIDANPIRG

6.1 Each Sub-Group shall at its first meeting elect, from the representatives of States Members of that Sub-Group, a Chairperson and a Vice-Chairperson.

6.2 In order to ensure the necessary continuity in the work and unless otherwise determined by special circumstances, the Chairperson and Vice-Chairperson of a Sub-Group assume their functions at the end of the meeting at which they are elected and serve for three cycles unless otherwise re-elected, in that case the term would be limited to one additional cycle only.

6.3 Members of a Sub-Group may at any time request the election of the Chairperson and/or Vice-Chairperson to be included in the agenda of a meeting of that body.

7. Conduct of business

7.1 Meetings of a Sub-Group shall be conducted by its Chairperson or, in his absence, by the Vice-Chairperson.

7.3 Action by a Sub-Group that requires the prior agreement of the MIDANPIRG before it can be implemented or otherwise, shall be recorded in the form of Draft Conclusion or Draft Decision. All such proposed actions shall be considered by the MIDANPIRG or by MSG for those Conclusions and Decision which do not raise any concern and which necessitate urgent follow-up action.

8. Reports of meeting

8.1 Proceedings of meetings of Sub-Groups should be recorded in the form of a report.

8.3 A Sub-Group report for each Sub-Group is required.

Note: Issues (Draft Conclusions/Decisions) necessitating the agreement of all MID States should always be presented to MIDANPIRG for final endorsement.

8.3 A meeting of a Sub-Group will submit a Report, whenever it has:

- a) finalized action on any part of its work programme; or
- b) found that it needs further directives or guidance from the MIDANPIRG to proceed in its work.

8.4 For all other meetings, the Secretary of the Sub-Group will prepare a summary on the business conducted by the meeting in order to keep the MIDANPIRG and States informed of developments in its activities.

8.5 Reports on meetings of Sub-Groups shall be of a simple layout and as concise as practicable. To the extent feasible the reports should be presented in a summary format setting aside reporting on non-essential proceedings and on matters solely of internal interest to the Sub-Groups themselves. They should normally cover:

- a) short introduction (brief history of the meeting, agenda, tasks at hand);
- b) in the sequence of the agenda, summary of findings on different tasks or specific elements thereof including, as appropriate, draft conclusions and/or decisions; and
- c) the work programme and future meetings.

8.6 Sub-Groups meeting reports shall be distributed by the Secretary to Members of the Sub-Group concerned, as soon as possible after the meeting to which the report or summary refers. Those reports or summaries shall at the same time be circulated by the ICAO MID Regional Office to all member States of the MID Region, International/Regional Organizations concerned. The reports shall be made available to user States on request.

8.7 Sub-Groups meeting reports shall be submitted to the MSG and/or MIDANPIRG (as appropriate) for review and action.

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PROCEDURAL HANDBOOK

PART V

MIDDLE EAST PROVIDER AND USER STATES

1. Purpose and Status

1.1 According to the MIDANPIRG working arrangements, all States concerned with the work of the Group shall be kept fully informed of its activities. To this effect, the ICAO MID Regional Director shall:

- a) keep States informed of the convening of MIDANPIRG meetings and the subjects planned to be discussed; and
- b) send them reports on meetings of the Group, and, as appropriate, summaries or reports on meetings of its subsidiary bodies.

1.2 All Middle East provider and user States, either Contracting or non-Contracting States of the Convention on International Civil Aviation, shall be regarded as concerned with the work of the Group and therefore arrangements should be made to inform them of the activities of the Group.

1.3 In addition, according to the provisions governing the participation in the Group's activities by States other than those designated as members of the MIDANPIRG, Middle East provider and user States, if Contracting States of the Convention on International Civil Aviation, shall be entitled to be represented at meetings of the Group with full rights, if they so wish.

1.4 This section of the MIDANPIRG Procedural Handbook is intended to define States that, for the above purposes, shall be considered Middle East Provider or user States.

PROVIDER STATES

Bahrain	Oman
Egypt	Qatar
Iran, Islamic Republic of	Saudi Arabia
Iraq	Sudan
Jordan	Syria
Kuwait	United Arab Emirates
Lebanon	Yemen
Libya	

USER STATES

Afghanistan	Morocco
Algeria	Netherlands, Kingdom of the
Armenia	Nigeria
Austria	Norway
Azerbaijan	Pakistan
Bangladesh	Philippines
Bulgaria	Republic of Korea
China	Russian Federation
Cyprus	Senegal
Czech Republic	Singapore
Denmark	Somalia
Eritrea	South Africa
Ethiopia	Spain
France	Sri Lanka
Georgia	Sudan
Germany	Sweden
Greece	Switzerland
Hungary	Tajikistan
India	Thailand
Indonesia	Tunisia
Israel	Turkey
Italy	Turkmenistan
Japan	United Kingdom
Kazakhstan	United Republic of Tanzania
Kenya	United States
Kyrgyzstan	Uzbekistan
Libyan Arab Jamahiriya	Zambia
Malaysia	Zimbabwe
Mali	
Mauritania	

**MIDDLE EAST AIR NAVIGATION PLANNING AND
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PROCEDURAL HANDBOOK

PART VI

**OTHER REGIONAL BODIES AND INTERNATIONAL ORGANIZATIONS
DEALING WITH CIVIL AVIATION MATTERS IN MID REGION**

Regional Organizations

Arab Air Carrier Organization (AACO)
Arab Civil Aviation Commission (ACAC)

International Organizations

Airports Council International (ACI)
Civil Air Navigation Services Organisation (CANSO)
European Organization for the Safety of Air navigation (EUROCONTROL)
International Air Transport Association (IATA)
International Federation of Air Line Pilots' Associations (IFALPA)
International Federation of Air Traffic Controllers' Associations (IFATCA)
International Air Carrier Association (IACA)
World Meteorological Organization (WMO)

**MIDDLE EAST AIR NAVIGATION PLANNING AND
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PROCEDURAL HANDBOOK

PART VII

**SUB-GROUPS OF MIDANPIRG
TERMS OF REFERENCE/WORK PROGRAMME/COMPOSITION/ORGANIZATIONAL
STRUCTURE**

AIR NAVIGATION SYSTEMS IMPLEMENTATION GROUP (ANSIG)

1. Terms of Reference

1.1 The terms of reference of the ANSIG are:

- a) ensure that the implementation of Air Navigation Systems in the MID Region is coherent and compatible with developments in adjacent regions, and is in line with the ATM Operational Concept (Doc 9854), Global Air Navigation Plan (GANP), the Aviation System Block Upgrades (ASBU) methodology and the MID Region Air Navigation Plan/Strategy;
- b) monitor the status of implementation of the MID Region Air Navigation Systems and related ASBU Modules included in the MID Region Air Navigation Plan/Strategy as well as other required Air Navigation facilities and services, identify the associated difficulties and deficiencies and provide progress reports, as required;
- c) keep under review the MID Region Air Navigation Strategy, and propose changes to the MID Region Air Navigation Plan/Strategy and Air Navigation priorities, as appropriate;
- d) seek to achieve common understanding and support from all stakeholders involved in or affected by the Air Navigation Systems developments/activities in the MID Region;
- e) provide a platform for harmonization of developments and deployments of the MID Air Navigation Systems;
- f) monitor and review the latest Air Navigation developments and provide expert inputs for the implementation of the Air Navigation Systems based on ATM operational requirements;
- g) ensure that the work programmes of all Subsidiary Bodies reporting to ANSIG are harmonized and coordinated, achieving the agreed air navigation performance targets;
- h) provide regular progress reports to the MSG and MIDANPIRG concerning its work programme; and
- i) review periodically its Terms of Reference and propose amendments, as necessary.

1.2 In order to meet the Terms of Reference, the ANSIG shall:

- a) agree on the necessary data to be collected for monitoring the MID Key Performance Indicators and Metrics;
- b) monitor the status of implementation of the different ASBU Module elements included in the MID Air Navigation Plan/Strategy and ensure that the associated performance targets are met;
- c) consolidate inputs from all Subsidiary Bodies and propose changes to the Plan/Strategy and Air Navigation priorities, as appropriate;

- d) provide necessary assistance and guidance to States to ensure harmonization and interoperability in line with the GANP, the MID ANP and ASBU methodology;
- e) develop and continuously update the MID regional Air Navigation Report Forms (ANRF) in order to reflect the MID Region Performance Objectives;
- f) review and identify intra and inter-regional co-ordination issues and where appropriate recommend actions to address those issues;
- g) identify the environmental effect and use the guidance provided by the Committee on Aviation Environmental Protection (CAEP) in the analysis of environmental benefits of implementing Air Navigation Systems;
- h) support the implementation of the performance framework and propose new technical elements for the continuous improvement of the performance framework; and
- i) foster the integrated improvement of MID Air Navigation systems implementation through proper training and qualification of the personnel

2. Composition:

2.1 The ANSIG is composed of:

- a) MIDANPIRG Member States;
- b) concerned International and Regional Organizations as observers; and
- c) other representatives from provider States and Industry may be invited on ad hoc basis, as observers, when required.

AERONAUTICAL INFORMATION MANAGEMENT SUB-GROUP (AIM SG)

1. Terms of Reference

1.2 The terms of reference of the AIM Sub-Group are:

- a) ensure that the implementation of AIM in the MID Region is coherent and compatible with developments in adjacent regions, and is in line with the Global Air Navigation Plan (GANP), the Aviation System Block Upgrades (ASBU) methodology and the MID Region Air Navigation Strategy;
- b) monitor the status of implementation of the MID Region AIM-related ASBU Modules included in the MID Region Air Navigation Strategy as well as other required AIM facilities and services, identify the associated difficulties and deficiencies and provide progress reports, as required;
- c) keep under review the MID Region AIM performance objectives/priorities, develop action plans to achieve the agreed performance targets and propose changes to the MID Region AIM plans/priorities, through the ANSIG;
- d) seek to achieve common understanding and support from all stakeholders involved in or affected by the AIM developments/activities in the MID Region;
- e) provide a platform for harmonization of developments and deployments in the AIM domain;
- f) monitor and review the latest developments in the area of AIM and procedure design issues associated to AIM, provide expert inputs for AIM-related issues; and propose solutions for meeting ATM operational requirements;
- g) provide regular progress reports to the ANSIG and MIDANPIRG concerning its work programme; and
- h) review periodically its Terms of Reference and propose amendments, as necessary.

1.2 In order to meet the Terms of Reference, the AIM Sub-Group shall:

- a) monitor the status of implementation of the required AIM facilities and services in the MID Region;
- b) assess and provide progress reports on the transition from AIS to AIM in the MID Region;
- c) provide necessary assistance and guidance to States to ensure harmonization and interoperability in line with the GANP, the MID ANP and ASBU methodology;
- d) provide necessary inputs to the MID Air Navigation Strategy through the monitoring of the agreed Key Performance Indicators related to AIM;
- e) identify and review those specific deficiencies and problems that constitute major obstacles to the provision of efficient AIM services, and recommend necessary remedial actions;

- f) keep under review the adequacy of ICAO SARPs requirements in the area of AIM, taking into account, inter alia, changes in user requirements, the evolution of operational requirements and technological developments;
- g) develop proposals for the updating of relevant ICAO documentation related to AIM, including the amendment of relevant parts of the MID ANP, as deemed necessary;
- h) monitor and review technical and operating developments in the area of AIM and foster their implementation in the MID Region in a harmonized manner; and
- i) foster the integrated improvement of AIM services through proper training and qualification of the AIM personnel.

2. Composition:

2.1 The Sub-Group is composed of:

- a) MIDANPIRG Member States;
- b) concerned International and Regional Organizations as observers; and
- c) other representatives from provider States and Industry may be invited on ad hoc basis, as observers, when required.

AIR TRAFFIC MANAGEMENT SUB-GROUP (ATM SG)

1. TERMS OF REFERENCE

1.1 The terms of reference of the ATM Sub-Group are:

- a) ensure that the planning and implementation of ATM in the MID Region is coherent and compatible with developments in adjacent regions, and is in line with the Global Air Navigation Plan (GANP), the Aviation System Block Upgrades (ASBU) methodology and the MID Region Air Navigation Strategy;
- b) monitor the status of implementation of the MID Region ATM-related ASBU Modules included in the MID Region Air Navigation Strategy as well as other required ATM facilities and services, identify the associated difficulties and deficiencies and provide progress reports, as required;
- c) keep under review the MID Region ATM performance objectives/priorities, develop action plans to achieve the agreed performance targets and propose changes to the MID Region ATM plans/priorities, through the ANSIG;
- d) seek to achieve common understanding and support from all stakeholders involved in or affected by the ATM developments/activities in the MID Region;
- e) provide a platform for harmonization of developments and deployments in the ATM domain;
- f) based on the airspace user needs and in coordination with stakeholders (States, International Organizations, user representative organizations and other ICAO Regions), identify requirements and improvements for achieving and maintaining an efficient route network in the MID Region;
- g) foster and initiate actions aimed at improving civil/military cooperation and Flexible Use of Airspace (FUA) implementation;
- h) keep under review the adequacy of requirements in Search and Rescue field, taking into account, *inter alia*, changes to aircraft operations and new operational requirements or technological developments;
- i) ensure the effectiveness of the SSR code allocation system in the MID Region;
- j) identify, State by State, those specific deficiencies that constitute major obstacles to the provision of efficient air traffic management and recommend specific measures to eliminate them;
- k) develop the MID Region ATM Contingency Plan and ensure that its maintained up to date;
- l) monitor the implementation of the MID Region ASBU Modules included in the MID Region Air Navigation Strategy related to the ATM, provide expert inputs for ATM related issues; and propose solutions for meeting ATM operational requirements;
- m) monitor and review the latest developments in the area of ATM;

- n) provide regular progress reports to the ANSIG Group and MIDANPIRG concerning its work programme; and
- o) review periodically its Terms of Reference and propose amendments as necessary.

1.2

In order to meet the Terms of Reference, the ATM Sub-Group shall:

- a) provide necessary assistance and guidance to States to ensure harmonization and interoperability in line with the GANP, the MID ANP and ASBU methodology;
- b) provide necessary inputs to the MID Air Navigation Strategy through the monitoring of the agreed Key Performance Indicators related to ATM;
- c) review the MID ATS Routes Network in order to assess its capacity and constraints;
- d) identify requirements and improvements for achieving and maintaining an efficient ATS route network in the MID Region;
- e) propose a strategy and prioritized plan for development of improvements to the route network, highlighting:
 - areas that require immediate attention
 - interface issues with adjacent ICAO Regions
- f) develop a working depository for route proposals that will be used as a dynamic reference document for ongoing discussions on routes under development/modification. In this respect, the Task Force should explore the utility that can be realized from the route catalogue concept/ATS routes database;
- g) engage the necessary parties regarding routes under consideration, especially the Military Authorities;
- h) promote civil/military cooperation and the implementation of the concepts of Flexible Use of Airspace (FUA), free flight, flexible tracks;
- i) facilitate effective civil/military cooperation and joint use of airspace in the MID Region;
- j) in coordination with the MIDRMA, carry out safety assessment of the proposed changes to the ATS Routes Network;
- k) submit completed route proposals for amendment of the Basic ANP Table ATS-1, to the ICAO MID Regional Office for processing;
- l) monitor the RVSM operations and support the continued safe use of RVSM in the MID Region;
- m) review and maintain the MID Region SSR Code Allocation Plan and monitor the implementation of the SSR codes allocation procedures in the Region;
- n) assist States in the development and co-ordination of contingency plans and ensure that the Regional contingency plan is maintained up-to-date;

- o) assess the effectiveness of the agreed Contingency measures/procedures and propose mitigation measures, as appropriate;
- p) address ATM and SAR interface issues with other regions and make specific recommendations to achieve seamlessness and harmonization;
- q) review the requirements and monitor the status of implementation of ATM and SAR services;
- r) analyse, review and monitor deficiencies in the ATM and SAR fields;
- s) develop proposals for the updating of relevant ICAO documentation, including the amendment of relevant parts of the MID ANP, as deemed necessary;
- t) establish and monitor ATM performance objectives for the MID Region; and
- u) taking into account human factors studies and available guidance material, make operational recommendations related to ATM personnel in the changing technological environment.

2. COMPOSITION

2.1 The Sub-Group is composed of:

- a) MIDANPIRG Member States;
- b) experts nominated by Middle East Provider States from both Civil Aviation Authority and Military Authority;
- c) concerned International and Regional Organizations as observers; and
- d) other representatives from provider States and Industry may be invited on ad hoc basis, as observers, when required.

COMMUNICATION, NAVIGATION AND SURVEILLANCE SUB-GROUP (CNS SG)

1. Terms of Reference

1.1 The terms of reference of the CNS Sub-Group are:

- a) ensure that the implementation of CNS in the MID Region is coherent and compatible with developments in adjacent regions, and is in line with the Global Air Navigation Plan (GANP), the Aviation System Block Upgrades (ASBU) methodology and the MID Region Air Navigation Strategy;
- b) monitor the status of implementation of the MID Region CNS-related ASBU Modules included in the MID Region Air Navigation Strategy as well as other required CNS supporting infrastructure, identify the associated difficulties and deficiencies and provide progress reports, as required;
- c) keep under review the MID Region CNS performance objectives/priorities, develop action plans to achieve the agreed performance targets and propose changes to the MID Region CNS plans/priorities, modernization programmes through the ANSIG, as appropriate;
- d) seek to achieve common understanding and support from all stakeholders and involved in or affected by the CNS developments/activities in the MID Region;
- e) provide a platform for harmonization of developments and deployments of CNS facilities and procedures within region and inter regional;
- f) monitor and review the latest developments in the area of CNS, provide expert inputs for CNS-related issues; and propose solutions for meeting ATM operational requirements;
- g) follow-up the developments of ICAO position for future ITU World Radio Communication (WRC) Conferences and provide expert advises to States;
- h) follow-up the establishment of the MID ATS Message Management Center (MIDAMC);
- i) provide regular progress reports to the ANSIG and MIDANPIRG concerning its work programme; and
- j) review periodically its Terms of Reference and propose amendments, as necessary.

1.2 In order to meet the Terms of Reference, the CNS Sub-Group shall:

- a) provide necessary assistance and guidance to States to ensure harmonization and interoperability in line with the GANP, the MID ANP and ASBU methodology;
- b) provide necessary inputs to the MID Air Navigation Strategy through the monitoring of the agreed Key Performance Indicators related to CNS facilities and procedures;

- c) identify and review those specific deficiencies and problems that constitute major obstacles to the provision of efficient CNS implementation, and recommend necessary remedial actions;
- d) lead the work programme of the MID-AMC including the conduct of trainings and upgrades;
- e) assist, coordinate, harmonize and support in the implementation of CNS facilities and procedures;
- f) seek States support to ICAO Position at WRCs, and encourage States for the proper utilization of the frequency spectrum and Interrogation code allocations;
- g) update ATN Plan as necessary MID region and assist in its Implementation conduct; and
- h) follow-up surveillance technologies implementation to be in line with the surveillance strategy and MID operational improvements in coordination with other Sub-Groups and coordinate Interrogation Code allocations.

2. Composition

2.1 The Sub-Group is composed of:

- a) MIDANPIRG Member States;
- b) concerned International and Regional Organizations as observers; and
- c) other representatives from provider States and Industry may be invited on ad hoc basis, as observers, when required.

METEOROLOGY SUB-GROUP (MET SG)

1. Terms of Reference

1.1 The terms of reference of the MET Sub-Group are:

- a) ensure that the implementation of MET in the MID Region is coherent and compatible with developments in adjacent regions, and is in line with the Global Air Navigation Plan (GANP), the Aviation System Block Upgrades (ASBU) methodology and the MID Region Air Navigation Strategy;
- b) monitor the status of implementation of the MID Region MET-related ASBU Modules included in the MID Region Air Navigation Strategy as well as other required MET facilities and services, identify the associated difficulties and deficiencies and provide progress reports, as required;
- c) keep under review the MID Region MET performance objectives/priorities, develop action plans to achieve the agreed performance targets and propose changes to the MID Region MET plans/priorities, through the ANSIG;
- d) seek to achieve common understanding and support from all stakeholders involved in or affected by the MET developments/activities in the MID Region;
- e) provide a platform for harmonization of developments and deployments in the MET domain;
- f) monitor and review the latest MET developments that support Air Navigation and provide expert inputs for the implementation of the Air Navigation Systems related to MET based on ATM operational requirements;
- g) provide regular progress reports to the ANSIG and MIDANPIRG concerning its work programme; and
- h) review periodically its Terms of Reference and propose amendments, as necessary.

1.2 In order to meet the Terms of Reference, the MET SG shall:

- a) monitor the status of implementation of the required MET facilities and services in the MID Region;
- b) provide necessary assistance and guidance to States to ensure harmonization and interoperability in line with the GANP, the MID ANP and ASBU methodology;
- c) provide necessary inputs to the MID Air Navigation Strategy through the monitoring of the agreed Key Performance Indicators related to MET;
- d) identify and review those specific deficiencies and problems that constitute major obstacles to the provision of efficient MET services, and recommend necessary remedial actions;
- e) keep under review the adequacy of ICAO SARPs requirements in the area of MET, taking into account, inter alia, changes in user requirements, the evolution of operational requirements and technological developments;

- f) develop proposals for the updating of relevant ICAO documentation related to MET, including the amendment of relevant parts of the MID ANP, as deemed necessary;
- g) monitor and review technical and operating developments in the area of MET and foster their implementation in the MID Region in a harmonized manner;
- h) foster the integrated improvement of MET services through proper training and qualification of the MET personnel; and
- i) liaise with other States providing services and/or serve as inter-regional exchange of meteorological information for international civil aviation (e.g. SADIS (U.K.), VAAC Toulouse (France), TCAC New Delhi (India), Regional OPMET Centre Vienna (Austria)).

2. Composition

1.3 The Sub-Group is composed of:

- a) MIDANPIRG Member States;
- b) World Meteorological Organization (WMO) and other concerned International and Regional Organizations as observers; and
- c) other representatives from provider States and Industry may be invited on ad hoc basis, as observers, when required.

PERFORMANCE BASED NAVIGATION SUB-GROUP (PBN SG)

1. Terms of Reference

1.1 The terms of reference of the PBN Sub-Group are:

- a) ensure that the implementation of PBN in the MID Region is coherent and compatible with developments in adjacent regions, and is in line with the Global Air Navigation Plan (GANP), the Aviation System Block Upgrades (ASBU) methodology and the MID Region Air Navigation Strategy;
- b) monitor the status of implementation of the MID Region PBN-related ASBU Modules included in the MID Region Air Navigation Strategy as well as other required PBN supporting infrastructure, identify the associated difficulties and deficiencies and provide progress reports, as required;
- c) keep under review the MID Region PBN performance objectives/priorities, develop action plans to achieve the agreed performance targets and propose changes to the MID Region PBN plans/priorities, through the ANSIG, as appropriate;
- d) seek to achieve common understanding and support from all stakeholders involved in or affected by the PBN and GNSS developments/activities in the MID Region;
- e) provide a platform for harmonization of developments and deployments of PBN concentrating on PBN for approach and terminal areas;
- f) monitor and review the latest developments in the area of PBN and procedure design, provide expert inputs for PBN-related issues; and propose solutions for meeting ATM operational requirements;
- g) monitor and review the latest GNSS developments and activities;
- h) carry out necessary studies for the establishment of a MID Flight Procedure Programme Office;
- i) provide regular progress reports to the ANSIG and MIDANPIRG concerning its work programme; and
- j) review periodically its Terms of Reference and propose amendments, as necessary.

1.2 In order to meet the Terms of Reference, the PBN Sub-Group shall:

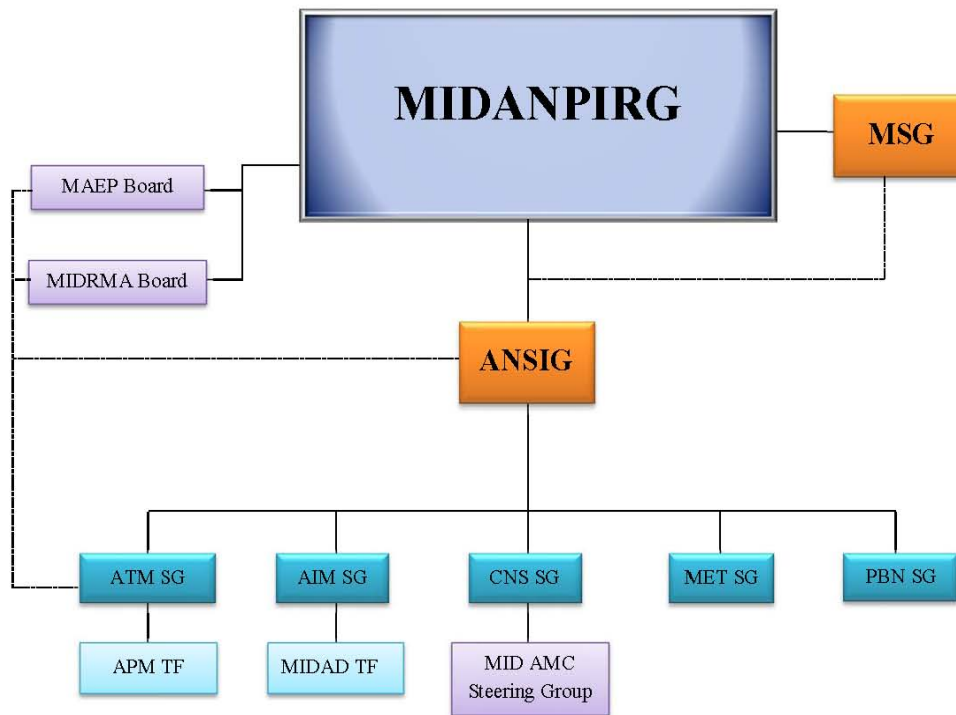
- a) provide necessary assistance and guidance to States to ensure harmonization and interoperability in line with the GANP, the MID ANP and ASBU methodology;
- b) provide necessary inputs to the MID Air Navigation Strategy through the monitoring of the agreed Key Performance Indicators related to PBN;
- c) identify and review those specific deficiencies and problems that constitute major obstacles to the provision of efficient PBN implementation, and recommend necessary remedial actions;

- d) develop and lead the work programme of the MID PBN Support Team (MPST) including the conduct of MPST visits;
- e) assist States that may require support in the implementation of PBN, through MPST support teams;
- f) conduct study related to the establishment of the MID Flight Procedure Programme office;
- g) monitor the progress of studies, projects, trials and demonstrations by the MID Region States, and other ICAO Regions in PBN and GNSS;
- h) study requirements for GNSS Augmentation Systems in the MID Region, and develop implementation plans; and
- i) foster the implementation of PBN through proper training and qualification of the procedure design personnel and all other personnel involved in PBN implementation.

2. Composition

2.1 The Sub-Group is composed of:

- a) MIDANPIRG Member States;
- b) concerned International and Regional Organizations as observers; and
- c) other representatives from provider States and Industry may be invited on ad hoc basis, as observers, when required.



MSG	MIDANPIRG Steering Group	PBN SG	Performance Based Navigation Sub-Group
ANSIG	Air Navigation Systems Implementation Group	APM TF	ATM Performance Measurement Task Force
AIM SG	Aeronautical Information Management Sub-Group	MIDAD TF	MID Region AIS Database Task-Force
ATM SG	Air Traffic Management Sub-Group	MAEP Board	MID Region ATM Enhancement Programme Board
CNS SG	Communication Navigation Surveillance Sub-Group	MIDRMA Board	Middle East Regional Monitoring Agency Board
MET SG	Meteorology Sub-Group	MID AMC Steering Group	MID Region ATS Message Management Centre Steering Group

**AIR TRAFFIC MANAGEMENT PERFORMANCE MEASUREMENT TASK FORCE
(APM TF)**

1. Terms of Reference

1.1 The Terms of Reference of the APM Task Force are:

- a) develop the MID Regional Air Navigation environmental Reports based on the benefits accrued from operational improvements, using IFSET;
- b) provide regular progress reports to the ANSIG and MIDANPIRG concerning its work programme; and
- c) review periodically its Terms of Reference and propose amendments, as necessary.

1.2 In order to meet the Terms of Reference, the APM Task Force shall:

- a) follow-up the implementation of the ATM operational improvements required in the MID Air Navigation Strategy and Regional Air Navigation Plan (ANP) or in national plans and to place special emphasis on identifying and estimating the fuel savings accrued from the corresponding improvements;
- b) carry out permanent coordination with various MIDANPIRG contributory bodies in order to ensure appropriate integration of all tasks contributing to the estimation of environmental benefits related to the implementation of the ANP or national operational improvements;
- c) harmonize, at a regional level, the estimation of the environmental benefits from operational improvements in order to reach consistent results;
- d) collect and analyse the data related to the implemented operational improvements provided by States and users;
- e) use the IFSET to generate the MID Regional Air Navigation environmental Reports;
- f) develop proposals to keep and upgrade the ICAO Fuel Savings Estimation Tool (IFSET) as necessary; and
- g) keep under review the MID Region ATM performance objectives/priorities related to environmental benefits, and propose changes through the ANSIG, as appropriate.

1. COMPOSITION

2.1 The Task Force is composed of:

- a) MIDANPIRG Member States;
- b) concerned International and Regional Organizations as observers; and
- c) other representatives from provider States and Industry may be invited on ad hoc basis, as observers, when required.

STATE:

Date:

Contact Person:

Name:

Title:

email:

MID Region Air Navigation Strategy Questionnaire

The Third meeting of the MIDANPIRG Steering Group (MSG/3), Cairo, 17-19 June 2013, developed a draft MID Air Navigation Strategy, which was further reviewed and updated by the Seventh meeting of the CNS/ATM/IC SG/7, Cairo, Egypt, 07–09 October 2013. The CNS/ATM/IC SG/7 meeting agreed to the following Draft Conclusion:

DRAFT CONCLUSION 7/1: MID REGION AIR NAVIGATION PRIORITIES

That, the MID Region Air Navigation Performance Framework be based on the implementation of the following Block 0 Modules, as a priority: APTA, SURF, FICE, DATM, AMET, FRTO, CDO and CCO.

The below questionnaire is prepared to collect the necessary inputs/comments to support the completion of the MID Air Navigation Strategy.

Based on the provided inputs/comments by States, the MID Region Air Navigation Strategy will be updated to reflect the requirements for the applicability, target date, performance indicator and the action plans needed for the implementation of the above mentioned ASBU Block 0 Modules in the MID Region.

EXPLANATION OF THE TABLE:

- 1- ASBU Block 0 Module name;
- 2- Questions related to the elements agreed for inclusion in the MID Air Navigation Strategy for which data need to be collected. Kindly, provide your answers in the space provided below each question;
and
- 3- Your State action plans to implement the relevant ASBU Modules elements

REFERENCES

- ASBU Document: <http://www.icao.int/sustainability/Pages/ASBU-Framework.aspx>
- Draft MID Air Navigation is attached to the State letter Ref.: AN 1/7-13/260 dated 14 October 2013.

1- B0 – APTA: Optimization of Approach Procedures including vertical guidance	
2- Questions related to Applicability, Indicators/metrics and Target dates	3-Provide Action Plan for
Q1. <i>Provide the Total Number of instrument runways ends in your State:</i> Q2. <i>Provide the Number of instrument runways ends provided with GNSS Approach Procedures (LNAV):</i> Q3. <i>Provide completion date for the implementation of LNAV for all instrument runway ends:</i>	<i>LNAV implementation for all instrument runway ends in your State:</i>
Q4. <i>Provide the Number of instrument runways ends provided with GNSS Approach Procedures with vertical guidance (LNAV/VNAV) :</i> Q5. <i>Provide completion date for the implementation of LNAV/VNAV for all instrument runway ends:</i>	<i>LNAV/VNAV implementation for all instrument runway ends in your State:</i>
Q6. <i>Indicate the instrument runways ends where you are planning to implement precision approach using Ground based augmentation Landing System (GLS) and when:</i>	<i>GLS implementation in your State:</i>

1- B0-SURF: Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)	
2- Questions related to Applicability, Indicators/metrics and Target dates	3- Provide Action Plan for
The below questions are related to the A-SMGCS components as described in ICAO DOC 9830: Q7. <i>Indicate international aerodromes where you have implemented Surface Surveillance:</i> Q8. <i>Indicate international aerodromes where you have implemented Surface Surveillance with addition of at least one cooperative surface surveillance system (ADS-B, multilateration, Secondary Surveillance radar Mode S)</i> Q9. <i>Does your system have the Conflict prediction and/or detection capability?</i> Q10. <i>Indicate international aerodromes with painted taxiway center line and guidance signs:</i> Q11. <i>Indicate international aerodromes with fixed taxiway center line lights:</i> Q12. <i>Indicate international aerodromes where the vehicles accessing the movement area are equipped with cooperative transponder system:</i> Q13. <i>Provide the list of international aerodromes where A-SMGCS (Level 1 or 2) has been implemented or will be implemented and when:</i>	<i>A-SMGCS (Level 1 or 2) implementation:</i>

1- B0 – FICE: Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration	
2- Questions related to Applicability, Indicators/metrics and Target dates	3- Provide Action Plan for
Q14. Have your State implemented AMHS? If not provide the planned date? Q15.. Indicate with which adjacent ACC(s) you have implemented AIDC/OLDI: Q16. Provide completion date for the implementation of AIDC/OLDI with all adjacent State ACC(s):	AIDC/OLDI implementation between your State ACC(s) and Adjacent ACCs:

1- B0 – DATM: Service Improvement through Digital Aeronautical Information Management	
2- Questions related to Applicability, Indicators/metrics and Target dates	3- Provide Action Plan for
Q17. Provide completion date for the implementation of AIXM-based Integrated Aeronautical Information Database (IAID):	AIXM-based Integrated Aeronautical Information Database (IAID) implementation:
Q18. Provide completion date for the implementation of IAID driven AIP Production (eAIP):	eAIP implementation:
Q19. Provide completion date for the implementation of QMS for AIS/AIM:	QMS for AIS/AIM implementation:
Q20. Provide completion date for the implementation of WGS-84 for Enroute:	WGS-84 implementation:
Q21. Provide completion date for the implementation of WGS-84 for Terminal:	
Q22. Provide completion date for the implementation of WGS-84 for Aerodromes:	
Q23. Provide completion date for the implementation of Geoid Undulation:	
Q24. Provide completion date for the implementation of (eTOD) for Areas 1, 2, 3 and 4:	eTOD implementation for Areas 1, 2, 3 and 4:
Q25. When are you planning to implement Digital NOTAM?	Digital NOTAM Implementation:

1- B0 – AMET: Meteorological information supporting enhanced operational efficiency and safety	
2- Questions related to Applicability, Indicators/metrics and Target dates	3- Provide Action Plan for
Q26. <i>Provide completion date for the implementation of SADIS 2G satellite broadcast:</i>	<i>SADIS 2G satellite broadcast implementation:</i>
Q27. <i>Provide completion date for the implementation of Secure SADIS ETP service:</i>	<i>Secure SADIS ETP service implementation:</i>

1- B0 – FRT0: Improved Operations through Enhanced En-Route Trajectories	
2- Questions related to Applicability, Indicators/metrics and Target dates	3- Provide Action Plan for
Q28. <i>Have your State implemented the Flexible Use of Airspace (FUA) Concept? If yes, list the segregated areas where the FUA is implemented; and the ATS Routes overflying these segregated areas:</i>	<i>FUA implementation:</i>
Q29. <i>Identify the segregated areas where the FUA would be implemented:</i>	

4.1D-7

1- B0-CDO: Improved Flexibility and Efficiency in Descent Profiles Continuous Decent Operations(CDO)	
2- Questions related to Applicability, Indicators/metrics and Target dates	3- Provide Action Plan for
Q30. <i>List the Aerodromes with PBN STARs implemented:</i> Q31. <i>Provide completion date for the implementation of PBN STARs at all your International Aerodromes:</i> Q32. <i>What is your plan for CDO implementation? Indicate where (Aerodromes/TMAs) and when it will be implemented:</i>	<i>PBN STARs and CDO implementation in your State:</i>

1- B0- CCO: Improved Flexibility and Efficiency Departure Profiles - Continuous Climb Operations (CCO)	
2- Questions related to Applicability, Indicators/metrics and Target dates	3- Provide Action Plan for
Q33. <i>List the Aerodromes with PBN SIDs implemented:</i> Q34. <i>Provide completion date for the implementation of PBN SIDs at all your International Aerodromes:</i> Q35. <i>What is your plan for CCO implementation? Indicate where (Aerodromes/TMAs) and when it will be implemented:</i>	<i>PBN SIDs and CCO implementation in your State:</i>

MIDANPIRG/14
Appendix 4.1E to the Report on Agenda Item 4.1

MID REGION ASBU BLOCK 0 MODULES PRIORITIZATION TABLE

Module Code	Module Title	Priority	High level Implementation Indicator	Remarks
B0-APTA	Optimization of Approach Procedures including vertical guidance	1	% of international aerodromes having at least one instrument runway provided with APV with Baro VNAV procedure implemented	
B0-WAKE	Increased Runway Throughput through Optimized Wake Turbulence Separation	2	% of applicable international aerodromes having implemented increased runway throughput through optimized wake turbulence separation	List of applicable ADs to be established through regional air navigation agreement.
B0-RSEQ	Improve Traffic flow through Runway Sequencing (AMAN/DMAN)	2	% of applicable international aerodromes having implemented AMAN / DMAN	List of applicable ADs to be established through regional air navigation agreement.
B0-SURF	Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)	1	% of applicable international aerodromes having implemented A-SMGCS Level 2	List of applicable ADs to be established through regional air navigation agreement.
B0-ACDM	Improved Airport Operations through Airport-CDM	1	% of applicable international aerodromes having implemented improved airport operations through airport-CDM	List of applicable ADs to be established through regional air navigation agreement.
B0-FICE	Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration	1	% of FIRs within which all applicable ACCs have implemented at least one interface to use AIDC / OLDI with neighbouring ACCs	
B0-DATM	Service Improvement through Digital Aeronautical Information Management	1	- % States having implemented an integrated aeronautical information database - % States having implemented QMS	
B0-AMET	Meteorological information supporting enhanced operational efficiency and safety	1	- % of States having implemented SADIS / WIFS - % of States having implemented QMS	

Module Code	Module Title	Priority	High level Implementation Indicator	Remarks
B0-FRTO	Improved Operations through Enhanced En-Route Trajectories	1	% of FIRs in which FUA is implemented	
B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view	2	% of FIRs within which all ACCs utilize ATFM systems	
B0-ASUR	Initial capability for ground surveillance	2	% of international aerodromes where ADS-B or SSR or MLAT are implemented for ground surveillance	
B0-ASEP	Air Traffic Situational Awareness (ATSA)	2	% of States having implemented air traffic situational awareness	
B0-OPFL	Improved access to optimum flight levels through climb/descent procedures using ADS-B	2	% of FIRs having implemented in-trail procedures	
B0-ACAS	ACAS Improvements	1	% of aircraft equipped with TCAS v 7.1	
B0-SNET	Increased Effectiveness of Ground-Based Safety Nets	2	% of States having implemented ground-based safety-nets (STCA, APW, MSAW, etc.)	
B0-CDO	Improved Flexibility and Efficiency in Descent Profiles (CDO)	1	- % of international aerodromes / TMAs with PBN STAR implemented - % of international aerodromes where CDO is implemented	List of applicable ADs to be established through regional air navigation agreement
B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route	1	% of FIRs having implemented data link en-route	List of applicable FIRs to be established through regional air navigation agreement
B0-CCO	Improved Flexibility and Efficiency Departure Profiles - Continuous Climb Operations (CCO)	1	- % of international aerodromes / TMAs with PBN SID implemented - % of international aerodromes where CCO is implemented	List of applicable ADs to be established through regional air navigation agreement

4.1E-3

Notes:

Priority 1: Modules that have the highest contribution to the improvement of air navigation safety and/or efficiency in the MID Region. These modules should be implemented where applicable and will be used for the purpose of regional air navigation monitoring and reporting for the period 2013-2014.

Priority 2: Modules recommended for implementation based on identified operational needs and benefits.

MIDANPIRG/14
Appendix 4.1F to the Report on Agenda Item 4.1

MID Region Air Navigation Strategy



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MID Region Air Navigation Strategy

Strategic Air Navigation Capacity and Efficiency Objective:

To realize sound and economically-viable civil aviation system in the MID Region that continuously increases in capacity and improves in efficiency with enhanced safety, security and facilitation while minimizing the adverse environmental effects of civil aviation activities.

Background

The Global ATM Operational Concept was approved by the Eleventh Air Navigation Conference (Montreal, September-October 2003) and published as Doc. 9854-AN/458.

In order to align global planning to the ATM Operational Concept, the Eleventh Air Navigation Conference (AN-Conf/11), recommended States and Regional Planning and Implementation Groups (PIRG), through Recommendation 1/1, to consider the Concept as a common global framework to guide in the planning for the implementation of the systems in support of the air navigation services.

The 37th Session of the International Civil Aviation Organization (ICAO) General Assembly (2010) directed the Organization to double its efforts to meet the global needs for airspace interoperability while maintaining its focus on safety. The Aviation System Block Upgrades (ASBU) methodology was formalized at the Twelfth Air Navigation Conference (AN-Conf/12) (Montreal, November 2012) and is part of the new GANP, 4th Edition (Doc 9750) available at http://www.icao.int/Meetings/a38/Documents/GANP_en.pdf

The block upgrades describe a way to apply the concepts defined in the GANP with the goal of implementing regional performance improvements. They include the development of technology roadmaps, to ensure that standards are mature and to facilitate synchronized implementation between air and ground systems and between regions. The ultimate goal is to achieve global interoperability. Safety demands this level of interoperability and harmonization but it must be achieved at a reasonable cost with commensurate benefits.

Through Recommendation 6/1 - *Regional performance framework – planning methodologies and tools*, AN-Conf/12 urged States and PIRGs to harmonize the regional and national air navigation plans with the ASBU methodology in response to this, the MID region is developing MID Region Air Navigation Strategy that is aligned with the ASBU methodology.

Stakeholders Roles and Responsibilities

Stakeholders including service providers, regulators, airspace users and manufacturers are facing increased levels of interaction as new, modernized ATM operations are implemented. The highly integrated nature of capabilities covered by the block upgrades requires a significant level of coordination and cooperation among all stakeholders. Working together is essential for achieving global harmonization and interoperability.

With the ASBU methodology States, operators and industry will benefit from the availability of Standards and Recommended Practices (SARPs) with realistic lead times. This will enable regional regulations to be identified, allowing for the development of adequate action plans and, if needed, investment in new facilities and/or infrastructure.

For the industry, this constitutes a basis for planning future development and delivering products on the market at the proper target time. For service providers or operators, ASBU should serve as a planning tool for resource management, capital investment, training as well as potential reorganization.

Introduction

As traffic volume increases throughout the world, the demands on air navigation service providers in a given airspace increase, and air traffic management becomes more complex. Increased traffic density brings about an increase in the number of flights that cannot fly their optimum path.

It is foreseen that the implementation of the components of the ATM operational concept will provide sufficient capacity to meet the growing demand, generating additional benefits in terms of more efficient flights and higher levels of safety. Nevertheless, the potential of new technologies to significantly reduce the cost of services will require the establishment of clear operational requirements.

Taking into account the benefits of the ATM operational concept, it is necessary to make many timely decisions for its implementation. An unprecedented cooperation and harmonization will be required at both global and regional level.

ICAO introduced the Aviation System Block Upgrades (ASBU) methodology as a systemic manner to achieve a harmonized implementation of the air navigation services.

With the introduction of the ASBU the Performance Framework Forms (PFF) are restructured and aligned with the ASBU modules, and renamed as Air Navigation Report Forms (ANRF) and presents a standard format for high level monitoring of the ASBU module implementation, where as detailed monitoring of the implementation will be developed in Volume III of the revised new Regional Air Navigation Plans.

Aviation System Block Upgrades (ASBU) Framework

An ASBU designates a set of improvements that can be implemented globally from a defined point in time to enhance the performance of the ATM system. There are four components of a block upgrade.

Module – is a deployable package (performance) or capability. A module will offer an understandable performance benefit, related to a change in operations, supported by procedures, technology, regulations/standards as necessary, and a business case. A module will be also characterized by the operating environment within which it may be applied. The date allocated to a module in a block is that of the initial operating capability.

Of some importance is the need for each of the modules to be both flexible and scalable to the point where their application could be managed through any set of regional plans and still realize the intended benefits. The preferential basis for the development of the modules relied on the applications being adjustable to fit many regional needs as an alternative to being made mandated as a one-size-fits-all application. Even so, it is clear that many of the modules developed in the block upgrades will not be necessary to manage the complexity of air traffic management in many parts of the world.

Thread – describes the evolution of a given capability through the successive block upgrades, from basic to more advanced capability and associated performance, while representing key aspects of the global ATM concept

Block – is made up of modules that when combined enable significant improvements and provide access to benefits.

The notion of blocks introduces a form of date segmentation in five year intervals. However, detailed considerations will call for more accurate implementation dates, often not at the exact assigned block date. The purpose is not to indicate when a module implementation must be completed unless dependencies among modules logically suggest such a completion date.

Performance improvement area (PIA) – sets of modules in each block are grouped to provide operational and performance objectives in relation to the environment to which they apply, thus forming an executive view of the intended evolution. The PIAs facilitate comparison of on-going programmes.

The four PIAs are as follows:

- a) airport operations;
- b) globally interoperable systems and data – through globally interoperable system-wide information management;
- c) optimum capacity and flexible flights – through global collaborative ATM; and
- d) efficient flight paths – through trajectory-based operations.

Figure 1 illustrates the relationships between the modules, threads, blocks, and PIAs.

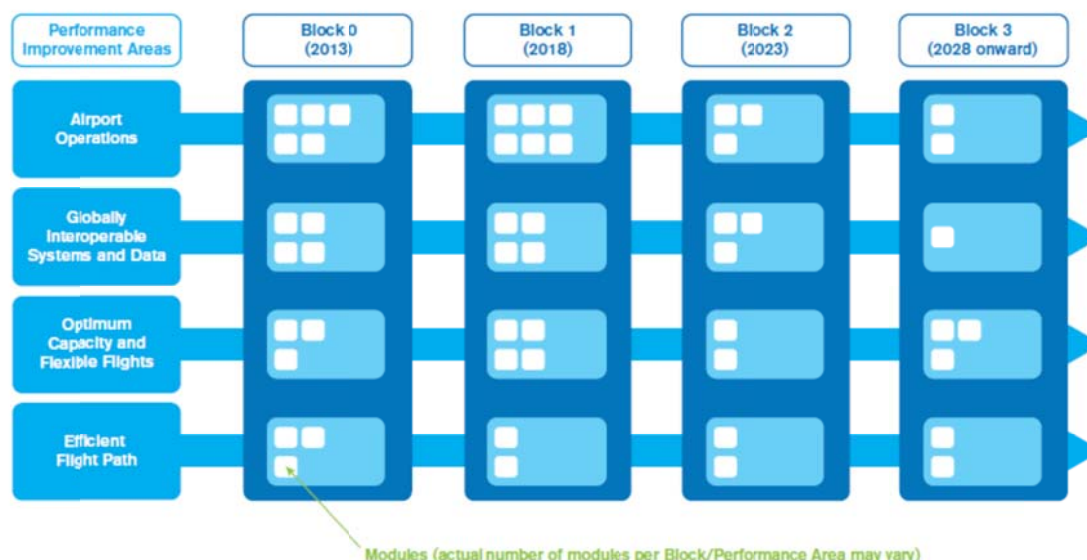


Figure 1.

MID Air Navigation Objectives:

States must focus on their Air Navigation Capacity and Efficiency priorities as they continue to foster expansion of the air transport sectors.

The ICAO Global Air Navigation Plan (GANP) represents a rolling strategic methodology which leverages existing technologies and anticipates future developments based on State/industry agreed operational objectives. The Block Upgrades are organized in five-year time increments starting in 2013 and continuing through 2028 and beyond. This structured approach provides a basis for sound investment strategies and will generate commitment from States, equipment manufacturers, operators and service providers.

The Global Plan offers a long-term vision that will assist ICAO, States and industry to ensure continuity and harmonization among their modernization programmes. It also explores the need for more integrated aviation planning at both the regional and State level and addresses required solutions by introducing Aviation System Block Upgrade (ASBU) methodology.

The MID Region air navigation objectives are in line with the global air navigation objectives and address specific air navigation operational improvements identified within the framework of the Middle East Regional Planning and Implementation Group (MIDANPIRG).

The enhancement of communication and information exchange between aviation Stakeholders and their active collaboration under the framework of MIDANPIRG would help achieving the MID Region Air Navigation objectives in an expeditious manner.

Near-term Objective (2013 - 2018): ASBU Block 0

The Fourth Edition of the *Global Air Navigation Plan* introduces ICAO's ASBU methodology and supporting technology roadmaps based on a rolling fifteen-year planning horizon. Although the GANP has a global perspective, it is not intended that all ASBU modules are to be applied around the globe. Some of the ASBU modules contained in the GANP are specialized packages that should be applied where specific operational requirements or corresponding benefits exist.

Although some modules are suitable for entirely stand-alone deployment, an overall integrated deployment of a number of modules could generate additional benefits. The benefits from an integrated implementation of a number of modules may be greater than the benefits from a series of isolated implementations. Similarly, the benefits from the coordinated deployment of one module simultaneously across a wide area (e.g. a number of proximate airports or a number of contiguous airspaces/flight information regions) may exceed the benefits of the implementations conducted on an ad hoc or isolated basis.

An example of a need for global applicability would be performance-based navigation (PBN). Assembly Resolution A37-11 urges all States to implement approach procedures with vertical guidance in accordance with the PBN concept. Therefore, the ASBU modules on PBN approaches should be seen as required for implementation at all airports. In the same way, some modules are well suited for regional or sub-regional deployment and should take this into account when considering which modules to implement regionally and in what circumstances and agreed timeframes.

Block ‘0’ features Modules characterized by operational improvements which have already been developed and implemented in many parts of the world today. It therefore has a near-term implementation period of 2013–2018, whereby 2013 refers to the availability of its particular performance Modules and 2018 the target implementation deadline. It is not the case that all States will need to implement every Module, and ICAO will be working with its Members to help each determine exactly which capabilities they should have in place based on their unique operational requirements.

The MID Region Air Navigation Strategy is aimed to maintain regional harmonisation. The States should develop their national performance framework, including action plans for the implementation of relevant ASBU Modules.

It is important to clarify how each ASBU module fits into the framework of the MID Regional Air Navigation system.

Mid-term Objective (2018 - 2023): ASBU Block 1

Block 0 features Modules characterized by technologies and capabilities which have already been developed and implemented in many parts of the world today. It therefore features a near-term availability milestone, or Initial Operating Capability (IOC), of 2013 based on regional and State operational need. Blocks 1 through 3 are characterized by both existing and projected performance area solutions, with availability milestones beginning in 2018, 2023 and 2028 respectively.

Associated timescales are intended to depict the initial deployment targets along with the readiness of all components needed for deployment. It must be stressed that a Block’s availability milestone is not the same as a deadline.

Long-term Objective (2023 - 2028): ASBU Block 2

The Block Upgrades incorporate a long-term perspective matching that of the three companion ICAO Air Navigation planning documents. They coordinate clear aircraft- and ground-based operational objectives together with the avionics, data link and ATM system requirements needed to achieve them. The overall strategy serves to provide industry wide transparency and essential investment certainty for operators, equipment manufacturers and ANSPs.

MID Region ASBU Block 0 Modules Prioritization

On the basis of operational requirements and taking into consideration the associated benefits, MID Region has prioritized the implementation of the Block “0” Modules as in **Table 1**.

Table 1: MID REGION ASBU BLOCK 0 MODULES PRIORITIZATION

Performance Improvement Areas (PIA)	Performance Improvement Area Name	Module	Priority	Module Name
PIA 1	Airport Operations	B0-65 APTA	1	Optimization of Approach Procedures including vertical guidance
		B0-70 WAKE	2	Increased Runway Throughput through Optimized Wake Turbulence Separation
		B0-15 RSEQ	2	Improved Traffic Flow through Sequencing (AMAN/DMAN)
		B0-75 SURF	1	Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)
		B0-80 ACDM	2	Improved Airport Operations through Airport-CDM
PIA 2	Globally Interoperable Systems and Data - Through Globally Interoperable System Wide Information Management	B0-25 FICE	1	Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration
		B0-30 DATM	1	Service Improvement through Digital Aeronautical Information Management
		B0-105 AMET	1	Meteorological information supporting enhanced operational efficiency and safety
PIA 3	Optimum Capacity and Flexible Flights – Through Global Collaborative ATM	B0-10 FRTO	1	Improved Operations through Enhanced En-Route Trajectories
		B0-35 NOPS	2	Improved Flow Performance through Planning based on a Network-Wide view
		B0-84 ASUR	2	Initial Capability for Ground Surveillance
		B0-85 ASEP	2	Air Traffic Situational Awareness (ATSA)
		B0-86 OPFL	2	Improved access to Optimum Flight Levels through Climb/Descent Procedures using ADS-B
		B0- 101 ACAS	1	ACAS Improvements
		B0-102 SNET	2	Increased Effectiveness of Ground-based Safety Nets
PIA 4	Efficient Flight Path – Through Trajectory-based Operations	B0-05 CDO	1	Improved Flexibility and Efficiency in Descent Profiles (CDO)
		B0-TBO	1	Improved Safety and Efficiency through the initial application of Data Link En-Route
		B0-20 CCO	1	Improved Flexibility and Efficiency Departure Profiles - Continuous Climb Operations (CCO)

Priority 1: Modules that have the highest contribution to the improvement of air navigation safety and/or efficiency in the MID Region. These modules should be implemented where applicable and will be used for the purpose of regional air navigation monitoring and reporting for the period 2013-2014.

Priority 2: Modules recommended for implementation based on identified operational needs and benefits.

Measuring and monitoring air navigation Performance:

The monitoring of air navigation performance and its enhancement is achieved through identification of relevant air navigation Metrics and Indicators as well as the adoption and attainment of air navigation system Targets.

The MID Region Air Navigation Performance Framework is based on the implementation of the Block 0 Modules shown in **Table 1** as a priority.

The MID Region air navigation Key Performance Indicators, Targets and Action Plans are detailed in the **Table 2** below.

***Note:** The different elements supporting the implementation are explained in the ASBU Document, and Global Plan (Doc 9750)*

Action Plans:

MIDANPIRG through its activities under the various subsidiary bodies will continue to develop, update and monitor the implementation of Action Plans to achieve the air navigation targets.

A progress report on the implementation of the Action Plans and achieved targets will be developed by the Air Navigation System Implementation Group (ANSIG) and presented to MIDANPIRG.

Governance:

The MIDANPIRG will be the governing body responsible for the review and update of the MID Region Air Navigation Strategy.

The MID Region Air Navigation Strategy will guide the work of MIDANPIRG and all its member States and partners.

Progress on the implementation of the MID Region Air Navigation Strategy and the achievement of the agreed air navigation targets will be reported to the ICAO Air Navigation Commission (ANC), through the review of the MIDANPIRG reports; and to the stakeholders in the Region within the framework of MIDANPIRG.

Table 2

MONITORING OF THE AVIATION SYSTEM BLOCK UPGRADES (ASBUS)

IMPLEMENTATION IN THE MID REGION

B0 – APTA: Optimization of Approach Procedures including vertical guidance**Description and purpose**

The use of performance-based navigation (PBN) and ground-based augmentation system (GBAS) landing system (GLS) procedures will enhance the reliability and predictability of approaches to runways, thus increasing safety, accessibility and efficiency. This is possible through the application of Basic global navigation satellite system (GNSS), Baro vertical navigation (VNAV), satellite-based augmentation system (SBAS) and GLS. The flexibility inherent in PBN approach design can be exploited to increase runway capacity.

Main performance impact:

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

Applicability consideration:

This module is applicable to all instrument, and precision instrument runway ends, and to a limited extent, non-instrument runway ends.

B0 – APTA: Optimization of Approach Procedures including vertical guidance

Elements	Applicability	Performance Indicators/Supporting Metrics	Targets	Action Plan	Remarks
LNAV	All Instrument RWYs	Indicator: % of runway ends with GNSS Approach Procedures (LNAV) Supporting metric: Number of instrument runways ends provided with GNSS Approach Procedures (LNAV)	All instrument runway ends, either as the primary approach or as a back-up for precision approaches by 2016	1) Consultation meetings jointly driven by IATA, CANSO, and ICAO 2) PBN Workshops in 2014 3) MPST Go-Team visits	
LNAV/VNAV	All Instrument RWYs	Indicator: % of instrument runways ends provided with Baro-VNAV approach procedures Supporting metric: Number of instrument runways ends provided with Baro-VNAV approach procedures	All instrument runway ends, either as the primary approach or as a back-up for precision approaches by 2018	4) GNSS/GBAS Workshop in 2015 5) Pilot projects and trials	
Precision Approach using GLS	TBD	Indicator: % of runway ends with GLS Supporting metric Number of runway ends with GLS			

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

Description and purpose

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

Main performance impact:

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

Applicability consideration:

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

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

Elements	Applicability	Performance Indicators/Supporting Metrics	Targets	Action Plan	Remarks
A-SMGCS Level 1	TBD	Indicator: % of applicable international aerodromes having implemented A-SMGCS Level 1 Supporting Metric: Number of applicable international aerodromes having implemented A-SMGCS Level 1		1) Aerodrome technical missions jointly driven by ICAO, IATA and ACI 2) Airport infrastructure surveys 3) consultation meetings jointly driven by ICAO, IATA, CANSO, and ACI	List of applicable ADs to be established through regional air navigation agreement.
A-SMGCS Level 2	TBD	Indicator: % of applicable international aerodromes having implemented A-SMGCS Level 2 Supporting Metric: Number of applicable international aerodromes having implemented A-SMGCS Level 2			List of applicable ADs to be established through regional air navigation agreement.

B0 – ACDM: Improved Airport Operations through Airport-CDM

Description and purpose

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

Main performance impact:

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

Applicability consideration:

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

B0 – ACDM: Improved Airport Operations through Airport-CDM

<i>Elements</i>	<i>Applicability</i>	<i>Performance Indicators/Supporting Metrics</i>	<i>Targets</i>	<i>Action Plan</i>	<i>Remarks</i>
A-CDM	TBD	Indicator: % of applicable international aerodromes having implemented improved airport operations through airport-CDM Supporting metric: Number of applicable international aerodromes having implemented improved airport operations through airport-CDM		1) Aerodrome technical missions jointly driven by ICAO, IATA and ACI 2) consultation meetings jointly driven by ICAO, IATA, CANSO, and ACI	List of ADs to be established through regional air navigation agreement.

B0 – FICE: Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration

Description and purpose

To improve coordination between air traffic service units (ATSUs) by using ATS Interfacility Data Communication (AIDC) defined by the ICAO *Manual of Air Traffic Services Data Link Applications* (Doc 9694). The transfer of communication in a data link environment improves the efficiency of this process particularly for oceanic ATSUs.

Main performance impact:

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

Applicability consideration:

Applicable to at least two area control centres (ACCs) dealing with enroute and/or terminal control area (TMA) airspace. A greater number of consecutive participating ACCs will increase the benefits.

B0 – FICE: Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration

<i>Elements</i>	<i>Applicability</i>	<i>Performance Indicators/Supporting Metrics</i>	<i>Targets</i>	<i>Action Plan</i>	<i>Remarks</i>
AMHS implementation	<i>All States'</i>	Indicator: % of States with AMHS implemented Supporting metric: Number of States with AMHS implemented			
AMHS interconnection	<i>All States'</i>	Indicator: % of States with AMHS interconnected with other States AMHS Supporting metric: Number of States with AMHS interconnections implemented with other States AMHS			
Implementation of AIDC/OLDI between adjacent ACCs	<i>All ACCs</i>	Indicator: Percentage of ACCs with AIDC/OLDI systems implemented between adjacent ACCs Supporting metric: Number of AIDC/OLDI interconnections implemented between adjacent ACCs			

B0 – DATM: Service Improvement through Digital Aeronautical Information Management

Description and purpose

The initial introduction of digital processing and management of information, through aeronautical information service (AIS)/aeronautical information management (AIM) implementation, use of aeronautical information exchange model (AIXM), migration to electronic aeronautical information publication (AIP) and better quality and availability of data

Main performance impact:

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

Applicability consideration:

Applicable at State level, with increased benefits as more States participate

B0 – DATM: Service Improvement through Digital Aeronautical Information Management

<i>Elements</i>	<i>Applicability</i>	<i>Performance Indicators/Supporting Metrics</i>	<i>Targets</i>	<i>Action Plan</i>	<i>Remarks</i>
1-AIXM	<i>All States</i>	Indicator: % of States that have implemented an AIXM-based Integrated Aeronautical Information Database (IAID) Supporting Metric: Number of States that have implemented an AIXM-based Integrated Aeronautical Information Database (IAID)			
2-eAIP	<i>All States</i>	Indicator: % of States that have implemented an IAID driven AIP Production (eAIP) Supporting Metric: Number of States that have implemented an IAID driven AIP Production (eAIP)			
3-QMS	<i>All States</i>	Indicator: % of States that have implemented QMS for AIS/AIM Supporting Metric: Number of States that have implemented QMS for AIS/AIM			
4-WGS-84	<i>All States</i>	Indicator: % of States that have implemented WGS-84 for Enroute			

		Supporting Metric: Number of States that have implemented WGS-84 for Enroute Indicator: % of States that have implemented WGS-84 for Terminal Supporting Metric: Number of States that have implemented WGS-84 for Terminal Indicator: % of States that have implemented WGS-84 for Aerodromes Supporting Metric: Number of States that have implemented WGS-84 for Aerodromes Indicator: % of States that have implemented Geoid Undulation Supporting Metric: Number of States that have implemented Geoid Undulation			
5-eTOD	<i>All States</i>	Indicator: % of States that have implemented required Terrain datasets Supporting Metric: Number of States that have implemented required Terrain datasets Indicator: % of States that have implemented required Obstacle datasets Supporting Metric: Number of States that have implemented required Obstacle datasets			
6-Digital NOTAM*	<i>All States</i>	Plan for the implementation of Digital NOTAM			

B0 – AMET: Meteorological information supporting enhanced operational efficiency and safety

Description and purpose

Global, regional and local meteorological information:

- a) forecasts provided by world area forecast centres (WAFC), volcanic ash advisory centres (VAAC) and tropical cyclone advisory centres (TCAC);
- b) aerodrome warnings to give concise information of meteorological conditions that could adversely affect all aircraft at an aerodrome including wind shear; and
- c) SIGMETs to provide information on occurrence or expected occurrence of specific en-route weather phenomena which may affect the safety of aircraft operations and other operational meteorological (OPMET) information, including METAR/SPECI and TAF, to provide routine and special observations and forecasts of meteorological conditions occurring or expected to occur at the aerodrome.

This module includes elements which should be viewed as a subset of all available meteorological information that can be used to support enhanced operational efficiency and safety.

Main performance impact:

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

Applicability consideration:

Applicable to traffic flow planning, and to all aircraft operations in all domains and flight phases, regardless of level of aircraft equipage.

B0 – AMET: Meteorological information supporting enhanced operational efficiency and safety

<i>Elements</i>	<i>Applicability</i>	<i>Performance Indicators/Supporting Metrics</i>	<i>Targets</i>	<i>Action Plan</i>	<i>Remarks</i>
SADIS 2G satellite broadcast	<i>All States</i>	Indicator: % of States implemented SADIS 2G satellite broadcast Supporting metric: : % of States implemented SADIS 2G satellite broadcast			
Secure SADIS FTP service	<i>All States</i>	Indicator: % of States implemented Secure SADIS FTP service Supporting metric: % of States implemented Secure SADIS FTP service			

B0 – FRT0: Improved Operations through Enhanced En-Route Trajectories

Description and purpose

To allow the use of airspace which would otherwise be segregated (i.e. special use airspace) along with flexible routing adjusted for specific traffic patterns. This will allow greater routing possibilities, reducing potential congestion on trunk routes and busy crossing points, resulting in reduced flight length and fuel burn.

Main performance impact:

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

Applicability consideration:

Applicable to en-route and terminal airspace. Benefits can start locally. The larger the size of the concerned airspace the greater the benefits, in particular for flex track aspects. Benefits accrue to individual flights and flows. Application will naturally span over a long period as traffic develops. Its features can be introduced starting with the simplest ones.

B0 – FRT0: Improved Operations through Enhanced En-Route Trajectories

<i>Elements</i>	<i>Applicability</i>	<i>Performance Indicators/Supporting Metrics</i>	<i>Targets</i>	<i>Action Plan</i>	<i>Remarks</i>
Flexible use of airspace (FUA)	<i>All States</i>	Indicator: % of States implementing FUA Supporting metric: number of States implementing FUA			Implementation should be based on the published aeronautical information
Flexible routing	<i>All States</i>	Indicator: % of established Routes overflying segregated airspace Supporting metric: Number of established Routes overflying segregated airspace			Based on published aeronautical information

B0 – ACAS: ACAS Improvements

Description and purpose

To provide short-term improvements to existing airborne collision avoidance systems (ACAS) to reduce nuisance alerts while maintaining existing levels of safety. This will reduce trajectory deviations and increase safety in cases where there is a breakdown of separation

Main performance impact:

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

Applicability consideration:

Safety and operational benefits increase with the proportion of equipped aircraft.

B0 – ACAS: ACAS Improvements

Elements	<i>Applicability</i>	<i>Performance Indicators/Supporting Metrics</i>	<i>Targets</i>	<i>Action Plan</i>	<i>Remarks</i>
Avionics	All aircraft with a max certificated take-off mass greater than 5.7 tons	Indicator: % of aircraft equipped with TCAS v 7.1 as applicable Supporting metric: Number of aircraft equipped with TCAS v 7.1 as applicable			

B0 – CDO: Improved Flexibility and Efficiency in Descent Profiles (CDO)

Description and purpose

To use performance-based airspace and arrival procedures allowing aircraft to fly their optimum profile using continuous descent operations (CDOs). This will optimize throughput, allow fuel efficient descent profiles and increase capacity in terminal areas.

Main performance impact:

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

Applicability consideration:

Regions, States or individual locations most in need of these improvements. For simplicity and implementation success, complexity can be divided into three tiers:

- a) least complex – regional/States/locations with some foundational PBN operational experience that could capitalize on near term enhancements, which include integrating procedures and optimizing performance;
- b) more complex – regional/States/locations that may or may not possess PBN experience, but would benefit from introducing new or enhanced procedures. However, many of these locations may have environmental and operational challenges that will add to the complexities of procedure development and implementation; and
- c) most complex – regional/States/locations in this tier will be the most challenging and complex to introduce integrated and optimized PBN operations. Traffic volume and airspace constraints are added complexities that must be confronted. Operational changes to these areas can have a profound effect on the entire State, region or location.

B0 – CDO: Improved Flexibility and Efficiency in Descent Profiles (CDO)

<i>Elements</i>	<i>Applicability</i>	<i>Performance Indicators/Supporting Metrics)</i>	<i>Targets</i>	<i>Action Plan</i>	<i>Remarks</i>
PBN STARS	TBD	Indicator: % of International Aerodromes/TMA with PBN STAR implemented Supporting Metric: Number of International Aerodromes/TMAs with PBN STAR implemented			List of ADs to be established through regional air navigation agreement.
International aerodromes/TMAs with CDO	TBD	Indicator: % of International Aerodromes/TMA with CDO implemented Supporting Metric: Number of International Aerodromes/TMAs with CDO implemented		1) Pilot projects for CDOs 2) City-pair pilot projects for tailored arrivals 3) PBN Workshops	List of applicable ADs to be established through regional air navigation agreement.

B0 –TBO: Improved Safety and Efficiency through the initial application of Data Link En-Route

Description and purpose

To implement an initial set of data link applications for surveillance and communications in ATC, supporting flexible routing, reduced separation and improved safety.

Main performance impact:

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

Applicability consideration:

Requires good synchronization of airborne and ground deployment to generate significant benefits, in particular to those equipped. Benefits increase with the proportion of equipped aircraft.

B0 –TBO: Improved Safety and Efficiency through the initial application of Data Link En-Route

Elements	Applicability	Performance Indicators/Supporting Metrics	Targets	Action Plan	Remarks
ADS-C and CPDLC	TBD	Indicator: % of FIRs having implemented data link en-route Supporting Metric: Number of FIRs having implemented data link en-route		1. Technical and operational support for datalink trials. 2. As a priority start with datalink implementation in the Empty Quarter as a pilot project.	List of FIRs to be established through regional air navigation agreement.

B0 – CCO: Improved Flexibility and Efficiency Departure Profiles - Continuous Climb Operations (CCO)

Description and purpose

To implement continuous climb operations in conjunction with performance-based navigation (PBN) to provide opportunities to optimize throughput, improve flexibility, enable fuel-efficient climb profiles and increase capacity at congested terminal areas.

Main performance impact:

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

Applicability consideration:

Regions, States or individual locations most in need of these improvements. For simplicity and implementation success, complexity can be divided into three tiers:

- a) least complex: regional/States/locations with some foundational PBN operational experience that could capitalize on near-term enhancements, which include integrating procedures and optimizing performance;
- b) more complex: regional/States/locations that may or may not possess PBN experience, but would benefit from introducing new or enhanced procedures. However, many of these locations may have environmental and operational challenges that will add to the complexities of procedure development and implementation; and
- c) most complex: regional/States/locations in this tier will be the most challenging and complex to introduce integrated and optimized PBN operations. Traffic volume and airspace constraints are added complexities that must be confronted. Operational changes to these areas can have a profound effect on the entire State, region or location.

B0 – CCO: Improved Flexibility and Efficiency Departure Profiles - Continuous Climb Operations (CCO)

<i>Elements</i>	<i>Applicability</i>	<i>Performance Indicators/Supporting Metrics</i>	<i>Targets</i>	<i>Action Plan</i>	<i>Remarks</i>
PBN SIDs	TBD	Indicator: % of International Aerodromes/TMA with PBN SID implemented Supporting Metric: Number of International Aerodromes/ TMAs with PBN SID implemented			List of ADs to be established through regional air navigation agreement.
International aerodromes/TMAs with CCO	TBD	Indicator: % of International Aerodromes/TMA with CCO implemented Supporting Metric: Number of International Aerodromes/TMAs with CCO implemented		1) Pilot projects for CCOs 2) PBN Workshops	List of ADs to be established through regional air navigation agreement.

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REPORT ON AGENDA ITEM 4: PERFORMANCE FRAMEWORK FOR REGIONAL AIR NAVIGATION PLANNING AND IMPLEMENTATION

4.2 AOP

4.2.1 The meeting recalled that the requirement of aerodrome certification was highlighted and emphasized through the MID regional meetings and workshops/seminars. In particular, the AOP Sub-Group and MIDANPIRG meetings have endorsed a number of Conclusions to urge MID States to provide Action Plans and expedite the Implementation of Aerodromes Certification in accordance with Annex 14 and relevant ICAO SARPs.

4.2.2 The meeting noted that the DGCA-MID/2 meeting (Jeddah, Saudi Arabia 20-22 May 2013) recognized that certification of aerodromes needs a high level commitment from States and agreed to the following Conclusion:

*DGCA MID/2-CONCLUSION 2/8— AERODROMES CERTIFICATION ACTION PLAN
AND PROGRESS REPORTS*

That, MID States, that have not yet done so, be urged to:

- a) allocate necessary resources and develop Action Plans for the implementation of Aerodromes Certification; and*
- b) send progress reports on implementation status to the ICAO MID Regional Office every six months with effect from 01 July 2013.*

4.2.3 The meeting reviewed the outcome of the AOP SG/9 (Cairo, Egypt 23-25 September 2013) pursuant to the review of the report of the Second meeting of the Aerodrome Certification Implementation Task Force (ADCI TF/2, Doha, Qatar, 12-14 May 2013). The meeting noted the updated status of Aerodromes Certification in the MID Region as at **Appendix 4.2A** to the Report on Agenda Item 4.2.

4.2.4 It was highlighted that 28 out of the 71 MID States International Aerodromes had been certified. This number represents 39% of the International Aerodromes listed in the MID ANP. The meeting noted that the inclusion of Libya and Sudan to the MID ANP had been reflected in the MID aerodrome certification implementation table.

4.2.5 The meeting recognized the need for a Second Regional Runway Safety Seminar (MID-RRSS/2). In this regard, the meeting noted that most of the MID States have not yet started the establishment of Runway Safety Team (RST). Accordingly, the meeting agreed that there's a need to organise a Runway Safety Team (RST) Workshop in order to raise awareness about RSTs, promote the use of the guidance material and best practices included in the ICAO RST Handbook, share experience and lessons learned from already established RSTs and accelerate the implementation of local RSTs.

4.2.6 In connection with the above, the meeting noted that ICAO has received comments on the draft RST Handbook (<http://www.icao.int/safety/RunwaySafety/Documents%20and%20Toolkits/EN.pdf>). These comments will be considered in the final version of the first edition of the RST Handbook which is expected to be ready for final review by the end of January, and published in February 2014. In addition, the runway safety web site has been updated on (<http://www.icao.int/safety/RunwaySafety/Pages/default.aspx>).

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4.2.7 The meeting agreed that the MID-RRSS/2 should be used as a platform to launch an RST Go-Team initiative. The Objectives, composition, and coordination process of the RST Go-Team would be addressed within the framework of RASG-MID. Accordingly, the meeting agreed to the following Conclusion:

CONCLUSION 14/7: SECOND REGIONAL RUNWAY SAFETY SEMINAR (MID-RRSS/2)

That,

- a) the Second MID REGIONAL RUNWAY SAFETY SEMINAR (RRSS) be organised by ICAO in partnership with IATA and other interested safety partners;*
- b) the agenda of the RRSS take into account the RASG-MID work programme related to Runway Safety, in particular the SEIs and DIPs related to RSTs; and*
- c) MID States, Service Providers and International/Regional Organizations be encouraged to support and actively participate in the Seminar.*

4.2.8 The meeting noted that AOP SG/9 meeting recognized the variation in the level of aerodromes certification implementation. Some States have certified all their international aerodromes, whereas other States have not certified any aerodrome. Accordingly, the AOP SG/9 meeting suggested the establishment of a MID Aerodrome Certification Support Team (MID-ADCST) and through Draft Conclusion 9/2 suggested that ICAO organise a Workshop on aerodrome certification during the second half of 2014.

4.2.9 In connection with the above, and based on the outcome of the Second meeting of the RASG-MID Steering Committee (RSC/2, Amman, Jordan, 28-30 October 2013), the meeting noted that there will be no specific workshop on aerodrome certification in year 2014. However, a break-out session will be reserved for aerodrome certification implementation as part of the MID RRSS/2, which is planned to be hosted by UAE in Dubai, 2-5 June 2014. The meeting further noted that the establishment of the ADCST will be discussed within the RASG-MID framework.

4.2.10 The meeting noted that Amendment 11 to Annex 14, Volume I (applicable on 14 November 2013 for 11-A and 13 November 2014 for 11-B) and Amendment 5 to Annex 14, Volume II (applicable on 14 November 2013) were adopted by the Council on 27 February 2013.

4.2.11 The meeting recognized the need for an awareness campaign on the application of Annex 14 Volume II (Heliports). Therefore, a Seminar has been suggested for training on best practice in heliport construction and safety. The Seminar would be used to diagnose the present situation of heliports operations in the MID Region identifying their current needs, and determine best practices in heliport safety, construction and operation. Accordingly, the meeting agreed to the following Conclusion:

CONCLUSION 14/8: SEMINAR ON HELIPORTS

That,

- a) ICAO consider organising a Seminar on Heliports; and*
- b) MID States and International/Regional Organizations be encouraged to host and support the Seminar and to invite Service Providers and Safety Partners for attendance and active participation.*

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4.2.12 The meeting recognized the importance of a prior approval by the regulator for any development or change to the physical characteristics of an aerodrome. Accordingly, the meeting agreed to the following Conclusion:

CONCLUSION 14/9: PROVISIONS FOR PRIOR APPROVAL TO AERODROME DEVELOPMENT

That, MID States, that have not yet done so, be urged to:

- a) make a requirement for a prior approval of any development or change to the physical characteristics of an aerodrome;*
- b) develop necessary procedures for the approval process supported by risk assessment and management as required; and*
- c) inform the ICAO MID Regional Office of the actions taken before 1 May 2014.*

4.2.13 The meeting noted that most of the AOP SG activities are related to Aerodrome Certification and Runway Safety and accordingly would fit more within the RASG-MID Framework. In order to avoid duplication of efforts, the meeting agreed that the activities of the AOP SG and ADCI TF be transferred to the RASG-MID framework. Accordingly, the meeting agreed to the following Decision:

DECISION 14/10: TRANSFER OF AERODROMES ACTIVITIES TO RASG-MID

That,

- a) the activities of the AOP SG and ADCI TF be transferred to the RASG-MID framework ; and*
- b) Aerodrome Specialists from MID States and ICAO continue to support MIDANPIRG and its subsidiary bodies for aerodromes-related Air Navigation matters.*

4.2.14 The meeting noted that the RSC/2 meeting supported the establishment of a Working Group for Runway and Ground Safety (RGS WG) under the Middle East Regional Aviation Safety Team (MID-RAST) to address all aerodromes safety issues. The Terms of Reference (ToR) of the RGS WG will be prepared and presented to the RASG-MID/3 meeting (Kuwait, 27-29 January 2014) for endorsement.

4.2.15 The meeting noted with appreciation the willingness of the Arab Civil Aviation Commission (ACAC), the United States Federal Aviation Administration (FAA), and the International Federation of Air Lines Pilots' Associations (IFALPA) to support the aerodromes safety events in the MID Region, in particular the MID-RRSS/2.

4.2.16 The meeting noted that a Wildlife/FOD Workshop will be held in Cairo, Egypt, 20-22 January 2014 and encouraged States, and all stakeholders to participate and support this event.

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STATUS OF AERODROME CERTIFICATION IMPLEMENTATION IN MID REGION

Sr	State	Listed aerodromes					Certified Aerodromes					Percentage certified	Remarks
		RS	RNS	AS	ANS	Total	RS	RNS	AS	ANS	Total		
1	Bahrain	1				1	1				1	100%	
2	Egypt	8	1	7		16	4				4	25%	
3	Iran	7	1			8	2				2	25%	
4	Iraq	5	1			6	2				2	33%	
5	Jordan	2		1		3	1				1	33%	
6	Kuwait	1				1	1				1	100%	
7	Lebanon	1				1	0				0	0%	
8	Libya	3				3					0	0%	
9	Oman	1		1		2	1		1		2	100%	
10	Qatar	2				2	2				2	100%	
11	Saudi Arabia	4				4	4				4	100%	
12	Sudan	5			3	8	1				1	13%	
13	Syria	3				3	0				0	0%	
14	UAE	7	1			8	7	1			8	100%	
15	Yemen	5				5	0				0	0%	
	Total	55	4	9	3	71	26	1	1	0	28	39%	
	% certified						47%	25%	11%	0%	39%		

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**REPORT ON AGENDA ITEM 4: PERFORMANCE FRAMEWORK FOR REGIONAL AIR NAVIGATION
PLANNING AND IMPLEMENTATION ISSUES**

4.3 ATM/SAR

4.3.1 The meeting reviewed the outcome of the Thirteenth meeting of the ATM/AIM/SAR Sub-Group (ATM/AIM/SAR SG/13) held in Cairo, Egypt, 30 September - 3 October 2013.

MID Region ATS Route Network

4.3.2 The meeting noted with concerns that some States were still not complying with the established procedures for the amendment of the ATS route network, including the compliance with the AIRAC procedures and urged them to adhere to the established ICAO procedures for amendments and establishment of ATS routes that form part of the Regional ATS route network.

4.3.3 The meeting noted with appreciation the implementation of RNAV 1 Routes in Bahrain and Emirates Flight Information Regions (FIRs), which relieved the traffic congestion in these areas; as well as the opening of the route segment NWB – KITOT for eastbound traffic at and above flight level (FL) 350.

4.3.4 The meeting noted that as a result of the outcome of the ARN TF/6 meeting (Cairo, Egypt, 22-24 April 2013), a proposal for amendment was processed, and approved by the President of the ICAO Council on behalf of the Council, on 3 August 2013.

4.3.5 The meeting reviewed the top ten (10) routes at **Appendix 4.3A** to the Report on Agenda Item 4.3 extracted from the Route Catalogue and identified based on the major traffic flows in the MID Region, the definition of City Pairs, the PBN and Flexible Use of Airspace (FUA) concepts. Accordingly, the meeting agreed to the following Conclusion:

CONCLUSION 14/11: IMPLEMENTATION OF THE TOP TEN ATS ROUTES

*That, concerned States be urged to take necessary measures to implement the identified routes at **Appendix 4.3A** to the Report on Agenda Item 4.3.*

4.3.6 In connection with the above, the meeting urged States to take all the necessary measures to implement the planned routes or route segments included in their deficiency list, which will enhance significantly the ATS route network in the MID Region.

4.3.7 The meeting was apprised of the outcome of the side meeting on the Normalization of the Baghdad FIR, which was held during the proceedings of the ATM/AIM/SAR SG/13 meeting. It was noted that Bahrain, Iraq, Iran, Jordan, Kuwait, Saudi Arabia, and the MIDRMA attended the side meeting and their contributions and spirit of cooperation were highly appreciated.

4.3.8 The meeting noted with appreciation the progress achieved by Iraq, especially with regard to the improvement of the Communication, Navigation, and Surveillance (CNS) infrastructure in the Baghdad FIR.

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4.3.9 The meeting noted that Iraq raised concerns related to the traffic flows in the Baghdad FIR and accordingly, it was agreed that the following four (4) ATS routes should be implemented, as follows:

- Iraq to Bahrain through Kuwait: UKMUG-SIDAD-New Point East of RABAP then to join the ATS Route network within Bahrain;
- Iraq to Bahrain through Kuwait: SIDNA-New point West of ASLAN-RABAP;
- Iraq to Saudi Arabia: SIDNA- RALTI – RAF; and
- Saudi Arabia to Iraq: HFR-ELODI-KABAN.

4.3.10 The meeting agreed to include the two proposed RNAV 1 routes between Iraq and Kuwait mentioned above in the list of the top ten (10) priority routes. The meeting noted with appreciation Kuwait cooperation to implement these routes during the second quarter of 2014.

4.3.11 The meeting noted with appreciation that the two (2) proposed routes between Iraq and Saudi Arabia above would be implemented by **6 February 2014**. Accordingly, Iraq and Saudi Arabia would provide the ICAO MID Regional Office with a joint draft proposal for amendment to the MID Basic ANP for the implementation of the ATS Routes: SIDNA-RALTI- RAF and HFR-ELODI-KABAN.

4.3.12 In connection with the above, the meeting noted with appreciation that Iraq would reduce the longitudinal spacing to 20 NM in the Baghdad FIR, further to the implementation of the above Routes between Jeddah and Baghdad FIRs.

4.3.13 The meeting noted that the ICAO MID Regional Office would process a proposal for amendment to include Libya and Sudan ATS Routes in the MID Basic ANP, Table ATS 1 –ATS Route Network.

4.3.14 The meeting raised concerns regarding the use of like-sounding 5LNCs in close geographical locations. Accordingly, the meeting encouraged States and Users to identify and report 5LNCs duplication and/or like-sounding issues to the ICAO MID Regional Office for necessary action.

Civil/Military Coordination

4.3.15 The meeting emphasized on the need for sharing the airspace between Civil and Military. Accordingly, the meeting urged States to manage the airspace flexibly with an equitable balance between Civil and Military users through strategic coordination and dynamic interaction, which would lead to the implementation of the Flexible Use of Airspace (FUA).

4.3.16 The meeting was apprised of the outcome of the Middle East Civil/Military Cooperation Seminar held in Jeddah, Saudi Arabia, 16-19 September 2012. The AN-Conf/12 Recommendation 4/5 related to Civil/Military Cooperation was also highlighted.

4.3.17 The meeting underlined that the low level of Civil/Military cooperation is the main impediment delaying the improvement of the MID Region ATS route network. Accordingly, the meeting urged States to implement the provisions of the AN-Conf/12- Recommendation 4/5 and agreed to the following Conclusions in order to foster the Civil/Military cooperation and improve the implementation of the FUA concept:

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CONCLUSION 14/12: CIVIL/MILITARY COOPERATION

That, States be urged to

- a) develop necessary institutional arrangements to foster Civil/Military cooperation; and*
- b) arrange as necessary for the Military Authorities to be:

 - i) involved in the airspace planning and management process;*
 - ii) aware of the new developments in civil aviation; and*
 - iii) involved in national, regional and international aviation meetings, workshops, seminars, etc., related to Air Traffic Management and Search and Rescue.**

CONCLUSION 14/13: FLEXIBLE USE OF AIRSPACE

That, States be urged to take necessary:

- a) follow-up actions to implement the provisions of Recommendation 4/5 of the AN-Conf/12; and*
- b) measures to implement the Flexible Use of Airspace (FUA) Concept through strategic Civil/Military coordination and dynamic interaction, in order to open up segregated airspace when it is not being used for its originally-intended purpose and allow for better airspace management and access for all users.*

4.3.18 The meeting noted that the establishment of Civil/Military Go-Team was discussed during the ATM/AIM/SAR SG/13 meeting. It was highlighted that, the mechanism of Go-Team could improve Civil/Military cooperation in the MID Region. The main objective of the Civil/Military Go-Team will be the enhancement of the Flexible Use of Airspace (FUA) implementation through visits to selected States to highlight the benefits that could be achieved through improved Civil/Military cooperation and sharing of the airspace serving international traffic flows, expressed in term of increased capacity and efficiency, reduced CO₂ emissions and enhanced safety.

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

CONCLUSION 14/14: MID CIVIL/MILITARY GO-TEAM

That,

- a) a MID Civil/Military Go-Team be established to expedite the implementation of the Flexible Use of Airspace (FUA) Concept in the MID Region; and*
- c) the details related to the scope, Tasks, Pre-Go-Team Visit arrangements, on-site activities, and outcomes of the Civil/military Go-Teams be discussed during the next ATM Sub-Group meeting.*

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Contingency Planning in the MID Region

4.3.20 The meeting was apprised of the status of the contingency planning in the MID Region. The meeting noted with appreciation that Bahrain and Egypt completed the signature of contingency agreements with all their neighboring States.

4.3.21 The meeting recalled that the review and update process of the old MID regional contingency plan and the Contingency Routing Scheme Asia/Middle East/Europe 2003 (CRAME-03), was very difficult and complicated process. In this regard, the meeting reviewed the MID Region ATM Contingency Plan at **Appendix 4.3B** to the Report on Agenda Item 4.3, which was developed to harmonize contingency planning in the MID Region and ensure, to the maximum extent possible, the continued safety of air navigation in the event of disruption or potential disruption of Air Traffic Services and related supporting services.

4.3.22 The MID ATM Contingency Plan provides alternative routings for the traffic flows between the MID Region, Asia, Africa, and Europe. It will allow aircraft operators to circumnavigate airspace(s) in the MID Region, as deemed necessary, or due to a perceived risk to the safety of flight with a minimum of disruption to flight operations.

4.3.23 The meeting noted that the MID Region ATM Contingency Plan includes the MID Region Volcanic Ash Contingency Plan as an attachment to Chapter 5.

4.3.24 It was highlighted that the State(s) responsible for providing air traffic services and related supporting services in particular portions of airspace is (are) responsible, in the event of disruption or potential disruption of these services, for instituting measures to ensure the safety of international civil aviation operations and, where possible, for making provisions for alternative facilities and services. To that end State(s) should develop, promulgate, and implement appropriate contingency plans. Such plans should be developed in consultation with other States and airspace users concerned and with ICAO, as appropriate, whenever the effects of the service disruption(s) are likely to affect the services in adjacent airspace.

4.3.25 The meeting encouraged States to periodically review their national contingency plan and coordinate any amendment with neighbouring States and ICAO. Moreover, the meeting agreed that States should ensure the availability of their updated contingency plans at the ICAO MID Regional Office.

4.3.26 The meeting reviewed and updated the status of contingency agreements and the contingency focal points list in the MID Region contained in the MID Region ATM Contingency Plan at **Appendix 4.3B** to the Report on Agenda Item 4.3.

4.3.27 The meeting noted that the MID Region ATM Contingency Plan included some provisions related to the spread of communicable diseases, based on the guidance set out by the ICAO Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation (CAPSCA) project.

4.3.28 Based on all of the foregoing, the meeting agreed to the following Conclusion:

CONCLUSION 14/15: MID REGION ATM CONTINGENCY PLAN

*That, the MID Region ATM Contingency Plan be endorsed as at **Appendix 4.3B** to the Report on Agenda Item 4.3.*

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Search and Rescue (SAR)

4.3.29 The meeting noted that the main deficiencies related to the Search and Rescue (SAR) in the MID Region were related to the:

- a) lack of signature of SAR agreements;
- b) lack of plans of operations for the conduct of SAR operations and SAR exercises;
- c) lack of provision of required SAR services; and
- d) non-compliance with the carriage of Emergency Locator Transmitter (ELT) requirements.

4.3.30 The meeting reviewed and updated the status of SAR agreements in the MID Region as at **Appendix 4.3C** to the Report on Agenda Item 4.3. The meeting noted with appreciation that Iraq and Jordan signed the SAR agreement. Notwithstanding, the meeting noted the concerns raised by States related to the difficulties they are facing in the implementation of ICAO Annex 12 provisions related to search and rescue cooperation and coordination. The meeting agreed that a step-wise approach should be followed for the implementation of these provisions. However, it was highlighted that the Model of SAR Agreement available in the International Aeronautical and Maritime Search and Rescue Manual (IAMSAR Manual) (Doc 9731, Volume I, Appendix I) does not support this approach, since it covers all the Annex 12 Standards and Recommended Practices related to SAR cooperation. Accordingly, the meeting agreed that a simplified MID Region Model of SAR Agreement/Bilateral Arrangements should be developed to foster the implementation of Annex 12 provisions in a step-wise approach.

4.3.31 Notwithstanding, the meeting urged States to include in the Letter of Agreements (LoA) between the Area Control Centres (ACCs) a Section related to SAR cooperation.

4.3.32 In connection with the above, the meeting recalled that the national SAR Legislative and Regulatory framework should provide for the cooperation and coordination with neighboring States of the SAR operations, especially when these operations are proximate to adjacent Search and Rescue Regions (SRR).

4.3.33 Based on the above, the meeting agreed to the following Decision:

DECISION 14/16: SEARCH AND RESCUE COOPERATION

That, the ATM Sub-Group develop a simplified MID Region Model of SAR Agreement/Bilateral Arrangements to foster the implementation of Annex 12 provisions related to SAR cooperation in a step-wise approach.

4.3.34 The meeting noted with appreciation that all the MID States have designated a SAR Point of Contact (SPOC) for the reception of the COSPAS-SARSAT messages. The SPOC contact details are at **Appendix 4.3D** to the Report on Agenda Item 4.3, and are also available at the COSPAS-SARSAT website: It was highlighted that States are requested to update their SPOC details, as appropriate, by accessing the COSPAS-SARSAT website through the following link: <http://www.cospas-sarsat.org/en/component/cospasfrontend/>

4.3.35 The meeting reviewed and updated the MID Region SAR Focal Points List as at **Appendix 4.3E** to the Report on Agenda Item 4.3.

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MID Region ATM Enhancement Program (MAEP)

4.3.36 The meeting was apprised of the outcome of the DGCA-MID/2 and MSG/3 meetings related to the establishment of the MID Region ATM Enhancement Programme (MAEP).

4.3.37 The meeting noted that Air Traffic Management enhancement was addressed during the DGCA MID/2 meeting in four working papers (WP/8, WP/11, WP/12 and WP/45) presented by IATA, the Secretariat, CANSO and UAE. It was highlighted that the subject has been addressed from different angles with different perspectives.

4.3.38 The meeting recalled that the DGCA-MID/2 meeting, through Conclusions 2/3 agreed that the ICAO MID Regional Office organise a Special Coordination Meeting in order to agree on the best mechanism to establish a MID Region ATM Enhancement Programme, taking into consideration all initiatives.

4.3.39 It was highlighted that, in order to expedite the process and avoid that the legal and funding issues delay the implementation of the Programme, the DGCA-MID/2 meeting, through Conclusion 2/4 agreed that a MAEP Board composed of high level representatives from concerned States and Organizations, be established to be responsible for overall supervision, direction, and management of the Programme.

4.3.40 The meeting noted that the MSG/3 meeting initiated discussion on the scope, objectives and framework of the MAEP. In this respect, it was highlighted that the following should be considered during the development of the programme:

- Human Resources;
- MAEP Board composed of high level representatives (Decision makers);
- Programme/project management;
- Legal, institutional and funding issues;
- States' commitment and ownership;
- coordination and communication; and
- implementation support (i.e. Go-Team).

4.3.41 The meeting noted that the MAEP Special Coordination Meeting (SCM) is scheduled to be held at the ICAO MID Regional Office, Cairo, 18-20 February 2014. In this regard, the meeting urged States, Users and International/Regional Organizations to actively participate to the MAEP-SCM by providing the ICAO MID Regional Office with their proposals related to MAEP by **25 January 2014** for presentation to the MAEP-SCM. Accordingly, the meeting agreed to the following Conclusion:

**CONCLUSION 14/17: MID REGION ATM ENHANCEMENT PROGRAMME
(MAEP) – SPECIAL COORDINATION MEETING**

*That, States and Users be urged to provide the ICAO MID Regional Office with their proposals related to MAEP by **25 January 2014**, for presentation to the MAEP-SCM scheduled for 18-20 February 2014.*

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4.3.42 The meeting was apprised of CANSO proposal related to the MAEP Board, MAEP Implementation Team and MAEP Programme Management Office. The meeting agreed that this proposal should be deferred to the MAEP-SCM for consideration.

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Appendix 4.3A to the Report on Agenda Item 4.3

APPENDIX A

MID TOP 10 PROPOSED ATS ROUTES

TPR	ATS Route Catalogue Reference	ATS Route Affected	States Concerned	Status			Remarks
				Reviewed by	Date	Changed	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1	RC-035	UL602	Iraq – Syria	ATM/AIM/SAR SG/13	SEP 2013	Yes	Pending for Syria approval
2	RC-045	New	Bahrain-Qatar- Saudi Arabia-Sudan-UAE	ATM/AIM/SAR SG/13	SEP 2013	Yes	
3	RC-055	L315	Egypt-Saudi Arabia	ATM/AIM/SAR SG/13	SEP 2013	Yes	Implemented with opposite direction
4	RC-056	New	Egypt	ATM/AIM/SAR SG/13	SEP 2013	Yes	Route amendment
5	RC-070	New	Egypt-Libya	ATM/AIM/SAR SG/13	SEP 2013	Yes	
6	RC-082	New UQ 597	Egypt-Jordan-Saudi Arabia	ATM/AIM/SAR SG/13	SEP 2013	Yes	Route amendment
7	RC-083	New UQ 598	Egypt-Libya-Saudi Arabia	ATM/AIM/SAR SG/13	SEP 2013	Yes	
8	Eurocontrol Proposal 1	New	Egypt	ATM/AIM/SAR SG/13	SEP 2013	New	
9	UKMUG-SIDAD	New	Bahrain-Iraq-Kuwait	ATM/AIM/SAR SG/13	Oct 2013	New	RNAV 1 Routes
10	SIDNA-ASLAN	New	Bahrain-Iraq-Kuwait	ATM/AIM/SAR SG/13	Oct 2013	New	RNAV 1 Routes

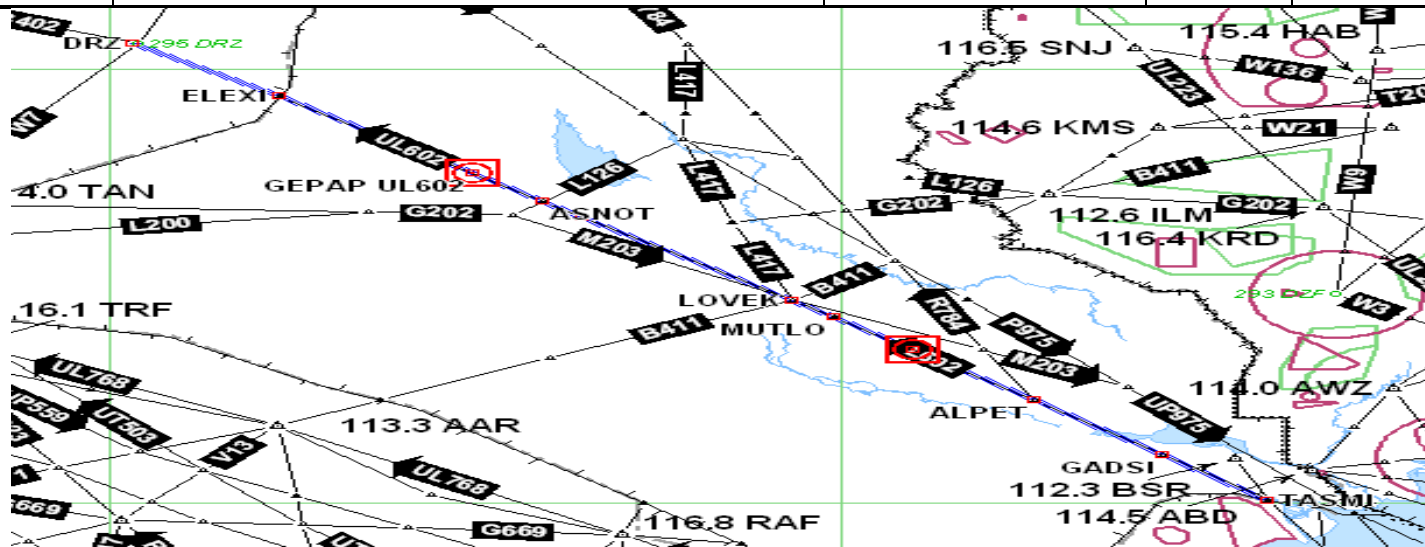
Table explanation

- a) TPR used as reference for the proposed Top 10 routes to be considered for implementation, numbers do not reflect the level of priority.
- b) Source of the proposed routes.
- c) Affected ATS Routes by the implementation of the new proposed routes.
- d) States Concerned with the implementation.
- e) The Group, Sub-Group or Task Force that had reviewed and updated the status of implementation of these top 10 routes.
- f) Date of last status update.
- g) Indicates if the status is changed or Not.
- h) Remarks

MIDANPIRG/14-REPORT
APPENDIX 4.3A

4.3A-2

MID/RC-035 (TPR 1)	ATS Route Name: UL602	Entry-Exit: TASMI - ELEXI	Inter-Rgional Cross Reference if any		Users Priority	URGENT	Originator of Proposal	Iraq
							Date of Proposal	RDGE/11 (Oct 2009)
Route Description		States Concerned	Expected Implemen- tation date	Implementation Status	ANP Status		Action Taken / Required	Deadline for each Action
GEPAP 334905.80N 0422850.64E ELEXI 344130N 0410900E		Iraq		Entire route Westbound	Suspended in the Damascus FIR		Syria requested additional time to examine the communication requirements by concerned FIR's.	Conditional on Communication AIRAC date (25 Sept 2008) Pending acceptance by Syria, of status of communication infrastructure
Flight Level Band: FL240-FL460		Syria						
Potential City Pairs:								
Conclusions/Remarks							Last updated	ATM/AIM/SAR SG/13 SEP 2013

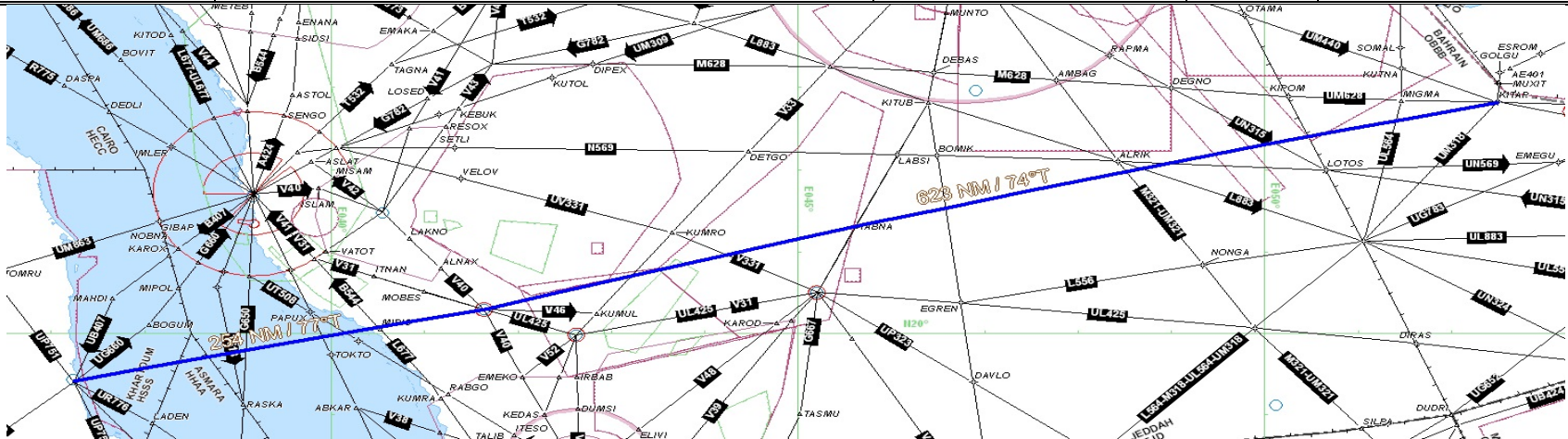


MID/RC-035 - (TPR 1)

4.3A-3

MID/RC-044

MID/RC-045 (TPR 2)	ATS Route Name: New Route	Entry-Exit: PSD-BHA-KITAP BOGUM-ASTOG	Inter-Regional Cross Reference if any		Users Priority		Originator Proposal	of	IATA
							Date of Proposal		ARN TF/2
Route Description		States Concerned	Expected Implemen- tation date	Implementation Status		ANP Status	Action Taken / Required		Deadline for each Action
Port Sudan (PSD)		Bahrain, Qatar, Saudi Arabi ba, Sudan, United Arab Emirates					Bahrain has no objection		
Al BAHA (BHA)							Qatar, Saudi Arabia might be accepted as conditional Route		
KITAP							Sudan no objection		
Flight Level Band:							from Port Sudan to SALWA (CDR)		
Potential City Pairs: DGAA, DNMM, HSSS, OEJN, SBGR to OBBI, OMAA, OMDB, OTBD (Central and Eastern Arabian Peninsula to Sudan, West Africa, South America)							UAE Comments required		
							KSA suggest Port Sudan BHA- KITAP (Normal route) will avoid CDR		
Conclusions/Remarks		Saves 58 miles and 3196 Kg of CO2 to recalculate						Last updated	ATM/AIM/SAR SG/13 SEP 2013

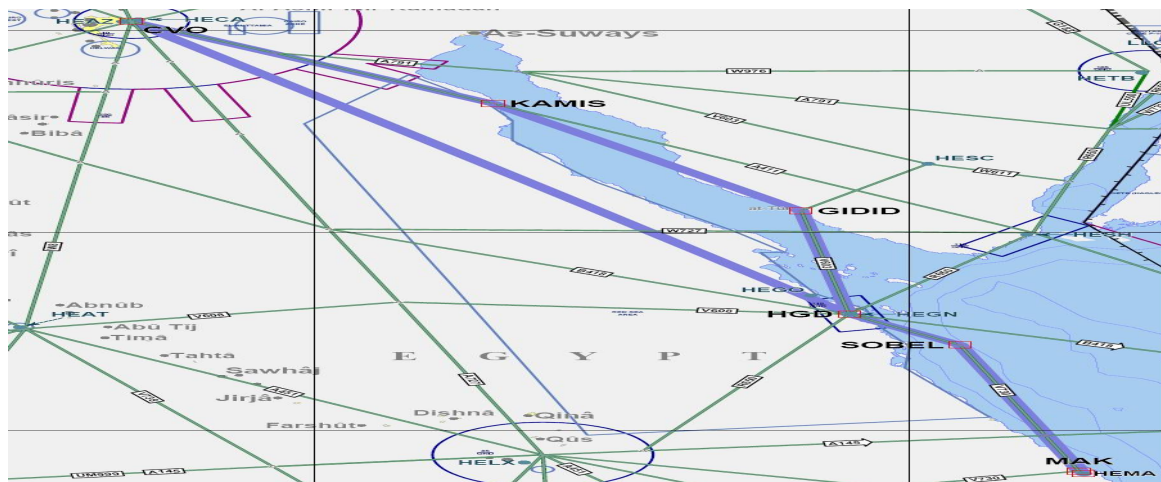


MID/RC-045 - (TPR 2)

MIDANPIRG/14-REPORT
APPENDIX 4.3A

4.3A-4

MID/RC-055 (TPR 3)	ATS Route Name: New Route L315	Entry-Exit: HEMA-CVO	Inter-Regional Cross Reference if any		Users Priority		Originator of Proposal	IATA	
							Date of Proposal	ARN TF/2	
Route Description MAK-CVO		States Concerned	Expected Implemen- tation date	Implementation Status		ANP Status	Action Taken / Required		Deadline for each Action
CVO		Egypt					L315 to be discussed with Saudi Arabia for direction of route To be followed up Both States agreed to study the proposal pending final agreement by June 2012 Opposite Direction		
HGD									
GIBAL									
Flight Level Band: Upper									
Potential City Pairs: North-western Red Sea to HECA and Europe									
Conclusions/Remarks		Saves 9 miles					Last updated	ATM/AIM/SAR SG/13 SEP 2013	



MID/RC-055- (TPR 3)

MIDANPIRG/14-REPORT
APPENDIX 4.3A

4.3A-5

MID/RC-056 (TPR 4)	ATS Route Name: New Route	Entry-Exit: HEMA-SHM		Inter-Regional Cross Reference if any		Users Priority		Originator of Proposal	IATA	
								Date of Proposal	ARN TF/2	
Route Description HEMA-SHM		States Concerned	Expected Implemen- tation date	Implementation Status		ANP Status		Action Taken / Required		Deadline for each Action
		Egypt						IATA to provide further details Tied with L315 await further discussions from Egypt.		
Flight Level Band: Upper										
Potential City Pairs: HESH, Eastern Mediterranean, Europe to Western Red Sea Coast										
Conclusions/Remarks		Saves 17 miles						Last updated	ATM/AIM/SAR SG/13 SEP 2013	

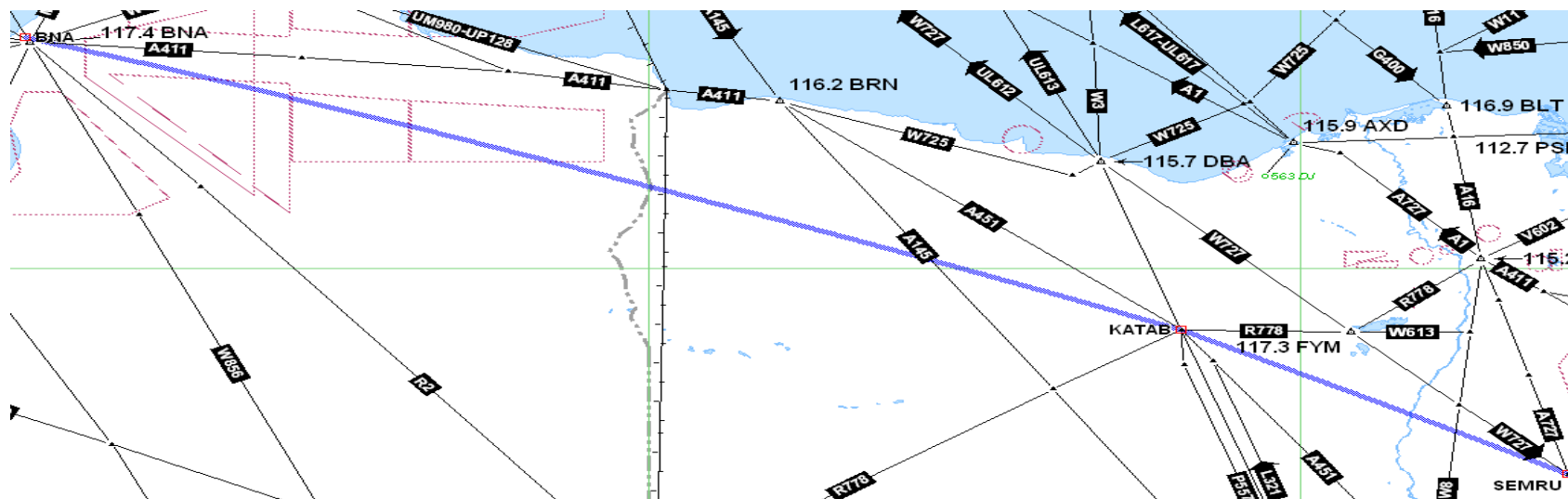


MID/RC-056- (TPR 4)

MIDANPIRG/14-REPORT
APPENDIX 4.3A

4.3A-6

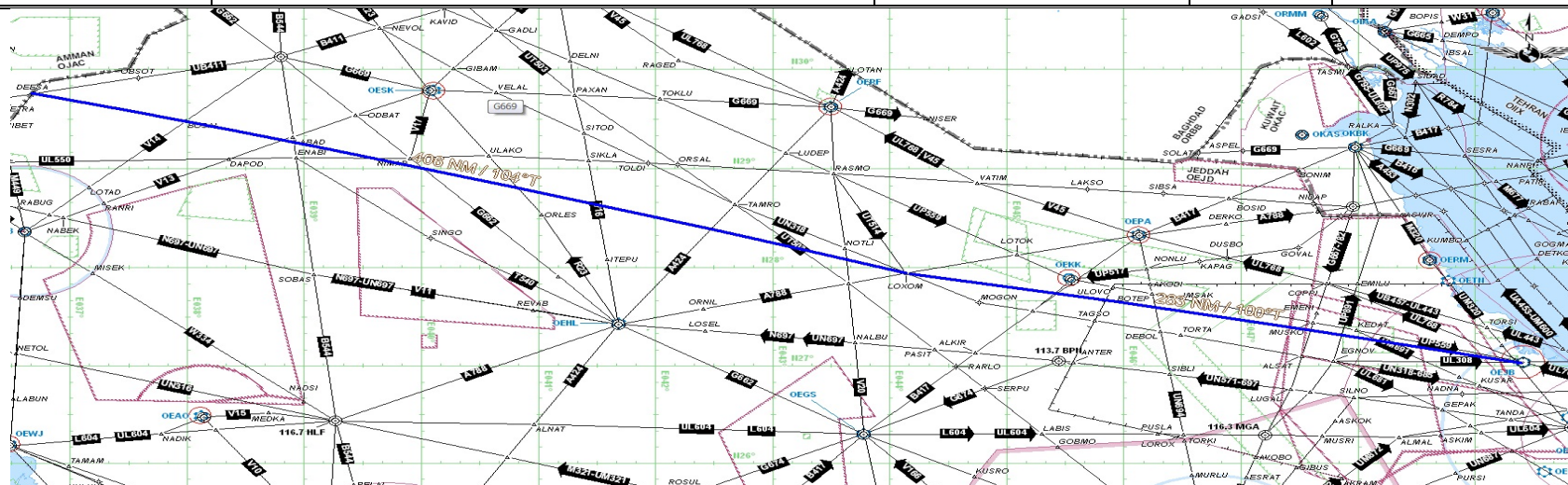
MID/RC-070 (TPR 5)	ATS Route Name: New Route	Entry-Exit: BNA-KATAB- SEMRU	Inter-Regional Cross Reference if any		Users Priority	High	Originator of Proposal	IATA
							Date of Proposal	ARN TF/1
Route Description		States Concerned	Expected Implemen- tation date	Implementation Status		ANP Status	Action Taken/Required	Deadline for each Action
BNA (N32 07.5 E020 15.2) – KATAB (N29 25.0 E029 05.1) – SEMRU (N28 02.0 E032 03.1)				New ATS route.			Differed for the future	
Flight Level Band: FL290 – FL410								
Potential City Pairs: CMN/ALG/TUN/TIP-DOH								
Conclusions/Remarks		This AWY would save considerable track miles BNA – KATAB – SEMRU Libya FIR to Egypt FIR					Last updated	ATM/AIM/SAR SG/13 SEP 2013



MID/RC-070- (TPR 5)

4.3A-7

MID/RC-082 (TPR 6)	ATS Route Name: New Route UQ597 Eastbound	Entry-Exit: DANAD - METSA – ASH – ULOVO	Inter-Regional Cross Reference if any		Users Priority	High	Originator of Proposal	IATA iFLEX Proposal	
							Date of Proposal	17 May 2011	
Route Description		States Concerned	Expected Implemen- tation date	Implementation Status		ANP Status	Action Taken/Required		Deadline for each Action
DANAD 28 51 06N 028 06 09E METSA 29 27 07N 034 59 03E ASH ULOVO 27 48 30N 045 54 20E		Egypt Jordan Saudi Arabia				Not in the ANP	connecting to UP559. Implement if possible Priority Routes		TBD
Flight Level Band:		KSA suggest DEESA –LOXOM-JBL							
Potential City Pairs: Dakar FIR, Algiers FIR, Tripoli FIR, Cairo FIR, Jeddah FIR		In Egypt to follow the current route network							
Conclusions/Remarks		Proposals agreed to by some State during the iFLEX workshop Dubai					Last updated	ATM/AIM/SAR SG/13 SEP 2013	



MID/RC-082-- (TPR 6)

MIDANPIRG/14-REPORT
APPENDIX 4.3A

4.3A-8

MID/RC-083 (TPR 7)	ATS Route Name: New Route UQ598 Westbound	Entry-Exit: DITAR – NABED – PASAM – HIL - ANTER - KUTEM	Inter-Regional Cross Reference if any		Users Priority	High	Originator of Proposal	IATA iFLEX Proposal	
							Date of Proposal	17 May 2011	
Route Description		States Concerned	Expected Implemen- tation date	Implementation Status		ANP Status	Action Taken/Required		Deadline for each Action
DITAR 26 59 03N 025 00 00E AST NABED 27 18 01 032 17 06E PASAM 27 30 45N 034 55 42E HIL Via A791 KUTEM		Libya Egypt Saudi Arabia					Needs to be discussed with Egypt if A145 can be bidirectional East of LXR Implement if possible Priority Routes Important Segment HGD-PASAM		TBD
Flight Level Band:									
Potential City Pairs:									
Conclusions/Remarks								Last updated	ATM/AIM/SAR SG/13 SEP 2013



MID/RC-083- (TPR 7)

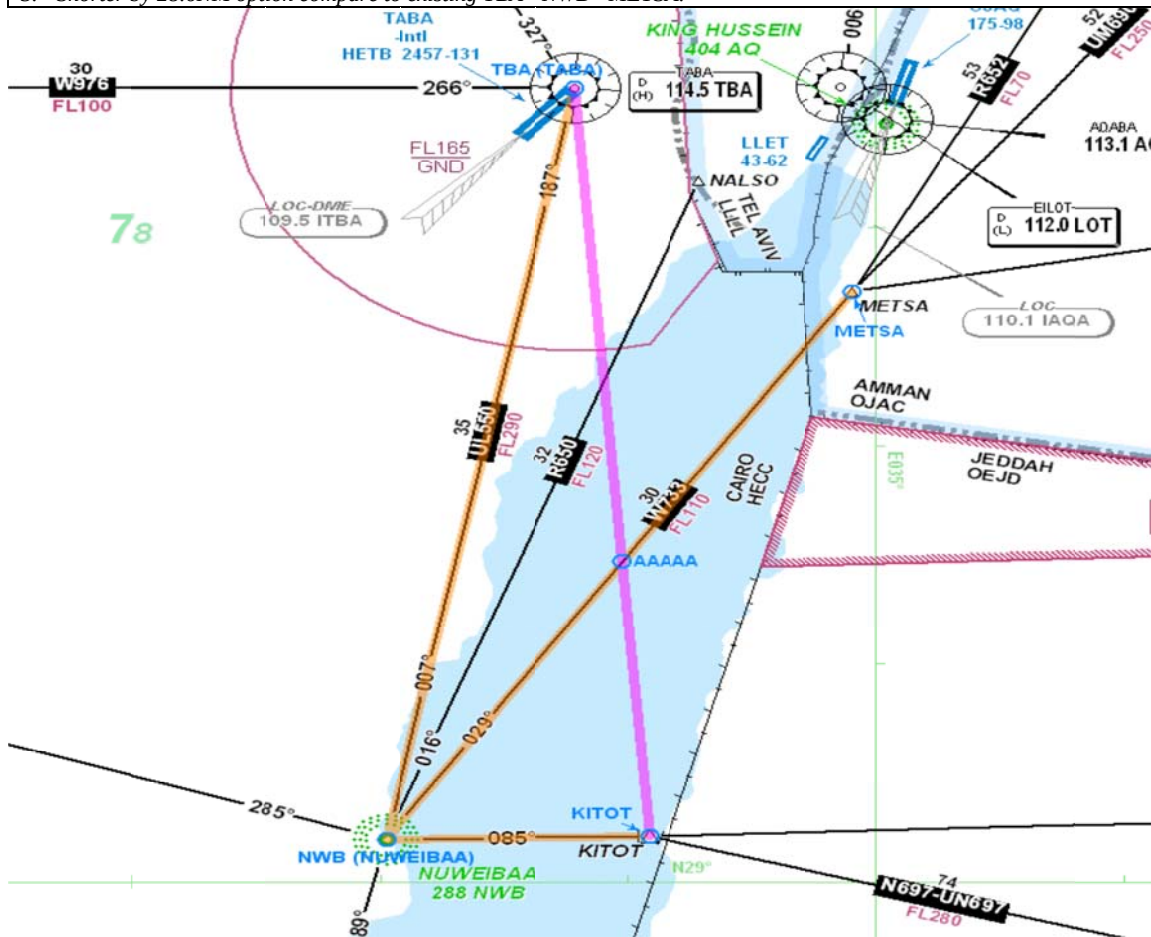
4.3A-9

Eurocontrol proposals

Reference	Objective and Proposal	State(s) concerned
TPR 8	<i>Objective:</i> To further improve ATS route network within Cairo FIR. To implement bi-directional ATS route TBA - AAAAA - KITOT .	EGY
		Originator
		EUROCONTROL

Notes:

1. AAAAA - crossing point between new TBA - KITOT and existing ATS route W733 allowing connection to/from METSA.
2. Shorter by 9.2NM option compare to existing TBA - NWB - KITOT.
3. Shorter by 28.6NM option compare to existing TBA - NWB - METSA.

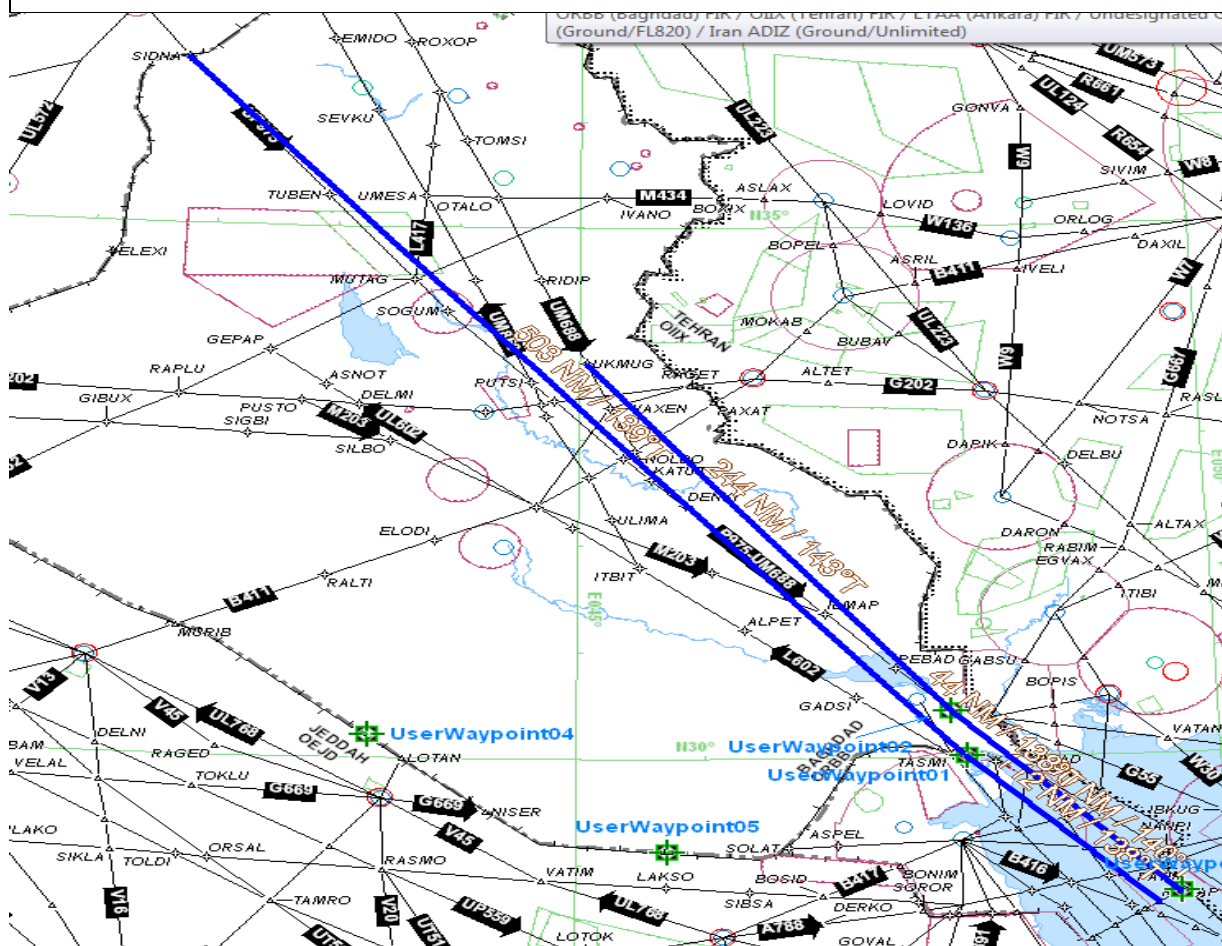


(TPR 8)

4.3A-10

Reference	Objective and Proposal	State(s) concerned
TPR 9	Objective: To further improve ATS route network between Baghdad and Kuwait FIRs.	Bahrain-Iraq-Kuwait
	To implement ATS route UKMUG-SIDAD- New Point East of RABAP then join the ATS Route network within Bahrain.	Originator
		ATM/AIM/SAR SG13 Oct 2013
Notes: 1. RNAV 1 Routes, target date of implementation second quarter of 2014.		

Reference	Objective and Proposal	State(s) concerned
TPR 10	Objective: To further improve ATS route network between Baghdad and Kuwait FIRs.	Bahrain-Iraq-Kuwait
	To implement ATS route SIDNA-New point West of ASLAN-RABAP.	Originator
		ATM/AIM/SAR SG13 Oct 2013
Notes: 2. RNAV 1 Routes, target date of implementation second quarter of 2014.		



TPR 9 and 10

MIDANPIRG/14
Appendix 4.3B to the Report on Agenda Item 4.3



INTERNATIONAL CIVIL AVIATION ORGANIZATION

MID REGION ATM CONTINGENCY PLAN

Edition December 2013

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

MID REGION AIR TRAFFIC MANAGEMENT CONTINGENCY PLAN

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FOREWORD

This Document is for guidance only. Regulatory material relating to the MID Regional aircraft operations is contained in relevant ICAO Annexes, PANS/ATM (Doc.4444), Regional Supplementary Procedures (Doc.7030), States AIPs and current NOTAMs, which should be read in conjunction with the material contained in this Document.

Guidelines for contingency measures for application in the event of disruptions of air traffic services and related supporting services were first approved by the Council on 27 June 1984 in response to Assembly Resolution A23-12, following a study by the Air Navigation Commission and consultation with States and international organizations concerned, as required by the Resolution. The guidelines were subsequently amended and amplified in the light of experience gained with the application of contingency measures in various parts of the world and in differing circumstances.

The purpose of the guidelines is to assist in providing for the safe and orderly flow of international air traffic in the event of disruptions of air traffic services and related supporting services and in preserving the availability of major world air routes within the air transportation system in such circumstances.

The MID Regional Air Traffic Management Contingency Plan is primarily for the information to operators and pilots planning and conducting operations in MID Region. The intent is to provide a description of the arrangements in place to deal with a range of contingency situations.

This Contingency Plan has been developed with the approval of the Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG); a MID Regional planning body established under the auspices of the International Civil Aviation Organization (ICAO). This Group is responsible for developing the required operational procedures; specifying the necessary services and facilities and; defining the aircraft and operator approval standards employed in the MID Region.

RECORD OF AMENDMENTS

[illegible]

INTRODUCTION

The MID Region Air Traffic Management (ATM) Contingency Plan has been developed to ensure, to the extent possible, the continued safety of air navigation in the event of disruption or potential disruption of Air Traffic Services and related supporting services in the MID Region, in accordance with the provisions of ICAO Annex 11 – Air Traffic Services, Chapter 2, paragraph 2.30 and its Attachment C.

The MID Region is fast growing continental airspace in the world. In 2010 in excess of **976400** flights transited the airspace. The ATS Route accommodates a high concentration of traffic which regularly sees traffic flows in excess of 100 flights per hour. Control of traffic in this vast and complex airspace is delegated to a number of states, with their Continental Control facilities geographically dispersed.

The table shows the aircraft movements forecast to the year 2030:

	Actual	Forecast	Average Annual Growth	
			2010-2030	
	2010	2030	(per cent)	
AFR-MEA	68588	446722	9.8	
ASIA-MEA	261359	1384191	8.7	
EUR-MEA	276285	977855	6.5	
INTRA MEA	349324	2287506	9.9	
NAM-MEA	20843	107917	8.6	
TOTAL	976399	5204191	8.7	

Contingency Routing (CR) has been developed and contained in the Plan based on the major traffic flows through the MID Region, taking into consideration the movements' number between City Pairs.

This Plan is designed to provide alternative routes for the traffic flows between the MID Region and Asia, Africa, and Europe, which will allow aircraft operators to circumnavigate airspace(s) in the MID Region, as deemed necessary, or due to a perceived risk to the safety of flight, with a minimum of disruption to flight operations.

These alternative routes (Contingency Routing – CR) are based mainly on the existing route network. Establishment of temporary routes could be considered to relieve traffic congestion resulting from the implementation of the Contingency plan.

It is recognized that operators may incur economic penalties during application of the contingency scenarios. Therefore, air traffic flow control measures will be implemented as required.

The ICAO MID Regional Office will coordinate with ICAO HQ and the concerned Regional Offices any amendment to the Regional Contingency Plan.

The appropriate ICAO Regional Office will distribute this contingency plan to all relevant States and international organizations within their regions.

This Document is available to users through the ICAO MID website <http://www.icao.int/mid/>

To assist in keeping this document up to date, Stakeholders are encouraged to provide the ICAO MID Regional Office (icaomid@icao.int) with their comments/suggestions.

MID Region ATM Contingency Focal Points

The List of the MID Region ATM Contingency Focal Points is at **Table 1**. This list should be reviewed and updated, as appropriate.

Table 1**MID Region ATM Contingency Focal Points**

NAMES	PHONE (WORK)	PHONE (HOME)	MOBILE PHONE	FAX	E-MAIL	OTHER CONTACT DETAILS
BAHRAIN						
Mr. Ali Ahmed Mohammed	973 17321116		973 39969399	973 17321 9977	aliahmed@caa.gov.bh	Bahrain ACC Duty Supervisor Tel: 973 1732 1081/1080 Fax: 973 1732 1029 Email : bahatc@caa.gov.bh
Mr. Saleem Mohammed Hasan	9731732 1117		973 39608860	973 17321 9966	saleemmh@caa.gov.bh	
EGYPT						
Mr. Moatassem Bellah Abd Elraheem Baligh	202 265 7849	202 639 1792	01001695252	202 268 0627	moatassem_5@hotmail.com	
Mr. Aly Hussien Aly	202 637 3950	202 417 8460	201 01609 760	202 268 0627		
IRAN						
Mr. Ebrahim Shoushtari Deputy CEO for Aeronautical Operations (IAC)	982163148900		989121861900	9821 63148906	E_shoushtari@yahoo.com E.shoushtari@airport.ir	<i>Note.- During New Year Holidays in Iran (20 March – 5 April) or for any urgent message Contact Tehran ACC on +9821-44544116</i>
Mr. Ali- Arabi DG of ATS Department	98 21 445 44101		98-9122967946	9821 44544102	aarabi@airport.ir	
Mr. Javad – Pashaei Deputy Director of ATS Dept.	9821 44544103		989122967946	9821 44544102	aarabi@airport.ir	
Mr. Ramezan Ali Ziaee Deputy Director of ATS Dept.	9821-44544103		989123874917	9821 44544102	r.a.ziaee@airport.ir	

NAMES	PHONE (WORK)	PHONE (HOME)	MOBILE PHONE	FAX	E-MAIL	OTHER CONTACT DETAILS
IRAQ						
Mr. Ali Mohsin Hashim ATS Director	96418133370	9647702997761	9647815762525		atc_iraqcaa@yahoo.com	
JORDAN						
Nayef Al Marshoud Director, ATM	9626 489 7729	962 5 3862584	962 797498992 962 777789470	9626 4891 266	nayefmarshoud@hotmail.com datm@carc.gov.jo	
KUWAIT						
Mr. Adel S. Boresli	965 24710268		96599036556	965 24346221	as.buresli@dgca.gov.kw	
LEBANON						
Walid Al Hassanieh Chief Air Navigation Dept.	+ 961 1 628178		+961 70474517	+961 1 629023	hassaniehw@beirutairport.gov.lb	AFTN OLBAZPZX
LIBYA						
Issa Maaroug. Air Navigation Director	218 21 5630811	218 91 6827688	218 92 5439240	218.21.3605535	airnav.director@caal.ly	LIBYAN C.A.A P.O.BOX 14399
OMAN						
Mr. Abdullah Nasser Al- Harthy	968519201		9689476806	968519939 /519930	Abdullah_nasser@dgcam.com.om	
Mr. Saud Al-Adhoobi	968519305		9689321664	968519939/519930	saud@dgcam.com.om	
SAUDI ARABIA						
Mr. Mohammad Al Alawi	96626401005		96655621582	9662 6401005	alalawi_m@yahoo.com	
SUDAN						
Abubakr Elsiddig Elamin	249183784964		249912146745	249183784964	abubakratco@live.com	ATM Director ANS P.O. Box 137 code 11112, Khartoum, Sudan
SYRIA						
Eng. Feras MohamadDirector General of Civil Aviation	963 1133 33815			963 11 2232201	dgca@scaa.sy	<u>P.O.BOX:6257 Damascus,</u> <u>Syria</u>
Hassan Hamoud ATM Director	009631154010180	00963116460395	00963 988235106	963 11 540101801	atm@scaa.sy	P.O.BOX:6257 Damascus, Syria

NAMES	PHONE (WORK)	PHONE (HOME)	MOBILE PHONE	FAX	E-MAIL	OTHER CONTACT DETAILS
UNITED ARAB EMIRATES (UAE)						
Mr. Ahmed Al Jallaf Assistant Director General, ANS, GCAA	9712 599 6888		97150 614 9065	9712 599 6883	aljallaf@szc.gcaa.ae	9712 599 6999 SCZ
Abdulla Al Hashmi Director ATM, ANS, GCAA	971 2 599 6830		971 50 442 0486	971 2 599 6836	ahashimi@szc.gcaa.ae	
YEMEN						
Mr.Abdullah Ahmed Al- Awlaqi	9671 345 402	9671 506828	967777776830	967-1-344047	ns@gmail.com	D.G ANS
Abdullah Abdulwareth Aleryani	967-1-345403	967-1-344254	967777190602	967-1-345403	ernlabd@gmail.com	D.G ACC/FIC
Ahmed Mohammed Al- Koobati	967-1-344675	967-1-214375	967777241375	967-1-344047	70@yahoo.com	D.Air Navigation Operation
IATA						
ICAO MID						
Elie El Khoury (RO ATM/SAR)	202 267 4845 ext 104			202 267 4843	ekhouryi@icao.int	
Mohamed Smaoui (DRD)	202 267 4841 ext. 116/115			202 267 4843	msmaoui@icao.int	
ICAO APAC						
ICAO ESAF						
ICAO WACAF						
ICAO Headquarters – Montreal						
Chris Dalton (C/ATM)	1514 954-6711	1 514 281-0731	1 514 951-0283	1-514-954 8197	cdalton@icao.int	

CHAPTER 1

MID STATES' CONTINGENCY PLANS

Air traffic services authorities shall develop and promulgate contingency plans for implementation in the event of disruption, or potential disruption, of air traffic services and related supporting services in the airspace for which they are responsible for the provision of such services. Such contingency plans shall 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.

States shall ensure to include in their contingency plans provisions related to the spread of communicable diseases, based on the ICAO guidance related to the Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation (CAPSCA).

The State(s) responsible for providing air traffic services and related supporting services in particular portions of airspace is (are) also responsible, in the event of disruption or potential disruption of these services, for instituting measures to ensure the safety of international civil aviation operations and, where possible, for making provisions for alternative facilities and services. To that end the State(s) should develop, promulgate and implement appropriate contingency plans. Such plans should be developed in consultation with other States and airspace users concerned and with ICAO, as appropriate, whenever the effects of the service disruption(s) are likely to affect the services in adjacent airspace.

The responsibility for appropriate contingency action in respect of airspace over the high seas continues to rest with the State(s) normally responsible for providing the services until, and unless, that responsibility is temporarily reassigned by ICAO to (an) other State(s).

States should periodically review their national contingency plan and coordinate any amendments with neighbouring States and ICAO.

MID States' Contingency Plans are available at the ICAO MID Regional Office and the status of contingency agreements in the MID Region is at **Table 2**.

Status of Contingency Agreements in the MID Region

STATE	CORRESPONDING STATES			REMARKS
BAHRAIN	☒ IRAN ☒ KUWAIT	☒ OMAN ☒ QATAR	☒ SAUDI ARABIA ☒ UAE	Completed
EGYPT	☒ GREECE ☒ JORDAN	☒ LYBIA ☒ CYPRUS	☒ SAUDI ARABIA ☒ SUDAN	Completed
IRAN	☐ ARMENIA ☐ AZERBAIJAN ☐ TURKMANISTAN ☐ AFGHANISTAN	☒ BAHRAIN ☐ IRAQ ☐ KUWAIT ☒ OMAN	☒ PAKISTAN ☐ TURKEY ☐ UAE	3/11
IRAQ	☐ IRAN ☐ JORDAN	☐ KUWAIT ☐ SAUDI ARABIA	☐ SYRIA ☐ TURKEY	0/6
JORDAN	☒ EGYPT ☐ IRAQ	☐ ISRAEL ☒ SAUDI ARABIA	☐ SYRIA	2/6
KUWAIT	☒ BAHRAIN ☐ IRAN	☐ IRAQ	☒ SAUDI ARABIA	2/6
LEBANON	☐ CYPRUS	☐ SYRIA		0/2
LIBYA	☐ ALGERIA ☐ CHAD ☒ EGYPT	☐ MALTA ☐ NIGER	☐ SUDAN ☐ TUNIS	1/7
OMAN	☒ BAHRAIN ☐ INDIA	☒ IRAN ☐ PAKISTAN	☒ UAE ☒ YEMEN	4/6
QATAR	☒ BAHRAIN	☐ SAUDI ARABIA	☐ UAE	1/3
SAUDI ARABIA	☒ BAHRAIN ☒ EGYPT ☐ ERITREA	☐ IRAQ ☒ JORDAN ☒ KUWAIT	☐ SUDAN ☐ YEMEN	4/8
SUDAN	☐ CENTRAL AFRICAN ☐ CHAD ☒ EGYPT	☐ ERITREA ☐ ETHIOPIA ☐ LIBYA	☐ SAUDI ARABIA ☐ SOUTH SUDAN	1/8
SYRIA	☐ IRAQ ☐ JORDAN	☐ LEBANON ☐ CYPRUS	☐ TURKEY	0/5
UAE	☒ BAHRAIN ☐ IRAN	☒ OMAN	☐ QATAR	2/4
YEMEN	☐ DJIBOUTI ☐ ERITREA ☐ ETHIOPIA	☐ INDIA ☒ OMAN ☐ SAUDI ARABIA	☐ SOMALIA	1/7

☒ Agreement Signed
 ☐ Agreement NOT Signed
 Signed Agreements / Total No. of required Agreements

Table 2

CHAPTER 2

COMMON PROCEDURES

Implementation of the plan

A Contingency Coordination Team (CCT) to be established from the following members:

- ICAO (HQ and Regional Offices Focal points) and IATA as permanent members;
- States concerned as essential members; and
- Other organizations, Agencies etc., when deemed necessary, as temporary members.

The main tasks of the CCT are as follows:

- monitor continuously information from all relevant sources;
- initiate action for the activation/deactivation of the Contingency Plan;
- arrange for the constant supply of relevant aeronautical information to the ICAO Regional Office and Headquarters;
- liaise with international/regional organizations as appropriate; and
- exchange up-to-date information with States directly concerned and States which are potential participants in contingency arrangements.

In the event of adoption of contingency procedures States/ANSPs will notify all affected agencies and operators appropriately.

In **Limited Service situations**: the individual States/ANSP will decide upon the level of notification necessary and take action as required to cascade the information.

In **No Service situations**: it is likely that the ATC facility involved will be subject to evacuation. In this instance the States/ANSP will issue NOTAMs and broadcast on appropriate frequencies that contingency procedures have been initiated. The notification process employed by individual States/ANSPs is detailed in their national plan. However the general format will be as the following example of the type of information which may be promulgated:

NOTAM

“Due to emergency evacuation of (States ACC) all ATC services are terminated. Flights within (States ACC) FIR should continue as cleared and contact the next ATC agency as soon as possible. Flights not in receipt of an ATC clearance should land at an appropriate airfield or request clearance to avoid (State) FIR. Flights should monitor (defined frequencies).”

Broadcast an evacuation message on appropriate frequencies:

“Emergency evacuation of (Sates ACC) is in progress. No air traffic control service will be provided by (States ACC). Use extreme caution and monitor (control frequencies), emergency frequencies and air to air frequencies. Contact the next air traffic control unit as soon as possible”.

Traffic Information Broadcast by Aircraft (TIBA) procedures

The following communications procedures have been developed in accordance with the Traffic Information Broadcast by Aircraft (TIBA) procedures recommended by ICAO (Annex 11 – Air Traffic Services, Attachment C). These procedures should be applied when completing an altitude change to comply with the ATC clearance.

At least 3 minutes prior to the commencement of a climb or descent the flight should broadcast on the last assigned frequency, 121.5, 243.0 and 123.45 the following:

“ALL STATION (callsign) (direction) DIRECT FROM (landfall fix) TO (oceanic entry point) LEAVING FLIGHT LEVEL (number) FOR FLIGHT LEVEL (number) AT (distance)(direction) FROM (oceanic entry point) AT (time)”

When the level change begins, the flight should make the following broadcast:

“ALL STATIONS (callsign) (direction) DIRECTION FROM (landfall fix) TO (oceanic entry point) LEAVING FLIGHT LEVEL (number) NOW FOR FLIGHT LEVEL (number).”

When level, the flight should make the following broadcast:

“ALL STATIONS (callsign) MAINTAINING FLIGHT LEVEL (number).”

CHAPTER 3

AIR TRAFFIC MANAGEMENT

ATS Responsibilities

Tactical ATC considerations during periods of overloading may require re-assignment of routes or portions thereof.

Alternative routes should be designed to maximize the use of existing ATS route structures and communication, navigation and surveillance services.

In the event that ATS cannot be provided within the (XXX) CTA/UTA/FIR, the Civil Aviation Authority shall publish the corresponding NOTAM indicating the following:

- a) Time and date of the beginning of the contingency measures;
- b) Airspace available for landing and overflying traffic and airspace to be avoided;
- c) Details of the facilities and services available or not available and any limits on ATS provision (e.g., ACC, APP, TWR and FIS), including an expected date of restoration of services if available;
- d) Information on the provisions made for alternative services;
- e) ATS contingency routes;
- f) Procedures to be followed by neighbouring ATS units;
- g) Procedures to be followed by pilots; and
- h) Any other details with respect to the disruption and actions being taken that aircraft operators may find useful.

In the event that the CAA is unable to issue the NOTAM, the (alternate) CTA/UTA/FIR will take action to issue the NOTAM of closure airspace upon notification by corresponding CAA or the ICAO MID Regional Office.

Separation

Separation criteria will be applied in accordance with the *Procedures for Air Navigation Services-Air Traffic Management* (PANS-ATM, Doc 4444) and the *Regional Supplementary Procedures* (Doc 7030).

Level Restrictions

Where possible, aircraft on long-haul international flights shall be given priority with respect to cruising levels.

Other measures

Other measures related to the closure of airspace and the implementation of the contingency scheme with the (XXX) CTA/UTA/FIR may be taken as follows:

- a) Suspension of all VFR operations;
- b) Delay or suspension of general aviation IFR operations; and
- c) Delay or suspension of commercial IFR operations.

Transition to Contingency Plan

During times of uncertainty when airspace closures seem possible, aircraft operators should be prepared for a possible change in routing while en-route, familiarization of the alternative routes outlined in the contingency plan as well as what may be promulgated by a State via NOTAM or AIP.

In the event of airspace closure that has not been promulgated, ATC should, if possible, broadcast to all aircraft in their airspace, what airspace is being closed and to stand by for further instructions.

ATS providers should recognize that when closures of airspace or airports are promulgated, individual airlines might have different company requirements as to their alternative routings. ATC should be alert to respond to any request by aircraft and react commensurate with safety.

During the contingency operations, States concerned should take necessary measures to grant special over flight permissions to those flights avoiding the affected Airspace(s).

Transfer of Control and Coordination

The transfer of control and communication should be at the common FIR boundary between ATS units unless there is mutual agreement between adjacent ATS units. ATS providers should also review current coordination requirements in light of contingency operations or short notice of airspace closure.

CHAPTER 4

AIRSPACE AND ALTERNATIVE ROUTINGS

This Contingency Plan has been developed based on existing ATS routes and making use of appropriate contingency routes in the MID Region. Priority has been given to safety considerations and to ensuring that to the extent possible, ATC operations are not complicated. Temporary routes may be established where necessary.

The contingency routings are designed to take into consideration that disruptions to normal traffic flows have the potential to create an additional burden and complexity to ATC. Therefore, temporary contingency routes would be designed to be safe and instantly manageable by ATC. This may require additional track miles to be flown by the aircraft operator.

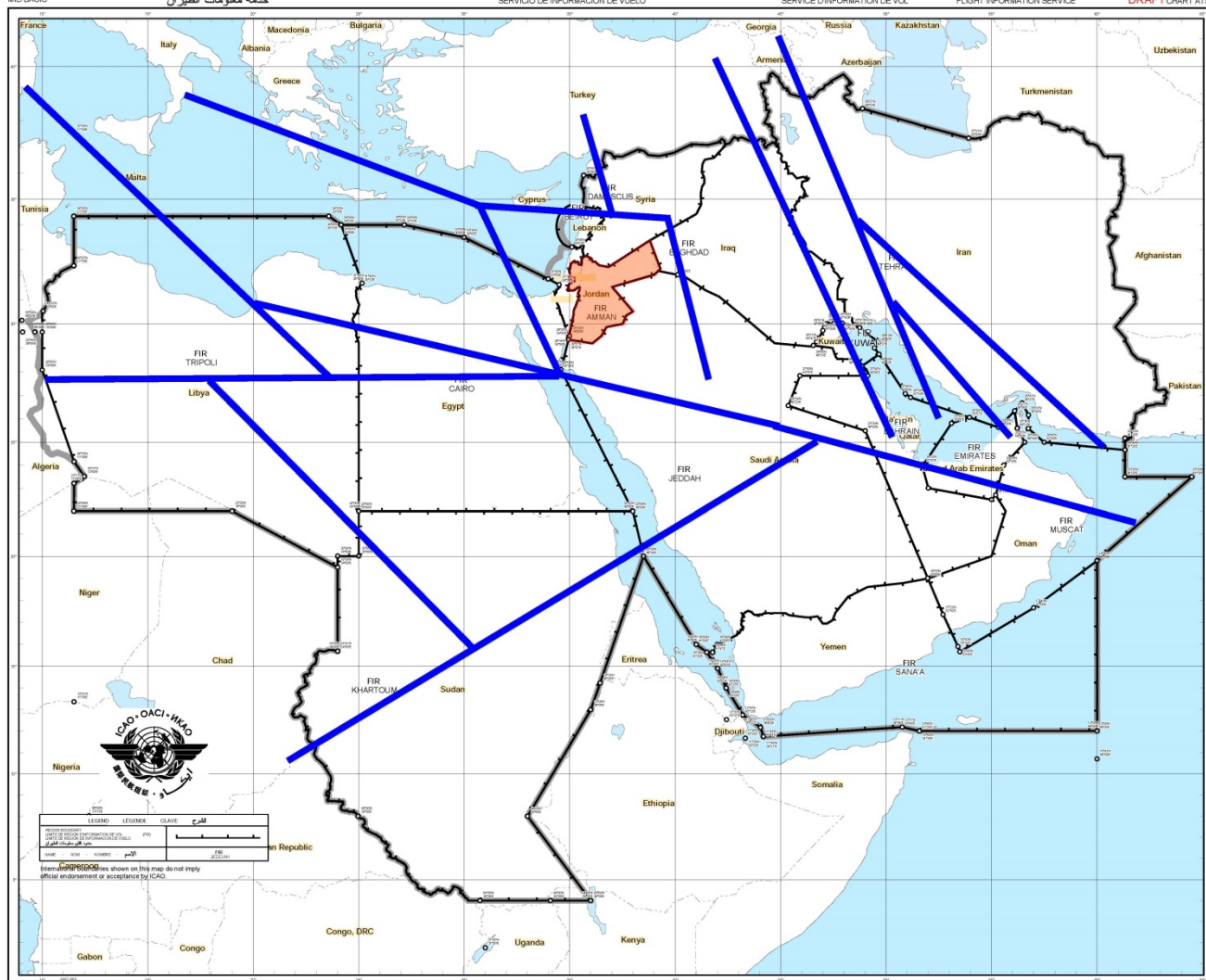
The alternative routings were given “CR” designators based on various scenarios that may be implemented. It is to be highlighted that the scenarios drawn on the charts were developed based on the existing route network, and do not reflect new routes. Furthermore, one scenario could be used to avoid different FIRs, subject to users’ requirements. The scenarios are detailed in the **Table 3** below:

CR	FIR(s) to be Avoided	Traffic Flows through the MID Region Alternative routings/FIRs	Remarks
CR 1	Amman	<i>Eastern Europe from/to Asia</i> ▪ Ankara, Baghdad, Jeddah ▪ Ankara, Tehran ▪ Ankara, Damascus, Baghdad, Jeddah <i>Western Europe from/to Asia</i> ▪ Nicosia, Cairo, Jeddah ▪ Nicosia, Beirut, Damascus, Baghdad, Jeddah <i>Northern Africa from/to Asia</i> ▪ Cairo, Jeddah <i>Southern Africa from/to Asia</i> Not Applicable	
CR 2	Baghdad	<i>Eastern Europe from/to Asia</i> ▪ Ankara, Tehran, (Kuwait) or (Bahrain) or (UAE) ▪ Ankara, Damascus, Amman, Jeddah <i>Western Europe from/to Asia</i> ▪ Nicosia, Beirut, Damascus, Amman, Jeddah ▪ Nicosia, Damascus, Amman, Jeddah ▪ Nicosia, Cairo, Jeddah <i>Northern Africa from/to Asia</i> ▪ Cairo, Jeddah <i>Southern Africa from/to Asia</i> ▪ Addis Ababa, (Asmara, Jeddah) or (Mogadishu, Sana’a)	
CR 3	Bahrain	<i>Eastern Europe from/to Asia</i> ▪ Ankara, (Baghdad), Tehran, UAE, Muscat ▪ Ankara, Baghdad, Jeddah, Sana’a, Muscat <i>Western Europe from/to Asia</i> ▪ Nicosia, Beirut, Damascus, Amman, Jeddah, Sana’a; Muscat ▪ Nicosia, Damascus, Amman, Jeddah ▪ Nicosia, Cairo, Jeddah, Sana’a, Muscat <i>Northern Africa from/to Asia</i> ▪ Cairo, Jeddah, Sana’a, Muscat <i>Southern Africa from/to Asia</i>	

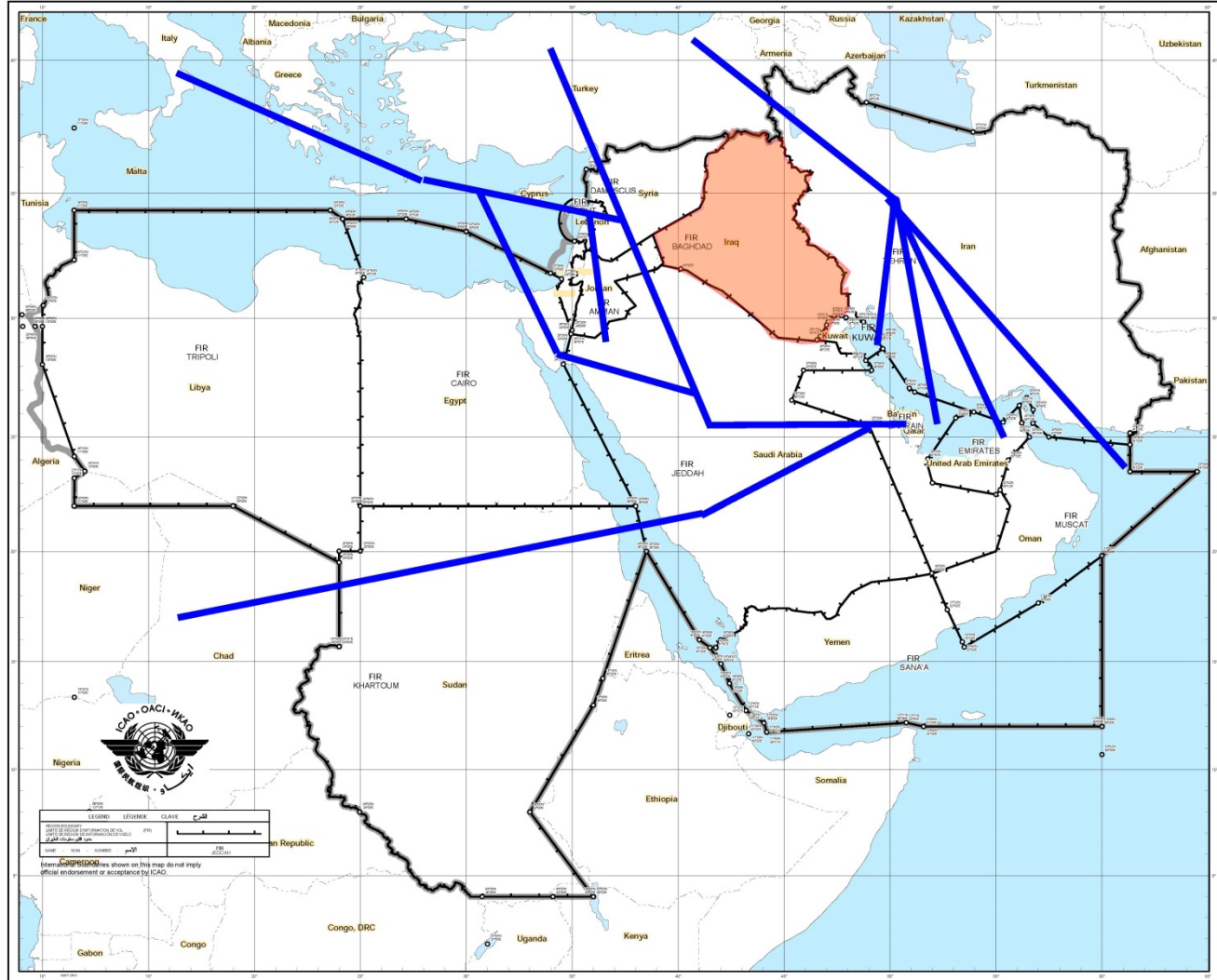
		▪ Khartoum, Jeddah, Sana'a, Muscat ▪ Addis Ababa, Mogadishu, Sana'a, Muscat	
CR 4	Beirut, Damascus	<i>Eastern Europe from/to Asia</i> ▪ Ankara, Baghdad Jeddah or Kuwait; ▪ Ankara, Tehran <i>Western Europe from/to Asia</i> ▪ Nicosia, Cairo, Jeddah <i>Northern Africa from/to Asia</i> ▪ Cairo, Jeddah <i>Southern Africa from/to Asia</i> ▪ Khartoum Addis Ababa, Mogadishu, Sana'a ▪ Khartoum, Jeddah	
CR 5	Cairo	<i>Eastern Europe from/to Asia</i> Not Applicable <i>Western Europe from/to Asia</i> ▪ Nicosia, Beirut, Damascus, Amman, Jeddah ▪ Nicosia, Damascus, Baghdad; Kuwait, Bahrain, UAE ▪ Malta, Tripoli, Khartoum, Jeddah ▪ Malta, Tripoli, Khartoum, Asmara, Jeddah or Sana'a <i>Northern Africa from/to Asia</i> ▪ Tripoli, Khartoum, Jeddah ▪ Tripoli, Khartoum, Asmara, Jeddah or Sana'a ▪ Algiers, Niamey, N'djamena, Khartoum, Asmara, Jeddah or Sana'a <i>Southern Africa from/to Asia</i> ▪ Khartoum, Jeddah, Sana'a, Muscat ▪ Addis Ababa, (Asmara, Jeddah) or (Mogadishu, Sana'a)	
		▪	
CR 6	Iran	<i>Eastern Europe from/to Asia</i> ▪ Baku, Turkmenbashi, Ashgabat, Turkmenabad, Kabul, Karachi, Muscat or Delhi ▪ Baghdad, Kuwait, Bahrain, UAE, Muscat ▪ Nicosia Damascus Amman, Jeddah <i>Western Europe from/to Asia</i> ▪ Nicosia, Beirut, Damascus, Amman, Jeddah ▪ Nicosia, Cairo, Jeddah <i>Northern Africa from/to Asia</i> Not Applicable <i>Southern Africa from/to Asia</i> Not Applicable	
CR 7	Jeddah	<i>Eastern Europe from/to Asia</i> ▪ Ankara, Baghdad, Kuwait, Bahrain, UAE, Muscat ▪ Ankara, Damascus, Amman, Baghdad, Kuwait, Bahrain, UAE <i>Western Europe from/to Asia</i> ▪ Nicosia, Beirut, Damascus, Amman, Baghdad, Kuwait, Bahrain, ▪ Athens or Nicosia, Cairo, Amman, Baghdad, Kuwait, Bahrain <i>Northern Africa from/to Asia</i> ▪ Cairo, Khartoum, Asmara, Sana'a <i>Southern Africa from/to Asia</i> ▪ Khartoum, Asmara, Sana'a ▪ Addis Ababa, Mogadishu, Sana'a, Muscat	
CR 8	Khartoum	<i>Eastern Europe from/to Asia</i>	

		Not Applicable Western Europe from/to Africa Not Applicable Northern Africa from/to Asia ▪ Cairo, Jeddah ▪ Tripoli, N'djamena, Brazzaville, Kinshasa, Entebbe, Nairobi Addis Ababa, Mogadishu, Sana'a, Jeddah or Muscat. Southern Africa from/to Asia ▪ Kinshasa, Entebbe, Nairobi Addis Ababa, Mogadishu, Sana'a, Jeddah or Muscat	
CR 9	Muscat, UAE	Eastern Europe from/to Asia ▪ Ankara, Baghdad, Jeddah, Sana'a Western Europe from/to Asia ▪ Nicosia, Beirut, Damascus, Amman, Jeddah, Sana'a ▪ Nicosia, Damascus, Amman, Jeddah ▪ Nicosia, Cairo, Jeddah, Sana'a Northern Africa from/to Asia ▪ Cairo, Jeddah, Sana'a Southern Africa from/to Asia ▪ Khartoum, Jeddah, Sana'a ▪ Addis Ababa, (Asmara Jeddah) or (Mogadishu, or Sana'a)	
CR 10	Sana'a	Eastern Europe from/to Asia ▪ Ankara, Baghdad, Tehran, UAE, Muscat ▪ Ankara, Baghdad, Jeddah, Bahrain, Muscat Western Europe from/to Asia ▪ Nicosia, Beirut, Damascus, Amman, Jeddah, Bahrain; Muscat ▪ Nicosia, Damascus, Amman, Jeddah, Bahrain; Muscat ▪ Nicosia, Cairo, Jeddah, Bahrain; Muscat Northern Africa from/to Asia ▪ Cairo, Jeddah, Bahrain; Muscat Southern Africa from/to Asia ▪ Khartoum, Jeddah, Bahrain; Muscat ▪ Addis Ababa, (Asmara Jeddah) or (Mogadishu, Mumbai, Muscat	
CR 11	Tripoli	Eastern Europe from/to Asia Not Applicable Western Europe from/to Africa ▪ Cairo, Khartoum Northern Africa from/to South Africa or Middle East ▪ Athens, or Nicosia to Cairo, Khartoum or Jeddah ▪ Tunis, Algiers, Niamey, N'djamena Southern Africa from/to Asia Not Applicable	

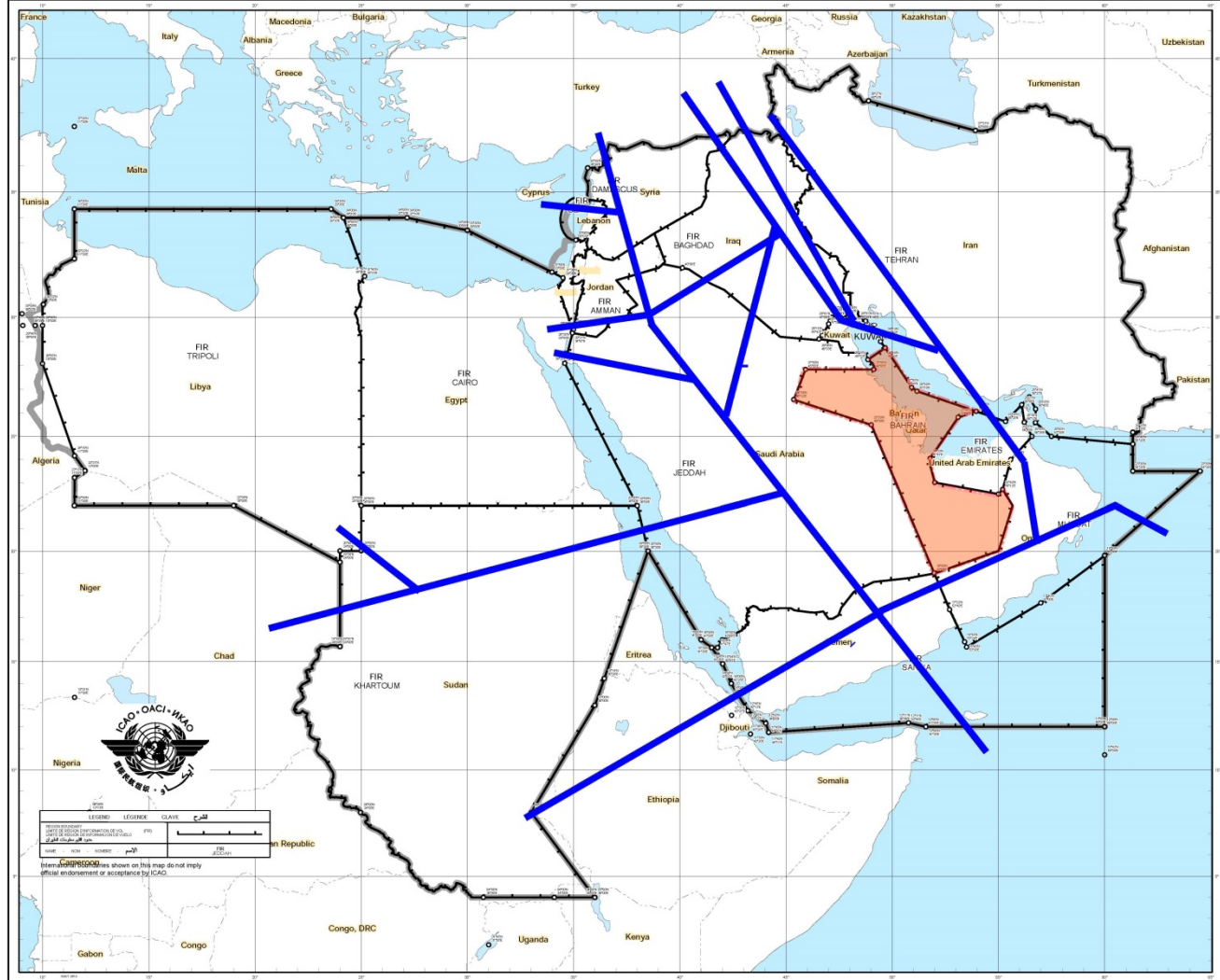
Table 3

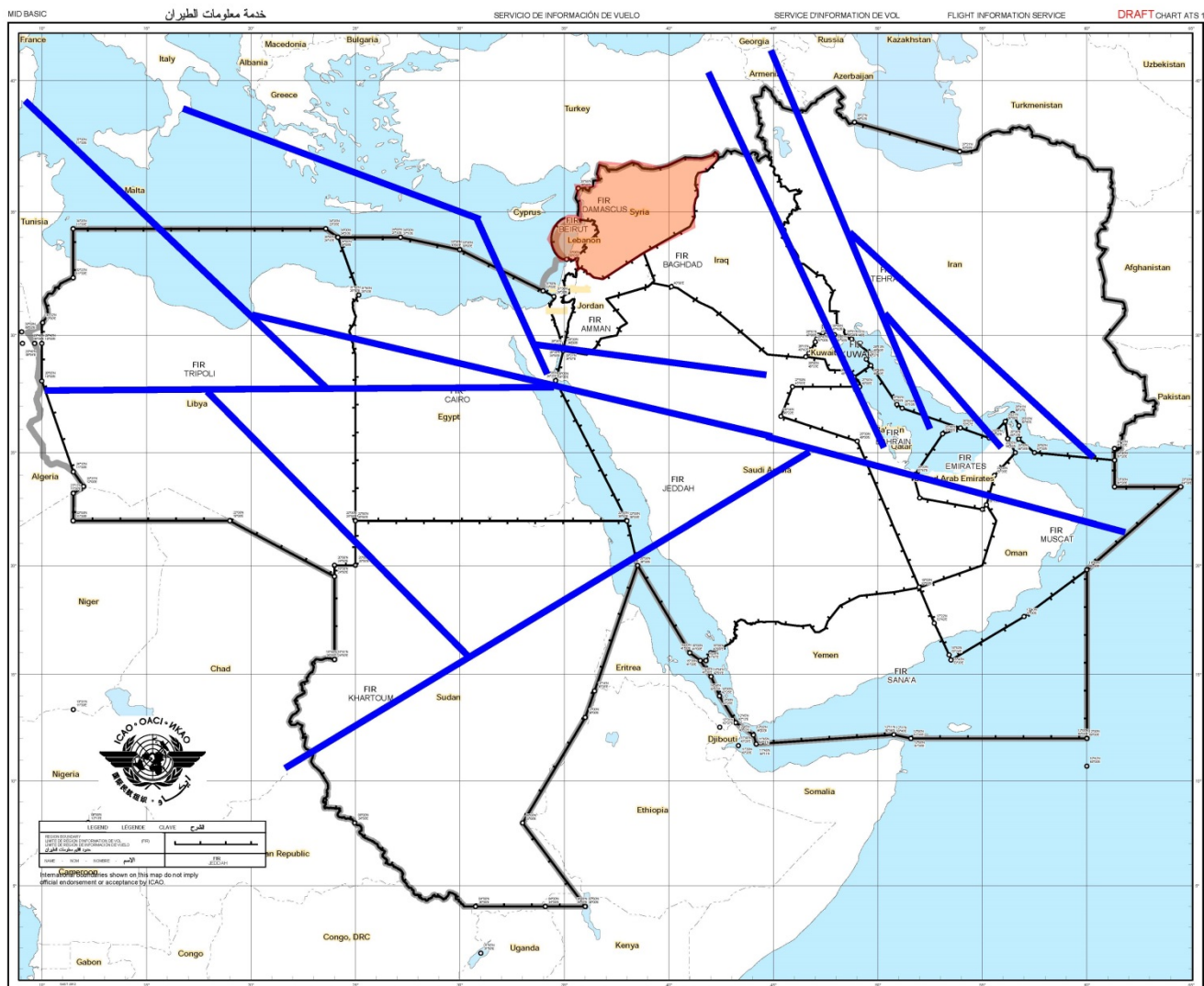


CR 1

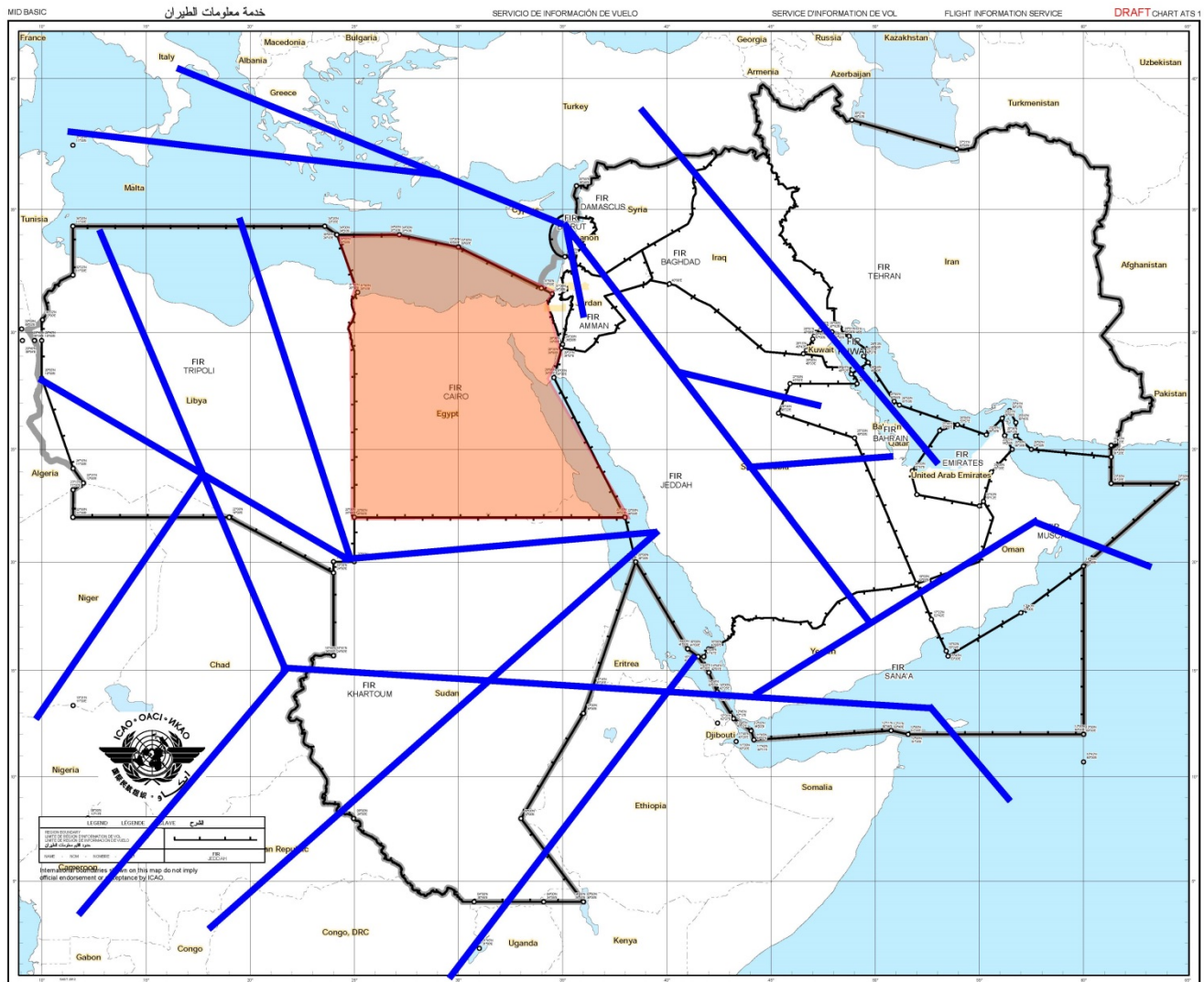


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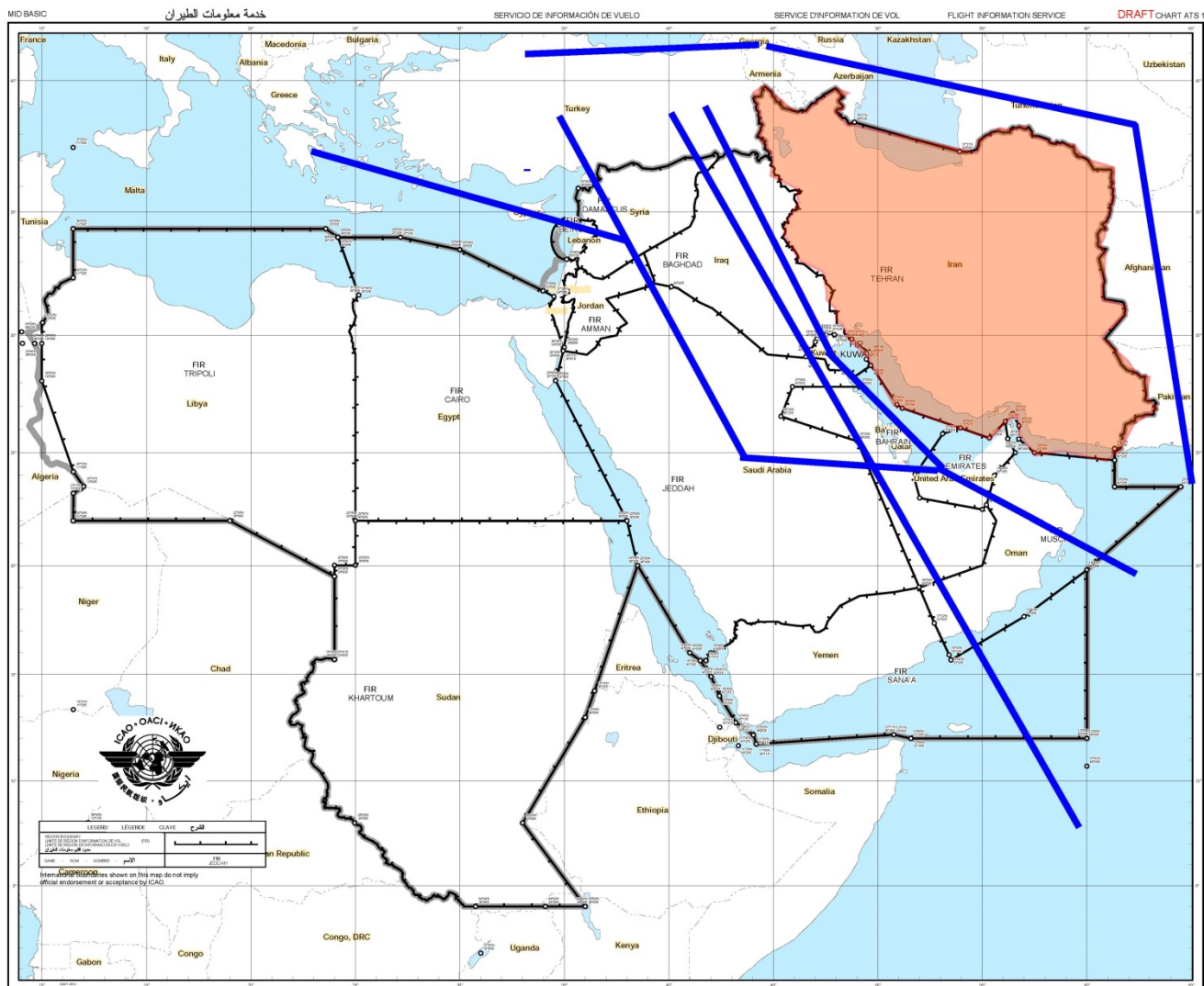




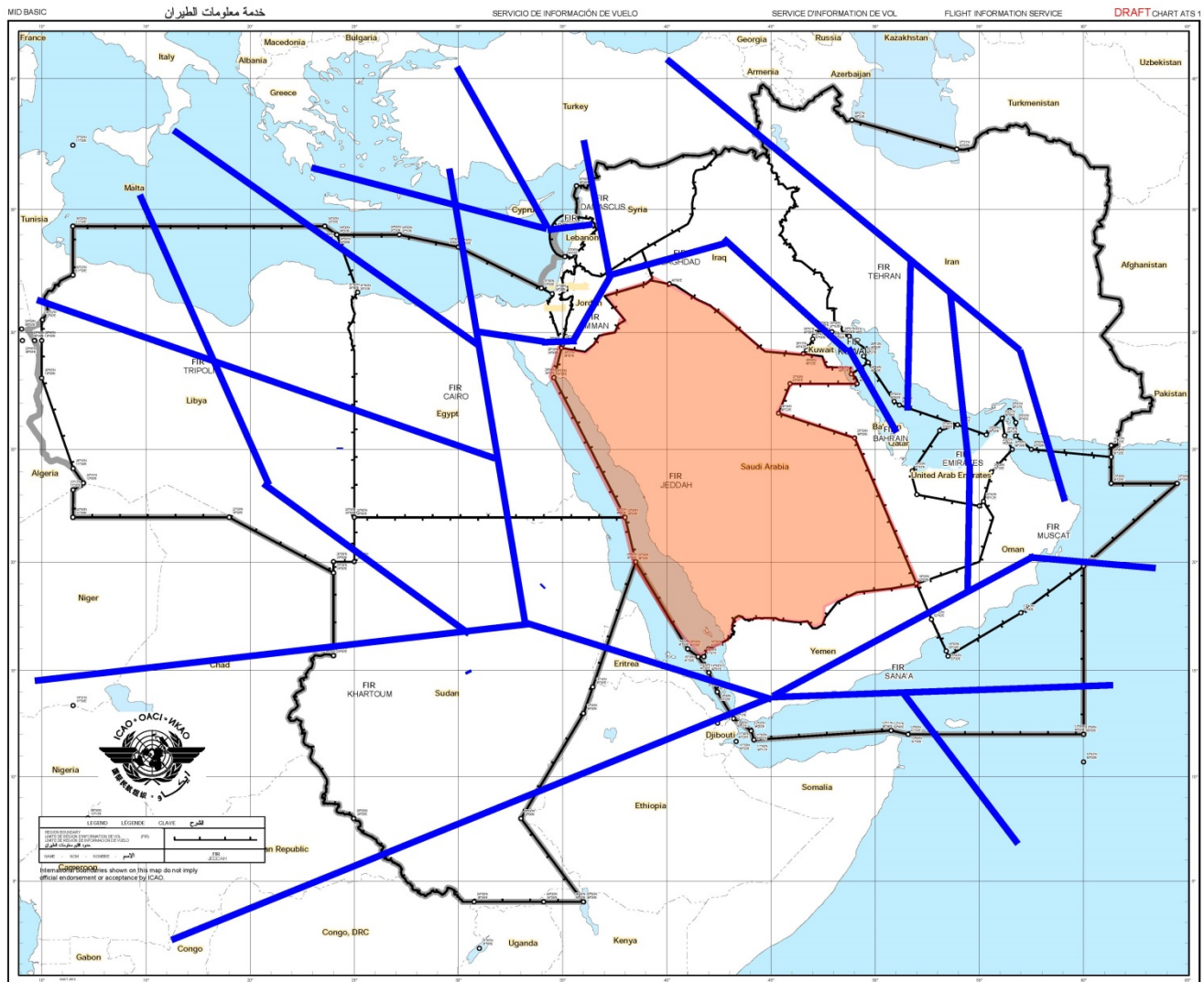
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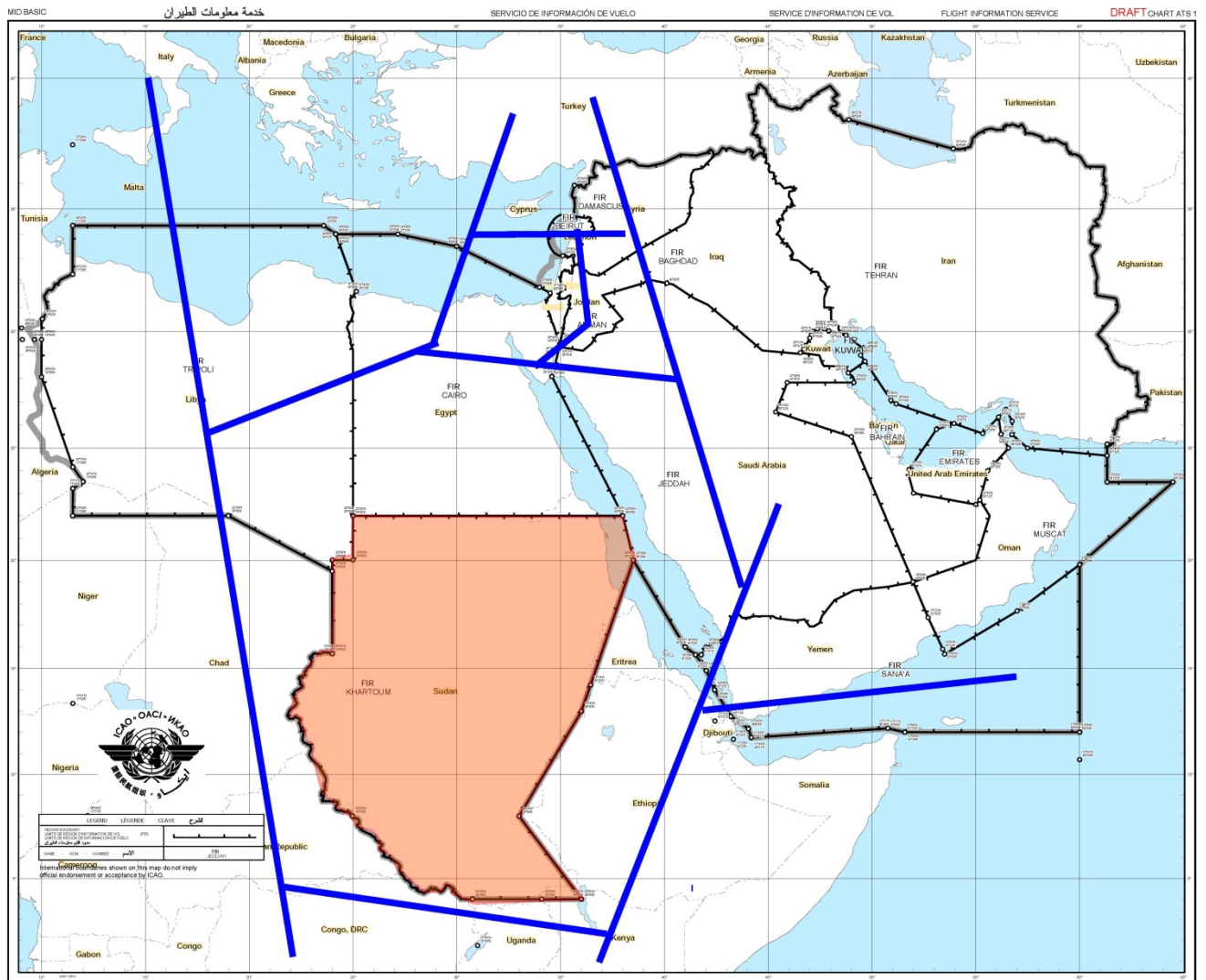
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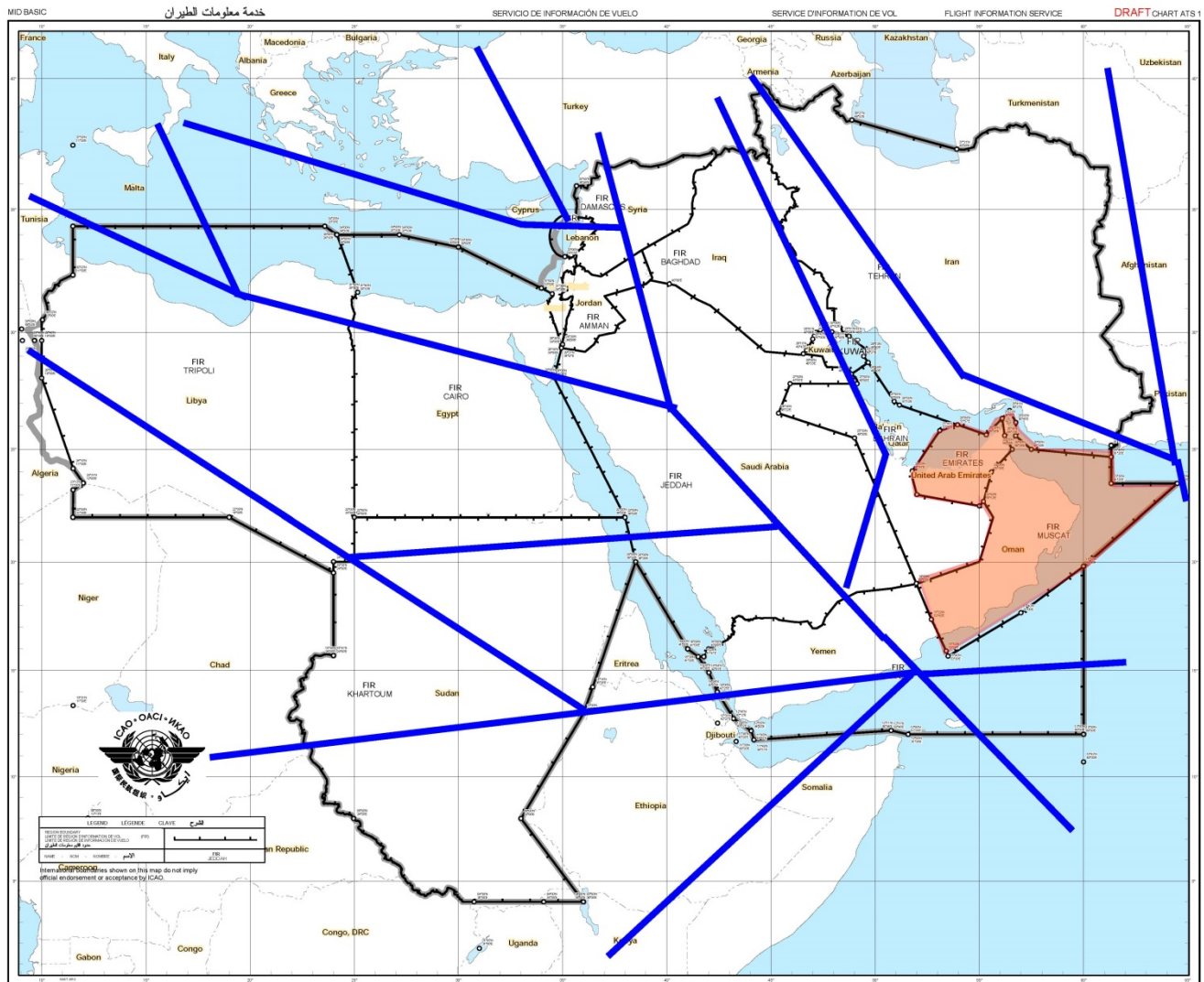
CR 6



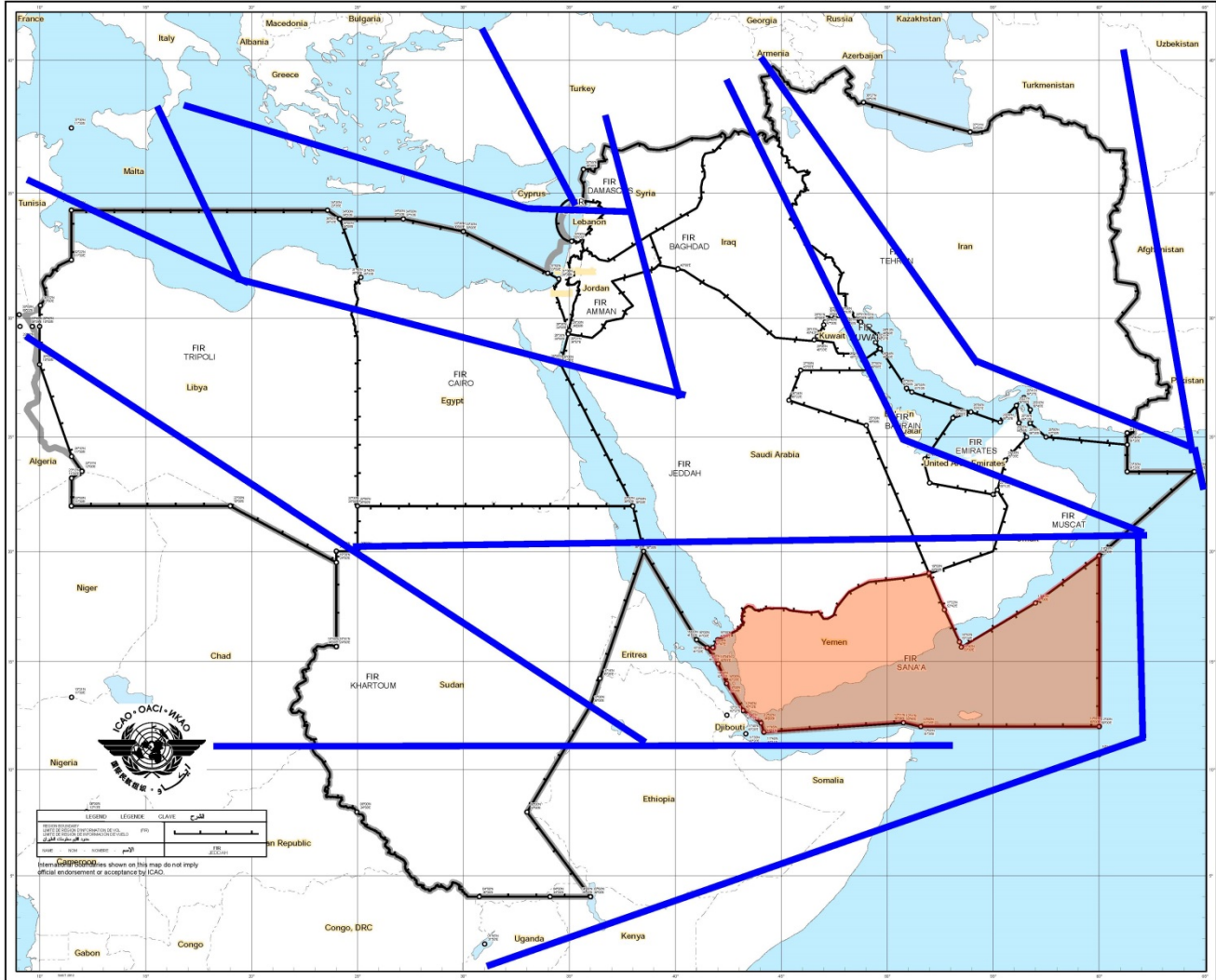
CR 7

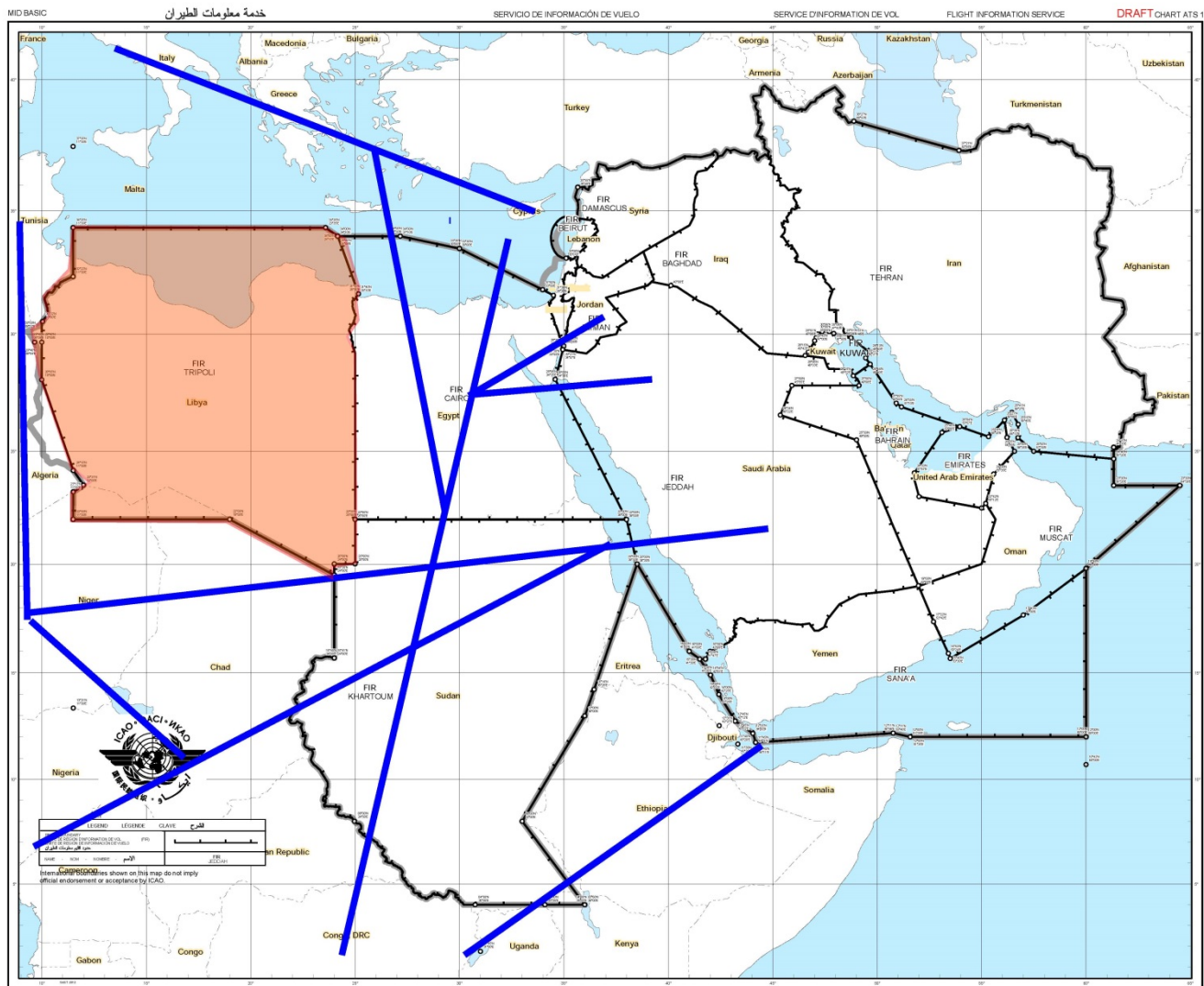


CR 8



CR 9

**CR 10**



CR 11

CHAPTER 5

MID REGION ATM VOLCANIC ASH CONTINGENCY PLAN

The MID Region ATM Volcanic Ash Contingency Plan (MID ATM VACP) was developed based on the VACP prepared by the International Volcanic Ash Task Force (IVATF) in August 2012. The MID ATM VACP sets out standardised guidelines and procedures for the provision of information to airlines and en-route aircraft before and during a volcanic eruption. The plan and its appendices are at **Attachment A** to this Document.

The MID ATM VACP includes the **pre-eruption, start of eruption, ongoing; and recovery** phases. It is to be highlighted that most MID States would practice the **ongoing** and **recovery** phases only as the **pre-eruption** and **start of eruption** phases would only apply to the States where volcanoes erupt. Furthermore, the MID Region would receive volcanic ash advisories and volcanic ash advisories in graphic form from the Volcanic Ash Advisory Center (VAAC) Toulouse.

Volcanic contamination, of which volcanic ash is the most serious, is a hazard for safe flight operations. Mitigating the hazards posed by volcanic ash in the atmosphere and/or at the aerodrome cannot be resolved in isolation but through collaborative decision making (CDM) involving all stakeholders concerned. During an eruption, volcanic contamination can reach and exceed the cruising altitudes of turbine-powered aircraft within minutes and spread over vast geographical areas within a few days. Encounters with volcanic ash may result in a variety of hazards including one or more of the following:

- a) the malfunction, or failure, of one or more engines leading not only to reduction, or complete loss of thrust but also to failures of electrical, pneumatic and hydraulic systems;
- b) the blockage of pitot and static sensors resulting in unreliable airspeed indications and erroneous warnings;
- c) windscreens rendered partially or completely opaque;
- d) smoke, dust and/or toxic chemical contamination of cabin air requiring crew to don oxygen masks, thus impacting verbal communication; electronic systems may also be affected;
- e) the erosion of external and internal aircraft components;
- f) reduced electronic cooling efficiency leading to a wide range of aircraft system failures;
- g) the aircraft may have to be manoeuvred in a manner that conflicts with other aircraft; and
- h) volcanic ash deposition on a runway may degrade aircraft braking performance, most significantly if the volcanic ash is wet; and in extreme cases, this can lead to runway closure.

Operators are required by ICAO Annex 6 – *Operation of Aircraft* to implement appropriate mitigation measures for volcanic ash in accordance with their safety management system (SMS), as approved by the State of the Operator/Registry. The guidelines provided in the MID ATM VACP document assume that the ICAO requirements regarding safety management systems have been implemented by the operators. Detailed guidance on Safety Risk Assessments (SRAs) for flight operations with regard to volcanic ash contamination can be found in the manual on *Flight Safety and Volcanic Ash – Risk Management of Flight Operations with Known or Forecast Volcanic Ash Contamination* (ICAO Doc 9974).

Distribution of applicable Aeronautical Information Services (AIS) and Meteorological (MET) messages related to volcanic ash are set out in relevant ICAO Annexes, specifically Annex 15–*Aeronautical Information Services* and Annex 3 – *Meteorological Service for International Air Navigation*.

Volcanic ash can also affect the operation of aircraft at aerodromes. Volcanic ash deposition at an aerodrome, even in very small amounts, can result in the closure of the aerodrome until all the deposited ash has been removed. In extreme cases, the aerodrome may no longer be available for operation at all, resulting in repercussions on the ATM system, e.g. diversions, revised traffic flows, etc.

Some aircraft types or engine technologies are more vulnerable to volcanic ash contaminants than others; therefore, any specific mitigation measures to be applied would have to take into account any such variance. Considering that a commercial aircraft travels about 150 km (80 NM) in 10 minutes and that volcanic ash can rise to flight levels commonly used by turbine-engine aircraft in half that time, a timely response to volcanic eruptions and volcanic ash in the atmosphere is essential.

It is imperative that information on the volcanic activity is disseminated as soon as possible. In order to assist staff in expediting the process of originating and issuing relevant AIS and MET messages, a series of templates should be available for different stages of the volcanic activity. For the list of ICAO registered volcanoes see the *Manual on Volcanic Ash, Radioactive Material and Toxic Chemical Clouds (ICAO Doc 9691)*. Volcanoes name, number and nominal position should be available at the State's International NOTAM office. Volcanic ash exercises (VOLCEX) should be conducted at a frequency determined by the ICAO Region concerned, in order to ensure the smooth implementation and effectiveness of the contingency plan in case of an actual volcanic eruption.

This document has been prepared, and is in line with a proposal for amendment to the *Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM, Doc 4444)* paragraph 15.8 *Procedures for an ATC unit when a volcanic ash cloud is reported or forecast* — which is expected to become applicable in November 2014.

General considerations during the development of an ATM contingency plan for volcanic ash and anticipated flight crew issues when encountering volcanic ash are provided in Appendices A and B respectively.



INTERNATIONAL CIVIL AVIATION ORGANIZATION

MID REGION ATM VOLCANIC ASH CONTINGENCY PLAN

MID REGION AIR TRAFFIC MANAGEMENT VOLCANIC ASH CONTINGENCY PLAN

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1. TERMINOLOGY

1.1. Areas of Contamination

1.1.1. Information on areas of observed and/or forecast volcanic ash in the atmosphere is provided by means of appropriate MET messages in accordance with Annex 3 – *Meteorological Service for International Air Navigation*.¹

1.2. Danger Areas

1.2.1. If it is considered that the volcanic event could pose a hazard to aviation, a danger area² may be declared by NOTAM. However, this option should only be applied over and in the proximity of the volcanic source. Normally, clearances will not be issued through the danger area unless explicitly requested by the flight crew. In this context it should be noted that the final responsibility for aircraft safety rests with the flight crew. Therefore, the final decision regarding route, whether it will be to avoid or proceed through an area of volcanic activity, is the flight crew's responsibility. Wherever this document discusses the possible establishment of danger areas, States are not prevented from establishing restricted or prohibited areas over the sovereign territory of the State if considered necessary by the State concerned.

1.2.2. Although it is the prerogative of the Provider State to promulgate a danger area in airspace over the high seas, it should be recognized that restrictions to the freedom of flight over the high seas cannot be imposed in accordance with the United Nations Convention on the Law of the Sea (Montego Bay 1982).

1.3. Phases of An Event

1.3.1. The response to a volcanic event that affects air traffic has been divided into four distinct phases in this document: Pre-Eruption, Start of Eruption, On-going Eruption and Recovery Phases as follows:

Pre-Eruption Phase (when applicable): The initial response, “raising the alert”, commences when a volcanic eruption is expected.

Appropriate AIS and MET messages may be issued in accordance with Annex 15 and Annex 3 respectively, and disseminated to affected aircraft in flight by the most expeditious means. It should be noted that, sometimes volcanoes erupt unexpectedly without any alert being raised; hence the pre-eruption phase may be omitted.

Start of Eruption Phase (when applicable): The start of eruption phase commences at the outbreak of the volcanic eruption and entrance of volcanic ash into the atmosphere and mainly pertains to aircraft in flight. Appropriate AIS and MET messages may be issued as appropriate in accordance with Annex 15 and Annex 3 respectively, and a danger area may be declared by NOTAM. Normally, clearances will not be issued through the danger area unless explicitly requested by the flight crew.

¹ Principally this will include volcanic ash advisory messages (issued by volcanic ash advisory centres) and SIGMET information on volcanic ash (issued by meteorological watch offices).

² Depending on the State's regulation, the area may be established as a “danger area”, “restricted area” or “prohibited area”. Over the high seas only “danger area” may be established.

On-Going Eruption Phase: The on-going eruption phase commences with the issuance of the first Volcanic Ash Advisory (VAA) containing information on the extent and movement of the volcanic ash cloud following completion of the previous reactive responses. Appropriate AIS and MET messages may be issued as appropriate in accordance with Annex 15 and Annex 3, respectively.

Recovery Phase: The recovery phase commences with the issuance of the first VAA containing a statement that “NO VA EXP” (i.e. “no volcanic ash expected”) which normally occurs when it is determined that no volcanic ash is expected in the atmosphere and the volcanic activity has reverted to its pre-eruption state.

Note: These descriptions are amplified in Chapter 3 of this document.

1.3.2. Although the four distinct phases herein describe actions to be undertaken during an actual volcanic event, they are based on a theoretical scenario. Actual eruptions may not always be distinct with respect to ATM actions to be undertaken. Similarly, an eruption may occur without any pre-eruptive activity, or may cease and restart more than once. Hence, the first observation may be the presence of an ash cloud which is already some distance away from the volcano. It is essential that the contingency planning prepares the ATM system for an appropriate response depending on the actual conditions. Therefore, the “Pre-Eruption Phase” and “Start of Eruption Phase” described in this document are annotated “when applicable” in order to provide for flexibility in the application of the contingency plan in those parts of the world with insufficient volcano monitoring and alerting.

1.3.3. Flight crews are required to report observations of volcanic activity by means of a special air-report (Special AIREP). Arrangements should be put in place to ensure that such information is transferred without delay to the appropriate aeronautical institutions responsible for subsequent action. The communication and dissemination of pilot reports on volcanic activity is described in Appendix C.

2. PRE-ERUPTION PHASE

2.1. General

2.1.1. Where flight operations are planned in areas that are susceptible to volcanic eruptions, ATS units may expect to receive from flight crews the ICAO Volcanic Activity Report (VAR) form (published in the *Procedures for Air Navigation Services – Air Traffic Management* (PANS-ATM, Doc 4444, Appendix 1).

2.1.2. The focus of this phase is to gain early recognition of volcanic events. This phase is frequently characterised by a very limited availability of information on the potential extent and severity of the impending eruption. The priority is to ensure the continued safety of aircraft in flight; this requires promulgating information as a matter of urgency. Notwithstanding the potentially limited extent of information available, the pre-eruption phase actions described below should be carried out for every expected eruption.

2.1.3. The initial response, “raising the alert”, commences when a volcanic eruption is expected. Initial awareness of the event may be by means of a Special AIREP/VAR and/or from information provided by meteorological or volcano-logical agencies. Arrangements in each State between designated volcano observatories, meteorological and air traffic management agencies

should ensure that alerting information is provided expeditiously by the most appropriate means to provide continued safety of flight.

2.1.4. Emphasis is placed on raising awareness of the hazard and to protect aircraft in flight. The actions are based on well-prepared, well-exercised contingency plans and standard operating procedures. Aircraft are expected to clear or avoid the volcanic ash affected area based on standard operating procedures.

2.2. Originating ACC Actions (*eruption expected in its own flight information region*)

2.2.1. In the event of significant pre-eruption volcanic activity, which could pose a hazard to aviation, an area control centre (ACC)³, on receiving information of such an occurrence, should carry out the following:

- a) ensure that appropriate AIS messages are originated in accordance with Annex 15. These must provide as precise information as is available regarding the activity of the volcano. It is imperative that this information is issued by the international NOTAM office and disseminated as soon as possible in accordance with the provisions of Annex 15;
- b) when so required by the State, define an initial, precautionary danger area in accordance with established procedures. The size of the danger area should encompass a volume of airspace in accordance with the information available, aiming to avoid undue disruption of flight operations;
 - i. if no such procedures have been established, the danger area should be defined as a circle with a radius of xxx km (xx NM)⁴. The circle should be centred on the estimated or known location of the volcanic activity;
 - ii. although ATC would not normally initiate a clearance through a danger area, it will inform aircraft about the potential hazard and continue to provide normal services. It is the responsibility of the pilot-in-command to determine the safest course of action.
- c) advise the associated MET service provider(s) in accordance with national/regional arrangements unless the initial notification originated from such provider(s), who will then inform the appropriate air traffic flow management (ATFM) units;
- d) alert flights already within the area concerned and offer assistance to enable aircraft to exit the area in the most expeditious and appropriate manner. Flight crews should be provided with all necessary information required to make safe and efficient decisions in dealing with the hazards in the defined area. Aircraft that are close to the area should be offered assistance to remain clear of the area. Flights which would be expected to penetrate the area should be re-cleared onto routes that will keep them clear;

³ Where the term “ACC” is used throughout this document, it is intended to also include all ATS facilities.

⁴ The size of the area is to be agreed in the region concerned and should be based on local knowledge as regards the volcano concerned.

- e) immediately notify other affected ACCs of the event and the location and dimensions of the area concerned. The ACC should also negotiate any re-routings necessary for flights already coordinated but still within adjacent Flight Information Regions (FIRs) and provide any information on potential implications on traffic flow and its capability to handle the expected traffic. It is also expected that adjacent ACCs will be asked to reroute flights not yet coordinated to keep them clear of the area. It should be noted that flight crews may make the decision not to completely avoid the area based on, for example, visual observations; and
- f) implement flow management measures if necessary to maintain the required level of safety.

Note 1. — In order to assist staff in expediting the process of composing the AIS messages, a series of templates should be available for this stage of the volcanic activity.

2.2.2. In addition to sending the relevant AIS messages to the normal distribution list, it will be sent to the relevant meteorological facilities.

2.3. Adjacent ACC Actions

2.3.1. During the pre-eruption phase, ATC will not normally initiate clearances through a danger area; however, it will inform aircraft about the potential hazard and continue to provide normal services. Adjacent ACCs should take the following action to assist:

- a) when advised, re-clear flights to which services are being provided and which will be affected by the area; and
- b) unless otherwise instructed, continue normal operations and:
 - i. if one or more routes are affected by the area, suggest re-routings to the affected aircraft onto routes clear of the area; and
 - ii. maintain awareness of the affected area.

2.4. ATFM Unit Actions

2.4.1. The ATFM unit and the associated Volcanic Ash Advisory Centre (VAAC) will determine how their initial communications will take place on the basis of bilateral agreements. Upon reception of preliminary information on volcanic activity from the lead VAAC, the ATFM unit should initiate actions in accordance with its procedures to ensure exchange of information in order to support CDM between air navigation service providers (ANSPs), Meteorological Watch Offices (MWOs), VAACs and aircraft operators concerned.

3. START OF ERUPTION PHASE

3.1. General

3.1.1. This phase commences at the outbreak of a volcanic eruption, with volcanic ash being ejected into the atmosphere. The focus of the processes in this phase is to protect aircraft in

flight and at aerodromes from the hazards of the eruption through the collection and use of relevant information.

3.1.2. In addition to relevant actions described under the pre-eruption phase, major activities of the start of eruption phase such as the issuance of relevant AIS and MET messages in accordance with Annex 15 and Annex 3, respectively and provision of information and assistance to airborne traffic. Danger areas will be declared via NOTAM, as appropriate. This phase will last until such time as the on-going eruption phase can be activated.

3.2. Originating ACC Actions (eruption in its own FIR)

3.2.1. The ACC providing services in the FIR within which the volcanic eruption takes place should inform flights about the existence, extent and forecast movement of volcanic ash and provide information useful for the safe and efficient conduct of flights.

3.2.2. If necessary, rerouting of traffic should commence immediately or may be in progress if the alerting time has been sufficient to facilitate activation of the pre-eruption phase. The ACC should assist in rerouting aircraft around the danger area as expeditiously as possible. Adjacent ACCs should also take the danger area into account and give similar assistance to aircraft as early as possible.

3.2.3. During the start of eruption phase, although ATC will not normally initiate a clearance through a danger area, it will inform aircraft about the hazard and will continue to provide normal services. It is expected that aircraft will attempt to remain clear of the danger area. However, it is the responsibility of the pilot-in-command to determine the safest course of action.

3.2.4. During the start of eruption phase the ACC should:

- a) ensure that a NOTAM is originated to define a danger area delineated cautiously so as to encompass a volume of airspace in accordance with the limited information available. In determining the area, information on upper winds should be taken into account, if available. The purpose is to ensure safety of flight in the absence of any prediction from a competent authority of the extent of contamination;
- b) maintain close liaison with MET facilities, who should issue appropriate MET messages in accordance with Annex 3;
- c) devise and update ATFM measures when necessary to ensure safety of flight operations, based on these forecasts and in cooperation with aircraft operators and the adjacent ACCs using the CDM process;
- d) ensure that reported differences between published information and observations (pilot reports, airborne measurements, etc.) are forwarded as soon as possible to the appropriate authorities to ensure its dissemination to all concerned;
- e) begin planning for the on-going eruption phase in conjunction with the aircraft operators, the appropriate ATFM unit and ACCs concerned; and

- f) issue appropriate AIS messages in accordance with Annex 15. Significant reductions in intensity of volcanic activity should take place during this phase and the airspace no longer is contaminated by volcanic ash. Otherwise, begin CDM planning for the on-going eruption phase in conjunction with aircraft operators, the appropriate ATFM unit and the affected ACCs.

3.3. Adjacent ACC Actions

3.3.1. During the start of eruption phase, adjacent ACCs should take the following actions:

- a) maintain a close liaison with the appropriate ATFM unit and the originating ACC to design, implement and keep up to date ATFM measures which will enable aircraft to ensure safety of flight operations;
- b) the adjacent ACC, in cooperation with the originating ACC and aircraft operators, should impose as required additional tactical measures to those issued by the appropriate ATFM unit;
- c) maintain awareness of the affected area; and
- e) begin planning for the on-going eruption phase in conjunction with the aircraft operators, the appropriate ATFM unit and ACCs concerned.

3.4. ATFM Unit Actions

3.4.1. During the start of eruption phase, depending on the impact and/or extent of the volcanic ash, the appropriate ATFM unit should organise the exchange of latest information on the developments with the associated VAACs, ANSPs, MWOs and operators concerned in order to support CDM.

4. ON-GOING ERUPTION PHASE

4.1. The on-going eruption phase commences with the issuance of the first volcanic ash advisory (VAA) by the lead VAAC which contains information on the extent and movement of the volcanic ash cloud in accordance with Annex 3 provisions.

Note 2 - Volcanic ash advisory information in graphical format (VAG) may also be issued by the VAAC, containing the same information as its text-based VAA equivalent.

4.2. The VAA/VAG should be used to:

- a) prepare appropriate AIS and MET messages in accordance with Annex 15 and Annex 3 provisions, respectively; and
- b) plan and apply appropriate ATFM measures.

4.3. The volcanic contamination may affect any combination of airspace; therefore, it is not possible to prescribe measures to be taken for all situations. Furthermore, it is not possible to detail the actions to be taken by any particular ACC. The following guidance therefore may

prove useful during the on-going eruption phase but should not be considered mandatory or exhaustive:

- a) ACCs affected by the movement of the volcanic ash should ensure that appropriate AIS messages are originated in accordance with Annex 15. ACCs concerned and the appropriate ATFM unit should continue to publish details on measures taken to ensure dissemination to all concerned;
- b) depending on the impact and/or extent of the volcanic ash, the appropriate ATFM unit may take the initiative to organize teleconferences to exchange the latest information on the developments, in order to support CDM, with the VAACs, ANSPs and MWOs and operators concerned;
- c) ACCs and ATFM units should be aware that for the purposes of flight planning, operators could treat the horizontal and vertical extent of the volcanic ash contaminated area to be over-flown as if it were mountainous terrain; and
- d) any reported differences between published information and observations (pilot reports, airborne measurements, etc.) should be forwarded as soon as possible to the appropriate authorities (see Appendix C).

5. RECOVERY PHASE

5.1. The recovery phase commences with the issuance of the first VAA/VAG containing a statement that “NO VA EXP” (i.e. “no volcanic ash expected”) — which normally occurs when it is determined that the volcanic activity has reverted to its pre-eruption state and the airspace is no longer affected by volcanic ash contamination. Consequently, appropriate AIS messages should be issued in accordance with Annex 15.

5.2. ACCs and ATFM units should revert to normal operations as soon as practical.

6. AIR TRAFFIC CONTROL PROCEDURES

6.1. If a volcanic ash cloud is reported or forecasted in the FIR for which the ATS unit is responsible, the following actions should be taken:

- a) relay all pertinent information immediately to flight crews whose aircraft could be affected to ensure that they are aware of the ash cloud’s position and levels affected;
- b) request the intention of the flight crew and endeavour to accommodate requests for re-routing or level changes;
- c) suggest appropriate re-routing to the flight crew to avoid an area of reported or forecast ash clouds; and
- d) request a special air-report when the route of flight takes the aircraft into or near the forecast ash cloud and provide such special air-report to the appropriate agencies.

Note 3.— The recommended escape manoeuvre for an aircraft which has encountered an ash cloud is to reverse its course and begin a descent if terrain permits.

Note 4. — The final authority as to the disposition of the aircraft, whether to avoid or proceed through a reported or forecast volcanic ash cloud, rests with the flight crew.

6.2. When advised by the flight crew that the aircraft has inadvertently entered a volcanic ash cloud, the ATS unit should:

- a) take such action applicable to an aircraft in an emergency situation; and
- b) do not initiate modifications of route or level assigned unless requested by the flight crew or necessitated by airspace requirements or traffic conditions.

Note 5.— General procedures to be applied when a pilot reports an emergency situation are contained in Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM, Doc 4444, Chapter 15, 15.1.1 and 15.1.2).

Note 6.— Guidance material concerning the effect of volcanic ash and the impact of volcanic ash on aviation operational and support services is provided in Chapters 4 and 5 of the Manual on Volcanic Ash, Radioactive Material and Toxic Chemical Clouds (Doc 9691).

7. ATFM PROCEDURES

7.1. Depending on the impact and/or extent of the volcanic ash and in order to support CDM, the appropriate ATFM unit should organize the exchange of the latest information on the developments with the associated VAACs, ANSPs, MWOs and operators concerned.

7.2. The ATFM unit will apply ATFM measures on request of the ANSPs concerned. The measures should be reviewed and updated in accordance with updated information. Operators should also be advised to maintain watch for relevant AIS and MET messages for the area.

APPENDIX A

GENERAL CONSIDERATIONS DURING THE DEVELOPMENT OF AN ATM CONTINGENCY PLAN FOR VOLCANIC ASH

1. In a contingency plan relating to volcanic ash contamination, certain steps need to be taken to provide a coordinated and controlled response for dealing with an event of this nature. Responsibilities should be clearly defined to ATS personnel. The plan should also identify the officials who need to be contacted, the type of messages that are to be created, the proper distribution of the messages and how to conduct business.
2. ATS personnel need to be trained and be made aware of the potentially hazardous effects if an aircraft encounters a volcanic ash cloud. Some particular aspects include:
 - a) volcanic ash contamination may extend for hundreds, or even thousands of miles horizontally and reach the stratosphere vertically;
 - b) volcanic ash may block the pitot-static system of an aircraft, resulting in unreliable airspeed indications;
 - c) braking conditions at aerodromes where volcanic ash has recently been deposited on the runway will affect the braking ability of the aircraft. This is more pronounced on runways contaminated with wet ash. Flight crews and ATS personnel should be aware of the consequences of volcanic ash being ingested into the engines during landing and taxiing. For departure, it is recommended that pilots avoid operating in visible airborne ash; instead they should allow sufficient time for the particles to settle before initiating a take-off roll, in order to avoid ingestion of ash particles into the engine. In addition, the movement area to be used should be carefully swept before any engine is started;
 - d) volcanic ash may result in the failure or power loss of one or all engines of an aircraft; and
 - e) aerodromes with volcanic ash deposition may be declared unsafe for flight operations. This may have consequences for the ATM system.
4. The area control centre (ACC) in conjunction with ATFM units serves as the critical communication link between affected aircraft in flight and the providers of information during a volcanic eruption. During episodes of volcanic ash contamination within the FIR, the ACC has two major communication roles. First and most important is its ability to communicate directly with aircraft enroute which may encounter the volcanic ash. Based on the information provided in SIGMET information for volcanic ash and volcanic ash advisories (VAAs), and working with MWOs, ATS personnel should be able to advise the flight crew of which flight levels are affected by the volcanic ash and the forecast movement of the contamination. Through various communication means, ATS units have the capability to coordinate with the flight crew alternative routes which would keep the aircraft away from the volcanic ash cloud.
5. Similarly, through the origination of a NOTAM/ASHTAM for volcanic activity the ACC can disseminate information on the status and activity of a volcano even for pre-eruption increases in volcanic activity. NOTAM/ASHTAM and SIGMET, together with AIREPs, are critical to dispatchers for flight planning purposes. Operators need as much advance notification as possible on the status of a volcano for strategic planning of flights and the safety of the flying

public. Dispatchers need to be in communication with flight crew enroute so that a coordinated decision can be made between the flight crew, the dispatcher and ATS regarding alternative routes that are available. The ACC should advise the ATFM unit concerning the availability of alternative routes. However, it cannot be presumed that an aircraft which is projected to encounter ash will be provided with the most desirable route to avoid the contamination. Other considerations have to be taken into account such as existing traffic levels on other routes and the amount of fuel reserve available for flights which may have to be diverted to other routes to allow for the affected aircraft to divert.

6. The NOTAM/ASHTAM for volcanic activity provides information on the status of activity of a volcano when a change in its activity is, or is expected to be, of operational significance. They are originated by the ACC and issued through the respective international NOTAM office based on the information received from any one of the observing sources and/or advisory information provided by the associated VAAC. In addition to providing the status of activity of a volcano, the NOTAM/ASHTAM also provides information on the location, extent and movement of the ash contamination and the air routes and flight levels affected. NOTAM can also be used to limit access to the airspace affected by the volcanic ash. Complete guidance on the issuance of NOTAM and ASHTAM is provided in Annex 15 — *Aeronautical Information Services*. Included in Annex 15 is a volcano level of activity colour code chart. The colour code chart alert may be used to provide information on the status of the volcano, with “red” being the most severe, i.e. volcanic eruption in progress with an ash column/cloud reported above flight level 250, and “green” at the other extreme being volcanic activity considered to have ceased and volcano reverted to its normal pre-eruption state. It is very important that NOTAM for volcanic ash be cancelled and ASHTAM be updated as soon as the volcano has reverted to its normal pre-eruption status, no further eruptions are expected by volcanologists and no volcanic ash is detectable or reported within the FIR concerned.

7. It is essential that the procedures to be followed by ATS personnel during a volcanic eruption, as well as supporting services such as MET, AIS and ATFM, should be translated into local staff instructions (adjusted as necessary to take account of local circumstances). It is also essential that such local staff instructions form part of the basic training for all ATS, AIS, ATFM and MET personnel whose jobs would require them to take action in accordance with the procedures. Background information to assist the ACC or Flight Information Centre (FIC) in maintaining an awareness of the status of activity of volcanoes in their FIR(s) is provided in the monthly Scientific Event Alert Network Bulletin published by the United States Smithsonian Institution and sent free of charge to ACCs/FICs requesting it.

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APPENDIX B

ANTICIPATED FLIGHT CREW ISSUES WHEN ENCOUNTERING VOLCANIC ASH

1. ATS personnel should be aware that flight crews will be immediately dealing with some or all of the following issues when they encounter volcanic ash:
 - a) smoke or dust appearing in the cockpit which may prompt the flight crew to don oxygen masks (could interfere with the clarity of voice communications);
 - b) acrid odour similar to electrical smoke;
 - c) multiple engine malfunctions, such as stalls, increasing exhaust gas temperature (EGT), torching, flameout, and thrust loss causing an immediate departure from assigned altitude;
 - d) on engine restart attempts, engines may accelerate to idle very slowly, especially at high altitudes (could result in inability to maintain altitude or Mach number);
 - e) at night, St. Elmo's fire/static discharges may be observed around the windshield, accompanied by a bright orange glow in the engine inlet(s);
 - f) possible loss of visibility due to cockpit windows becoming cracked or discoloured, due to the sandblast effect of the ash;
 - g) because of the abrasive effects of volcanic ash on windshields and landing lights, visibility for approach and landing may be markedly reduced. Forward visibility may be limited to that which is available through the side windows; and/or
 - h) sharp distinct shadows cast by landing lights as compared to the diffused shadows observed in clouds (this affects visual perception of objects outside the aircraft).
2. Simultaneously, ATS personnel can expect flight crews to be executing contingency procedures such as the following:
 - a) if possible, the flight crew may immediately reduce thrust to idle;
 - b) exit volcanic ash cloud as quickly as possible. The shortest distance/time out of the ash may require an immediate, descend and/or 180 degrees turn (if terrains permit);
 - c) don flight crew oxygen masks at 100 per cent (if required);
 - d) monitor airspeed and pitch attitude. If unreliable airspeed is suspected, or a complete loss of airspeed indication occurs (volcanic ash may block the pitot system), the flight crew will establish the appropriate pitch attitude;
 - e) land at the nearest suitable aerodrome; and
 - f) upon landing, thrust reversers may be used as lightly as feasible.

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APPENDIX C

COMMUNICATION AND DISSEMINATION OF PILOT REPORTS OF VOLCANIC ACTIVITY

1. INTRODUCTION

1.1. ICAO Annex 3-*Meteorological Service for International Air Navigation* (paragraph 5.5, g and h) prescribes that volcanic ash clouds, volcanic eruptions and pre-eruption volcanic activity, when observed, shall be reported by all aircraft. The ICAO *Procedures for Air Navigation Services – Air Traffic Management* (PANS-ATM, Doc 4444) contain detailed provisions on this special air report requirement in paragraphs 4.12.3 and 4.12.5, and the Volcanic Activity Report form in Appendix 1.

1.2. Experience has shown that reporting and sharing of information on volcanic ash encounters in accordance with the above mentioned provisions (in-flight and post-flight) varies across the world. The efficiency and quality of reporting currently depends heavily on regional characteristics and the level of regional integration. A high level of global harmonization is essential to achieve the desired level of implementation and consistency of the information.

2. PURPOSES OF VOLCANIC ASH REPORTING AND DATA COLLECTION

2.1. The main purposes for volcanic ash reporting and data collection are to:

- a) locate the volcanic hazards;
- b) notify immediately other aircraft (in-flight) about the hazard;
- c) notify other interested parties: ANSPs (ATC, AIS, ATFM), VAACs, MWO, etc. to ensure the consistent production of appropriate information and warning products in accordance with existing provisions; and
- d) analyse collected reports from the post-flight phase in order to:
 - identify areas of concern;
 - validate and improve volcanic ash forecasts;
 - improve existing procedures;
 - assist in defining better airworthiness requirements; and
 - share lessons learned, etc.

3. PHASE OF OPERATIONS

3.1. The roles and responsibilities of the participants in the collection, exchange and dissemination of the volcanic information are distinctly different in two distinct phases:

- a) in-flight; and
- b) post-flight.

3.2. The following section analyses these separately.

4. PARTICIPANTS IN THE REPORTING PROCESS, THEIR ROLES AND RESPONSIBILITIES

4.1. Identification of the participants as well as their roles and responsibilities in general, but specifically during the two different phases of operations, is an important element in improving collection, exchange and dissemination of volcanic information. The number of participants and their roles and responsibilities depends on the phase of operations (in-flight, post-flight), their position in the information chain within one of these two phases and national/regional arrangements. One of the main issues regarding participants' roles and

responsibilities is that each of them is, at one time or another, both a data/information provider and user of the information.

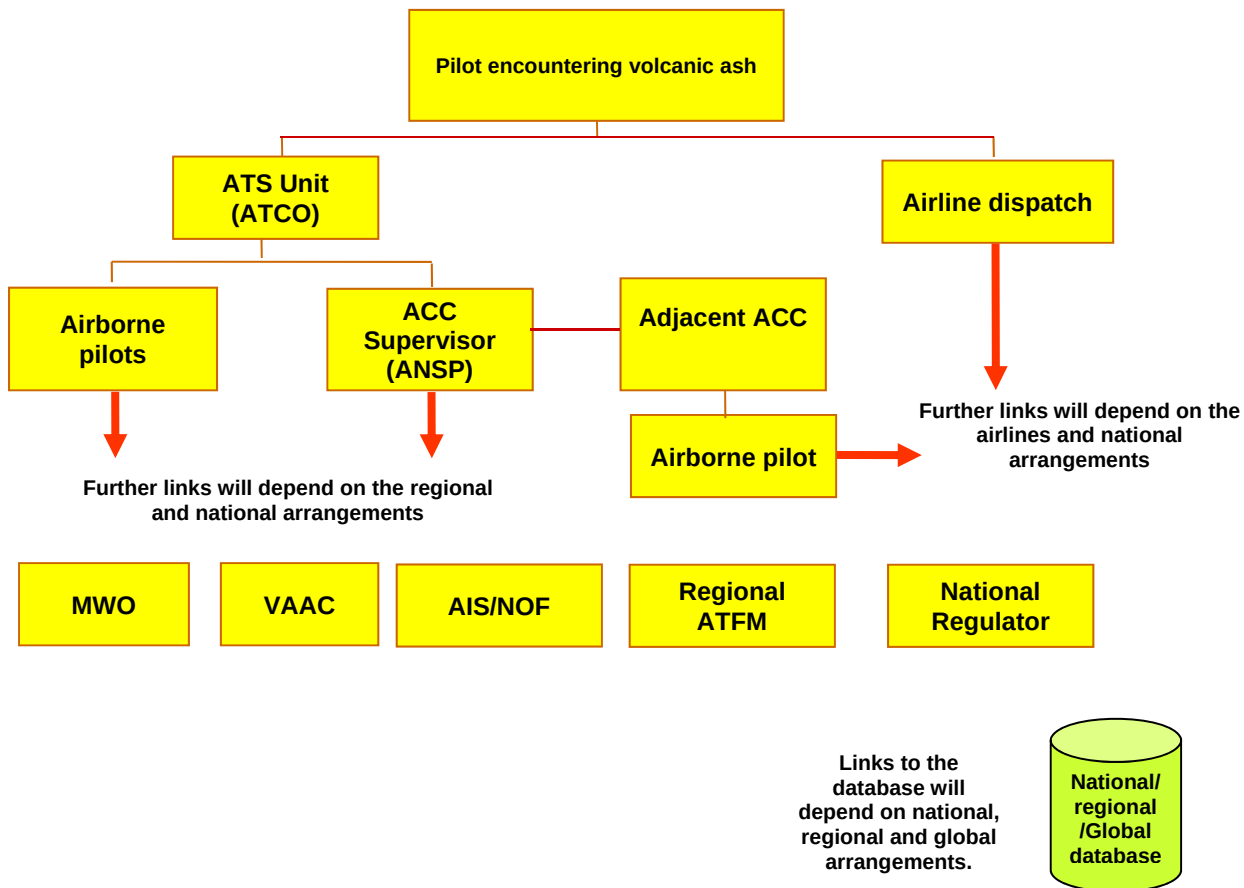
4.2. *In-Flight Phase*

4.2.1 Participants, Roles & Responsibilities:

Participants	Roles & Responsibilities
Pilots, civil and/or military, observing and/or encountering volcanic activity	To provide as much detailed information as possible about the type, position, colour, smell, dimensions of the volcanic contamination, level and time of the observation and forward VAR Part I immediately to the ATS unit with which the pilot is in radiotelephony (R/T) communication. Record the information required for VAR Part II on the appropriate form as soon as possible after the observation or encounter and file the report via data link, if available.
ATS unit receiving the information from the pilot encountering volcanic event	To ensure that information received by an air traffic controller from the pilot has been copied, clarified (if necessary), and disseminated to other pilots as well as to the ACC Supervisor. In addition, air traffic controllers could ask other pilots flying within the same area if they have observed any volcanic activity.
ATS unit/ACC Supervisor (if applicable) or other Air Navigation Service Provider responsible person	To use all means of communication and available forms to ensure that the information received from the air traffic controller has been: - passed on to the associated Meteorological organizations in accordance with national/regional arrangements; - fully and immediately disseminated across the organization, in particular to adjacent sectors and the associated NOTAM Office (NOF); - passed on to the neighbouring sectors and ACCs (if necessary); - passed on to the regional ATFM centre if existing (e.g. CFMU in Europe); - passed on to the national/regional authority responsible for the handling of contingency situations.
Neighbouring ANSPs (ACCs)	To ensure that information is provided to flight crews flying towards the area affected by the volcanic contamination; disseminated across the organization and the system prepared to cope with the possible changes of the traffic flows; and that the information is provided to the national authority responsible for the handling of contingency situations and passed on to the NOF and MWO as required.
MET Watch Office	To use the information originated by flight crews and forwarded by the ATS unit, in accordance with Annex 3.
VAAC	To use the information originated by flight crews, MWOs and other competent sources in accordance with Annex 3
AIS / NOF	To publish appropriate AIS messages in accordance with Annex 15
ATFM unit or centre (if existing)	To ensure that information received is stored and made available for information to all partners in its area of responsibility (ANSPs, airlines, VAAC, MET etc.). As part of the daily activity, coordinate ATFM measures with ACCs concerned.

4.2.2 *In-flight reporting – Sample Flow Chart of the volcanic ash information*

4.2.2.1 The chart below is a graphical representation of a possible path of the in-flight volcanic ash information and may differ between regions depending on regional arrangements. It also gives the position of the volcanic ash participants in the reporting chain. The flow chart is not exhaustive and the path of the information can be extended and new participants could be added depending of the national and regional requirements:



4.3 Post-Flight Operations Roles & Responsibilities and order of reporting

Participants	Roles & Responsibilities
Civil and/or military pilots/airlines having observed or encountered an eruption or volcanic contamination	To file the volcanic ash report with as much detailed information as possible about the volcanic activity and/or encounter (position, colour, smell, dimensions, FL, time of observation, impact on the flight, etc.). Ensure that the VAR is filed and transmitted to the relevant recipients as soon as possible after landing (if not filed via data link already during the flight). Make an entry into the Aircraft Maintenance Log (AML) in case of an actual or suspected encounter with volcanic contamination.
ANSP	To provide a summary report of effects of the volcanic activity that affected its operations at least once per day to the national authority with as much detailed information as possible about the number of encounters, impact on air traffic management, etc.).
AOC Maintenance - Post flight Inspection	To report about the observation of the aircraft surfaces, engine, etc., and to provide the information to the national, regional or global central data repository, where applicable.

Investigation authority	All aeronautical service providers (including operators, ANSPs, airports, etc.) shall investigate the effects of a volcanic activity, analyse the information, search for conclusions, and report the investigation results and relevant information to the national supervisory authority and any central data repository.
National Authority	To handle the national central data repository and report to the regional/global central data repository if any. To analyse reports from its aeronautical service providers and take action as appropriate.
Regional Central Data Repository	To collect the national data and make them available to interested stakeholders under agreed conditions.
MWO	To use the national and regional information coming from national and regional central data repositories.
VAAC	To use the information originated by flight crews, and other competent sources to: a) validate its products accordingly and; b) improve the forecast.
Global Data Repository (and research institutes - where appropriate)	To analyse the information stored in the regional central data repository and provide the research outcomes for lessons learnt process.
Knowledge management (e.g. SKYbrary)	To use the post-flight lessons learnt and disseminate them to interested stakeholders.
ICAO	To review/revise ATM volcanic ash contingency plans.

4.4 *Tools for presenting and sharing the volcanic ash information*

4.4.1 To report, transmit and disseminate the volcanic ash encounter information, different types of tools can be used. The list below is provided to give ideas as to what tools can be used. It could also be split into regulatory and general information tools. At any case, it is not an exhaustive list and can be updated with new elements depending on regional experiences.

- a) Radiotelephony and Data link Communications;
- b) VAR;
- c) NOTAM/ASHTAM;
- d) SIGMET;
- e) VAA/VAG;
- f) Central data repository e.g. CFMU Network Operations Portal (NOP);
- g) Centralized web based sites with the regularly updated information and maps – e.g. <http://www.eurocontrol.int/>
- h) Teleconferences;
- i) Periodic Bulletins with the set of information defined by the data providers and data users; e.g. Smithsonian Institution Weekly Bulletin; and/or
- j) Centralized internet-based sites for the sharing of lessons learnt (Knowledge management – e.g. SKYbrary http://www.skybrary.aero/index.php/Main_Page).

APPENDIX D

SIGMET and NOTAM EXAMPLES DURING VOLCANIC ASH

Volcanic Ash (VA) Cloud (CLD) in Kuwait FIR

WVKW31 OKBK 030900
OKBK SIGMET 1 VALID 030900/031500 OKBK-
OKAC KUWAIT FIR VA CLD OBS AT 0840Z W OF E48 FL180/320 MOV E 45KT NC FCST1500Z VA CLD
APRX E OF E4730=

Cancellation SIGMET as volcanic ash cloud exits Kuwait FIR into Tehran FIR (sooner than expected)

WVKW31 OKBK 031400
OKBK SIGMET 2 VALID 031400/031500 OKBK-
OKAC KUWAIT FIR CNL SIGMET 1 030900/031500 VA MOV TO OIIX FIR=

VA CLD in Cairo FIR

WVEG31 HECA 030900
HECA SIGMET 1 VALID 030900/031500 HECA-
HECC CAIRO FIR VA CLD OBS AT 0840Z N OF LINE N3140 E2510 - N29 E30 W OF LINE N3150 E3359 –
N29 E30 FL100/290 MOV SE 35KT NC FCST1500Z VA CLD APRX N OF LINE N3140 E2510 – N2806
E3435=

Cancellation SIGMET as volcanic ash cloud exits Cairo FIR into Jeddah FIR (sooner than expected)

WVEG31 HECA 031330
HECA SIGMET 2 VALID 031330/031500 HECA-
HECC CAIRO FIR CNL SIGMET 1 030900/031500 VA MOV TO OEJD FIR=

Example NOTAM based on SIGMET issued for Cairo FIR

Q) HECC/QWWXX/IV/NBO/W/100/290/999
A) HECC B) 1311030900 C) 1311031500
E) ATM AND ACFT TAKE NECESSARY ACTION DUE TO VOLCANIC ASH AREA OF HIGH/MEDIUM
CONTAMINATION (FROM VOLCANO ETNA 211060, 37.734N 015.004E) AS FOLLOWS:
3400N 2410E – 3140N 2510E – 2900N 3000E – 3150N 3359E – 3330N 3000E – 3400N 2710E – 3400N 2410E
F) FL100 G) FL290

Special Air-Reports on Volcanic Ash

Special air-reports on volcanic ash sent to ACCs should then be sent via AFTN to the relevant Meteorological Watch Office (MWO) which is forwarded to the relevant Volcanic Ash Advisory Centre (VAAC) – for MID Region that is VAAC Toulouse.

SPECIAL AIREP → ACC → MWO → VAAC

Pilots should use the special air-reports format on volcanic ash as at Table A4-1 in Appendix 4 of ICAO Annex 3.

MIDANPIRG/14
Appendix 4.3C to the Report on Agenda Item 4.3

MID REGION SAR AGREEMENT STATUS

STATE	CORRESPONDING STATES			REMARKS
BAHRAIN	☐ IRAN ☐ KUWAIT	☐ OMAN ☐ QATAR	☐ SAUDI ARABIA ☐ UAE	0/6
EGYPT	☐ GREECE ☐ JORDAN	☐ LYBIA ☒ CYPRUS	☐ SAUDI ARABIA ☐ SUDAN	1/6
IRAN	☐ ARMENIA ☐ AZERBAIJAN ☐ TURKMANISTAN ☐ AFGHANISTAN	☐ BAHRAIN ☐ IRAQ ☐ KUWAIT ☐ OMAN	☐ PAKISTAN ☐ TURKEY ☐ UAE	0/11
IRAQ	☐ IRAN ☒ JORDAN	☐ KUWAIT ☐ SAUDI ARABIA	☐ SYRIA ☐ TURKEY	1/6
JORDAN	☐ EGYPT ☒ IRAQ	☐ ISRAEL ☐ SAUDI ARABIA	☐ SYRIA	1/5
KUWAIT	☐ BAHRAIN ☐ IRAN	☐ IRAQ	☐ SAUDI ARABIA	0/4
LEBANON	☒ CYPRUS	☐ SYRIA		1/2
LIBYA	☐ ALGERIA ☐ CHAD ☐ EGYPT	☐ MALTA ☐ NIGER	☐ SUDAN ☐ TUNIS	0/7
OMAN	☐ INDIA ☐ IRAN	☒ SAUDI ARABIA ☐ PAKISTAN	☐ UAE ☐ YEMEN	1/6
QATAR	☐ BAHRAIN	☐ SAUDI ARABIA	☐ UAE	0/3
SAUDI ARABIA	☐ BAHRAIN ☐ EGYPT ☐ ERITREA	☐ IRAQ ☐ JORDAN ☐ KUWAIT	☒ OMAN ☐ SUDAN ☐ YEMEN	1/8
SUDAN	☐ CENTRAL AFRICAN ☐ CHAD ☐ EGYPT	☐ ERITREA ☐ ETHIOPIA ☐ LIBYA	☐ SAUDI ARABIA ☐ SOUTH SUDAN	0/8
SYRIA	☐ IRAQ ☐ JORDAN	☐ LEBANON ☒ CYPRUS	☒ TURKEY	2/5
UAE	☐ BAHRAIN ☐ IRAN	☐ OMAN	☐ QATAR	0/4
YEMEN	☐ DJIBOUTI ☐ ERITREA ☐ ETHIOPIA	☐ INDIA ☐ OMAN ☐ SAUDI ARABIA	☐ SOMALIA	0/7

☒ Agreement Signed ☐ Agreement NOT Signed

Signed Agreements / Total No. of required Agreements

MIDANPIRG/14
Appendix 4.3D to the Report on Agenda Item 4.3

MID REGION SAR POINT OF CONTACT (SPOC) – COSPAS-SARSAT

STATE	SPOC NAME	ADDRESS	EMAIL	TEL	FAX	AFTN	ASS. MCC/ STATE ¹	LAST REVISION	REMARK
Bahrain	RCC ATC Bahrain	Bahrain CAA, Air Navigation Directorate P.O. Box 586 Kingdom of Bahrain	Bahatc@caa.gov.bh	(973) 17321081 17321080	(973) 17321905	OBBISARX	SAMCC Saudi Arabia	16-April-2013	
Egypt	SAR Centre	SAR Centre Almaza Air Base Heliopolis, Cairo, Egypt	jrc136@afmic.gov.eg mmc@saregypt.net nahedh@tra.gov.eg	(202) 24184537 24184531	(202) 24184537 24184531	HECCYCYX	ALMCC Algeria	22-OCT-2013	TELEX: (91) 21095 RCCC RUN
Iran	RCC Tehran	Civil Aviation Organization SAR Coordination Centre Mehrabad Airport Tehran, Iran	SAR@cao.ir IRAN-SAR@airport.ir rcc.IRAN@airport.ir	(9821) 44544107 44544116 44544060	(9821) 44544117 44544106	OIIIRZX	TRMCC Turkey	14-Jan-2013	
Iraq	CENTAF-AUAB CAOC JSRC			(974) 4503452 4364193	(974) 4327382		TRMCC Turkey	29-Sep-2009	
Jordan	RCC ATC Amman	RCC Civil Aviation Authority Amman Airport, Jordan		(9626) 4451672	(9626) 4451667	OJACZQZX	SAMCC Saudi Arabia	16-Apr-2013	
Kuwait	RCC ATC Kuwait	RCC DGCA Kuwait International Airport, P.O.Box 17, Kuwait		(965) 24760463 24762994	(965) 24346515 24346221	OKBKZQZX OKBKNSAR	SAMCC Saudi Arabia	16-Apr-2013	
Lebanon	RCC Beirut	RCC, DGCA Lebanon, Hariri Int'l Airport- Beirut, Lebanon		(961) 1628161	(961) 1628186 1629035	OLBIZQZX	SAMCC Saudi Arabia	16-Apr-2013	
Libya	CAA	CAA, Tripoli Int'l Airport, Libya	info@sar.caa.ly	(218.21) 5632332 4446799 3606868	(218.21) 563 0257 360 6868	HLLTYCYX	ALMCC Algeria	16-May-2013	TELEX (218.21) 5632332

¹ Associated COSPAS-SARSAT Mission Control Center / State where it is located

4.3D-2

STATE	SPOC NAME	ADDRESS	EMAIL	TEL	FAX	AFTN	ASS. MCC/ STATE ¹	LAST REVISION	REMARK
Oman	RCC Muscat Air Force	RCC, HQ RAFO P.O.Box 730 Central Post Office Muscat Int'l Airport, Oman		(968) 24519209 24519332	(968) 24334776 24338692	OOMSYAYX	SAMCC Saudi Arabia	16-Apr- 2013	
Qatar	RCC ATC			(974) 44616332 44651001 44616429	(974) 44622078 44678512	OTBDZTZX	SAMCC Saudi Arabia	16-Apr- 2013	
Saudi Arabia	SAMCC	KSA.GACA / Air Navigation services P.O.Box 929 Jeddah 21421 Saudi Arabia	samcc@gaca.gov.sa	(96602) 6150170 6855812 (96650) 4601445	(96602) 6150171 6402855	OEJNJSAR	SAMCC Saudi Arabia	28-Jun- 2013	TEL 3 & FAX 2 for Head of SAMCC
Sudan	ACC Khartoum	Khartoum Airport, Sudan		(249.183) 788192 784925	(249.183) 528323	HSSSYCYX	ITMCC Italy	16-Apr- 2013	Thuraya +8821655524 296
Syria	RCC ATC	General Civil Aviation Authority		(963.11) 5400540	(963.11) 5400312	OSDIZQZX	SAMCC Saudi Arabia	16-Apr- 2013	
UAE	AEMCC	SAR Coordination Center P.O.Box 906 GHQ Armed Forces UAE	aemcc@uae-jrcc.ae	(971.2) 4056144 4496866	(971.2) 4496844	OMADYCYX	AEMCC UAE	23-Sep- 2011	
Yemen	RCC Sanaa	RCC Department of Civil Aviation Sanaa, Yemen		(967) 1344673	(967) 1345916	OYSNYCYX	SAMCC Saudi Arabia	16-April- 2013	

MIDANPIRG/14
Appendix 4.3E to the Report on Agenda Item 4.3

MID REGION SAR FOCAL POINTS CONTACT DETAILS

STATE	NAME	TITLE	ADDRESS	EMAIL/AFS	FAX	TEL	MOBILE
Bahrain	ACC Duty Supervisor	ACC Duty Supervisor	Bahrain CAA P.O.Box – 586 Kingdom Of Bahrain	bahatc@caa.gov.bh	+973 17321029	+97317321081 +97317321080	
Egypt	Mr. Ibrahim Khalifa Mahmoud	General Director of Operations Centers & Crisis Management	Ministry of Civil Aviation Cairo - EGYPT	crisar@civilaviation.gov.eg	202 22681371	202 22678548	20124469052
Iran							
Iraq	Ali Muhsin Hashim	Director ATS	ANS Building, BIAP	Atc_iraqcaa@yahoo.com		964 7815762525	964 7815762525
Jordan	Mr. Khalaf Al- Shawabka	Chief Amman TACC and SAR	Queen Alia Airport	kshowbki@yahoo.co.nz	+962 445132	+ 962 4451672	96) 77790 4724
Kuwait							
Lebanon							
Libya							
Oman	RCC HQ RAFO		P.O.Box 722 Muscat P.C. 111, Oman	Hq.rafo@rafo.gov.om AFS:- OOMSICYX	+968 24334776	+968 24334211 +968 24334212	

STATE	NAME	TITLE	ADDRESS	EMAIL/AFS	FAX	TEL	MOBILE
Qatar							
Saudi Arabia	Mr. Ahmad B. Altunisi	Manager SAR Head of SAMCC	General Authority of Civil Aviation	jaf-2010@hotmail.com	966-2 671 9041	966-2 671 7717/1840	966-50 460 1445
Sudan							
Syria	Mr. Monif Abdulla	Head of S.A.R. Department Syrian Civil Aviation Authority	Damascus Airport	monif77@hotmail.com	963-11 540 0312	963-11 540 0312	963 932 710351
UAE	UAE ATC Duty Supervisor			atc@szc.gcaa.ae	971 2 599 6850	971 2 599 6969	
Yemen							

MIDANPIRG/14
Report on Agenda Item 4.4

**REPORT ON AGENDA ITEM 4: PERFORMANCE FRAMEWORK FOR REGIONAL AIR NAVIGATION
PLANNING AND IMPLEMENTATION ISSUES**

4.4 AIM

4.4.1 The meeting was apprised of the latest developments in the AIM field at the global level through the review of the outcome of the AIS-AIM SG/7 meeting held at ICAO HQ, Montreal, Canada, 14-18 January 2013. It was highlighted that the AIS-AIM SG/8 meeting was held also, at ICAO HQ, Montreal, Canada, 4-8 November 2013. The Summary of Discussion (SoD) is available at: <http://www.icao.int/safety/ais-aimsg/Lists/Meetings/AllItems.aspx>

4.4.2 The meeting reviewed the outcome of the ATM/AIM/SAR SG/13 meeting related to AIS/AIM matters, pursuant to the review of the report of the AIM TF/7 meeting held in Cairo, Egypt, 25 - 27 September 2012.

4.4.3 The meeting was informed about the main changes introduced to Annex 15 through Amendment 37, which became applicable on 14 November 2013.

4.4.4 The meeting noted that in order to accomplish the global transition from traditional AIS provision to AIM-enabled services, it would be necessary to develop sequential and successive changes to Annex 15. The reorganization of the first three chapters as part of Amendment 37 is an evolutionary step in this process. It will facilitate a more complete incorporation of AIM-related provisions scheduled for adoption as part of Amendment 38 in 2016.

4.4.5 The meeting underlined the need to start the process of amendment of the AIS/AIM National Regulations, as a consequence to the Amendment 37 to Annex 15 and other AIM developments, in a timely manner. Accordingly, the meeting agreed to the following Conclusion:

CONCLUSION 14/18: NATIONAL AIS/AIM REGULATIONS

That, States be urged to:

- a) include in the national plans for the transition from AIS to AIM actions related to the amendment of national AIS/AIM regulations as a consequence to the Amendment of Annex 4, Annex 15 and other AIM developments;*
- b) take necessary action for a timely amendment of the national AIS/AIM regulations as a consequence to Amendment 37 to Annex 15; and*
- c) inform the ICAO MID Regional Office of the actions taken before 1 March 2014.*

4.4.6 The meeting invited States to share their experience with regard to the development of National AIM Plans and Regulations.

MIDANPIRG/14
Report on Agenda Item 4.4

4.4.7 The meeting noted that based on the analysis of the survey carried out in the MID Region related to the transition from AIS to AIM, the following was highlighted:

- Bahrain, Egypt, Iran, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia and UAE provided their National AIM Plan/Roadmap to the ICAO MID Regional Office;
- the implementation of Phase 1 (consolidation) does not raise specific difficulties; however, some States will not complete the implementation of some steps from phase 1 before end of 2013 (especially P-17-Quality);
- the timescales for the implementation of phase 2 and phase 3 are not realistic. In the MID Region, the implementation of phase 2 and phase 3 could not be completed before 2016 and 2021, respectively;
- the majority of States that have replied to the questionnaire confirmed that they are encountering/expecting some difficulties during the transition from AIS to AIM, in particular:
 - tight timescales;
 - financial constraints ;
 - manpower availability, capacity, and knowledge (required expertise);
 - training of Staff;
 - lack of detailed ICAO guidance material; in particular an AIS-AIM Transition Manual with detailed description of steps to assist States in the implementation process;
 - necessity to amend the National Regulations to include AIM requirements;
 - awareness and commitment of data originators, and adoption of appropriate arrangements with all data originators;
 - electronic data exchange with all data originators; and
 - eTOD implementation.

4.4.8 The meeting noted that some States have requested assistance from ICAO, especially by the:

- development of appropriate AIM SARPs and guidance material to assist States in the transition from AIS to AIM;
- organisation of special training courses, Seminars, Workshops and awareness campaigns related to AIM; and
- development of standard AIM training courses.

4.4.9 In connection with the above, the meeting noted that a Joint IFAIMA Global AIM 2013 & ICAO EUR/MID AIM/SWIM Seminar was successfully held in Istanbul, Turkey, 14-17 May 2013. This event was organized jointly by IFAIMA, ICAO and EUROCONTROL and hosted by the Turkish Air Navigation Service Provider (DHMI) and the Turkish AIM Association (TAIMA). The theme of the event was “Aeronautical Information Management (AIM) support to seamless Air Traffic Management (ATM) in a System Wide Information Management (SWIM) environment”.

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Report on Agenda Item 4.4

4.4.10 The main objectives of the Seminar were to:

- a) provide States with a better understanding of the planning and implementation issues related to the transition from AIS to AIM;
- b) provide briefings related to AIM and SWIM global developments and regional/national AIM-related activities and experiences; and
- c) address the AIM/SWIM challenges/opportunities and Users' requirements/views.

4.4.11 It was noted with appreciation that the seminar provided a balance between Concepts, technical developments and "institutional and training" issues. The meeting further noted that all the presentations made during the Seminar had been made available on the IFAIMA website at: <http://www.ifaima.org/GAIMConference2013.html>. The Summary of Discussions is available on the ICAO MID Regional Office and EUR/NAT Regional Office websites as well as on the IFAIMA website.

4.4.12 The meeting urged States to take necessary follow-up actions on the outcome of the ICAO EUR/MID AIM/SWIM Seminar.

4.4.13 Based on all of the foregoing and in order to keep pace with the AIM/SWIM developments, the meeting agreed that States should develop/update their National Plans for the transition from AIS to AIM with a view to support seamless ATM in a SWIM environment. Accordingly the meeting agreed to the following Conclusion:

CONCLUSION 14/19: NATIONAL PLANS FOR THE TRANSITION FROM AIS TO AIM

That, in order to keep pace with the AIM/SWIM developments and support seamless ATM in a SWIM environment, States be urged to:

- a) develop/update their national plans for the transition from AIS to AIM; and*
- b) provide the ICAO MID Regional Office with an updated version of their national plans for the transition from AIS to AIM, before 1 March 2014.*

4.4.14 The meeting was apprised of the outcome of the DGCA-MID/2 meeting (Jeddah, Saudi Arabia, 20-22 May 2013) and the second MIDAD Study Group meeting (Cairo, Egypt, 1-3 July 2013) related to the MIDAD Project.

4.4.15 The meeting recalled that, in accordance with the MIDANPIRG/13 Conclusion 13/21 related to the MIDAD legal framework, the DGCA-MID/2 meeting noted with appreciation that Bahrain, Qatar, Saudi Arabia and UAE volunteered to take the lead in carrying out the detailed MIDAD Study (Phase 2). It was highlighted that Phase 2 of the project would be composed of two (2) main steps. During the first step, a Consultant would be hired to develop the Call for Tender for the detailed Study. Accordingly, the DGCA-MID/2 meeting agreed to the following Conclusion:

MIDANPIRG/14
Report on Agenda Item 4.4

DGCA-MID/2 CONCLUSION 2/7 – PHASE 2 OF THE MIDAD PROJECT

That,

- a) Bahrain, Qatar, Saudi Arabia and UAE take the lead in carrying out the detailed MIDAD Study (Phase 2), in close coordination with the MIDAD Study Group; and*
- b) States provide all necessary support for the achievement of Phase 2 of the Study.*

4.4.16 The meeting noted with satisfaction that Bahrain, Iran, Iraq, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Sudan, UAE and Yemen signed the Memorandum of Agreement (MOA) reflecting their commitment to the MIDAD Project as shown in **Appendix 4.4A** to the Report on Agenda Item 4.4. The meeting encouraged other States from within and outside the MID Region, interested to participate in the MIDAD Project, in particular Egypt and Libya, to sign the MOA.

4.4.17 The meeting recalled that during its first meeting the MIDAD Study Group initiated discussion on the following:

- MIDAD Purpose and Scope;
- Technical issues/scenarios for the implementation of MIDAD;
- Operation of MIDAD and maintenance aspects;
- MIDAD Financial Plan/Funding Mechanism;
- Legal and Institutional issues associated with the implementation of MIDAD;
- and
- project management and Timelines for the development and implementation of MIDAD.

4.4.18 It was highlighted that detailed discussion on the above subjects will be addressed as part of the MIDAD detailed study.

4.4.19 The meeting re-iterated that MIDAD should be designed in a manner that will ensure the availability of aeronautical information to any authorized ATM user in a globally interoperable and fully digital environment. The interoperability between MIDAD, the National AIS/AIM Systems and other regional/sub-regional AIS databases (EAD, AFI-CAD, etc) was also underlined.

4.4.20 The meeting recalled that during the first step of Phase 2, a Consultant would be hired to develop the Call for Tender for the MIDAD detailed study. The meeting agreed that, the MIDAD Project Phase 2 would consist of the following main steps:

- a) Call for Tender to select the Consultant, which will develop the Technical Specifications and Call for Tender related to the MIDAD detailed Study;
- b) selection of the Consultant and Contract negotiation;
- c) development of the Technical Specifications and Call for Tender related to the MIDAD detailed Study;
- d) selection of the Company to develop the MIDAD detailed study and Contract negotiation.

MIDANPIRG/14
Report on Agenda Item 4.4

4.4.21 The meeting agreed that the Consultant chosen in step a) would provide necessary support until the end of Phase 2 and accordingly will not be eligible to bid for the development of the detailed study.

4.4.22 The meeting agreed that the delivery and acceptance of the MIDAD detailed study will mark the end of Phase 2 of the MIDAD Project and the start of phase 3 (implementation, operation, maintenance, etc.).

4.4.23 In line with the DGCA-MID/2 Conclusion 2/7, the meeting noted that Bahrain was assigned the responsibility for the issuance of the Calls for Tender related to the MIDAD Project. It was highlighted that, the MIDAD Support Team should support Bahrain, Qatar, Saudi Arabia and UAE in the advancement of the project. Accordingly, the meeting agreed that the composition of the MIDAD ST should be reduced to members from Jordan, Iran, Kuwait and the ICAO MID Regional Office.

4.4.24 Based on the above, the meeting agreed to the following Decision:

DECISION 14/20: MIDAD SUPPORT TEAM

That, the MIDAD Support Team (MIDAD ST):

- a) be composed of members from Jordan, Iran, Kuwait and the ICAO MID Regional Office; and*
- b) provide necessary support to Bahrain, Qatar, Saudi Arabia and UAE as well as to the MIDAD Study Group to successfully complete Phase 2 of the MIDAD Project.*

4.4.25 The meeting noted also that the Chairperson of the MIDAD Study Group, Mr. Salah Alhumood, Head Aeronautical Information & Airspace, Civil Aviation Affairs, Bahrain, would sign the Contracts with the chosen Consultant/Company, on behalf of the participating States.

4.4.26 Based on all of the foregoing, the meeting reviewed and updated the Action Plan/Timelines related to the MIDAD Project Phase 2, as follows:

	Action	Deliverable	Responsible	Timeline
1	Call for Tender preparation to select the Consultant, which will develop the Technical Specifications and Call for Tender related to the MIDAD detailed Study	Call for Tender	Bahrain	15/08/13
2	Tender phase	Closing of the Tender	Bahrain	15/09/13
3	Receipt of the Offers	Offers	Industry	23/10/13
4	Evaluation of the offers and selection of the Consultant	Consultant selected	Bahrain, Qatar, Saudi Arabia and UAE with the support of the MIDAD ST	31/01/14

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Report on Agenda Item 4.4

	Action	Deliverable	Responsible	Timeline
5	Progress report to MIDANPIRG/14	Outcome of MIDANPIRG/14	Bahrain, Qatar, Saudi Arabia and UAE with the support of the MIDAD ST	19/12/13
6	Contract negotiation with the selected Consultant	Contract with the selected Consultant	Bahrain, Qatar, Saudi Arabia and UAE with the support of the MIDAD ST	07/02/14
7	Contact (Workshops) with potential Companies interested to bid for the development of the MIDAD detailed study	First Draft of technical specifications for the MIDAD detailed study	Bahrain, Qatar, Saudi Arabia and UAE with the support of the chosen Consultant	15/03/14
8	Preparation of the Technical Specifications and Call for Tender related to the MIDAD detailed Study for review by the MIDAD STG/3 meeting	Final Draft of the Technical Specifications	Consultant	15/06/14
9	Review and endorsement of the specifications for the MIDAD detailed study by the MIDAD STG/3 meeting	Call for Tender specifications approved	MIDAD STG/3	30/06/14
10	Tender Phase (opening)	Call for Tender	Bahrain	31/07/14
11	Tender Phase (closing)	Call for Tender	Bahrain	31/08/14
12	Receipt of the Offers	Offers	Industry	31/10/14
13	Evaluation of the offers and selection of the Company which will be awarded the contract related to the MIDAD detailed study	Company selected	Bahrain, Qatar, Saudi Arabia and UAE with the support of the MIDAD ST and Consultant	31/12/14
14	Progress report to the MIDAD STG/4 meeting	Outcome of the MIDAD STG/4 (Endorsement)	Bahrain, Qatar, Saudi Arabia and UAE with the support of the MIDAD ST and Consultant	15/02/15
15	Progress report to the DGCA-MID/3 meeting	DGCA-MID/3 Go-ahead decision and agreement on funding mechanism	Bahrain, Qatar, Saudi Arabia and UAE with the support of the MIDAD ST and Consultant	30/04/15

MIDANPIRG/14
Report on Agenda Item 4.4

	Action	Deliverable	Responsible	Timeline
16	Signature of the Contract with the selected Company	Contract signed	MIDAD STG Chairperson	15/05/15
17	Development of the detailed Study documents/deliverables	TBD	Company	TBD

4.4.27 The meeting noted that in accordance with the Action Plan/Timelines related to the MIDAD Project Phase 2 developed by the MIDAD STG/2 meeting, the Bahrain Civil Aviation Affairs (BCAA) published the first Call for Tender No. AND/9/P/73 ICAO-MIDAD/2013 on 15 August 2013.

4.4.28 The meeting noted that six tenders have been received and all tenders were valid according to Bahrain Legislation and Regulations.

4.4.29 The meeting noted that as a result of the evaluation process, a Consultant has been selected. However, there was still a need for some clarifications before the signature of the Contract. Accordingly, coordination/negotiation would be initiated with the Consultant during January 2014. Based on the results of the coordination/negotiation, the Contract would be signed or the project would be retendered.



MEMORANDUM OF AGREEMENT - MOA

MID REGION AIS DATABASE (MIDAD) PROJECT

Date: 20 May 2013



Handwritten signatures and initials in blue ink, including a large signature on the left and several smaller ones on the right.

MEMORANDUM OF AGREEMENT FOR THE DEVELOPMENT OF A MID REGION AIS DATABASE (MIDAD)

1. PURPOSE:

- Considering that the implementation of a Regional/Sub-Regional AIS Database in the MID Region would improve the quality, availability and timeliness of aeronautical information provided to users and pave the way for the transition from AIS to AIM, in accordance with the ICAO Roadmap from AIS to AIM;
- Considering the limitations and drawbacks related to the current operational structure and provision of AIS/AIM services in the MID Region;
- Considering the experience of adjacent regions in the implementation of Regional AIS databases and the associated benefits;
- Considering the agreement made by the DGCA-MID/1 meeting held in Abu Dhabi, UAE from 22 to 24 March 2011, through DGCA-MID/1 Conclusion 1/5, to carry out a study/business case pertaining to the establishment of a MID Region AIS Database (MIDAD);
- Considering that a MIDAD Study Group (MIDAD STG) has been established by the Middle East Planning and Implementation Regional Group (MIDANPIRG) to monitor the MIDAD Project and address all associated technical, operational, financial, legal and institutional issues;
- Considering the outcome of the initial MIDAD Study (First phase) and the support expressed by the majority of the MID States;
- Considering the outcome of the MIDANPIRG/13 meeting related to the MIDAD Project, which considered that the first phase of the MIDAD Study is completed and has achieved the expected goals; and invited States and all concerned stakeholders to provide necessary support for the achievement of the second phase of the MIDAD Project;
- Considering that through MIDANPIRG/13 Conclusion 13/20, Bahrain, Iran, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria and Yemen confirmed their commitments to the MIDAD Project;
- Considering the agreement of the MIDAD STG, endorsed by MIDANPIRG/13 that:
 - it's necessary to reach first an agreement on the MIDAD legal framework and then the funding of the second phase of the MIDAD project, which will include, inter-alia, the development of the Financial Plan/Model for the whole MIDAD Project phases (set-up, operations, maintenance, etc); and
 - starting from phase 2 of the project (detailed study) and taking into consideration the huge amount of work to be done and Documents to be developed, it's not realistic that this task be achieved on a voluntary basis and accordingly, the outsourcing is necessary, which raises legal, institutional and financial implications; and



- Considering MIDANPIRG/13 Conclusion 13/21 related to MIDAD Legal framework:

2. AGREEMENT

2.1 The Parties to this agreement, referred to hereunder as Participating States, agreed to the following:

- a. to reflect their commitment to the MIDAD Project, through the signature of this Memorandum;
- b. to provide all necessary support for the achievement of the second phase of the MIDAD Project, based on the agreed legal framework;
- c. other States from within and outside the MID Region, interested to participate in the MIDAD Project, be invited to sign this MOA;
- d. the MIDAD STG monitor the developments of all phases of the MIDAD Project and report progress to MIDANPIRG and its relevant subsidiary bodies; and
- e. a MIDAD Supervisory Management Board composed of Representatives from each Participating State empowered to take decisions should be established to take the strategic decisions related to the MIDAD Project, on behalf of the DGCAs of participating States.

3. LANGUAGE OF CORRESPONDENCE

- a. All correspondences and other information shall be in English;
- b. All correspondence relating to this Agreement, shall be addressed to:

The ICAO Regional Director

ICAO Middle East Regional Office
Egyptian Civil Aviation Complex, Airport Road
P.O Box 85, Airport Post office, Terminal One
11776, Cairo, Egypt

4. AMENDMENT TO THE AGREEMENT

- a. This agreement may be amended by an instrument in writing signed by each of the parties.

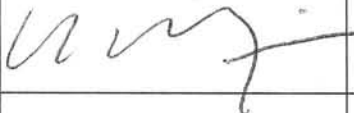
5. ENTRY IN FORCE

- a. This agreement shall come into force on the date it has been signed by the participating States.

MIDAD MOA dated 20 May 2013



6. SIGNATURES

State	Signature	Name/Title	Date
Bahrain		AL UNDER SECRETARY	20/05/2013
Egypt			
Iran		Capt. H.R. PAHLEVANI	14 July 2013
Iraq		ALI-MOTASIN	20/05/2013
Jordan		محمد بن القردان	20/05/2013
Kuwait		حزارة عبدالعزيز الفرج رئيسة الفيزياء	21/5/2013
Lebanon		دايان العيسى	20/5/2013
Libya			
Oman		Sa'im Al Aufi CEO / PACA	21/5/13
Qatar		Abdulaziz M. AL Noaimi	20/5/2013
Saudi Arabia			20/5/2013





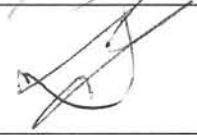










Sudan		Ahmed Satti Bajouri	20-05-2013
Syria			
UAE		SAIF ALSUVAID	20-05-13
Yemen		Hamed Ahmad Farag	20/5/2013

-END-

MIDAB MOA dated 20 May 2013



2-2

MIDANPIRG/14
Report on Agenda Item 4.5

**REPORT ON AGENDA ITEM 4: PERFORMANCE FRAMEWORK FOR REGIONAL AIR NAVIGATION
PLANNING AND IMPLEMENTATION**

4.5 CNS

MID-ATS Message Management Center (MID-AMC)

4.5.1 The meeting was apprised of the MID-AMC project activities which are divided into two phases in line with the goals of the project. The two phases had been successfully completed and the system had been accepted; also trial period has commenced since 12/12/2012 for one year.

4.5.2 The meeting noted that Jordan completed the development of the MID-AMC with the support from EUROCONTROL.

4.5.3 The meeting noted that Synchronization protocol procedure between EUR-AMC and MID-AMC was concluded. EUROCONTROL would no more accept new users from the MID Region and all Regional users should register on the MID-AMC.

4.5.4 It was highlighted that the CNS SG/5 and ATN/IPS WG/5 meetings developed a Memorandum of Agreement (MOA) and agreed on the establishment of a Board (Steering Group) composing from all the MID States to manage the MID-AMC.

4.5.5 The meeting noted that the MOA was signed by Twelve (12) States (Bahrain, Iraq, Iran, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Sudan, UAE and Yemen). The meeting encouraged States that have not yet done so, to sign the MOA and agreed to the following Decision:

DECISION 14/21: ESTABLISHMENT OF MID-AMC STEERING GROUP

That,

- a) a MID-AMC Steering Group is established with TOR as at **Appendix 4.5A** to the Report on Agenda Item 4.5; and*
- b) States appoint a Member and Alternate for the MID-AMC Steering Group.*

4.5.6 The meeting noted that States were urged to start using the MID-AMC and provide regular feedback to the ICAO MID Regional Office and the MID-AMC project manager. It was also noted that the MID-AMC User Accreditation Procedure as at **Appendix 4.5B** to the Report on Agenda Item 4.5, was developed in order to allow the use of the systems according to the accreditation.

4.5.7 The meeting noted that some of the MID-AMC functions could not be tested, since only four (4) States (Iran, Jordan, Lebanon and Saudi Arabia) have provided their AFTN/CIDIN/AMHS routing tables. Accordingly, the meeting urged those States that have not yet done so, to provide their routing tables and agreed to the following Conclusion:

MIDANPIRG/13
Report on Agenda Item 4.5

CONCLUSION 14/22: MID-AMC OPERATION

That,

a) States be urged to:

- i. provide their AFTN/AMHS/CIDIN Routing tables to MID-AMC by 30 March 2014;*
- ii. register users to MID-AMC according to the accreditation procedure defined at **Appendix 4.5B** to the report on Agenda Item 4.5;*
- iii. complete testing of all MID-AMC functions by 30 June 2014; and*

b) the operation date of the MID-AMC be determined by the MID-AMC Steering Group.

4.5.8 The meeting agreed that the first meeting of the MID-AMC Steering Group (MID-AMC STG/1) be held in June 2014 using teleconferencing facility.

4.5.9 The meeting noted that in order to assess the MID-AMC first year of operation, a survey was launched. Accordingly, the meeting urged States to reply to the survey and agreed that the Go/No-Go decision related to the full operation of the MID-AMC be taken by the MID-AMC STG/1 meeting.

Support ICAO Position at ITU World Radiocommunication Conference 2015 (WRC-15)

4.5.10 The meeting recalled that the pressure on the frequency spectrum, which is a scarce and finite resource, has continued to mount. Furthermore, the WRC process has almost doubled in the last 10-15 years in terms of industry participation, while the aviation industry has not kept up with this trend.

4.5.11 The meeting agreed that in order to improve the current situation, States should commit to support the ICAO position at WRCs, as well as in regional and international WRC preparatory activities. Furthermore, State proposals to WRCs should include, to the extent possible, material consistent with the ICAO position. States should also integrate ICAO Position into their State positions at WRCs.

4.5.12 The meeting noted that the ICAO 38th Assembly endorsed Resolution A38-6 – “*Support of the ICAO policy on radio frequency spectrum matters*” that urges member States, international organizations and other civil aviation stakeholders to support firmly the ICAO frequency spectrum strategy and the ICAO position at WRCs and in regional and other international activities conducted in preparation for WRCs.

4.5.13 The meeting recalled the poor participation and support to ICAO Position at WRC-12 by the MID States. Accordingly, DGCA-MID/2 meeting urged States to ensure continuous coordination with their Radio Frequency Spectrum Regulatory Authorities (telecommunications authorities) and the Arab Spectrum Management Group (ASMG) for the support of the ICAO position at WRC and its preparatory meetings.

MIDANPIRG/14
Report on Agenda Item 4.5

4.5.14 Based on all above the meeting agreed that ICAO MID Regional Office issue State Letter highlighting the importance to bring the subject to the ministerial level, in order that States Radio Frequency Spectrum Regulatory Authorities (Telecommunications Authorities) defend ICAO Position at various national/regional platforms where spectrum allocation issues are discussed.

4.5.15 The meeting urged States to work closely with their States Radio Frequency Spectrum Regulatory Authorities (Telecommunication Authorities) to ensure that ICAO Position is suitably reflected in the national position of the State and in the regional position; and to support ICAO Position during WRC-15 meeting. In this regard, the meeting recalled MIDANPIRG/12 Conclusion 12/43 that urged MID States to support ICAO position during WRC.

4.5.16 The meeting noted that ICAO developed a comprehensive aviation frequency spectrum strategy to support timely availability and appropriate protection of adequate spectrum. The meeting was informed that ICAO organizes Regional Spectrum Workshops to engage and empower States to support ICAO Position. It was noted that ICAO MID Regional Office with support from ICAO HQ will organize a Regional Spectrum Workshop before the WRC-15.

4.5.17 The meeting invited Arab Civil Aviation Commission (ACAC) and the Gulf Cooperation Council (GCC) to consider including the support of ICAO Position to WRCs in their work programmes.

GROUND-GROUND INTEGRATION (AIDC/OLDI) and IP Network

4.5.18 The meeting recalled that Aviation System Block Upgrade (ASBU) Block 0, module B0-FICE “increased interoperability, efficiency and capacity through Ground-Ground integration (AIDC)” has been identified by MIDANPIRG/13 as one of the modules that will bring operational improvements to the MID Region. In this respect the meeting noted with appreciation that the ATN/IPS WG/5 meeting, considered the existing regional telecommunication network is suitable for implementing the Ground-Ground Integration (AIDC/OLDI).

4.5.19 The meeting noted that an agreement on initial set of (AIDC/OLDI) messages is essential for the progress of the AIDC/OLDI implementation. Furthermore, the meeting highlighted the importance of carrying out interface and technical interconnection analysis for the ACCs required to implement AIDC/OLDI.

4.5.20 The meeting noted that basic analysis carried on AIDC/OLDI implementation in the MID Region indicated that the majority of MID States have either implemented OLDI or are planning to implement OLDI and have no intention of using only AIDC. Therefore, the meeting agreed that OLDI implementation should be considered and accepted as regional variation of AIDC implementation similar to other ICAO Regions. The meeting noted that UAE had presented this approach to the ICAO 38th Assembly.

4.5.21 The meeting agreed that in case the ATC systems support both AIDC and OLDI, then the decision to implement either AIDC or OLDI is subject to a bilateral agreement between concerned States.

4.5.22 It was underlined that any implementation should be updated in the AIDC/OLDI regional implementation plan. It was highlighted that States that are interfacing with other regions may require to support and implement dual capabilities (AIDC and OLDI), in order to integrate within the Region and with other Regions, as maybe necessary.

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4.5.23 The meeting was informed about harmonization efforts between NAT and APAC. Both Regions are working on a consolidated AIDC guidance material, where ICAO Inter-Regional AIDC Task Force (IRAIDC TF) was established. The meeting encouraged the follow-up of the IRAIDC TF work programme in order to benefit from their experience.

4.5.24 The meeting was apprised of the ATS Units capabilities/readiness and the Draft MID AIDC/OLDI regional implementation plan. It was noted that AIDC/OLDI implementation was not only about systems, as it has an impact on operations and technical issues. The meeting reviewed and updated the ATS Units capabilities/readiness and the Draft MID AIDC/OLDI regional implementation plan as at **Appendices 4.5C** and **4.5D** to the Report on Agenda Item 4.5 and was of the view that this should be part of the agenda of the MID AIDC/OLDI Implementation Seminar, which will be held in Cairo, 3-5 March 2014. The meeting encouraged the presence of both operational and technical experts from States and industry. Accordingly, the meeting agreed to the following Conclusion:

CONCLUSION 14/23: MID AIDC/OLDI IMPLEMENTATION SEMINAR

That States,

- a) support ICAO in organising a Seminar on implementation of AIDC/OLDI;*
- b) participate actively in the Seminar; and*
- c) with the support of ICAO develop the MID AIDC/OLDI Implementation Plan.*

4.5.25 The meeting reiterated that the MID ATN implementation and MID IP Network should take place on the basis of regionally agreed requirements, taking into consideration, the System Wide Information Management (SWIM) concept and any other new developments.

4.5.26 The meeting was apprised of the IP Network surveys results and the proposal for an IP address plans for the MID Region as at **Appendices 4.5E** and **4.5F**, to the Report on Agenda Item 4.5. The meeting was of the view that these results should be further discussed during the AIDC/OLDI Seminar.

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Appendix 4.5A to the Report on Agenda Item 4.5

MID-AMC Steering Group

1. TERMS OF REFERENCE (TOR)

1.1 The Terms of Reference of the MID-AMC Steering are:

- a) to promote the efficiency and safety of aeronautical fixed services in the MID Region through the operation and management, on a sound and efficient basis, of a permanent MID Regional ATS Messaging Management Center (MID-AMC);
- b) foster the implementation of the Air traffic service Message handling service in the MID Region through provision of the guidance materials and running facilitation tools, utilizing the MID-AMC;
- c) MID-AMC Steering Group will consist of a focal point from each Participating MID State who would represent the State and acts as the Steering Group Member;
- d) MID AMC Steering Group will be responsible for overall supervision, direction, evaluation of the MID-AMC project and will review/update the MID-AMC work plan whenever required; and
- e) provide regular progress reports to the CNS SG, ANSIG and MIDANPIRG concerning its work programme.

1.2 In order to meet the Terms of Reference, the MIDAMC Steering Group shall:

- a) Develop a credential procedure for all users on the MID-AMC;
- b) develop and maintain guidance materials for MID-AMC users;
- c) discuss and identify solution for operational problems may be arising;
- d) provide support/guidance to states for AMHS Implementation, and monitor the AMHS activities;
- e) assist and encourage states to conduct trial on Implementation of the ATS extended services, and identify operational requirements;
- f) identify the need for any enhancement for the MID AMC and prepare functional and technical specifications, and define its financial implications;
- g) follow-up on ICAO standards and recommendations on the ATS messaging management;

- h) define future liabilities and new participating States and ANSPs; and
- i) follow-up and review the work of similar groups in other ICAO Regions.

2. COMPOSITION

- a) ICAO MID Regional Office;
- b) Members appointed by the MIDANPIRG member States; and
- c) other representatives, who could contribute to the activity of the Steering Group , could be invited to participate as observers, when required .

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Appendix 4.5B to the Report on Agenda Item 4.5

Accreditation of Users

- There are tentatively three MID-AMC participant types:
 - 1) Operator which is equivalent to AMC Operator
 - 2) User which is equivalent to AMC CCC Operator
 - 3) Read-Only User which is equivalent to AMC Read-Only.
- To guarantee the confidentiality and integrity of data contained in the MID AMC database, it is necessary to grant access rights of a given user category only to people who are duly identified and have the right to view and/or modify such data. This process is called accreditation of users, which is defined hereafter for the accreditation of a user in each category:
 - 1) AMC External Operators on European AMC of the MID Region:
 - 1-1 MID-AMC Operator transferred those users to MID-AMC as MID-AMC Users.
 - 1-2 AMC External operator to register online on MID-AMC website at www.midamc.jo.
 - 2) New MID-AMC Users:
 - 2-1 State to send letter (email) to the CNS officer of ICAO MID office to designate a new MID-AMC User.
 - 2-2 New MID-AMC User to register online on MID-AMC website at www.midamc.jo.
 - 2-3 MID-AMC Operator coordinate with the ICAO MID Regional office to approve the request in (2-2).
 - 3) AMC Read-Only Users on European AMC of the MID Region:
 - 3-1 MID-AMC Operator transferred those users to MID-AMC as MID-AMC Read-only Users.
 - 3-2 AMC Read-only users to register online on MID AMC website at www.midamc.jo.
 - 4) New MID-AMC Read-only User:
 - 4-1 New MID-AMC Read-Only User to register online on MID AMC website at www.midamc.jo.
 - 4-2 MID-AMC Operator coordinate with the MID AMC User of the corresponding COM center (if any) Or with the ICAO MID office to approve the request in (4-1).

5) MID-AMC Operator Selection:

The MID-AMC Operator is responsible for overall operation of the AMC and of associated procedures. Two Operators are selected every year, a main and a backup MID-AMC Operator.

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MID AIDC/OLDI Readiness

State	Capability		Current use		Planned Use		Intention of using AIDC only	Reasons and Remarks
	AIDC	OLDI	AIDC	OLDI	AIDC	OLDI		
Bahrain	✓	✓				✓	No	OLDI to connect to neighbouring ATSUs
Egypt		✓		✓			No	OLDI in use to connect to EUR (Athens)
Iran		✓				✓		OLDI to Connect to ANKARA
Iraq								
Jordan	✓	✓				✓	No	OLDI to connect to neighbouring ATSUs
Kuwait	✓	✓				✓	No	OLDI to connect to Bahrain and Riyadh
Lebanon		✓				✓	No	OLDI will be in use to connect to EUR
Libya								
Oman								
Qatar	✓	✓		✓		✓		OLDI in use with UAE and planned for use with Bahrain and Saudi Arabia
Saudi Arabia	✓	✓	✓		✓	✓	No	Both AIDC and OLDI to cater to neighbouring ATSUs request
Sudan	✓	✓	✓		✓	✓	No	Both AIDC and OLDI to cater to neighbouring units requests
Syria								
UAE		✓		✓		✓	No	OLDI already in use with 6 partners and AIDC is not required as all neighboring ATSUs are OLDI capable.
Yemen								

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Appendix 4.5D to the Report on Agenda Item 4.5

**ATS INTER-FACILITY DATA COMMUNICATION (AIDC)/
On-Line Data Interchange (OLDI) IMPLEMENTATION PLAN**

EXPLANATION OF THE TABLE

Column

- 1 State/Administration – the name of the State/Administration;
- 2 Location of AIDC end system – the location of the AIDC end system under the supervision of State/Administration identified in column 1;
- 3 AIDC Pair – the correspondent AIDC end system;

 Location – location of the correspondent AIDC end system

 State/Administration – the name of the State/Administration responsible for management of the correspondent AIDC end system
- 4 AIDC standard used – the AIDC standard adopted for the AIDC connection between the corresponding AIDC pair, AFTN, AFTN/AMHS or ATN;
- 5 Target Date of Implementation – date of implementation of the AIDC end system;
- 6 Remarks – any additional information describing the AIDC end system or the AIDC service between the corresponding AIDC pair.

State/Administration	Location of AIDC end system	AIDC/OLDI Pair		AIDC standard used	Target date of Implementation	Remarks
		Correspondent location	Correspondent State/Administration			
1	2	3		4	5	6
Egypt	CANC Cairo	Athens	Athens	OLDI	Implemented	
	Cairo Air Navigation Center	Jeddah ACC	Saudi Arabia	OLDI	TBD	
Bahrain	Bahrain ACC	Kuwait ACC	Kuwait	OLDI	TBD	
		Sheikh Zayed Air Navigation Centre	U.A.E.	OLDI	Q4 2013	OLDI V4.2 FMTP 2.0
Iran						
Iraq						
Jordan	Amman ACC	Jeddah ACC	Saudi Arabia	AIDC/OLDI	TBD	
Kuwait	Kuwait ACC	Bahrain ACC	Bahrain	OLDI	TBD	
		Riyadh ACC	Saudi Arabia	OLDI	TBD	

4.5D-3

State/Administration	Location of AIDC end system	AIDC Pair		AIDC standard used	Target date of Implementation	Remarks
		Correspondent location	Correspondent State/Administration			
1	2	3		4	5	6
Lebanon	Rafic Hariri Int'l Airport - Beirut	Cyprus	Cyprus	OLDI	TBD	Awaiting LOA
		Damascus	Syria	OLDI	TBD	Awaiting LOA
Libya						
Oman	Muscat International Airport					
Qatar	Doha	Sheikh Zayed Air Navigation Centre	U.A.E.	OLDI V4.2	Implemented Jan 2010	FMTP 2.0
Saudi Arabia	Riyadh ACC	Jeddah ACC	Saudi Arabia	AIDC	Implemented	
	Riyadh ACC	Dammam ACC	Saudi Arabia	AIDC	Implemented	

	Jeddah ACC	Cairo CANC	Egypt	OLDI	TBD	
		Amman ACC	Jordan	OLDI	TBD	OLDI V4.1
		Khartoum ACC	Sudan	OLDI	TBD	OLDI V4.1
		Riyadh ACC	Saudi Arabia	AIDC	implemented	
	Dammam ACC	Riyadh ACC	Saudi Arabia	AIDC	implemented	
Sudan	Khartoum ACC	Cairo CANC	Egypt	OLDI	Q1 2014	
	Khartoum ACC	Jeddah ACC	Saudi Arabia	OLDI	Q4 2013	
	Khartoum ACC	Chad	Chad	AIDC	Implemented 2012	
	Khartoum ACC	Congo	Congo	AIDC	Implemented 2012	
Syria						
UAE	SZC Abu Dhabi	Abu Dhabi Int'l Airport	ADAC	OLDI V4.2	Implemented Apr2009	FMTP 2.0
	SZC Abu Dhabi	Dubai Int'l Airport	DANS	OLDI V4.2	Implemented Jun 2012	FMTP 2.0
	SZC Abu Dhabi	Sharjah Int'l Airport	Sharjah DCA	OLDI V4.2	Implemented Feb 2011	FMTP 2.0
	SZC Abu Dhabi	Ras al Khaimah Int'l Airport	Ras al Khaimah DCA	OLDI V4.2	Implemented Mar 2011	FMTP 2.0
	SZC Abu Dhabi	Al Ain Int'l Airport	ADAC	OLDI V4.2	Implemented Oct 2010	FMTP 2.0
	SZC Abu Dhabi	Doha ATC	Qatar CAA	OLDI V4.2	Implemented Jan 2010	FMTP 2.0
Yemen						

Attachment A – Details on ATM systems to support implementation plan												
State	ATM System	Protocol and Version used	Number of neighboring ATSUs	Number of neighboring ATSUs connected by AIDC/OLDI and type of connection	ATM System Capability		Current use		Planned Use		Intention of using AIDC only	Reasons and Remarks
					AIDC	OLDI	AIDC	OLDI	AIDC	OLDI		
Bahrain					✓	✓				✓	No	OLDI to connect to neighboring ATSUs
Egypt						✓		✓			No	OLDI in use to connect to EUR (Athens)
Iran												
Iraq												
Jordan					✓	✓				✓	No	OLDI allows for more message types
Kuwait					✓	✓				✓	No	OLDI to connect to Bahrain and Riyadh
Lebanon						✓				✓	No	OLDI in use to connect to EUR
Libya												
Oman												
Qatar								✓		✓		OLDI in use with UAE and planned for use with Bahrain
Saudi Arabia					✓	✓	✓		✓	✓	No	Both AIDC and OLDI to cater to neighboring units requests

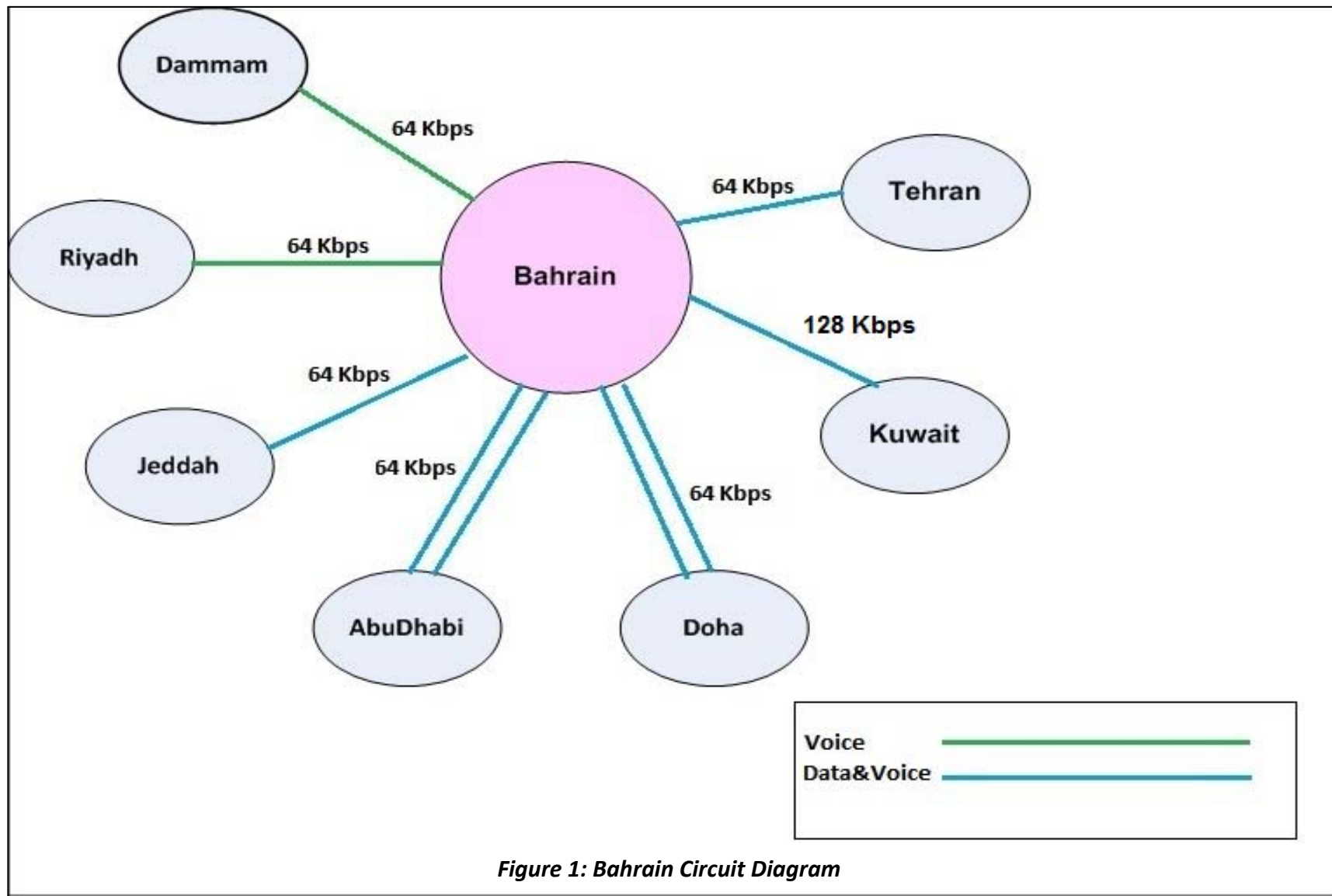
Sudan					✓	✓	✓		✓	✓	No	Both AIDC and OLDI to cater to neighboring units requests
Syria												
UAE	PRISMA from COMSOFT	OLDI V4.2 FMTP 2.0	10	3 two-way integrated OLDI connections 2 two-way standalone OLDI 1 one-way Standalone OLDI connection Total 6 OLDI connections		✓		✓		✓	No	OLDI already in use with 6 partners and all neighboring ATSU's are OLDI capable
Yemen												

MIDANPIRG/14

Appendix 4.5E to the Report on Agenda Item 4.5

State Bahrain (Manama)

State	Speed	ISP	IP Address	Net Mask	Router Type	Data end user interface	Applications in use
Riyadh	64k	Batelco	10.61.11.12	255.255.255.252	Motorola Vangurd 6435	FXO/FXS	Voice
Dammam	64k	Batelco	10.61.11.44	255.255.255.252	Motorola Vangurd 6435	FXO/FXS	Voice
Tehran	64k	Batelco	172.16.10.2	255.255.255.0	Cisco2800	Serial FXO/FXS	AFTN Voice
Kuwait	128k	Batelco	10.61.11.8	255.255.255.252	Motorola Vangurd 6435	Serial FXO/FXS	AFTN-Radar Voice
Jeddah	64k	Batelco	10.61.11.48	255.255.255.252	Motorola Vangurd 6435	Serial FXO/FXS	CIDIN Voice
Doha-1	64k	Batelco	10.61.11.32	255.255.255.252	Motorola Vangurd 6455	Serial FXO/FXS	Radar Voice
Doha-2	64k	Batelco	10.61.11.56	255.255.255.252	Motorola Vangurd 6455	Serial FXO/FXS	AFTN Voice
AbuDhabi-1	64k	Batelco	10.61.11.12	255.255.255.252	Motorola Vangurd 6435	Serial FXO/FXS	Radar Voice
AbuDhabi-2	64k	Batelco	10.61.11.16	255.255.255.252	Motorola Vangurd 6435	Serial FXO/FXS	CIDIN Voice



4.5E-3

State Egypt (Cairo)

State	Speed	ISP	IP Address	Net Mask	Router Type	Data end user interface	Applications in use
Amman	64k	Telecom Egypt (ATM)	10.10.10.2 192.168.12.7	255.255.255.0 255.255.255.0	Motorola Vangurd 6800	IP	AMHS
						FXO/FXS	Voice
Jeddah1	64k	Telecom Egypt (ATM)	192.168.80.2	255.255.255.0	Cisco2800	FXO/FXS	Voice
						IP	OLDI, Radar
Jeddah2	128k	Telecom Egypt (ATM)	10.10.10.1	255.255.255.0	Motorola Vangurd 6455	IP	AMHS
						FXO/FXS	Voice
Riyadh	64k	Telecom Egypt (ATM)	192.168.80.2	255.255.255.0	Cisco2800	FXO/FXS	Voice
Tripoli	64k	Telecom Egypt (ATM)	10.10.10.1	255.255.255.0	Cisco1700	Serial	AFTN

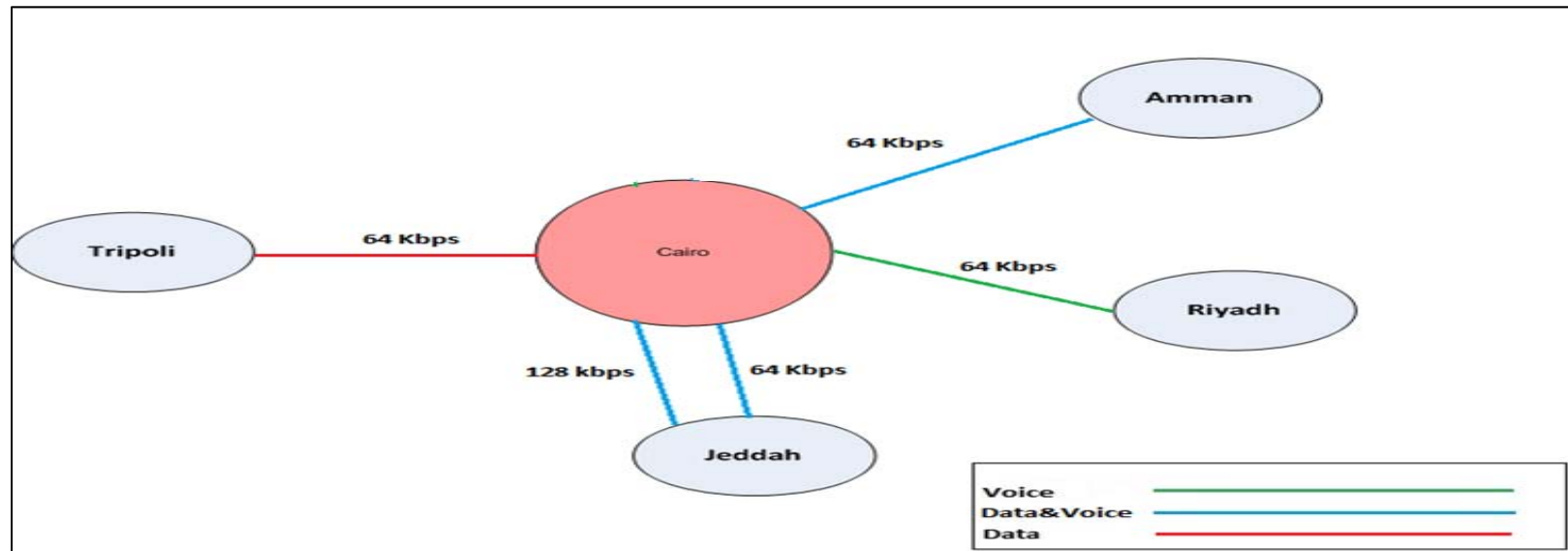


Figure 2: Cairo Circuit Diagram

State Saudi Arabia (Jeddah)

State	Speed	ISP	IP Address	Net Mask	Router Type	Data end user interface	Applications in use
Cairo1	128k	N/A	192.168.12.0	255.255.255.0	Motorola Vangurd 6455	IP	AHHS
						FXO/FXS	Voice
Cairo2	64k	N/A	N/A	N/A	Motorola Vangurd 6455	IP	AMHS
					Motorola Vangurd 6455	FXO/FXS	Voice
Amman	64k	N/A	192.168.12.0	255.255.255.0	Motorola Vangurd 6455	IP	AHHS
						FXO/FXS	Voice
Muscat	64k	N/A	192.168.12.0	255.255.255.0	Cisco 2811	IP	AHHS
						FXO/FXS	Voice
Manama	64k	N/A	TBD	TBD	Motorola Vangurd 6435	Serial	CIDIN
						FXO/FXS	Voice

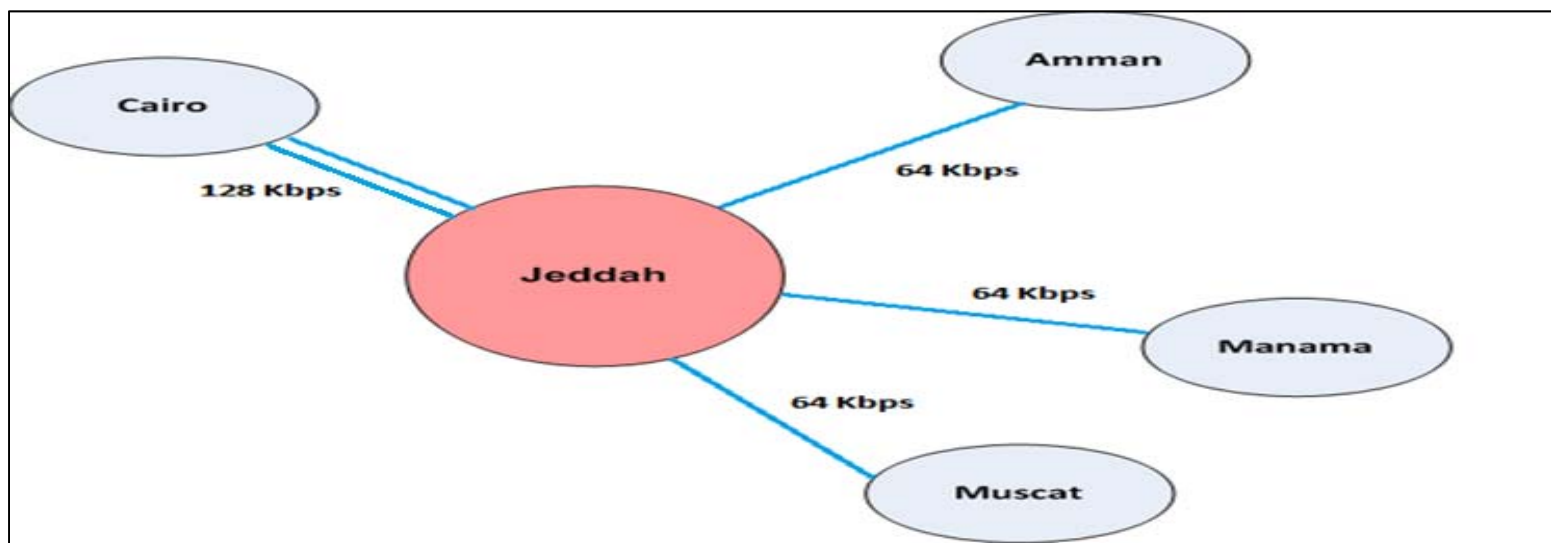
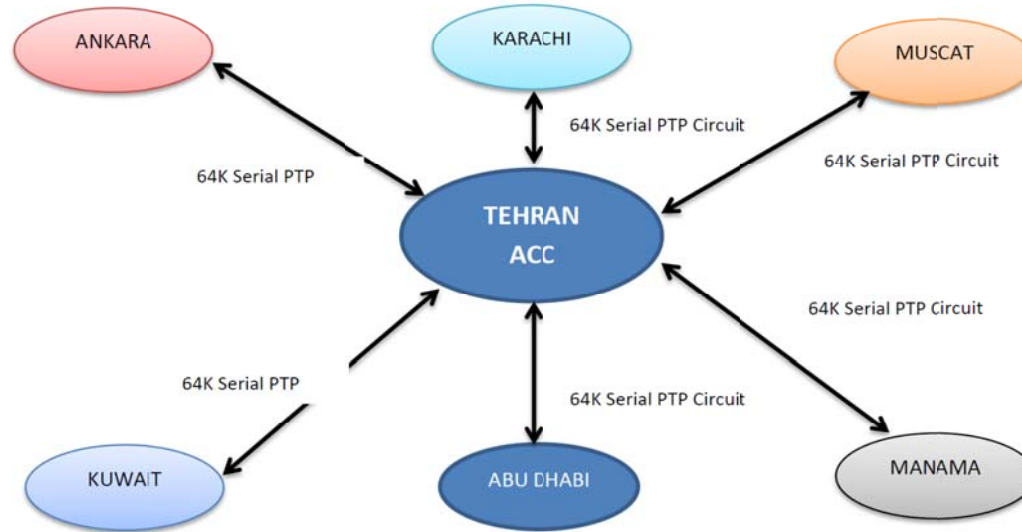


Figure 3: Jeddah Circuit Diagram

4.5E-5

State IRAN(Tehran)

State	Speed	ISP	IP Address	Net Mask	Router Type	Data end user interface	Applications in use
Bahrain	64k	Iran PPT	172.16.10.2	255.255.255.0	Cisco2811	Serial	AFTN
						FXO/FXS	Voice
Baghdad	32k	Iran PPT	192.168.191.14	255.255.255.0	Cisco2811	FXO/FXS	Voice
Kuwait	64k	Iran PPT	172.16.12.0	255.255.255.0	Cisco2811	Serial	AFTN
						FXO/FXS	Voice
Abu Dhabi *	64k	Iran PPT	172.16.15.0	255.255.255.0	Cisco2811	Serial	AFTN
						FXO/FXS	Voice
Muscat *	64k	Iran PPT	172.16.14.0	255.255.255.0	Cisco2811	Serial	AFTN
						FXO/FXS	Voice



Remarks: * The lines will be established by end of July, 2012

Figure 4: Tehran Circuit diagram

State UAE (Abu Dhabi)

State	Speed	ISP	IP Address	Net Mask	Router Type	Data end user interface	Applications in use
Bahrain1 ¹	64K	Etisalat	N/A	N/A	Motorola Vangurd 6455	Serial	Radar
						FXO/FXS	Voice
Bahrain2 ¹	64K	Etisalat	N/A	N/A	Motorola Vangurd 6455	Serial	AFTN/CIDIN
						FXO/FXS	Voice
Oman	64K	Etisalat	192.168.130.0	255.255.255.0	Motorola Vangurd 6455	Ethernet	AMHS
						FXO/FXS	Voice
Qatar	128K	Etisalat	192.168.131.0	255.255.255.0	Motorola Vangurd 6435	Ethernet	AMHS/OLD I
						FXO/FXS	Voice
Qatar ²	256K	Etisalat	84.255.163.140	255.255.255.252	Motorola Vanguard 6840	Ethernet	AMHS
Qatar ²	256K	Etisalat	192.168.10.0	255.255.255.252	Cisco 1921	FXS Ethernet	Voice Radar
Amman ³	2Mb	Etisalat	94.56.192.202	255.255.255.0	Fortigate 110C firewall	Ethernet	AMHS
Iran	64K	Etisalat	N/A	N/A	Cisco 2811	Ethernet FXS	AMHS Voice

Remarks:

- ¹ The IP addresses for Bahrain links is configured by ISP and not identified on UAE side.
- ² These are planned circuits still under test
- ³ The link type between Jordan and Abu Dhabi is over an IPSec connection over the public internet (VPN)

4.5E-7

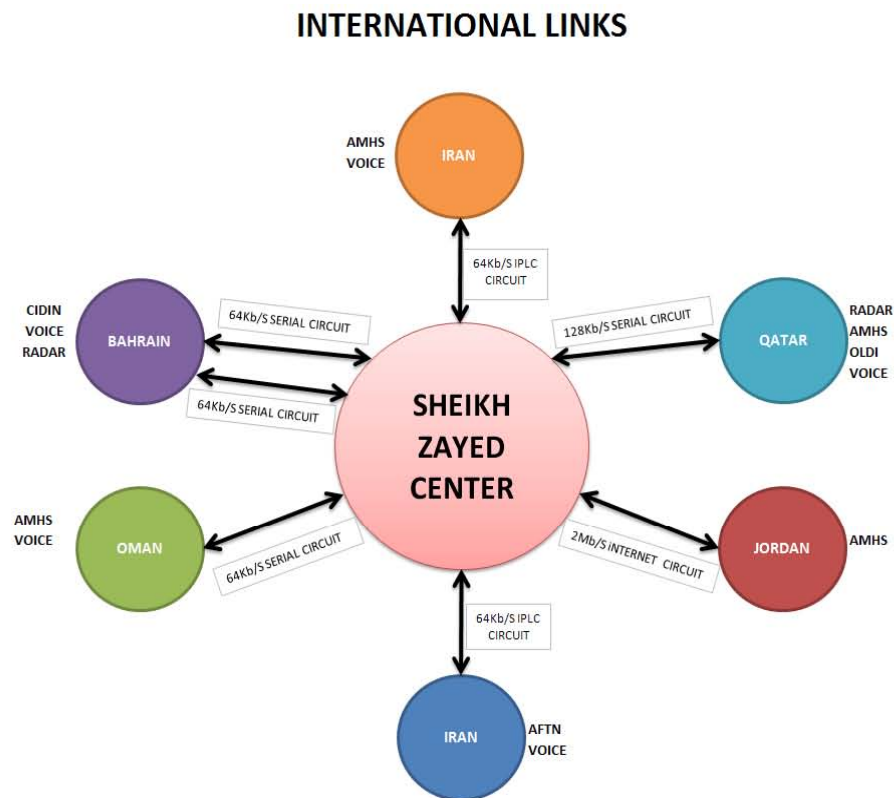


Figure 5: Abu Dhabi Circuit Diagram

State Kuwait (Kuwait)

State	Speed	ISP	IP Address	Net Mask	Router Type	Data end user interface	Applications in use
Beirut	64K	Qualitynet	--	--	Motorola Modem 3460	N/A	AFTN
Doha	64K	Qualitynet	--	--	Motorola Modem 3460	N/A	AFTN
Tehran	64K	Qualitynet	172.16.12.2	255.255.255.252	Cisco 2800	N/A	AFTN-Voice
Damascus	64K	Qualitynet	--	--	Motorola Modem 3460	N/A	AFTN
Bahrain	128K	Qualitynet	--	--	Motorola Vanguard 6455	N/A	AFTN, Radar
							Voice
Baghdad	64K	Qualitynet	192.168..0.160	255.255.255.0	Motorola Modem 3460	N/A	AFTN-Voice

Remarks:

- The connectivity for circuits (Beirut, Doha, Damascus, Karachi and Bahrain) is pure layer 2 there is no IP configuration on these circuits.
- For Tehran circuit there is IP configuration on the WAN side 172.16.12.2/30 (between Qualitynet and Tehran provider), but there is no IP configuration between Qualitynet and DGCA Kuwait.

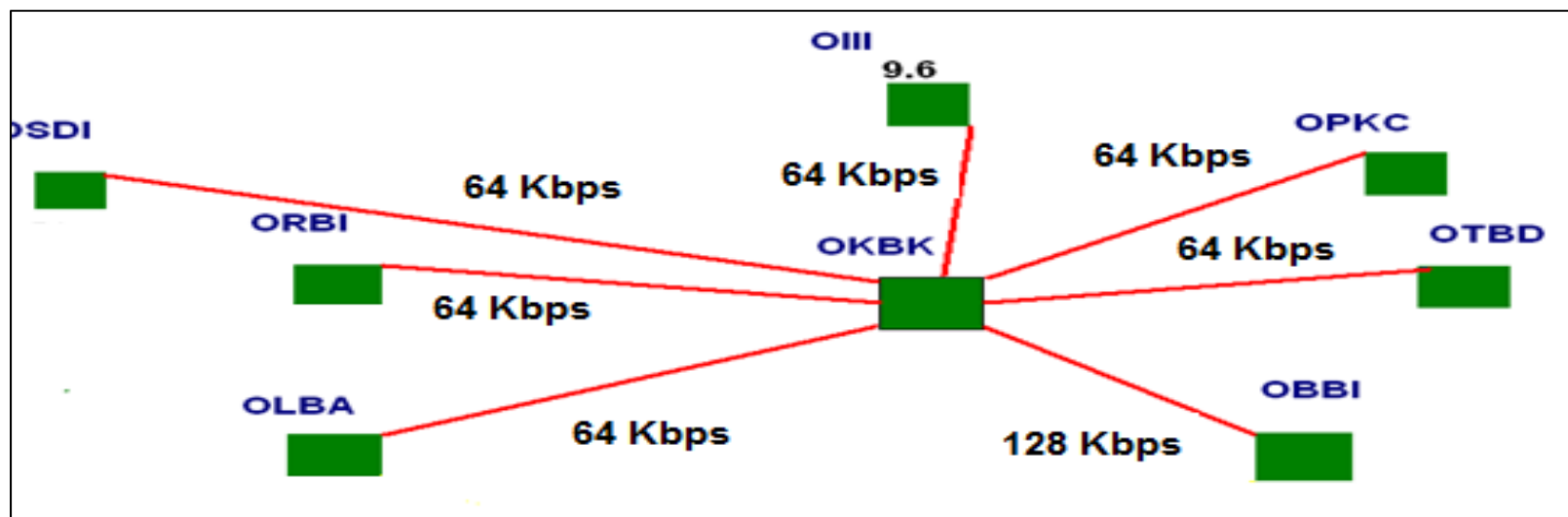


Figure 6: Kuwait Circuit Diagram

4.5E-9

State Jordan (Amman)

State	Speed	ISP	IP Address	Net Mask	Router Type	Data end user interface	Applications in use
Cairo	64k	N/A	10.10.10.1	255.255.255.0	Vanguard	N/A	AMHS
						FXO/FXS	Voice
Jeddah	64k	N/A	10.10.10.1	255.255.255.0	Vanguard	N/A	AMHS
						FXO/FXS	Voice
Abu Dhabi*	2M	NITC	193.188.93.19	255.255.255.0	Cisco 5510	N/A	AMHS

* **The** link type between Jordan and Abu Dhabi is over public internet (VPN)

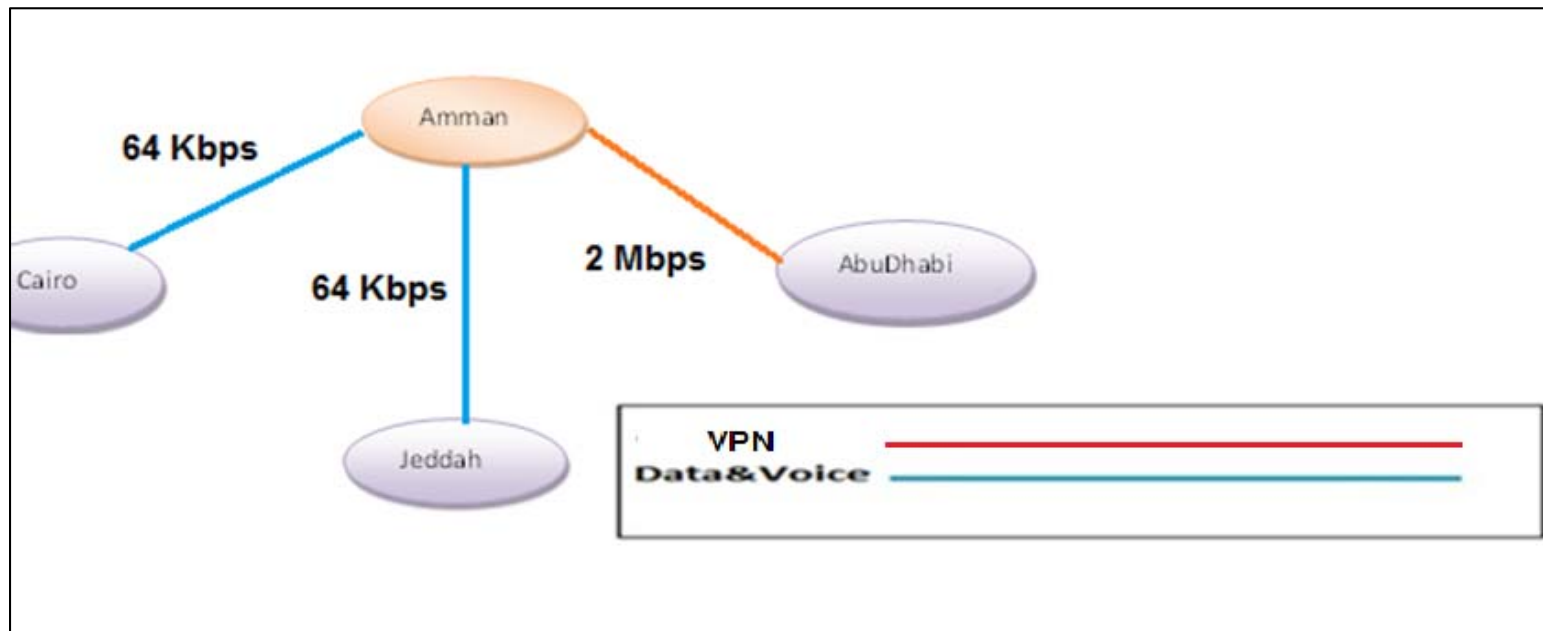


Figure 7: Jordan Circuit Diagram

State Iraq (Baghdad)

State	Speed	ISP	IP Address	Net Mask	Router Type	Data end user interface	Applications in use
Iran	32k	Passcom	192.168.191.10	255.255.255.0	NDsatcom SkyWan 5000	FXS	Voice
Kuwait	64k	Passcom	192.168.191.2	255.255.255.0	NDsatcom SkyWan 5000	FXS	Voice
			192.168.0.60	255.255.255.0		Ethernet	AFTN

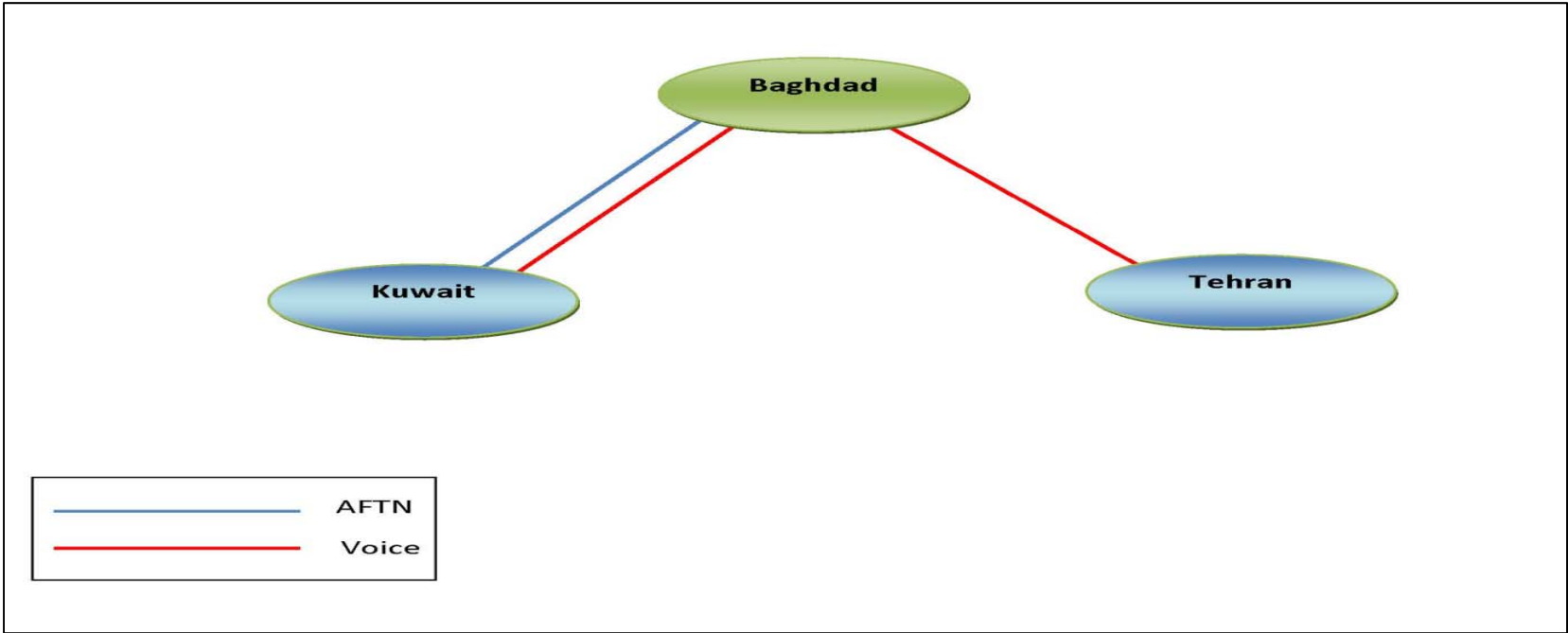


Figure 8: Iraq Circuit Diagram

4.5E-11

State QATAR (Doha)

State	Speed	ISP	IP Address	Net Mask	Router Type	Data end user interface	Applications in use
Abu Dhabi	128k	QTEL	200.200.200.x	255.255.255.252	Motorola Vanguard 6455	serial	AFTN, Radar
						FXO/FXS	Voice
Kuwait	64 k	QTEL	N/A	N/A	New Bridge Modem 2602	Serial	AFTN
Bahrain	64 k	QTEL	N/A	N/A	Motorola Vanguard 6840	serial	AFTN, Radar
						FXO/FXS	AFTN, Radar
Bahrain	64 k	QTEL	N/A	N/A	Motorola Vanguard 6840	FXO/FXS	Voice

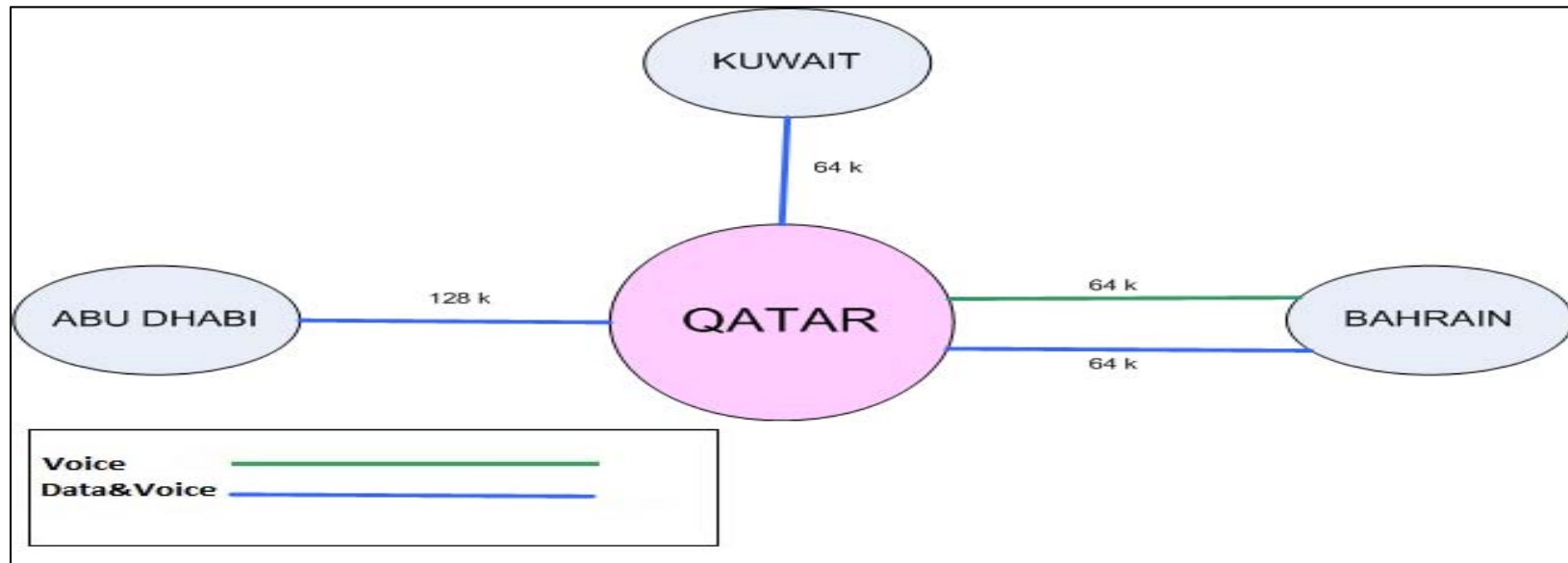


Figure 9: Qatar Circuit Diagram

State OMAN (Muscat)

State	Speed	ISP	IP Address	Net Mask	Router Type	Data end user interface	Applications in use
Abu Dhabi	64 k	OMANTEL	192.168.12.142	255.255.255.0	Motorola Vanguard 6455	serial	AFTN, AMHS
						FXO/FXS	Voice
JEDDAH	64 k	OMANTEL	10.10.10.1	255.255.255.0	Cisco 2800	serial	AFTN, AMHS
						FXO/FXS	Voice
Bahrain	64 k	OMANTEL	192.168.30.1	255.255.255.0	Cisco 2800	serial	AFTN, Radar
						FXO/FXS	AFTN, Radar
Iran	64 k	OMANTEL	172.16.14.0	255.255.255.252	Cisco 2800	FXO/FXS	Voice

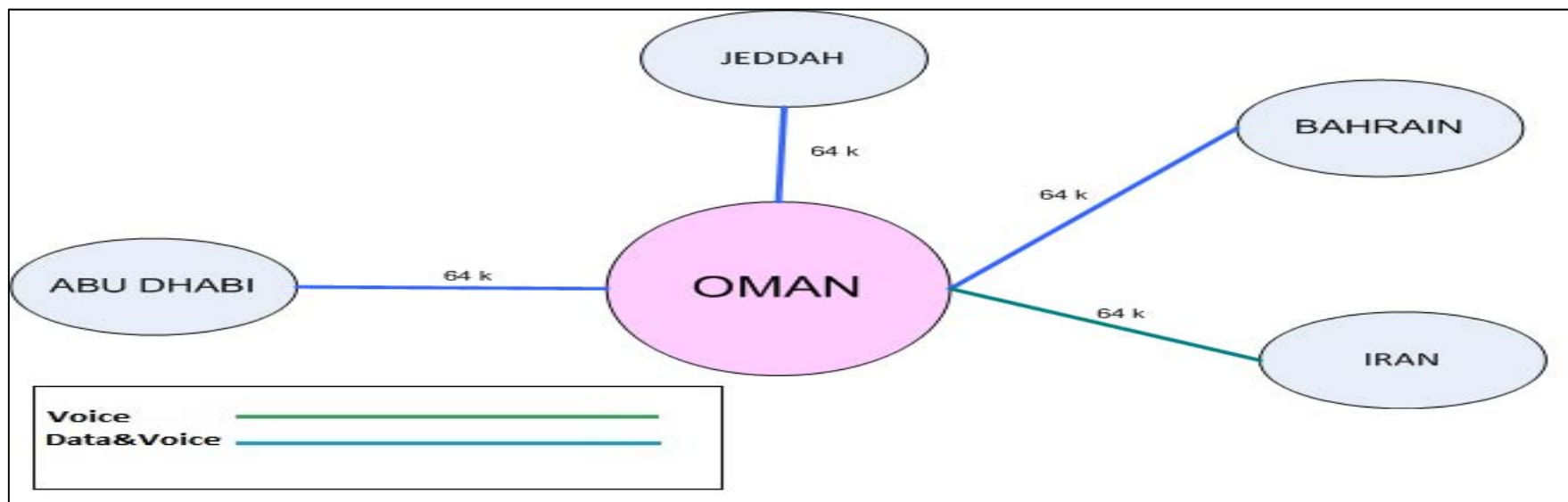


Figure 10: Oman Circuit Diagram

Remark:

After conducting the IP network Survey, *Common infrastructure characteristics in all states have been found as follows:*

- *Lebanon is in process of migration three circuits to IP networks (Kuwait, Bahrain, and Jeddah).*
- *Libya, Sudan, Syria and Yemen do not have IP circuits implemented*
- *Security Measure: Not implemented**
- *Voice interfaces: FXO/FXS*
- *Voice Protocol Supported: SIP,H.323*
- *All IP circuits is using IPv4*
- *Link Type: Leased Line.*
- *Router interfaces: Async Serial, Sync Serial ,Ethernet*
- * *Jordan has a firewall device CISCO ASA5510 for Abu Dhabi link (VPN)*

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Appendix 4.5F to the Report on Agenda Item 4.5

THE PROPOSED IPv4 ADDRESS PLAN for MID REGION**Introduction**

The IPv4 address scheme is proposed by the Caribbean and South American Regional for its ATN/IPS Network. The MID Region's plan was also part of their global IPv4 addressing assignment. The MID Region is requested to review this proposed IP addressing assignment for consideration and adoption.

Objectives

This document is meant to describe the addressing plan for IPv4 addresses throughout the MID Region. This document defines the recommended address format for IPv4 addresses. The document lists the addresses allocated to States in the MID Region and the interstate connections IP's. The implementation of the proposed plan will go into stages and should be carefully coordinated between States.

Acronyms

ICAO	-	International Civil Aviation Organization
AMHS	-	ATN Message Handling System
ARP	-	Address Resolution Protocol
ATN	-	Aeronautical Telecommunications Network
CNS		Communication Navigation Surveillance
BGP	-	Border Gateway Protocol
DNS	-	Domain Name Service
IANA	-	Internet Assigned Numbers Authority
ICS	-	ATN Internet Communication Service
IP	-	ATN Internet Communication Service
IPV4	-	Internet Protocol Version 4

IPV6	-	Internet Protocol Version 6
IPS	-	Internet Protocol suite
LACNIC	-	Latin American and Caribbean Internet Address Registry
LIR	-	Local Internet Registry
OSPF	-	Open Shortest Path First
RIR	-	Regional Internet Registry
ANSP	-	Air Navigation Service Provider
ISP	-	Internet Service Provider
APAC	-	Asia and Pacific
CAR	-	Caribbean
SAM	-	South America
MID	-	Middle east
WACAF	-	West And Central Africa
ESAF	-	East And South Africa
PDU	-	Packet Data Unit
MTA	-	Message Transfer Agent
UA	-	User Agent
ACP	-	Aeronautical Communication Panel
SWIM	-	System Wide Information Management
PENS	-	PAN European Network Service
IMS	-	Information Management Service

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Global IPv4 assignments

IPv4 Address																										
10				Region				State / Territory				Host's														
0	0	0	0	1	0	1	0	.	0	0	0	0	0	0	0	.	0	0	0	0	0	0	0	0	0	1
1st. Byte				.	2nd. Byte				.	3rd. Byte				.	4th. Byte											

- 0000 => SAM: South American Office.
- 0001 => NACC: North American, American Power station and Caribbean Office.
- 0010 => APAC: Asia and Pacific Office.
- **0011** => **MID: Middle East Office.**
- 0100 => WACAF: Western and Central African Office.
- 0101 => ESAF: Eastern and Southern African Office.
- 0110 => EUR/NAT: European and North Atlantic Office.

IP address Scheme Characteristics:

The proposed IPv4 address allocation scheme will be able to cover:

- 128 States
- 8190 Hosts for each State.
- 2048 Point-to-Point links.

Network Assignments

Issue	State	Network	Direction Used	Decimal Notation	Binary Notation			
					1 st Byte	Region	State	Host
1	Bahrain	10.48.0.0/19	First	10.48.0.1	00001010.	0011	0000.000	00000.00000001
			Last	10.48.31.254	00001010.	0011	0000.000	11111.11111110
2	Egypt	10.48.32.0/19	First	10.48.32.1	00001010.	0011	0000.001	00000.00000001
			Last	10.48.63.254	00001010.	0011	0000.001	11111.11111110
3	Iran	10.48.64.0/19	First	10.48.64.1	00001010.	0011	0000.010	00000.00000001
			Last	10.48.95.254	00001010.	0011	0000.010	11111.11111110
4	Iraq	10.48.96.0/19	First	10.48.96.1	00001010.	0011	0000.011	00000.00000001
			Last	10.48.127.254	00001010.	0011	0000.011	11111.11111110
5	Jordan	10.48.128.0/19	First	10.48.128.1	00001010.	0011	0000.100	00000.00000001
			Last	10.48.159.254	00001010.	0011	0000.100	11111.11111110
6	Kuwait	10.48.160.0/19	First	10.48.160.1	00001010.	0011	0000.101	00000.00000001
			Last	10.48.191.254	00001010.	0011	0000.101	11111.11111110
7	Lebanon	10.48.192.0/19	First	10.48.192.1	00001010.	0011	0000.110	00000.00000001
			Last	10.48.223.254	00001010.	0011	0000.110	11111.11111110
8	Libya	10.48.224.0/19	First	10.48.224.1	00001010.	0011	0000.111	00000.00000001
			Last	10.48.255.254	00001010.	0011	0000.111	11111.11111110
9	Oman	10.49.0.0/19	First	10.49.0.1	00001010.	0011	0001.000	00000.00000001
			Last	10.49.31.1	00001010.	0011	0001.000	11111.11111110
10	Qatar	10.49.32.0/19	First	10.49.32.1	00001010.	0011	0001.001	00000.00000001
			Last	10.49.63.254	00001010.	0011	0001.001	11111.11111110
11	Saudi Arabia	10.49.64.0/19	First	10.49.64.1	00001010.	0011	0001.010	00000.00000001
			Last	10.49.95.254	00001010.	0011	0001.010	11111.11111110
12	Sudan	10.49.96.0/19	First	10.49.96.1	00001010.	0011	0001.011	00000.00000001
			Last	10.49.127.254	00001010.	0011	0001.011	11111.11111110
13	Syria	10.49.128.0/19	First	10.49.128.1	00001010.	0011	0001.100	00000.00000001
			Last	10.49.159.254	00001010.	0011	0001.100	11111.11111110
14	UAE	10.49.160.0/19	First	10.49.160.1	00001010.	0011	0001.101	00000.00000001
			Last	10.49.191.254	00001010.	0011	0001.101	11111.11111110
15	Yemen	10.49.192.0/19	First	10.49.192.1	00001010.	0011	0001.110	00000.00000001
			Last	10.49.223.254	00001010.	0011	0001.110	11111.11111110

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Range 1	Range 2	Range 3	Range 4
10.48.0.0 - 10.48.31.255	10.49.0.0 - 10.49.31.255	10.50.0.0 - 10.51.31.255	10.51.0.0 - 10.51.31.255
10.48.32.0 - 10.48.63.255	10.49.32.0 - 10.49.63.255	10.50.32.0 - 10.51.63.255	10.51.32.0 - 10.51.63.255
10.48.64.0 - 10.48.95.255	10.49.64.0 - 10.49.95.255	10.50.64.0 - 10.51.95.255	10.51.64.0 - 10.51.95.255
10.48.96.0 - 10.48.127.255	10.49.96.0 - 10.49.127.255	10.50.96.0 - 10.51.127.255	10.51.96.0 - 10.51.127.255
10.48.128.0 - 10.48.159.255	10.49.128.0 - 10.49.159.255	10.50.128.0 - 10.51.159.255	10.51.128.0 - 10.51.159.255
10.48.160.0 - 10.48.191.255	10.49.160.0 - 10.49.191.255	10.50.160.0 - 10.51.191.255	10.51.160.0 - 10.51.191.255
10.48.192.0 - 10.48.223.255	10.49.192.0 - 10.49.223.255	10.50.192.0 - 10.51.223.255	10.51.192.0 - 10.51.223.255
10.48.224.0 - 10.48.225.255	10.49.224.0 - 10.49.225.255	10.50.224.0 - 10.51.225.255	10.51.224.0 - 10.51.225.255
Range 5	Range 6	Range 7	Range 8
10.52.0.0 - 10.52.31.255	10.53.0.0 - 10.53.31.255	10.54.0.0 - 10.54.31.255	10.55.0.0 - 10.55.31.255
10.52.32.0 - 10.52.63.255	10.53.32.0 - 10.53.63.255	10.54.32.0 - 10.54.63.255	10.55.32.0 - 10.55.63.255
10.52.64.0 - 10.52.95.255	10.53.64.0 - 10.53.95.255	10.54.64.0 - 10.54.95.255	10.55.64.0 - 10.55.95.255
10.52.96.0 - 10.52.127.255	10.53.96.0 - 10.53.127.255	10.54.96.0 - 10.54.127.255	10.55.96.0 - 10.55.127.255
10.52.128.0 - 10.52.159.255	10.53.128.0 - 10.53.159.255	10.54.128.0 - 10.54.159.255	10.55.128.0 - 10.55.159.255
10.52.160.0 - 10.52.191.255	10.53.160.0 - 10.53.191.255	10.54.160.0 - 10.54.191.255	10.55.160.0 - 10.55.191.255
10.52.192.0 - 10.52.223.255	10.53.192.0 - 10.53.223.255	10.54.192.0 - 10.54.223.255	10.55.192.0 - 10.55.223.255
10.52.224.0 - 10.52.225.255	10.53.224.0 - 10.53.225.255	10.54.224.0 - 10.54.225.255	10.55.224.0 - 10.55.225.255
Range 9	Range 10	Range 11	Range 12
10.56.0.0 - 10.56.31.255	10.57.0.0 - 10.57.31.255	10.58.0.0 - 10.58.31.255	10.59.0.0 - 10.59.31.255
10.56.32.0 - 10.56.63.255	10.57.32.0 - 10.57.63.255	10.58.32.0 - 10.58.63.255	10.59.32.0 - 10.59.63.255
10.56.64.0 - 10.56.95.255	10.57.64.0 - 10.57.95.255	10.58.64.0 - 10.58.95.255	10.59.64.0 - 10.59.95.255
10.56.96.0 - 10.56.127.255	10.57.96.0 - 10.57.127.255	10.58.96.0 - 10.58.127.255	10.59.96.0 - 10.59.127.255
10.56.128.0 - 10.56.159.255	10.57.128.0 - 10.57.159.255	10.58.128.0 - 10.58.159.255	10.59.128.0 - 10.59.159.255
10.56.160.0 - 10.56.191.255	10.57.160.0 - 10.57.191.255	10.58.160.0 - 10.58.191.255	10.59.160.0 - 10.59.191.255
10.56.192.0 - 10.56.223.255	10.57.192.0 - 10.57.223.255	10.58.192.0 - 10.58.223.255	10.59.192.0 - 10.59.223.255
10.56.224.0 - 10.56.225.255	10.57.224.0 - 10.57.225.255	10.58.224.0 - 10.58.225.255	10.59.224.0 - 10.59.225.255
Range 13	Range 14	Range 15	Range 16
10.60.0.0 - 10.60.31.255	10.61.0.0 - 10.61.31.255	10.62.0.0 - 10.62.31.255	10.63.0.0 - 10.63.31.255
10.60.32.0 - 10.60.63.255	10.61.32.0 - 10.61.63.255	10.62.32.0 - 10.62.63.255	10.63.32.0 - 10.63.63.255
10.60.64.0 - 10.60.95.255	10.61.64.0 - 10.61.95.255	10.62.64.0 - 10.62.95.255	10.63.64.0 - 10.63.95.255
10.60.96.0 - 10.60.127.255	10.61.96.0 - 10.61.127.255	10.62.96.0 - 10.62.127.255	10.63.96.0 - 10.63.127.255
10.60.128.0 - 10.60.159.255	10.61.128.0 - 10.61.159.255	10.62.128.0 - 10.62.159.255	10.63.128.0 - 10.63.159.255
10.60.160.0 - 10.60.191.255	10.61.160.0 - 10.61.191.255	10.62.160.0 - 10.62.191.255	10.63.160.0 - 10.63.191.255
10.60.192.0 - 10.60.223.255	10.61.192.0 - 10.61.223.255	10.62.192.0 - 10.62.223.255	10.63.192.0 - 10.63.223.255
10.60.224.0 - 10.60.225.255	10.61.224.0 - 10.61.225.255	10.62.224.0 - 10.62.225.255	10.63.224.0 - 10.63.225.255

MID REGION SUB-NETWORKS

(Orange=State Range

Blue=Vacancy

Red= Reserved)

MID Region intra-Regional Links (Point to Point)

No.	Sub-Network	Connected Route	Host / State	IP Address
1	10.63.224. 0 /30	Bahrain - Riyadh	--	10.63.224.0
			Bahrain	10.63.224.1
			Riyadh	10.63.224.2
			--	10.63.224.3
2	10.63.224. 4 /30	Bahrain - Dammam	--	10.63.224.4
			Bahrain	10.63.224.5
			Dammam	10.63.224.6
			--	10.63.224.7
3	10.63.224. 8 /30	Bahrain - Jeddah	--	10.63.224.8
			Bahrain	10.63.224.9
			Jeddah	10.63.224.10
			--	10.63.224.11
4	10.63.224. 12 /30	Bahrain - Kuwait	--	10.63.224.12
			Bahrain	10.63.224.13
			Kuwait	10.63.224.14
			--	10.63.224.15
5	10.63.224. 16 /30	Bahrain – Doha1	--	10.63.224.16
			Bahrain	10.63.224.17
			Doha1	10.63.224.18
			--	10.63.224.19
6	10.63.224. 20 /30	Bahrain – Doha2	--	10.63.224.20
			Bahrain	10.63.224.21
			Doha2	10.63.224.22
			--	10.63.224.23
7	10.63.224. 24 /30	Bahrain – AbuDhabi1	--	10.63.224.24
			Bahrain	10.63.224.25
			AbuDhabi1	10.63.224.26
			--	10.63.224.27
8	10.63.224. 28 /30	Bahrain – AbuDhabi2	--	10.63.224.28
			Bahrain	10.63.224.29
			AbuDhabi2	10.63.224.30
			--	

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			--	10.63.224.31
No.	Sub-Network	Connected Route	Host / State	IP Address
			--	10.63.224.32
9	10.63.224. 32 /30	Bahrain – Tehran	Bahrain	10.63.224.33
			Tehran	10.63.224.34
			--	10.63.224.35
7 Sub-Networks are reserved for future links (10.63.224.36/30 – 10.63.224.63/30)				
			--	10.63.224.64
10	10.63.224. 64 /30	Egypt – Amman	Egypt	10.63.224.65
			Amman	10.63.224.66
			--	10.63.224.67
			--	10.63.224.68
11	10.63.224. 68 /30	Egypt – Jeddah1	Egypt	10.63.224.69
			Jeddah1	10.63.224.70
			--	10.63.224.71
			--	10.63.224.72
12	10.63.224. 72 /30	Egypt – Jeddah2	Egypt	10.63.224.73
			Jeddah2	10.63.224.74
			--	10.63.224.75
			--	10.63.224.76
13	10.63.224. 76 /30	Egypt – Riyadh	Egypt	10.63.224.77
			Riyadh	10.63.224.78
			--	10.63.224.79
12Sub-Networks are reserved for future links (10.63.224.80/30 – 10.63.224.127/30)				
			--	10.63.224. 128
14	10.63.224. 128 /30	Iran - Iraq	Iran	10.63.224. 129
			Iraq	10.63.224. 130
			--	10.63.224. 131
			--	10.63.224. 132
15	10.63.224. 132 /30	Iran - Kuwait	Iran	10.63.224. 133
			Kuwait	10.63.224. 134
			--	10.63.224. 135
14 Sub-Networks are reserved for future links (10.63.224.136/30 – 10.63.224.191/30)				
			--	10.63.224. 192

16	10.63.224. 192 /30	Jordan - Jeddah	Jordan Jeddah --	10.63.224. 193 10.63.224. 194 10.63.224. 195
15 Sub-Networks are reserved for future links (10.63.224.196/30 – 10.63.224.255/30)				
No.	Sub-Network	Connected Route	Host / State	IP Address
17	10.63.225. 0 /30	Kuwait - Iraq	-- Kuwait Iraq --	10.63.225.0 10.63.225.1 10.63.225.2 10.63.225.3
15 Sub-Networks are reserved for future links (10.63.225.4/30 – 10.63.225.63/30)				
18	10.63.225. 64 /30	Qatar – Abu Dhabi	-- Qatar Abu Dhabi --	10.63.225. 64 10.63.225. 65 10.63.225. 66 10.63.225. 67
15 Sub-Networks are reserved for future links (10.63.225.68/30 – 10.63.225.127/30)				
19	10.63.225. 128 /30	Saudi Arabia (Jeddah) - Muscat	-- Jeddah Muscat --	10.63.225.128 10.63.225.129 10.63.225.130 10.63.225.131
15 Sub-Networks are reserved for future links (10.63.225.132/30 – 10.63.225.191/30)				
20	10.63.225. 192 /30	UAE (Abu Dhabi) - Muscat	-- Abu Dhabi Muscat --	10.63.225. 192 10.63.225. 193 10.63.225. 194 10.63.225. 195
15 Sub-Networks are reserved for future links (10.63.225.196/30 – 10.63.225.255/30)				
--	10.64.226. 0 /30	Lebanon	--	--
16 Sub-Networks are reserved for future links (10.63.226.0/30 – 10.63.226.63/30)				
--	10.63.226. 64 /30	Sudan	--	--
16 Sub-Networks are reserved for future links (10.63.226.64/30 – 10.63.226.127/30)				

Remark: In case of a new IP link between two states, both States will have to use the next available IP address range as specified in the above table.

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MID Region intra-Regional Links (Per State)

No.	State	Connected Route	Local Interface	Next Hop Interface
1	Bahrain	Bahrain - Riyadh	10.63.224.1	10.63.224.2
		Bahrain - Dammam	10.63.224.5	10.63.224.6
		Bahrain - Jeddah	10.63.224.9	10.63.224.10
		Bahrain - Kuwait	10.63.224.13	10.63.224.14
		Bahrain – Doha1	10.63.224.17	10.63.224.18
		Bahrain – Doha2	10.63.224.21	10.63.224.22
		Bahrain – AbuDhabi1	10.63.224.25	10.63.224.26
		Bahrain – AbuDhabi2	10.63.224.29	10.63.224.30
		Bahrain – Tehran	10.63.224.33	10.63.224.34
2	Egypt	Egypt-Amman	10.63.224.65	10.63.224.66
		Egypt-Jeddah1	10.63.224.69	10.63.224.70
		Egypt-Jeddah2	10.63.224.73	10.63.224.74
		Egypt-Riyadh	10.63.224.77	10.63.224.78
3	Iran	Iran-Iraq	10.63.224. 129	10.63.224. 130
		Iran-Kuwait	10.63.224. 133	10.63.224. 134
		Iran-Bahrain	10.63.224.34	10.63.224.33
4	Iraq	Iraq-iran	10.63.224. 130	10.63.224. 129
5	Jordan	Jordan - Jeddah	10.63.224. 193	10.63.224. 194
		Jordan - Cairo	10.63.224.66	10.63.224.65
6	Kuwait	Kuwait-Bahrain	10.63.224.14	10.63.224.13
		Kuwait-Iraq	10.63.225.1	10.63.225.2
		Kuwait-Iran	10.63.224. 134	10.63.224. 133
7	Lebanon	--	--	--
8	Libya	--	--	--
9	Oman	--	--	--

No.		Connected Route	Local Interface	Next Hop Interface
10	Qatar	Qatar-AbuDhabi Qatar-Bahrain1 Qatar-Bahrain2	10.63.225. 65 10.63.224.18 10.63.224.22	10.63.225. 66 10.63.224.17 10.63.224.21
11	Saudi Arabia	Jeddah - Muscat Jeddah - Cairo1 Jeddah - Cairo2 Jeddah - Amman Jeddah - Bahrain	10.63.225.129 10.63.224.70 10.63.224.74 10.63.224. 194 10.63.224.10	10.63.225.130 10.63.224.69 10.63.224.73 10.63.224. 193 10.63.224.9
12	Sudan	--	--	--
13	Syria	--	--	--
14	UAE	UAE - Muscat UAE - Bahrain1 UAE - Bahrain2 UAE - Qatar	10.63.225. 193 10.63.224.26 10.63.224.30 10.63.225. 66	10.63.225. 194 10.63.224.25 10.63.224.29 10.63.225. 65
15	Yemen	--	--	--

Impact of Changing Point-to-Point Ip address

The corresponding point-to-point IP line will be down during IP replacement process

Tips to Replace IP address

- 1- Coordinate with the adjacent State to agree on IPs, Routing, etc.
- 2- Make a backup of current configuration of the network devices (Routers, Firewalls... etc.)

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- 3- Simulate new configuration on test network devices if possible
- 4- Advise AFS operators about downtime duration & time (for data line) or the controller(for voice line), the AFS operator should direct TFC to alternative CCT, and controller to use alternative voice means(dialup, Backup voice line,...etc.)
- 5- Configure network device with new setting
- 6- Send test data and decide about its reliability
- 7- Advise about its availability.

IP Change Schedule

No	State	Old IP	New IP	Net Mask	Router Type	Target date to change	State to connect to	Circuit speed	Circuit number	Type of Circuit	ISP	State Contact
1	Bahrain											
2	Egypt											
3	Iran											
4	Iraq											
5	Jordan											
6	Kuwait											
7	Lebanon											
8	Libya											
9	Oman											
10	Qatar											
11	Saudi Arabia											
12	Sudan											
13	Syria											
14	UAE											
15	Yemen											

MIDANPIRG/14
Report on Agenda Item 4.6

REPORT ON AGENDA ITEM 4: PERFORMANCE FRAMEWORK FOR REGIONAL AIR NAVIGATION PLANNING AND IMPLEMENTATION ISSUES

4.6 CNS/ATM

Progress achieved in the development of the eANP

4.6.1 The meeting was presented with an overview of the work conducted by the ICAO Secretariat Working Group on the electronic Air Navigation Plan (eANP WG), composed of representatives from each Regional Office and ICAO Headquarters.

4.6.2 The meeting noted that the eANP WG agreed on the objective and scope/purposes of the ANP as follows:

1. The Regional Air Navigation Plan provides for the planning and implementation of air navigation systems within a specified area, in accordance with the agreed global and regional planning framework.
2. The development and maintenance of the Regional Air Navigation Plans is undertaken by ICAO Planning and Implementation Regional Groups (PIRGs) with the assistance of the ICAO Secretariat.
3. It is used as a repository Document for the assignment of responsibilities to States for the provision of air navigation facilities and services within a specified area in accordance with Article 28 of the Convention on International Civil Aviation (Doc 7300).
4. It contains requirements related to the facilities and services to be implemented by States in accordance with regional air navigation agreements. The procedural parts of Regional Air Navigation Plans are published in the ICAO Regional Supplementary Procedures (Doc 7030). They are developed to meet those needs of specific areas not covered in the worldwide provisions.
5. It contains recommendations that States can follow in programming the provision of their air navigation facilities and services, with the assurance that facilities and services furnished in accordance with the plan will form with those of other States an integrated system adequate for the foreseeable future.
6. It may serve as a legal basis for air navigation services charges which are levied for services provided or made available to users, in accordance with ICAO's Policies on Charges for Airports and Air Navigation Services (Doc 9082) and ICAO Manual on Air Navigation Services Economics (Doc 9161).
7. It contains the regionally agreed Aviation System Block Upgrades (ASBUs) modules applicable to the specified ICAO region aimed at increasing capacity and improving efficiency of the aviation system whilst maintaining or enhancing safety level, and help achieve the necessary harmonization and interoperability at regional and global level.

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8. It supports the performance-based approach to planning adopted by ICAO to measure the efforts made by States in implementing the agreed requirements.

4.6.3 The meeting noted that a revised structure, format and Table of Contents of the eANP had been agreed. The eANP would be composed of three volumes:

- a) Volume I should contain stable plan elements whose amendment necessitated approval by the Council and these elements be related to:

- assignment of responsibilities;
- mandatory requirements subject to regional agreement; and/or
- additional requirements specific to the region which are not covered in SARPs.

Note.- The following is a non-exhaustive list of such elements:

- *Flight Information Regions (FIR) boundaries (Table and Charts);*
- *Search and Rescue Regions (SRR) boundaries (Table and Charts);*
- *Volcanic Ash Advisory Centres (VAAC);*
- *Tropical Cyclone Advisory Centres (TCAC);*
- *Volcano Observatories (VO);*
- ...

- b) Volume II should contain dynamic plan elements whose amendment did not necessitate approval by the Council and these elements be related to:

- assignment of responsibilities;
- mandatory requirements subject to regional agreement; and/or
- additional requirements specific to the region which are not covered in SARPs.

Note.- The following is a non-exhaustive list of such elements:

- *Major traffic flows;*
- *ATS route network;*
- *Meteorological Watch Offices (MWO);*
- *Secondary Surveillance Radar (SSR) codes;*
- *Five-letter name-codes;*
- *VOLMET Broadcasts;*
- ...

- c) Volume III should contain dynamic/flexible plan elements whose amendment would not be subject to a formal application of the procedure for amendment of the ANP. These elements are related to the implementation of certain air navigation systems, based mainly on the ASBU modules endorsed at regional or sub-regional level.

4.6.4 It was highlighted that the description of the Flight Information Regions (FIR)/Upper Information Regions (UIR), as approved by the ICAO Council, would be included in a Table in the ATM Part of Volume I.

4.6.5 The general structure of the technical Parts of Volume I and II (AOP, CNS, ATM, MET, SAR and AIM) would consist of:

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- Introduction;
- General Regional Requirements; and
- Specific Regional Requirements.

4.6.6 It was noted that the Section “General Regional Requirements” would be harmonized for all Regions. Accordingly, an amendment of the provisions (text and table templates) in “General Regional Requirements” would lead to amendment of the eANP of all Regions.

4.6.7 The meeting was informed that the final versions of Volumes I and II Templates were endorsed at the eANP WG/2 meeting (18-22 November 2013).

4.6.8 With regard to the Table/database on ATS routes, it was highlighted that the PIRGs would decide on the need for a Table/database and/or Chart on ATS Routes for their Region and on the associated mechanisms for maintaining this Table/database. In case a Region decides to keep/maintain an ATS Routes Table/Database, it should be reflected in Volume II, Part IV-ATM, under “Specific Regional Requirements”.

4.6.9 The meeting noted that the information contained in Volume III would be related to implementation monitoring, planning and/or guidance. The structure of Volume III would be kept simple, consisting of:

- Part 0 – Introduction;
- Part I - General Planning Aspects (GEN); and
- Part II – Air Navigation System Implementation.

4.6.10 The meeting noted that the eANP WG would finalise work on the draft Volume III Template by end of February 2014 for presentation to the Council in June 2014 as part of the ANP Template package.

4.6.11 It was noted that the eANP WG reviewed and endorsed a revised procedure for amendment of the eANP which described the process of maintenance of the eANP using a web based platform. It was noted that the current Council-approved procedure for amendment of the Basic ANP (with minor changes) would be applicable to the new Volume I and the current amendment procedure of the FASID (with minor changes) would be applicable to Volume II. The management and amendment of Volume III would be under the responsibility of the PIRGs. Nevertheless the amendment of Parts 0 and I of Volume III should go through an inter-regional coordination mechanism.

4.6.12 With regard to the future work programme and Action Plan for further development of the ANPs/eANP, the meeting was informed that the following tasks were yet to be completed as part of the eANP development:

- completion of the ANP Template;
- approval of the ANP Template;
- development of the ANPs based on the agreed Template;
- approval/endorsement of the Regional ANPs; and
- development of the eANP online framework (web-based platform).

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4.6.13 The meeting noted that the endorsement of the ANP Template, which includes the new procedure of amendment of the eANP, is the most important milestone in the process. It is expected that the ANP Template package would be presented to the Council in June 2014 for approval. The approval of the eANP of each Region, based on the approved ANP Template, would be accomplished in accordance with the procedure for amendment.

4.6.14 Concerning the development of the eANP on a web based platform, the meeting was informed that the eANP WG agreed on the minimum specifications required for the eANP web based platform. The public would be given read-only access to the eANPs of all Regions and focal points designated by States and International Organizations would be given access to develop and submit proposals for amendments to the relevant eANP of the Regions concerned. It was noted that the eANP web based platform would be ready, as a test-bed for selected States (on a voluntary basis), by mid of March 2014. It is expected that the web based platform would be presented to the Council in June 2014, as part of the ANP Template package.

4.6.15 The meeting welcomed the information and agreed with the overall concept adopted by the eANP WG for the development of the eANP. It was noted with appreciation that access to the eANP through the web based platform would facilitate the consultation of the air navigation plans of all regions, thus providing a global view of air navigation planning. It was highlighted that the new approach in Volumes II and III of the eANP would allow significant flexibility for States to plan whilst increasing the possibility to enhance coordination, particularly for States in the interface area with adjacent regions. The meeting was informed that more information on the work achieved by the eANP WG could be obtained upon request from the ICAO MID Office Secretariat.

4.6.16 Based on the above, the meeting agreed that the MID eANP should be developed/approved as soon as possible following the Council approval of the ANP Template in accordance with the timelines outlined in the Action Plan developed by the eANP WG/2 meeting. In this respect, the meeting agreed that the development of the MID eANP based on the Council-approved ANP Template, be included in the work programme of the different MIDANPIRG subsidiary bodies, including the ANP Ad-hoc Working Group (ANP WG), whose second meeting is tentatively scheduled for December 2014. Accordingly, the meeting agreed to the following Decision:

DECISION 14/24: DEVELOPMENT AND ENDORSEMENT OF THE MID eANP

That, in support to the ICAO efforts to align the Regional Air Navigation Plans (ANP) with the Fourth Edition of the Global Air Navigation Plan (GANP) (Doc 9750):

- a) the development of the MID eANP based on the Council-approved ANP Template, be included in the work programme of the different MIDANPIRG subsidiary bodies; and*
- b) the relevant Parts of the MID eANP be presented, as soon as available, to MSG/4 and/or MIDANPIRG/15 for endorsement.*

4.6.17 The meeting agreed that the ICAO MID Regional Office is to issue a State Letter to advise States about these developments and invite them to provide all necessary support and required data for the completion of the MID eANP in a timely manner.

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ICAO New FPL Format Post Implementation Issues

4.6.18 The meeting was apprised of the lessons learned from the implementation of the ICAO New Flight Plan (INFPL). In this respect, it was noted with appreciation that the INFPL implementation in the MID Region was achieved without hindrance; owing to the good preparations and collaboration between ANSPs, airspace users, airports, regulators, manufacturing industry, and International and Regional Organizations.

4.6.19 The meeting noted that there still remain some outstanding issues that need to be addressed at global level.

4.6.20 The meeting noted with concern that the following States Iran, Iraq, Libya, Qatar, Saudi Arabia, Syria and Yemen were still using convertors and/or support from other States to convert flight plans to old flight plan format. The meeting recalled that the use of convertors was a temporary solution for States to meet the INFPL implementation date of 15 November 2012. It was highlighted that the continuous use of convertors would limit the benefits of the INFPL and would not serve the purpose for which the new format was introduced, in particular PBN implementation.

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

CONCLUSION 14/25: INFPL POST IMPLEMENTATION- SYSTEM UPGRADES

That, concerned States be urged to upgrade their systems to ensure the full handling of the ICAO New Flight Plan format before 30 June 2015.

4.6.22 The meeting discussed in depth, States concerns related to missing and rejected flight plans and associated errors and problems. In this respect, the meeting highlighted the need for a Regional flight plan rejection procedure. Furthermore, the meeting recalled MIDANPIRG/10 Conclusion 10/18 and the benefits of establishing an Integrated Flight Plan Processing System (IFPS) in the MID Region. The meeting agreed that the CNS SG to reinstate the project with the support from Bahrain and provide detailed report to MIDANPIRG/15 for consideration.

GNSS Implementation in the MID Region

4.6.23 The meeting recognized that frequency interference-free operation of Global Navigation Satellite System (GNSS) is essential, and that the frequency band 1559 - 1610MHz, was used for elements of GNSS.

4.6.24 The meeting recalled that the International Telecommunication Union (ITU) process, allows under footnotes No. 5.362B and 5.362C the operation of fixed service in some States on a secondary basis until 1 January 2015. The continued use of GNSS frequency band by the fixed service constitutes a severe constraint on the safe and effective use of GNSS in some areas of the world, as distances of up to 400m between the stations of the fixed service and the aircraft is required to ensure safe operation of GNSS. In this respect, it was highlighted that ten (10) States at the global level have removed their names from footnotes 5.362B and 5.362C during WRC-12. This was a significant step forward towards achieving better worldwide protection of GNSS.

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4.6.25 The meeting reiterated the importance of protection of the GNSS Signal and urged Iraq, Jordan, Qatar, Sudan, Syria and Yemen to have their States names removed from footnotes 5.362B and/or 5.362C in coordination with their States spectrum regulatory authorities, according to the ITU procedures.

4.6.26 The meeting recalled that the 12th Air Navigation Conference (AN-Conf/12) noted the status of implementation for different Global Navigation Satellite System (GNSS) constellations and augmentations systems, mainly the modernization of Global Positioning System (GPS), Global Navigation Satellite System (GLONASS), Galileo GNSS constellation, BeiDou system, EGNOS, and GAGAN. Accordingly, the AN-Conf/12 discussed the introduction of multi-constellation, multi-frequency GNSS that will entail number of new technical and regulatory challenges beyond those already associated with current GNSS implementation.

4.6.27 Based on the above, the meeting emphasized on the importance of thorough follow-up on these developments and encouraged States to conduct Workshop/Seminars to share experiences related to PBN and GNSS including GBAS implementation.

4.6.28 The meeting noted that ACAC was persuading the SBAS Implementation in the Regions of ACAC and ASECNA (SIRAJ) project, which is based on EGNOS extension.

4.6.29 The meeting noted that the following States (Egypt, Iran, Jordan, and Syria) did not complete the decommissioning of NDBs. Accordingly, the meeting encouraged these States to properly plan for the decommissioning of NDBs by 2014.

4.6.30 Based on all of the foregoing, the meeting reviewed and updated the MID Region GNSS Implementation Strategy as at **Appendix 4.6A** to the Report on agenda Item 4.6, and agreed to the following Conclusion:

CONCLUSION 14/26: MID REGION GNSS IMPLEMENTATION STRATEGY

*That, the MID Region GNSS implementation Strategy be updated as at **Appendix 4.6A** to the Report on Agenda Item 4.6.*

NAVISAT Project

4.6.31 The meeting was apprised of the status of the NAVISAT project, which is an Egyptian initiative to support the aviation Communication and Navigation infrastructure in Africa and the Middle East Regions.

4.6.32 It was noted that the NAVISAT satellites would be launched in 2016. The meeting was informed about the NAVISAT services and objectives/benefits. The meeting agreed in principle that the NAVISAT Project would enhance the CNS/ATM within Africa and Middle East. However, the meeting agreed that more details about the system from different perspectives, i.e. technical, institutional, financial, etc., should be made available to States before taking the final decision for joining the project.

4.6.33 In connection with the above, the meeting noted that Egypt would organize a NAVISAT Seminar in 2014. Accordingly, the meeting encouraged States to attend the NAVISAT Seminar and agreed that the Recommendations of this Seminar be presented to the relevant MIDANPIRG subsidiary bodies for further consideration.

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Surveillance development in the MID Region

4.6.34 The meeting recalled MIDANPIRG/13 *CONCLUSION 13/4-MID REGION PROCESS FOR MODE S IC CODES ALLOCATION*, which defined the process of IC code allocation in the MID Region.

4.6.35 The meeting was apprised of a recent incident where an IC code conflict was observed; accordingly, the meeting emphasized that when programming Mode S interrogators, Mode S operators have to comply with the allocated IC provided in the latest issued IC allocation; and develop an IC and coverage map programming procedures, taking their own specificities into account. As a minimum, the local procedures have to include the following verification steps, to be completed for each interrogator parameter change:

- a) verification of the compliance of the programming parameters with the IC allocation data, including: position of the radar; IC; lockout range and coverage map, if applicable;
- b) verification of the validity status of the IC allocation used for programming;
- c) verification of parameters related to II/SI Code Operation, if applicable and default parameters to apply when the coverage map is not correctly loaded;
- d) when operating in a cluster, verification that all cluster states parameters are compliant with the IC allocation data; and
- e) verification of the correct application of the programmed data, including following radar chain switch-over and switch-off/switch-on cycles.

4.6.36 The meeting reviewed the IC code allocation for the MID Region and noted that States can also obtain the list of IC for their own radars provided that they access the MICA application at <https://extranet.eurocontrol.int/http://prisme-oas.hq.corp.eurocontrol.int/mica/Index.action>.

4.6.37 Based on the above, the meeting urged States to assign focal points to use the MICA application; and request training on the application, as deemed necessary. The meeting encouraged Mode S Radar operators States to include the necessary verification in their local programming procedures; and tasked the CNS SG to include the verification procedure in the MID Region process for Mode S IC codes allocation.

4.6.38 The meeting noted that the updated MID Surveillance Strategy incorporated the AN-Conf/12 *Recommendation 1/7 – Automatic dependent surveillance — broadcast*, and timelines for the ADS-B implementation. The meeting also reviewed the status of surveillance data exchange in the MID Region. Accordingly, the meeting urged States to share (ADS-B) data to enhance safety, increase efficiency and achieve seamless surveillance; and agreed to the following Conclusion:

CONCLUSION 14/27: MID SURVEILLANCE STRATEGY

*That, the MID Surveillance Strategy be adopted as at **Appendix 4.6B** to the Report on Agenda Item 4.6.*

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PBN Implementation in the MID Region

4.6.39 The meeting was apprised of the outcome of the Fifth meeting of the Performance Based Navigation/Global Navigation Satellite System Task Force (PBN/GNSS TF/5), Cairo, Egypt, 15– 17 April 2013 and the Seventh meeting of the CNS/ATM/IC Sub-Group, Cairo, Egypt, 07-09 October 2013, related to PBN implementation.

4.6.40 The meeting recalled that the Fourth edition of the Global Air Navigation Plan (GANP) considered the Performance Based Navigation (PBN) as the highest priority for the air navigation, in addition to the Continuous Descent Operations (CDO), and Continuous Climb Operations (CCO).

4.6.41 The meeting was also apprised of other ICAO Regions activities related to PBN in order to harmonize the implementation between regions and share experiences. It was noted that all Regions had been conducting Regional Seminars and Workshops related to PBN and GNSS. In this regard, the meeting encouraged States to conduct PBN Workshop/Seminars at National level.

4.6.42 The meeting underlined that the lack of procedure designers is one of the PBN implementation challenges. It was emphasized that cooperative efforts were necessary to overcome this challenge. In this respect, the meeting noted that the DGCA-MID/2 meeting, through Conclusion 2/5 agreed that a study related to the establishment of a MID Region Flight Procedure Programme (FPP) be carried out within the framework of the PBN Sub-Group, taking into consideration similar programmes in other ICAO Regions. The meeting noted that the task related to the study for the establishment of the MID FPP was included in the Terms of Reference (TOR) of the PBN Sub-Group. In the same vein, it was highlighted that the PBN Sub-Group will be responsible for PBN implementation for Terminal and Approach, while the ATM Sub-Group will be responsible for PBN implementation for Enroute.

4.6.43 The meeting reviewed and updated the MID Region PBN Implementation Strategy and Plan taking into consideration the global and regional developments. Accordingly, the meeting agreed to the following Conclusion:

Conclusion 14/28: MID Regional PBN Implementation Strategy and Plan

*That, the MID Regional PBN Implementation Strategy and Plan be updated at **Appendix 4.6C** to the Report on Agenda Item 4.6.*

4.6.44 The meeting noted that in accordance with MIDANPIRG/13 *Conclusion 13/50 PBN Implementation Progress Report*, Bahrain, Egypt, Jordan, Kuwait, Qatar and UAE provided their progress reports related to PBN implementation. Accordingly, the meeting urged States to submit their PBN progress reports to the ICAO MID Regional Office, whenever major progress is achieved, in addition to their updated National PBN Implementation Plans.

4.6.45 The meeting reviewed and updated the status of PBN implementation and PBN focal points in the MID Region, as at **Appendices 4.6D** and **4.6E** to the Report on Agenda Item 4.6, respectively. It was noted that Libya and Sudan information relevant to PBN were incorporated in these Appendices.

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4.6.46 The following highlights the progress achieved in the implementation of PBN (Terminal and Approach) in the MID Region:

- Jordan and Kuwait had completed the implementation of RNAV SIDs, RNAV STARs and Approach procedures with vertical guidance (LNAV/VNAV) for all its instruments Runway ends.
- Bahrain completed the implementation of RNAV SIDs, RNAV STARs and RNAV GNSS Approach (LNAV) for all its instruments Runway ends;
- Lebanon completed the implementation of RNAV STARs and RNAV GNSS Approach (LNAV) for all its instruments Runway ends;
- PBN implementation had significantly improved in Saudi Arabia by an increase of 30%, and
- PBN implementation in UAE had reached 70%. It is to be emphasized that only UAE had implemented RNP-AR approaches in the MID Region, four (4) at Abu Dhabi and two (2) at Al Bateen International Airports.

4.6.47 The meeting recalled that the 37th Assembly through Resolution A37-11 resolved that States complete a PBN implementation plan as a matter of urgency to achieve the implementation of approach procedures with vertical guidance (APV) (Baro-VNAV and/or augmented GNSS), including LNAV only minima for all instrument Runway ends, either as the primary approach or as a back-up for precision approaches by 2016 with intermediate milestones as follows: 30% by 2010, 70% by 2014. In this regard, it was noted with concern that the implementation of Approach Procedures with Vertical guidance in the MID Region is far below expectation (nine (9) States have not yet started implementation).

4.6.48 The meeting recalled that MIDANPIRG/13 meeting was of the view that prompt action by the Region and States is required to accelerate PBN planning, development and implementation to a pace of at least achieving closer to the ICAO Resolution implementation targets. Accordingly, MIDANPIRG/13 had agreed to the following objectives:

- promotion of PBN to decision makers within States to create the political will to invest and devote the necessary resources for PBN implementation;
- establishing a regional working-level team or forum to identify implementation needs and to direct and/or organize the appropriate resources that will deliver PBN solutions to States;
- formulation of cooperative arrangements to assist States in PBN implementation; and
- development of additional support mechanisms that create skills and capabilities within States to implement and to sustain PBN operations.

4.6.49 Based on the above, MIDANPIRG/13 established the MID PBN Support Team (MPST), and agreed that the ICAO MID Regional Office provide the leadership, UAE be the champion of the MPST, IATA provide the required support and MID States assign members and allocate necessary resources to assist the MPST. Accordingly, the meeting encouraged MID States to support the work of the MPST.

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4.6.50 The meeting noted that PBN Go-Team Visit (Phase II) organized jointly by CANSO, IATA and ICAO will be conducted in Abu Dhabi, UAE, 19-30 January 2014. The programme of the Go-Team visit will include an Airspace Planning Concept Workshop and a PBN Operations Approval Course.

4.6.51 In the same vein, a PBN Workshop will be held in Tunis, 24-28 February 2014. This Workshop will be a joint event between the ICAO EUR and MID Regional Offices with the support of Eurocontrol. The Workshop will be dedicated to the States of the Interface Area between EUR and MID.

4.6.52 Accordingly, the meeting encouraged States to attend the PBN events scheduled for 2014, which would enhance the PBN implementation at the National and Regional level.

4.6.53 The meeting noted with appreciation that Egypt, Jordan, Oman, and Qatar requested the MPST Visit, which would be conducted starting the second quarter of 2014, in order to benefit from the outcome of the above PBN events.

4.6.54 It was highlighted that PBN has been considered by the Middle East Regional Aviation Safety Group (RASG-MID) as one of the main key element for the enhancement of safety. The RASG-MID recognized that PBN enhances safety by addressing a number of risks, including those associated with Controlled Flight Into Terrain (CFIT) and Runway Excursions. In this regard, the meeting agreed that the PBN SG should support the RASG-MID PBN-related Safety Enhancement Initiatives (SEIs).

4.6.55 The meeting noted that the provisions, guidelines and computer based training courses related to PBN are available on the ICAO website accessible through the following link: <http://www.icao.int/safety/pbn/Pages/default.aspx>.

Outcome of the ATMM TF/1 meeting

4.6.56 The First meeting of Air Traffic Management-Measurement Task Force (ATMM TF/1) was held at the ICAO Middle East Regional Office in Cairo, Egypt, 8-9 September 2013.

4.6.57 The meeting recalled that Operational improvements are a key strategy that can be applied to deliver tangible reductions in aircraft fuel consumption. The Global Air Navigation Plan (Doc 9750) and the Operational Opportunities to Minimize Fuel Use and Reduce Emissions (Circular 303) are among several documents providing guidance regarding operational improvements being implemented to improve efficiency of the ATM System.

4.6.58 Implementation of operational improvements will generally have benefits in areas such as improved airport and airspace capacity, shorter cruise, climb and descend times through the use of more optimized routes and an increase of unimpeded taxi times. These improvements have the potential to reduce fuel burn and lower levels of pollutants.

4.6.59 The meeting noted that ICAO Fuel Savings Estimation Tool (IFSET) was developed to assist States to estimate and report fuel savings consistently with the models approved by ICAO's Committee on Aviation Environmental Protection (CAEP) and aligned with the Global Air Navigation Plan. The IFSET, as well as instructions on its use, can be accessed at: <http://www.icao.int/environmental-protection/Pages/Tools.aspx>.

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4.6.60 The meeting emphasized that what is required is an **estimation** of the environmental benefits accrued from **implemented** operational improvements and not the determination of the exact amount of fuel saving or CO₂ Emission, which would require more advanced model/tool to capture all the operational elements needed to calculate the environment benefits.

4.6.61 The meeting recognized the difficulties related to the collection/provision of required data for the generation of the IFSET reports such as the number of movements for the old and new scenarios, aircraft categories, Flight Levels and the reporting frequency/period. The meeting underlined that coordination between the different Departments/Units within the States is very important for the generation of more realistic estimation of Fuel Savings reports.

4.6.62 The meeting noted that the ATMM TF/1 questioned about the period to be used for the development of the IFSET reports (i.e: previous year, 2 years, 5 years, etc) as well as the format of the Regional Air Navigation Environmental Report and recognized that if the period was to be just 1 year, this might limit the number of implemented operational benefits.

4.6.63 The meeting endorsed the First MID Air Navigation Environmental Report at **Appendix 4.6F** to the Report on Agenda Item 4.6, developed based on the inputs received from Bahrain, Egypt, Jordan, Lebanon, Kuwait, Saudi Arabia and UAE. The Report is divided into three parts:

- a) 2009-2011: just a listing of the operational improvements which have been implemented during this period and which had environmental benefits;
- b) 2012-2013: period to be used for the generation of the First Regional IFSET Report; and
- c) 2014 and beyond: listing of planned operational improvements which will have environmental benefits.

4.6.64 It was suggested that the development of the First MID Air Navigation Environmental Report be included in the Global Air Navigation Report as a success story for the MID Region.

4.6.65 The meeting agreed that the implementation of new instrument approach procedures at the following Aerodromes/RWYs are to be considered by States when planning for future operational improvements:

- Alexandria/Borg El-Arab Intl (HEBA), RWY 14;
- Shiraz/Shahid Dastghaib INTL (OISS), RWYs 11L and 11R;
- Al Najaf (ORNI), RWY 10;
- Tripoli INTL (HLLT), RWY 09; and
- Benghazi/Benina INTL (HLLB), RWYs 15R and 33L.

4.6.66 The meeting noted with appreciation Egypt contribution to the work of the ATMM Task Force and encouraged States to organize at national level workshops related to the estimation of environmental benefits accrued for operational improvements with the support of ICAO and other interested stakeholders.

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4.6.67 The meeting recalled that MIDANPIRG/13 through Conclusion 13/33 urged States to follow-up with respective departments to nominate a focal point for CO₂ emission reduction; and to submit their action plans to the ICAO MID Regional Office, before 30 June 2012.

4.6.68 The 38th Assembly acknowledged the successful outcome of the Organization's initiatives with respect to the preparation and submission of States' action plans on reduction of CO₂ emissions from international aviation, including the development of a guidance document, an action plan template and web interface, available through the following link: <http://www.icao.int/environmental-protection/Pages/action-plan.asp>. It was highlighted that by September 2013, 70 Member States, representing over 80% of global international air traffic prepared and submitted action plans to ICAO.

4.6.69 In this respect, the meeting noted that only three States (Iraq, Jordan and UAE) submitted their action plans to ICAO. Accordingly, the meeting encouraged States to submit to ICAO their action plans outlining their respective policies, actions, and annual reporting on aviation CO₂ emissions reductions. The meeting noted that ICAO has developed a web interface on the ICAO Portal (Portal group "APER") to simplify the submission of action plans, and to provide access to supporting tools. Using this web interface is the preferred method for submitting a State's Action Plan to ICAO. States were also encouraged to request ICAO assistance in this endeavour, if required and make use of the ICAO guidance material and action plan template. In this respect, the meeting noted that ICAO will organize a Second Workshop on States' Action Plans for CO₂ emission reduction in the MID Region in 2015.

4.6.70 The 38th Assembly highlighted the importance of reinforcing the voluntary nature of States' action plans. It encouraged Member States to voluntarily submit more complete and robust data in their action plans to facilitate the compilation of global emissions data by ICAO, and to make their action plans publically available. It also encouraged the partnerships among ICAO, States and other organizations to support the preparation of action plans, and emphasized the need for the Secretariat to provide further guidance and other technical assistance.

4.6.71 Based on the above, the meeting agreed to the following Conclusion which replaces and supersedes MIDANPIRG 13 Conclusions 13/33 and 13/35:

CONCLUSION 14/29: ESTIMATING AND REPORTING ENVIRONMENTAL BENEFITS

That, in order to follow-up the implementation of the ATM operational improvements and estimate the accrued fuel savings and associated CO₂ emission reduction from the corresponding improvements on regional basis:

- a) *States be encouraged to develop/update their Action Plans for CO₂ emissions and submit them to ICAO through the APER website on the ICAO Portal or the ICAO MID Regional Office;*
- b) *States be urged to:*
 - i) *identify the operational improvements which have been implemented within their FIR and/or international aerodromes;*
 - ii) *collect necessary data for the estimation of the environmental benefits accrued from the identified operational improvements;*

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- iii) *use IFSET to estimate the environmental benefits accrued from operational improvements; and*
- iv) *send the IFSET reports/the accrued environmental benefits to ICAO on bi-annual basis; and*
- c) *IATA to:*
 - i) *encourage users to support the APM TF in the development of the MID Region Air Navigation Environmental Reports; and*
 - ii) *consolidate users' inputs and report the accrued environmental benefits to the ICAO MID Regional Office on bi-annual basis.*

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Appendix 4.6A to the Report on Agenda Item 4.6

MID REGION GNSS IMPLEMENTATION STRATEGY

The following is the MID Region GNSS Implementation Strategy:

Considering:

- a) Safety is the highest priority;
- b) Global Air Navigation Plan 4th edition defines GNSS as the core technology that has led to the development of Performance Based Navigation (PBN);
- c) GNSS is the basis for future improvements in navigation services;
- d) Standards and Recommended Practices (SARPs), PANS, and guidance material for GNSS implementation are available;
- e) human, environmental, availability of avionics, capabilities and the level of user equipage and economic factors will affect the GNSS implementation;
- f) developments of GNSS systems including new satellite constellations, augmentation systems and improvement in system performance;
- g) airworthiness and operational approvals allowing the current GNSS applied for en-route and non-precision approach phases of flight without the need for augmentation services external to the aircraft;
- h) the effects of ionosphere on GNSS and availability of mitigation techniques;
- i) the implementation of GNSS in the operations as foreseen in the MID Region PBN implementation strategy and plan;
- j) the monitoring of the GNSS signal according to Annex 10, Doc 9849 and other related ICAO documents;
- k) the AN-Conf/12 recommendations 6/5, 6/6, 6/7, 6/8 and 6/9; and
- l) the working document for the Aviation System Block Upgrade.

The general strategy for the implementation of GNSS in the MID Region is detailed below:

- 1) Introduction of GNSS navigation capability should be consistent with the Global Air Navigation Plan;
- 2) implementation of GNSS and augmentations systems should be in full compliance with ICAO Standards and Recommended Practices and PANS;
- 3) assessment 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;
- 4) implementation of RNAV and RNP operations for en-route and terminal areas-according as follows:
 - implementation of approach procedures with vertical guidance (APV) (Baro VNAV and/or augmented GNSS), including LNAV-only minima, for all instrument runway ends, either as the primary approach or as a back-up for precision approaches by

- implementation of straight-in LNAV-only procedures, as an exception to above, for instrument-runways at aerodromes where there is no local altimeter setting available and where there are no-aircraft suitably equipped for APV operations;
- 5) States, in their planning and introduction 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;
- 6) facilitate the use of GNSS; as enabler for PBN for en-route, terminal, approach and departure navigation;
- 7) States should coordinate to ensure that harmonized separation standards and procedures are developed and introduced concurrently in adjacent flight information regions along major traffic flows to allow for a seamless transition to GNSS based navigation;
- 8) States should to the extent possible work co-operatively on a multinational basis to implement GNSS in order to facilitate seamless and inter-operable systems;
- 9) States should undertake education, training and R&D programs to provide necessary knowledge in PBN, GNSS, augmentation systems and operational application;
- 11) States, in their planning for implementation of GNSS services, provide effective spectrum management and protection of GNSS frequencies to reduce the possibility of unintentional interference;
- 12) during transition to GNSS, sufficient ground infrastructure for current navigation systems must remain available. Before existing ground infrastructure is considered for removal, users should be given reasonable transition time to allow them to equip accordingly;
- 13) States should approach removal of existing ground infrastructure with caution to ensure that safety is not compromised, such as by performance of safety assessment, consultation with users through regional air navigation planning;
- 14) States should plan for complete decommissioning of NDBs by 2014;
- 15) implement GNSS with augmentation as required for APV where operationally required in accordance with the MID Regional and National PBN Implementation plans;
- 16) States continue their efforts to implement GNSS applications for en-route, APV and TMA operations. Attention should be accorded to meeting all GNSS implementation requirements, including establishment of GNSS legislation, regulatory framework, and approval procedure; and
- 17) introduce rationalizing terrestrial navigation aids, retaining a minimum network of terrestrial aids necessary to maintain safety of aircraft operations; in accordance with AN-Conf/12 recommendation 6/10.

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Appendix 4.6B to the Report on Agenda Item 4.6

MID REGION SURVEILLANCE STRATEGY

Considering that:

- a) Cooperation between States is the key to achieve harmonized ATM system operations;
- b) States are implementing CNS/ATM systems to gain safety, efficiency and environmental benefits;
- c) the future air traffic environment will require increased use of aircraft-derived surveillance information;
- d) the 12th Air Navigation Conference endorsed Aviation System Block Upgrades (ASBU) framework with modules specifying effective use of ADS-B/MLAT and associated communication technologies in bridging surveillance gaps and its role in supporting future trajectory-based ATM operating concepts;
- e) cooperation between States is key towards improving flight efficiency and enhancing safety involving the use of ADS-B technology;
- f) the 38th ICAO Assembly endorsed 4th edition of the Global Air Navigation Capacity & Efficiency Plan along with technology roadmaps;
- g) SARPs, PANS and guidance material for the use of ADS-B have been developed;
- h) ADS-B avionics and ground systems are available;
- i) Multilateration is a technology that can supplement SSR, ADS-B and SMR; and

The MID Region Surveillance Strategy is to:

- 1) implement surveillance technologies in close collaboration with users;
- 2) be evolutionary and consistent with the Global Air Navigation Plan taking into consideration MID Region priorities;
- 3) maximize contiguous coverage and use of ADS-B on major routes/terminal areas;
- 4) implement ADS-B according to MID Region Air Navigation agreed priorities and set 2017 as implementation timeline;
- 5) prioritize ADS-B implementation in areas where there is no radar coverage followed by areas where implementation would otherwise bring capacity and operational efficiencies and when cost/benefit models warrant it;
- 6) identify sub-regional areas where the implementation of ADS-B would result in a positive cost/benefit in the near term, while taking into account overall Regional developments and implementation of ADS-B in adjacent homogeneous ATM areas;

- 7) ensure that the surveillance technologies including ADS-B deployment should be associated at early stages in coordination with the States/Regional/International Organizations responsible for the control of adjacent areas,;
- 8) share ADS-B data to enhance safety, increase efficiency and achieve seamless surveillance;
- 9) ensure before implementing ADS-B that aircraft are equipped with adequate avionics;
- 10) minimise the reliance on voice position reporting, for surveillance of aircraft;
- 11) utilise the SSR Mode 'S' capabilities, fully and reduce reliance on 4 digit octal code;
- 12) make use of ADS-C when ADS-B, SSR or multilateration not supported;
- 13) encourage Multilateration for surface, terminal & area surveillance;
- 14) improve safety through sharing ATS surveillance data across FIR boundaries;
- 15) increase use of Aircraft Derived Data; and
- 16) ensure that implementation of Surveillance technologies are harmonized, compatible and interoperable with respect to operational procedures, supporting data link and ATM applications;
- 17) implement surveillance technologies following successful trial programmes with regards to safety and operational feasibility, taking into account studies and implementation experiences from other ICAO Regions;
- 18) request airspace users periodically to provide information on aircrafts surveillance equipage,
- 19) consider implementing surveillance for surface movement control by the implementing the required technologies as per the global plan roadmaps and MID Air Navigation Strategy; in the Global plan; and
- 20) ensure that implementation is according to SARPs, ASBU working document; and MIDANPIRG conclusions and according to MID Surveillance Strategy and implementation should be monitored to ensure collaborative development and alignment with the MID Region projects.

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Appendix 4.6C to the Report on Agenda Item 4.6

**MID REGION PERFORMANCE-BASED NAVIGATION IMPLEMENTATION STRATEGY
AND PLAN****1. EXECUTIVE SUMMARY**

1.1 The MID Regional Performance Based Navigation (PBN) Implementation Strategy and Plan has been produced and updated in line with Resolutions A 36/23 and A 37/11. The Regional Plan addresses the strategic objectives of PBN implementation based on clearly established operational requirements, avoiding equipage of multiple on-board or ground based equipment, avoidance of multiple airworthiness and operational approvals and explains in detail contents relating to potential navigation applications.

1.2 This version was prepared to align the MID Region PBN implementation Strategy and Plan with the Aviation System Block Upgrades (ASBU) implementation, taking into consideration, the twelfth Air Navigation Conference (AN-Conf/12) Recommendations, the Global Air Navigation Plan Fourth Edition, MID Region Air Navigation Plan and the MID Region Air Navigation Strategy. This required the amendment of the implementations targets dates.

1.3 The plan envisages pre- and post-implementation safety assessments and continued availability of conventional air navigation procedures during transition. The plan discusses issues related to implementation which include traffic forecasts, aircraft fleet readiness, adequacy of ground-based CNS infrastructure etc. Implementation targets for various categories of airspace for the short term (2013 – 2017) and for the medium term (2018 – 2022) have been projected in tabular forms to facilitate easy reference. For the long term (2023 and beyond) it has been envisaged that GNSS will be the primary navigation infrastructure. It is also envisaged that precision approach capability using GNSS and its augmentation system will become available in the long term.

2. EXPLANATION OF TERMS

2.1 The drafting and explanation of this document is based on the understanding of some particular terms and expressions that are described below:

2.1.1 **MID Region PBN Implementation Strategy and Plan** - A document offering appropriate guidance for air navigation service providers, airspace operators and users, regulating agencies, and international organizations, on the evolution of navigation, as one of the key systems supporting air traffic management, and which describes the RNAV and RNP navigation applications that should be implemented in the short, medium and long term in the MID Region.

2.1.2 **Performance Based Navigation** - Performance based navigation specifies RNAV and RNP system performance requirements for aircraft operating along an ATS route, on an instrument approach procedure or in an airspace.

2.1.3 **Performance requirements** - Performance requirements are defined in terms of accuracy, integrity, continuity, availability and functionality needed for the proposed operation in the context of a particular airspace concept. Performance requirements are identified in navigation specifications which also identify which navigation sensors and equipment may be used to meet the performance requirement.

3. ACRONYMS

3.1 The acronyms used in this document along with their expansions are given in the following List:

AACO	Arab Air Carrier Association
ABAS	Aircraft-Based Augmentation System
ACAC	Arab Civil Aviation Commission
AIS	Aeronautical Information System
APAC	Asia and Pacific Regions
APCH	Approach
APV	Approach Procedures with Vertical Guidance
ATC	Air Traffic Control
ASBU	Aviation System Block Upgrades
Baro VNAV	Barometric Vertical Navigation
CCO	Continuous Climb Operations
CDO	Continuous Decent Operations
CNS/ATM	Communication Navigation Surveillance/Air Traffic Management
CPDLC	Controller Pilot Data Link Communications
DME	Distance Measuring Equipment
FASID	Facilities and Services Implementation Document
FIR	Flight Information Region
FMS	Flight Management System
GBAS	Ground-Based Augmentation System
GNSS	Global Navigation Satellite System
GLS	GBAS Landing System
IATA	International Air Transport Association
IFALPA	International Federation of Air Line Pilots' Associations
IFATCA	International Federation of Air Traffic Controllers' Associations
IFF	Identification Friend or Foe
INS	Inertial Navigation System
IRU	Inertial Reference Unit
MIDANPIRG	Middle East Air Navigation Planning and Implementation Regional Group
MID RMA	Middle East Regional Monitoring Agency
MLAT	Multilateration
PANS	Procedures for Air Navigation Services
PBN	Performance Based Navigation
PIRG	Planning and Implementation Regional Group
RCP	Required Communication Performance
RNAV	Area Navigation
RNP	Required Navigation Performance
SARP	Standards and Recommended Practices
SBAS	Satellite-Based Augmentation System
SID	Standard Instrument Departure
STAR	Standard Instrument Arrival
TMA	Terminal Control Area
VOR	VHF Omni-directional Radio-range
WGS	World Geodetic System

4. INTRODUCTION

Need for the Roadmap

4.1 The Performance Based Navigation (PBN) concept specifies aircraft RNAV system performance requirements in terms of accuracy, integrity, availability, continuity and functionality needed for the proposed operations in the context of a particular airspace concept, when supported by the appropriate navigation infrastructure. In this context, the PBN concept represents a shift from sensor-based to performance –based navigation.

4.2 The implementation of RVSM on 27 NOV 2003 in the MID Region brought significant airspace and operational benefits to the Region. However, the realizations of new benefits from RVSM have reached a point of diminishing returns. The main tool for optimizing the airspace structure is the implementation of PBN, which will foster the necessary conditions for the utilization of RNAV and RNP capabilities by a significant portion of airspace users in the MID region.

4.3 In view of the need for detailed navigation planning, it was deemed advisable to prepare a PBN Roadmap to provide proper guidance to air navigation service providers, airspace operators and user, regulating agencies, and international organization, on the evolution of performance base navigation, as one of the key systems supporting air traffic management, which describes the RNAV and RNP navigation applications that should be implemented in the short and medium term in the MID Region.

4.4 Furthermore, the MID PBN roadmap will be the basic material for the development of a boarder MID air navigation strategy, which will serve as guidance for regional projects for the implementation of air navigation infrastructure, such as SBAS, GBAS, GLS etc., as well as for the development of national implementation plans.

4.5 The PBN Manual (Doc 9613) provides guidance on RNAV/RNP navigation specifications and encompasses two types of approvals: airworthiness, exclusively relating to the approval of aircraft, and operational, dealing with the operational aspects of the operator. RNAV/RNP approval will be granted to operators that comply with these two types of approval.

4.6 After the implementation of PBN as part of the airspace concept, the total system needs to be monitored to ensure that safety of the system is maintained. A system safety assessment shall be conducted during and after implementation and evidence collected to ensure that the safety of the system is assured.

Benefits of Performance-Based Navigation

- a) *Access and Equity*: Increased aerodrome accessibility.
- b) *Capacity*: In contrast with ILS, the GNSS-based approaches (PBN and GLS) do not require the definition and management of sensitive and critical areas resulting in potentially increased runway capacity.
- c) *Efficiency*: Cost savings related to the benefits of lower approach minima: fewer diversions, overflights, cancellations and delays. Cost savings related to higher airport capacity in certain circumstances (e.g. closely spaced parallels) by taking advantage of the flexibility to offset approaches and define displaced thresholds.
- d) *Environment*: Environmental benefits through reduced fuel burn.
- e) *Safety*: Stabilized approach paths.

- f) *Cost Benefit Analysis*: Aircraft operators and air navigation service providers (ANSPs) can quantify the benefits of lower minima by using historical aerodrome weather observations and modeling airport accessibility with existing and new minima. Each aircraft operator can then assess benefits against the cost of any required avionics upgrade. Until there are GBAS (CAT II/III) Standards, GLS cannot be considered as a candidate to globally replace ILS. The GLS business case needs to consider the cost of retaining ILS or MLS to allow continued operations during an interference event

Goals and Objectives of PBN Implementation

4.7 The MIDANPIRG/11 Meeting required that PBN be implemented in a strategic manner in the MID Region and accordingly established the PBN/GNSS Task Force which, *inter alia*, was required to follow up developments related to PBN and develop an implementation strategy. The 36th Session of ICAO Assembly adopted Resolution A36-23: *Performance based navigation global goals*, which, amongst others, highlighted global and regional harmonization in the implementation of PBN. Accordingly, the MID PBN Implementation Regional Plan has the following strategic objectives:

- a) To ensure that implementation of the navigation element of the MID CNS/ATM system is based on clearly established operational requirement.
- b) To avoid unnecessarily imposing the mandate for multiple equipment on board or multiple systems on ground.
- c) To avoid the need for multiple airworthiness and operational approvals for intra and inter-regional operations.
- d) To avoid an eclipsing of ATM operational requirements by commercial interests, generating unnecessary costs States, international organization, and airspace users.
- e) To explain in detail the contents of the MID air navigation plan and of the MID CNS/ATM plan, describing potential navigation application.

4.8 Furthermore, the MID PBN roadmap will provide a high-level strategy for the evolution of the navigation applications to be implemented in the MID region in the short term (2013-2017), medium term (2018-2022). This strategy is based on the coverage of area navigation (RNAV) and required navigation performance (RNP), which will be applied to aircraft operations involving instrument approaches, standard departure (SID) routes, standard arrival (STAR) routes, and ATS routes in oceanic and continental areas.

4.9 The MID PBN implementation regional plan is developed by MID States together with the international and Regional organizations concerned, and is intended to assist the main stakeholders of the aviation community to plan a gradual transition to the RNAV and RNP concepts. The main stakeholders of the aviation community that benefit from this roadmap are:

- Airspace operators and users
- Air navigation service providers
- Regulating agencies
- International and Regional organizations
- Military Authorities

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4.10 The plan is intended to assist the main stakeholders of the aviation community to plan the future transition and their investment strategies. For example, airlines and operators can use this Regional Plan to plan future equipage and additional navigation capability investment; air navigation service providers can plan a gradual transition for the evolving ground infrastructure, regulating agencies will be able to anticipate and plan for the criteria that will be needed in the future.

Planning Principles

4.11 The implementation of PBN in the MID Region shall be based on the following principles:

- a) develop strategic objectives and airspace concepts as described in the PBN manual (Doc 9613) to justify the implementation of the RNAV and/or RNP concepts in each particular airspace;
- b) States conduct pre- and post-implementation safety assessments to ensure the application and maintenance of the established target level of safety;
- c) development of airspace concept, applying airspace modelling tools as well as real-time and accelerated simulations, which identify the navigation applications that are compatible with the aforementioned concept;
- d) continued application of conventional air navigation procedures during the transition period, to guarantee the operation by users that are not RNAV- and/or RNP-equipped;
- e) operational requirement and Stake holder consultation; and
- f) early implementation is encouraged based on operational requirements and States readiness.

4.12 Planning Documentation: The implementation of PBN in the MID Region will be incorporated into the Regional Supplementary Procedures (Doc 7030) as approved by the ICAO Council. The States' PBN implementation plan will include a concise and detailed schedule of implementation for all phases of flight which will be endorsed through Regional agreement processes and considered by the Council as requirements for incorporation in the Air Navigation Plan (ANP).

4.13 ICAO Doc 9997 provides Guidance related to the Performance-Based Navigation (PBN) Operational Approval.

5. PBN OPERATIONAL REQUIREMENTS AND IMPLEMENTATION STRATEGY

5.1 Introduction of PBN should be consistent with the Global Air Navigation Plan. Moreover, PBN Implementation shall be in full compliance with ICAO SARPs and PANS and be supported by ICAO Global Plan Initiatives.

5.2 In November 2006 the ICAO Council accepted the second amendment to the Global Air Navigation Plan for the CNS/ATM System, which has been renamed the Global Air Navigation Plan (Doc 9750), referred to as the Global Plan. A key part of the Global Plan framework are Global Plan Initiatives (GPIs), which are options for air navigation system improvements that when implemented, result in direct performance enhancements. The GPIs include implementation of performance based navigation (PBN) and navigation system. The introduction of PBN must be supported by an appropriate navigation infrastructure consisting of an appropriate combination of Global Navigation Satellite System (GNSS), Self-contained Navigation System (inertial navigation system) and Conventional Ground-based Navigation Aids.

5.3 It is envisaged that for the short term and medium term implementation of PBN, the establishment of a backup system in case of GNSS failure or the development of contingency procedures will be necessary.

En-route

5.4 Considering the traffic characteristic and CNS/ATM capability of the region, the en-route operation can be classified as Oceanic, Remote continental, Continental, and local/domestic. In principle, each classification of the en-route operations should adopt, but not be limited to single RNAV or RNP navigation specification. This implementation strategy will be applied by the States and international organizations themselves, as coordinated at regional level to ensure harmonization.

5.5 In areas where operational benefits can be achieved and appropriate CNS/ATM capability exists or can be provided for a more accurate navigation specification, States are encouraged to introduce the more accurate navigation specification on the basis of coordination with stakeholders and affected neighbouring States.

Terminal

5.6 Terminal operations have their own characteristics, taking into account the applicable separation minima between aircraft and between aircraft and obstacles. It also involves the diversity of aircraft, including low-performance aircraft flying in the lower airspace and conducting arrival and departure procedures on the same path or close to the paths of high-performance aircraft.

5.7 In this context, the States should develop their own national plans for the implementation of PBN in TMAs, based on the MID PBN Region Implementation Plan, seeking the harmonization of the application of PBN and avoiding the need for multiple operational approvals for intra- and inter-regional operations, and the applicable aircraft separation criteria.

Approaches

5.8 During early implementation of PBN, IFR Approaches based on PBN should be designed to accommodate mixed-equipage (PBN and non-PBN) environment. ATC workload should be taken into account while developing approach procedures. One possible way to accomplish this is to co-locate the Initial Approach Waypoint for both PBN and conventional approaches. States should phase-out conventional non-precision approach procedures at a certain point when deemed operationally suitable and taking in consideration GNSS integrity requirements, and planning for CDO implementation.

5.9 Recognizing the efficiency and environmental benefits of CCO and CDO, and the need to harmonize these operations in the interest of safety, MID States are encouraged to include implementation of CCO and CDO as part of their PBN implementation plans in accordance with the ICAO CCO and CDO Manuals Doc 9993 and 9931 respectively..

Implementation Strategy

5.10 In order to address the operational requirements, the following PBN Implementation & Harmonisation Strategy for the ICAO MID Region is formulated as follows:

- a) Implementation of any RNAV or RNP application shall be in compliance with ICAO PBN Manual (Doc 9613);
- b) implementation of RNAV5/RNAV1 depending on operational requirements for continental en-route and local/domestic en-route applications at least until 2016;

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- c) implementation of RNAV1/Basic-RNP-1 depending on operational requirements for terminal applications at least until 2016;
- d) implementation of RNAV-10 for oceanic/remote continental until at least 2016;
- e) the use of RNAV 5 / RNAV 1 specification by RNP specifications (e.g. advanced-RNP-1) for the use in the en-route and terminal airspace to commence by 2016;
- f) implementation of approach procedures with vertical guidance (APV) (Baro-VNAV and/or augmented GNSS), including LNAV only minima, for all instrument runway ends, either as the primary approach or as a back-up for precision approaches by 2016 with intermediate milestones as follows: 30 per cent by 2010, 70 per cent by 2014;
- g) implementation of straight-in LNAV only procedures, as an exception to f) above, for instrument runways at aerodromes where there is no local altimeter setting available and where there are no aircraft suitably equipped for APV operations with a maximum certificated take-off mass of 5 700 kg or more;
- h) the use of NDB for approach operations shall be terminated not later than 2012. the following States (Egypt, Iran, Jordan and Syria) requested extension and would provide their plans for termination of NDB to ICAO MID;
- i) the operation of CCO and CDO to commence 2013; and
- j) the RNP AR Approaches to commence depending on States operational requirement starting 2012.

6. CURRENT STATUS AND FORECAST***MID Traffic Forecast***

6.1 The GEN part of FASID (Part II) provides the information and data of the following traffic forecasts and trends:

- air traffic demand for air navigation systems planning
- Passenger traffic
- Aircraft movements
- Major city-pairs traffic

6.2 The forecast data as well as the figures contained in the FASID document are the results of the regular meetings of, MIDANPIRG Traffic Forecasting Sub-group, which had in last meeting in April 2007. Notably however, in the past two years, air traffic growth trend for the MID Region has signalled a significantly higher aircraft fleet and traffic growth than was previously forecast.

6.3 World scheduled traffic measured in terms of Passenger-kilometers Performed (PKPs) is forecast to increase at a “most likely” average annual rate at 4.6 per cent for the period 2005-2025. International traffic is expected to increase at 5.3 per cent per annum.

6.4 The airlines of the Middle East Regions are expected to experience the highest growth in passenger traffic at 5.8 per cent per annum through to the year 2025 compared to the world average of 4.6%.

6.5 World scheduled freight traffic measured in terms of tonne-kilometres performed is forecast to increase at a “most likely” average annual rate of 6.6 per cent for the period 2005-2025. International freight traffic is expected to increase at an average annual growth rate of 6.9 per cent.

6.6 Air freight traffic of the airlines of Middle East region is expected to remain higher than the world average at 7.8 per annum.

6.7 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

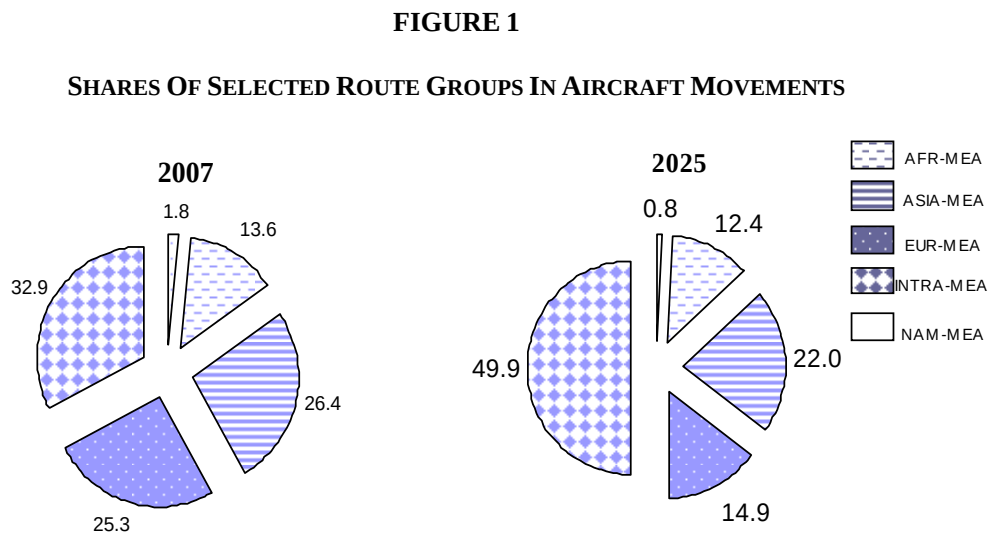
6.8 Movement forecasts for the major route groups for the 2007-2025 periods are depicted in **Table 1**:

TABLE 1

AIRCRAFT MOVEMENTS FORECAST TO THE YEAR 2025

	Actual	Forecast	Average	Annual	Growths
	2007	2025		(per cent)	
				2007-2025	
AFR-MEA	84933	291159		7.1	
ASIA-MEA	165364	514979		6.5	
EUR-MEA	158346	350380		4.5	
INTRA MEA	205769	1170709		10.1	
NAM-MEA	11075	18703		3.0	
TOTAL	625487	2345929		7.6	

6.9 The total aircraft movements to/from and within the Middle East region are estimated to increase from some 625000 in 2007 to around 2346000 in 2025 at an average annual growth rate of 7.6 per cent. The resulting movements’ shares for the year 2025 are depicted in **Figure 1**:



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Aircraft Fleet Readiness

6.10 IATA had circulated survey and will be compiling the results in report which could be referred to for details.

CNS Infrastructure***Navigation infrastructure******Global Navigation Satellite System (GNSS)***

6.11 Global Navigation Satellite System (GNSS) is a satellite-based navigation system utilizing satellite signals, such as Global Positioning System (GPS), for providing accurate and reliable position, navigation, and time services to airspace users. In 1996, the International Civil Aviation Organization (ICAO) endorsed the development and use of GNSS as a primary source of future navigation for civil aviation. ICAO noted the increased flight safety, route flexibility and operational efficiencies that could be realized from the move to space-based navigation.

6.12 GNSS supports both RNAV and RNP operations. Through the use of appropriate GNSS augmentations, GNSS navigation provides sufficient accuracy, integrity, availability and continuity to support en-route, terminal area, and approach operations. Approval of RNP operations with appropriate certified avionics provides on-board performance monitoring and alerting capability enhancing the integrity of aircraft navigation.

6.13 GNSS augmentations include Aircraft-Based Augmentation System (ABAS), Satellite-Based Augmentation System (SBAS) and Ground-Based Augmentation System (GBAS).

6.14 Multilateration (MLAT) employs a number of ground stations, which are placed in strategic locations around an airport, its local terminal area or a wider area that covers the larger surrounding airspace. Multilateration requires no additional avionics equipment, as it uses replies from Mode A, C and S transponders, as well as military IFF and ADS-B transponders. MLAT is under consideration by several MID States (Bahrain, Egypt, Oman and UAE).

Other PBN Infrastructure

6.15 Other navigation infrastructure that supports PBN applications includes INS, VOR/DME, DME/DME, and DME/DME/IRU. These navigation infrastructures may satisfy the requirements of RNAV navigation specifications, but not those of RNP.

6.16 INS may be used to support PBN en-route operations with RNAV-10 and RNAV 5 navigation specifications.

6.17 VOR/DME may be used to support PBN en-route operations based on RNAV 5 navigation specification.

6.18 DME/DME and DME/DME/IRU may support PBN en-route and terminal area operations based on RNAV 5, and RNAV 1 navigation specifications. Validation of DME/DME coverage area and appropriate DME/DME geometry should be conducted to identify possible DME/DME gaps, including identification of critical DMEs, and to ensure proper DME/DME service coverage.

Note.- The conventional Navaid infrastructure should be maintained to support non-equipped aircraft during a transition period until at least 2016.

Surveillance Infrastructure

6.19 For RNAV operations, States should ensure that sufficient surveillance coverage is provided to assure the safety of the operations. Because of the on-board performance monitoring and alerting requirements for RNP operations, surveillance coverage may not be required. Details on the surveillance requirements for PBN implementation can be found in the ICAO PBN Manual and ICAO PANS-ATM (Doc 4444), and information on the current surveillance infrastructure in the MID can be found in ICAO FASID table.

Communication Infrastructure

6.20 Implementation of RNAV and RNP routes includes communication requirements. Details on the communication requirements for PBN implementation can be found in ICAO PANS-ATM (Doc 4444), ICAO RCP Manual (Doc 9869), and ICAO Annex 10. Information on the current communication infrastructure in the MID can also be found in ICAO FASID table.

7. IMPLEMENTATION ROADMAP OF PBN***ATM Operational Requirements***

7.1 The Global ATM Operational Concept: Doc 9854 makes it necessary to adopt an airspace concept able to provide an operational scenario that includes route networks, minimum separation standards, assessment of obstacle clearance, and a CNS infrastructure that satisfies specific strategic objectives, including safety, access, capacity, efficiency, and environment.

7.2 In this regard, the following programmes will be developed:

- a) Traffic and cost benefit analyses
- b) Necessary updates on automation
- c) Operational simulations in different scenarios
- d) ATC personnel training
- e) Flight plan processing
- f) Flight procedure design training to include PBN concepts and ARINC-424 coding standard
- g) Enhanced electronic data and processes to ensure appropriate level of AIS data accuracy, integrity and timeliness
- h) WGS-84 implementation in accordance with ICAO Annex 15
- i) Uniform classification of adjacent and regional airspaces, where practicable
- j) RNAV/RNP applications for SIDs and STARs
- k) Coordinated RNAV/RNP routes implementation
- l) RNP approach with vertical guidance
- m) Establish PBN approval database

7.3 The above programmes should conform to the performance objectives and regional action plan supporting the regional implementation plan (roadmap).

Short Term (2013-2017)***En-route***

7.4 During the planning phase of any implementation of PBN routes, States should gather inputs from all aviation stakeholders to obtain operational needs and requirements. These needs and requirements should then be used to derive airspace concepts and to select appropriate PBN navigation specification.

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7.5 In this phase, the current application of RNAV 10 is expected to continue for Oceanic and Remote continental routes.

7.6 For Continental routes, the applications of RNAV 5 and RNAV 1 navigation specifications are expected. Before the PBN concept was established, the MID Region adopted the Regional implementation of RNP 5. Under the PBN concept it is now required that RNP 5 will change into RNAV 5. Based on operational requirements, States may choose to implement RNAV 1 routes to enhance efficiency of airspace usages and support closer route spacing, noting that appropriate communication and surveillance coverage is provided. Details of these requirements are provided in the PBN manual (Doc 9613) and PANS-ATM (Doc 4444).

7.7 **Operational approval.** Operators are required to have operational approval for RNAV 5. Depending on operational requirement RNAV 1 for terminal operations and RNAV 10 for Oceanic/Remote Continental operations.

7.8 Application of RNAV 5 or RNAV 1 for continental en-route will be mandated by the end of 2012.

Terminal

7.9 In selected TMAs, the application of RNAV-1 in a surveillance environment can be supported through the use of GNSS or ground navigation infrastructure, such as DME/DME and DME/DME/IRU. In this phase, mixed operations (equipped and non-equipped) will be permitted.

7.10 In a non-surveillance environment and/or in an environment without adequate ground navigation infrastructure, the SID/STAR application of Basic-RNP 1 is expected in selected TMAs with exclusive application of GNSS.

7.11 **Operational approval.** Operators are required to have operational approval for RNAV 1. In addition, operators are required to have Basic RNP 1 approval when operating in procedural control TMAs.

Note: In order to avoid unnecessary approvals, operators equipped with GNSS should apply for combined RNAV 1 and Basic RNP 1.

Approach

7.12 The application of RNP APCH procedures is expected to be implemented in the maximum possible number of airports, primarily international airports. To facilitate transitional period, conventional approach procedures and conventional navigation aids should be maintained for non-equipped aircraft.

7.13 States should promote the use of APV operations (Baro-VNAV SBAS) to enhance safety of RNP approaches and accessibility of runways.

7.14 The application of RNP AR APCH procedures should be limited to selected airports, where obvious operational benefits can be obtained due to the existence of significant obstacles.

7.15 States should implement CCO and CDO in their International Airports, in accordance with ASBU Module B0-APTA.

7.16 **Operational approval requirements.** Operators shall plan to have operational approval for RNP APCH with VNAV operations (Baro-VNAV). Depending on operational need, aircraft shall also meet the RNP AR APCH specification.

7.17 Application of RNAV 1 or Basic RNP-1 for all terminal areas and APV/Baro VNAV or APV/SBAS for all instrument runway ends, either as the primary approach or as a back-up for precision approaches will be mandated by 2016.

SUMMARY TABLE AND IMPLEMENTATION TARGETS

SHORT TERM (2013-2017)		
<i>Airspace</i>	<i>Navigation Specification Preferred</i>	<i>Navigation Specification Acceptable</i>
En-route – Oceanic	RNAV 10	RNAV 10
En-route - Remote continental	RNAV 5, RNAV 10	RNAV 10
En-route – Continental	RNAV 5, RNAV 1	RNAV 5
En-route - Local / Domestic	RNAV 5, RNAV 1	RNAV 5
TMA – Arrival	RNAV 1 in surveillance environment and with adequate navigation infrastructure. Basic RNP 1 in non-surveillance environment	RNAV 1
TMA – Departure	RNAV 1 in surveillance environment and with adequate navigation infrastructure. Basic RNP 1 in non-surveillance environment	RNAV 1
Approach	RNP APCH with Baro VNAV in all possible airports; RNP AR APCH in airport where there are obvious operational benefits. Implementation of straight-in LNAV only procedures, as an exception	LNAV/VNAV
Implementation Targets - Implementation of approach procedures with vertical guidance (APV) (Baro-VNAV and/or augmented GNSS), including LNAV only minima, for all instrument runway ends, either as the primary approach or as a back-up for precision approaches by 2016 with intermediate milestones as follows: 30% by 2010, and 50 % by 2012; and priority should be given to airports with most significant operational benefits. - RNAV 1 SIDs/STARs for 30% of international airports by 2010 and 50% by 2012 and priority should be given to airports with RNP Approach.		

Medium Term (2018-2022)

En-route

7.18 Noting the current development of route spacing standards for RNAV 1, in this phase, it is expected that the implementations of all existing RNAV/RNP routes are consistent with PBN standards. However, in order to ensure implementation harmonization, States are urged to implement their RNAV/RNP routes based on a Regional agreements and consistent PBN navigation specifications and separation standards.

7.19 With regard to oceanic remote operations, it is expected that with the additional surveillance capability, the requirement for RNAV 10 will disappear, and be replaced by navigation specifications for continental en-route applications.

7.20 **Operational approval.** Operators are required to have operational approval for RNAV 5 and RNAV 1.

Terminal

7.21 RNAV 1 or Basic RNP 1 will be fully implemented in all TMAs by the end of this term.

7.22 **Operational approval.** Operators are required to have operational approval for RNAV 1/Basic RNP 1 approval.

Note: In order to avoid unnecessary approvals, operators equipped with GNSS should apply for combined RNAV 1 and Basic RNP 1

Approach

7.23 In this phase, full implementation of RNP APCH with Baro VNAV or APV SBAS for all instrument runways is expected. These applications may also serve as a back-up to precision approaches.

7.24 The extended application of RNP AR Approaches should continue for airports where there are operational benefits.

7.25 To progress further with the universal implementation of PBN approaches. States should consider the implementation of PBN and GLS (CAT II/III) procedures to enhance the reliability and predictability of approaches to runways increasing safety, accessibility and efficiency.

7.26 **Operational approval requirements.** Operators are required to have operational approval for RNP APCH with VNAV operations (Baro VNAV). Depending on operations, aircraft shall also meet RNP AR specification and the PBN and GLS (CAT II/III) operations.

SUMMARY TABLE AND IMPLEMENTATION TARGETS

MEDIUM TERM (2018-2022)		
<i>Airspace</i>	<i>Navigation Specification (preferred)</i>	<i>Navigation Specification (/acceptable)</i>
En-route – Oceanic	RNAV 10	RNAV 10
En-route - Remote continental	NIL	RNAV 10
En-route – Continental	RNAV 1, RNAV 5	RNAV 1, RNAV 5
En-route - Local / Domestic	RNAV 1 , RNAV 5	RNAV 1,
TMA – (Arrival, Departure)	RNAV1 or RNP 1 application	RNAV 1 or RNP 1 application
Approach	RNP APCH (with Baro VNAV) and APV Expansion of RNP AR APCH where there are operational benefits Introduction of landing capability using GNSS and its augmentations	RNP APCH (with Baro VNAV) and APV Expansion of RNP AR APCH where there are operational benefits Implementation of landing capability using PBN and GLS
Implementation Targets ▪ RNP APCH with Baro VNAV or APV or LNAV in 100% of instrument runways by 2016 ▪ RNAV 1 or RNP 1 SID/STAR for 100% of international airports by 2016 ▪ RNAV 1 or Basic RNP 1 SID/STAR at busy domestic airports where there are operational benefits ▪ Implementation additional RNAV/RNP routes ▪ CCO and CDO Implementation will continue in this term		

Long Term (2023 and Beyond)

7.27 In this phase, GNSS is expected to be a primary navigation infrastructure for PBN implementation. States should work co-operatively on a multinational basis to implement GNSS in order to facilitate seamless and inter-operable systems and undertake coordinated Research and Development (R&D) programs on GNSS implementation and operation.

7.28 Moreover, during this phase, States are encouraged to consider segregating traffic according to navigation capability and granting preferred routes to aircraft with better navigation performance.

7.29 Noting the current development of Advanced RNP-1 navigation specification, it is expected that this navigation specification will play an important role in the long term implementation of PBN for enroute and terminal operations.

7.30 With the expectation that precision approach capability using GNSS and its augmentation systems will become available, States are encouraged to explore the use of such capability where there are operational and financial benefits.

7.31 During this term the use of Advanced RNP-1 for terminal and en-route will be mandated by a date to be determined.

8. TRANSITIONAL STRATEGIES

8.1 During the transitional phases of PBN implementation, sufficient ground infrastructure for conventional navigation systems must remain available. Before existing ground infrastructure is considered for removal, users should be consulted and given reasonable transition time to allow them to equip appropriately to attain equivalent PBN-based navigation performance. States should approach removal of existing ground infrastructure with caution to ensure that safety is not compromised, such as by performance of safety assessment, consultation with users through regional air navigation planning process and national consultative forums. Moreover, noting that navigation systems located in a particular State/FIR may be supporting air navigation in airspace in other States/FIRs States are required to cooperate and coordinate bilaterally, multilaterally and within the framework of Regional agreements, in the phasing out of conventional ground based navigation systems and maintaining the serviceability of required navigation aids for area navigation (e.g. DME).

8.2 States should ensure that harmonized separation standards and procedures are developed and introduced concurrently in all flight information regions to allow for a seamless transition towards PBN.

8.3 States should cooperate on a multinational basis to implement PBN in order to facilitate seamless and inter-operable systems and undertake coordinated R&D programs on PBN implementation and operation.

8.4 States are encouraged to consider segregating traffic according to navigation capability and granting preferred routes to aircraft with better navigation performance, taking due consideration of the need of State/Military aircraft.

8.5 States should encourage operators and other airspace users to equip with PBN avionics. This can be achieved through early introductions of RNP approaches, preferably those with vertical guidance.

8.6 ICAO MID Region Regional Office should provide leadership supporting implementation and transition towards PBN.

8.7 States should have PBN operational approval process.

8.8 Early Implementation of PBN are encouraged.

9. SAFETY ASSESSMENT AND MONITORS

Methodology

Need for Safety Assessment

9.1 To ensure that the introduction of PBN en-route applications within the MID Region is undertaken in a safe manner and in accordance with relevant ICAO provisions, implementation shall only take place following conduct of a safety assessment that has demonstrated that an acceptable level of safety will be met. This assessment may also need to demonstrate levels of risk associated with specific PBN en-route implementation. Additionally, ongoing periodic safety reviews shall be undertaken where required in order to establish that operations continue to meet the target levels of safety.

Roles and Responsibilities

9.2 To demonstrate that the system is safe, it will be necessary that the implementing agency – a State or group of States - ensures that a safety assessment and, where required, ongoing monitoring of the PBN en-route implementation are undertaken. The implementing agency may have the capability to undertake such activities or may seek assistance from the Middle East Regional Monitoring Agency (MID RMA). The latter course of action is preferred as the MID RMA would be in a position to establish the necessary monitoring and data collection activity in an effective manner. Furthermore, the MIDANPIRG/10 meeting in April 2007 adopted the revised Terms of Reference of the MID RMA, whose scope includes safety monitoring of RNP/RNAV.

9.3 In undertaking a safety assessment to enable en-route implementation of PBN, a State, implementing agency or the MID RMA shall:

- a) Establish and maintain a database of PBN approvals;
- b) monitor aircraft horizontal-plane navigation performance and the occurrence of large navigation errors and report results appropriately to the MID RMA;
- c) conduct safety and readiness assessments and report results appropriately to the MID RMA;
- d) monitor operator compliance with State approval requirements after PBN implementation; and
- e) initiate necessary remedial actions if PBN requirements are not met.

9.4 The duties and responsibilities of the MID RMA as well as the agreed principles for its establishment are available from the ICAO MID Regional Office.

10. PERIODIC REVIEW OF IMPLEMENTATION ACTIVITIES

Procedures to Modify the Regional Plan

Whenever a need is identified for a change to this document, the Request for Change (RFC) Form should be completed and submitted to the ICAO MID Regional Office. The Regional Office will collate RFCs for consideration by the PBN/GNSS Task Force.

10.1 When an amendment has been agreed by a meeting of the PBN/GNSS Task Force, a new version of the PBN Regional Plan will be prepared, with the changes marked by an “[” in the margin, and an endnote indicating the relevant RFC, to enable a reader to note the origin of the change. If the change is in a table cell, the outside edges of the table will be highlighted. Final approval for publication of an amendment to the PBN Regional Plan will be the responsibility of MIDANPIRG.

MIDANPIRG/14
Appendix 4.6D to the Report on Agenda Item 4.6

**STATUS OF MID STATES PBN IMPEMETATION PLAN
(December 2013)**

State	Plan Submission Last update	Percentage of Implementation				Remark
		SID %	STAR %	Approach%		
				LNAV	LNAV/ VNAV	
Bahrain	Submitted	100	100	100	0	RNAV 1 implemented for En-route
Egypt	Submitted	35	35	57	0	Plan need user input
Iran	Not submitted	0	0	0	0	Only PBN approach and Terminal implementation status received
Iraq	Not submitted	0	0	17	0	
Jordan	Submitted	100	100	100	62	Only 62 could be achived
Kuwait	Submitted	100	100	100	100	
Lebanon	Not submitted	0	100	100	0	Only PBN approach and Terminal implementation status received also 2 runways end are not used for landing
Libya	Not submitted	0	0	0	0	
Oman	submitted	0	0	0	0	
Qatar	Submitted	0	0	33	16	In May 2014
Saudi Arabia	submitted	24	59	59	0	
Sudan	Not submitted	0	0	0	0	
Syria	Submitted	0	0	12	12	
UAE	submitted	70	70	70	40	Implemented (6) RNP AR
Yemen	Submitted	25	37	37	25	

MIDANPIRG/14
Appendix 4.6E to the Report on Agenda Item 4.6

PBN IMPLEMENTATION FOCAL POINT

STATE	NAME	TITLE	ADDRESS	EMAIL	FAX	TEL	MOBILE
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Egypt	Ashraf Elkhatab		Ministry of Civil Aviation Egyptian Civil Aviation Authority Cairo International Airport Road Cairo - EGYPT	khshab@gmail.com			
Iran	Habib Davoudi Dana	Chief of Procedure Design Office	ATM Department Mehrabad International Airport Tehran 13445	h.davoudi@yahoo.com	+982144649269	+982 166025013	
Iran	Mohammad Khodakarami	D.G. of Aeronautical Affairs (in CAO)	Mehrabad International Airport P.O. Box 13445 – 1798	mkhd4444@yahoo.com	+98214464 9269	+982 16603 6241	
Iraq							
Jordan	Nayef Marshoud	Director ATM department	P.O. Box 7547	datm@carc.gov.jo	+962 6 4891266	+962 6 4897729	+962 797498992
Kuwait	Abdulla Adwani	Superintendent of AIS	Directorate General of Civil Aviation Kuwait International Airport P.O. Box 17 Safat 13001	Q8dgca_danoff@hotmail.com	+965 4346221	+965 4346220	+965 9571755
Lebanon	Walid Alhassanieh	Chief ACC	Air Navigation Department Beirut Rafic Hariri Int'l Airport	hassaniehw @beirutairport.gov.lb	+9611629023 +9611629106	+961 1629026	+961 3509902
Libya							
Oman	Sabri Said Saud Al-Busaidy	DMS Manager	Directorate General of Meteorology & Air Navigation (DGMAN) Muscat International Airport P.O. Box 1 CPO Seeb	sabri@dgc.gov.om	+96824518990 +24519 939	+968 24519501	+968 99359415

MIDANPIRG/14-REPORT
APPENDIX 4.6E

4.6E-2

STATE	NAME	TITLE	ADDRESS	EMAIL	FAX	TEL	MOBILE
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Qatar	Faisal Alqahtan	Head of AIS	Civil Aviation Authority P.O. Box 73 Doha – QATAR	Faisal.alqahtan@caa.gov.qa	(974)44656554	(974)44656221	(974) 5553 7060
Saudi Arabia	Ali H. Hakami	Navigational Aids Systems Planner	General Authority of Civil Aviation P.O. Box 21444 Jeddah 21444	yaro123@yahoo.com	+966 2 671 7717 Ext 1594	+966 2 671 7717 Ext 1593	+966 59 840 2598
Sudan							
Syria	Al Layth Al Hammoud	Chief of Air Navigation					
UAE	Talal Al Hammadi	Head - Airspace Coordination General Civil Aviation Authority	Sheikh Zayed Air Navigation Centre P.O. Box 66 Abu Dhabi – UAE	thammadi@szc.gcaa.ae	+97125996883	97125996890	+971508180873
Yemen	Ahmed Mohamed Al Kobati	Director Air Navigation Operations	Air Navigation Sector CAMA Airport Road P.O. Box 3473 Sana’a – REPUBLIC OF YEMEN	cama570@yahoo.com	+9671344047	+9671345402	+967 777241375



INTERNATIONAL CIVIL AVIATION ORGANIZATION

**THE MIDDLE EAST AIR NAVIGATION PLANNING
AND IMPLEMENTATION REGIONAL GROUP
(MIDANPIRG)**

**FIRST MID REGION AIR NAVIGATION
ENVIRONMENTAL REPORT**

(December 2013)

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

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INTRODUCTION

1. BACKGROUND

1.1 The Operational improvements are a key strategy that can be applied to deliver tangible reductions in aircraft fuel consumption. The Global Air Navigation Plan (Doc 9750) and the Operational Opportunities to Minimize Fuel Use and Reduce Emissions (Circular 303) are among several documents providing guidance regarding operational improvements being implemented to improve efficiency of the ATM System.

1.2 Implementation of operational improvements will generally have benefits in areas such as improved airport and airspace capacity, shorter cruise, climb and descend times through the use of more optimized routes and an increase of unimpeded taxi times. These improvements have the potential to reduce fuel burn and lower levels of pollutants.

1.3 Environmental Protection represents one of the ICAO strategic objectives. It was highlighted in this respect that ICAO is introducing regional 'Performance Dashboard' homepages for every public website of the ICAO Regional Offices. These dashboards will illustrate the regional implementation status relating to the strategic objectives on Safety, Air Navigation Capacity and Efficiency, and Environmental Protection. The first Air Navigation Report is expected to be released in March 2014.

1.4 The 38th Session of the ICAO Assembly resolved through Resolution A38-18 (bullet 5) that States and relevant organizations will work through ICAO to achieve a global annual average fuel efficiency improvement of 2 per cent until 2020 and an aspirational global fuel efficiency improvement rate of 2 per cent per annum from 2021 to 2050, calculated on the basis of volume of fuel used per revenue tonnes kilometre performed.

2. ICAO FUEL SAVINGS ESTIMATION TOOL (IFSET)

2.1. The ICAO Fuel Savings Estimation Tool (IFSET) was developed to assist States to estimate and report fuel savings consistently with the models approved by ICAO's Committee on Aviation Environmental Protection (CAEP) and aligned with the Global Air Navigation Plan.

2.2. The IFSET, as well as instructions on its use, can be accessed at: <http://www.icao.int/environmental-protection/Pages/Tools.aspx>.

2.3. It is to be highlighted that what is required is an **estimation** of the environmental benefits accrued from **implemented** operational improvements and not the determination of the exact amount of fuel saving or CO₂ emission, which would require more advanced model/tool to capture all the operational elements needed to calculate the environment benefits.

2.4. MIDANPIRG mandated the reporting of the operational improvements in the MID Region through MIDANPIRG/13 Conclusion 13/35, as follows:

CONCLUSION 13/35: ESTIMATING ENVIRONMENT BENEFITS

That, in order to allow the Air Traffic Management Measurement Task Force (ATMM TF) and the CNS/ATM/IC SG to follow-up the implementation of the ATM operational improvements and estimate the fuel savings accrued from the corresponding improvements on regional basis:

- a) *States be urged to:*
 - i) *use IFSET or a more advanced model/measurement capability available to estimate environment benefits accrued from operational improvements;*
 - ii) *send the IFSET reports/the accrued environmental benefits to ICAO MID Regional office on a bi-annual basis.*
- b) *IATA to:*
 - i) *encourage users to support the programme; and*
 - ii) *consolidate users' inputs and report the accrued environmental benefits to ICAO MID Regional Office on a bi-annual basis.*

2.5. The first meeting of Air Traffic Management-Measurement Task force (ATMM TF/1) held at the ICAO Middle East Regional Office in Cairo, Egypt, 8-9 September 2013 agreed that the operational improvements be reported in three Parts as follows:

- a) 2009-2011 just a listing of the operational improvements which have been implemented during this period and which had environmental benefits, as at **Part I, Table I-1;**
- b) 2012-2013: period used for the generation of the first regional IFSET report as at **Part II, Table II-1 and Table II-2;** and
- c) 2014 and beyond listing of planned operational improvements which will have environmental benefits, as at **Part III, Table III-1.**

2.6. This Report has been prepared based on the inputs received from Bahrain, Egypt, Jordan, Lebanon, Kuwait, Saudi Arabia and UAE.

PART I – LIST OF OPERATIONAL IMPROVEMENTS IMPLEMENTED DURING YEAR 2009-2011

TABLE I-1: IMPLEMENTED OPERATIONAL IMPROVEMENTS 2009-2011

State	Implemented Operational Improvements 2009-2011	Remarks
Bahrain	1- New Eastern Apron established for 9 code E aircraft or 19 code C. This apron Ramp services are all underground such as APU etc. 2- Reducing the final approach separation to 3NM, due to newly established rapid. TWY D. 3- Using EUROCAT system. 4- New ATS & NOTAM Management System Installed and operational. 5- eAIP is available on Web. 6- Full Airport aeronautical Survey was done up to annex 15 Ch 10 requirements. 7- ISO 9001:2008 certified. 8- New VISALA automatic weather observation system (Aerodrome station). 9- New weather radar system. 10- Climate database upgrade CLDB. 11- Terminal area forecast TAF verification. 12- New messages switch (Moving Weather). 13- Competency Assessment System for Aeronautical Meteorological Personnel (CAS). 14- Radar winds and temperature profiler system. 15- First weather radar link interface between Bahrain and UAE. 16- New VISALA automatic weather observation system Backup (Aerodrome station).	
Egypt	1- Ban of air traffic over Sidi Krair and P18 & P19 is cancelled 2- Ban of air traffic over Ras El Hekma P20 is cancelled. 3- Ban of air traffic between FYM & CVO via R778 is partially suspended. 4- Restrictions regarding landing on 05L and departure on 23R are cancelled 5- Establishing route Q680 between DBA & SALUN 6- Traffic between Cairo and Arish via V602-ISM-V606 is permitted. 7- Establishing route L315 between CVO & HGD	
Iran		
Iraq	1- RVSM Implementation 2- implementation of ATS route UP975 to increase the traffic flow capacity from Turkey to the Gulf through Baghdad FIR.	
Jordan	1- METSA- MAZAR-ZELAF (UM690) 2- GRY-BUSRA-DAM (G662) 3- ZELAF DCT QAA (A412) 4- GRY DCT QAA (UN318)	

Kuwait	SIDs and STARs implementation	
Lebanon	RNAV STARs implementation	
Libya	New ATS Routes Implemented	
Oman		
Qatar		
Saudi Arabia		
Sudan		
Syria		
UAE	RNAV1/5 SID/STARs, PBN routes	
Yemen		

PART II - OPERATIONAL IMPROVEMENTS IMPLEMENTED DURING YEAR 2012-2013

Table II-1: Identified Operational Improvements 2012-2013

State	Identified Operational Improvements 2012-2013	Nr. of Movements Per Month	Total Fuel Saving Per Month
Bahrain	UM677	3418	
	UP975	3802	
	UL602	1047	
	UL768	700	
	UP699	399	
	UN318	991	
	UP559	993	
Egypt	NABED-KATAB (T55)	1800	396000
	TBA-NWB-KITOT (UL550-N697) via Saudi Arabia	1170	330000
Iran			
Iraq			
Jordan	End of 2013: Implementation of RNAV SIDs, STARs and Approach Procedures at OJAI, OJAM and OJAQ.	N/A	N/A
Kuwait	No Operational Improvement implemented		
Lebanon	No Operational Improvement implemented		
Libya			
Oman			

Qatar			
Saudi Arabia	UM449 ()		
	UM318 ()		
	UM863 ()		
	UL564 ()		
	UM430 (SALWA-HAS)		
	UL681 ()		
	UP517 ()		
	UL550 ()		
	UB411 ()		
	R652 ()		
Sudan			
Syria			

UAE	L308	5343	
	P559	3720	
	M557	5865	
	N571	4448	
	P699	2340	
	N318	2389	
	L604 / N685	4041	
	L305	1049	
	Arrival Manager (AMAN) implemented (1 min flight time saved/arrival to OMDB)		
	RNP-AR STARS at Abu Dhabi and Al Bateen Airports		
Yemen			

Table II-2: IFSET REPORT

BAHRAIN												
UM677												
Aircraft	Baseline_Ops	MidProc_ops	NewProc_ops	ASL								
Twin Aisle Jet	3418	399	3019	3050								
ID	Action	Frm_Alt	To_Alt	ASL	Time							
136	Level	29000	29000	289								
ID	Action	Frm_Alt	To_Alt	ASL	Time							
60	Level	35000	35000	289								
Scenario	Old Climb Fuel in Kg	New Climb Fuel in Kg	Climb Savings in Kg	Old Descend Fuel in Kg	New Descend Fuel in Kg	Descend Savings in Kg	Old Level Fuel in Kg	New Level Fuel in Kg	Level Savings in Kg	Old Taxi Fuel in Kg	New Taxi Fuel in Kg	Taxi Savings in Kg
UM677	0	0	0	0	0	0	14331200	12592400	-1738800	0	0	0
UP975												
Aircraft	Baseline_Ops	MidProc_ops	NewProc_ops	ASL								
Twin Aisle Jet	3802	554	3248	3050								
ID	Action	Frm_Alt	To_Alt	ASL	Time							
137	Level	29000	29000	159								
ID	Action	Frm_Alt	To_Alt	ASL	Time							
61	Level	35000	35000	159								
Scenario	Old Climb Fuel in Kg	New Climb Fuel in Kg	Climb Savings in Kg	Old Descend Fuel in Kg	New Descend Fuel in Kg	Descend Savings in Kg	Old Level Fuel in Kg	New Level Fuel in Kg	Level Savings in Kg	Old Taxi Fuel in Kg	New Taxi Fuel in Kg	Taxi Savings in Kg
UP975	0	0	0	0	0	0	8770400	7741200	-1029200	0	0	0

UL602												
Aircraft	Baseline_Ops	MidProc_ops	NewProc_ops	ASL								
Twin Aisle Jet	1047	382	665	3050								
ID	Action	Frm_Alt	To_Alt	ASL	Time							
138	Level	29000	29000	278								
ID	Action	Frm_Alt	To_Alt	ASL	Time							
62	Level	35000	35000	278								
Scenario	Old Climb Fuel in Kg	New Climb Fuel in Kg	Climb Savings in Kg	Old Descend Fuel in Kg	New Descend Fuel in Kg	Descend Savings in Kg	Old Level Fuel in Kg	New Level Fuel in Kg	Level Savings in Kg	Old Taxi Fuel in Kg	New Taxi Fuel in Kg	Taxi Savings in Kg
UL602	0	0	0	0	0	0	4222800	3854400	-368400	0	0	0
UL768												
Aircraft	Baseline_Ops	MidProc_ops	NewProc_ops	ASL								
Twin Aisle Jet	700	230	470	3050								
ID	Action	Frm_Alt	To_Alt	ASL	Time							
139	Level	29000	29000	312								
ID	Action	Frm_Alt	To_Alt	ASL	Time							
63	Level	35000	35000	312								
Scenario	Old Climb Fuel in Kg	New Climb Fuel in Kg	Climb Savings in Kg	Old Descend Fuel in Kg	New Descend Fuel in Kg	Descend Savings in Kg	Old Level Fuel in Kg	New Level Fuel in Kg	Level Savings in Kg	Old Taxi Fuel in Kg	New Taxi Fuel in Kg	Taxi Savings in Kg
UL768	0	0	0	0	0	0	3168600	2876300	-292300	0	0	0
UP699												
Aircraft	Baseline_Ops	MidProc_ops	NewProc_ops	ASL								
Twin Aisle Jet	399	99	300	3050								
ID	Action	Frm_Alt	To_Alt	ASL	Time							
140	Level	29000	29000	178								
ID	Action	Frm_Alt	To_Alt	ASL	Time							

64	Level	35000	35000	178								
Scenario	Old Climb Fuel in Kg	New Climb Fuel in Kg	Climb Savings in Kg	Old Descend Fuel in Kg	New Descend Fuel in Kg	Descend Savings in Kg	Old Level Fuel in Kg	New Level Fuel in Kg	Level Savings in Kg	Old Taxi Fuel in Kg	New Taxi Fuel in Kg	Taxi Savings in Kg
UP699	0	0	0	0	0	0	1030400	924000	-106400	0	0	0
UN318												
Aircraft	Baseline_Ops	MidProc_ops	NewProc_ops	ASL								
Twin Aisle Jet	991	36	955	3050								
ID	Action	Frm_Alt	To_Alt	ASL	Time							
141	Level	29000	29000	403								
ID	Action	Frm_Alt	To_Alt	ASL	Time							
65	Level	35000	35000	403								
Scenario	Old Climb Fuel in Kg	New Climb Fuel in Kg	Climb Savings in Kg	Old Descend Fuel in Kg	New Descend Fuel in Kg	Descend Savings in Kg	Old Level Fuel in Kg	New Level Fuel in Kg	Level Savings in Kg	Old Taxi Fuel in Kg	New Taxi Fuel in Kg	Taxi Savings in Kg
UN318	0	0	0	0	0	0	5794200	5027200	-767000	0	0	0
UP559												
Aircraft	Baseline_Ops	MidProc_ops	NewProc_ops	ASL								
Twin Aisle Jet	993	11	983	3050								
ID	Action	Frm_Alt	To_Alt	ASL	Time							
142	Level	29000	29000	426								
ID	Action	Frm_Alt	To_Alt	ASL	Time							
66	Level	35000	35000	426								
Scenario	Old Climb Fuel in Kg	New Climb Fuel in Kg	Climb Savings in Kg	Old Descend Fuel in Kg	New Descend Fuel in Kg	Descend Savings in Kg	Old Level Fuel in Kg	New Level Fuel in Kg	Level Savings in Kg	Old Taxi Fuel in Kg	New Taxi Fuel in Kg	Taxi Savings in Kg
UP559	0	0	0	0	0	0	6137200	5308900	-828300	0	0	0
EGYPT												

NADEB-KATAB (T55)												
Aircraft	Baseline_Ops	MidProc_ops	NewProc_ops	ASL								
Single Aisle Jet	1800	150	1650	3050								
ID	Action	Frm_Alt	To_Alt	ASL	Time							
143	Level	24000	24000	245								
ID	Action	Frm_Alt	To_Alt	ASL	Time							
67	Level	28000	28000	212								
Scenario	Old Climb Fuel in Kg	New Climb Fuel in Kg	Climb Savings in Kg	Old Descend Fuel in Kg	New Descend Fuel in Kg	Descend Savings in Kg	Old Level Fuel in Kg	New Level Fuel in Kg	Level Savings in Kg	Old Taxi Fuel in Kg	New Taxi Fuel in Kg	Taxi Savings in Kg
NADEB-KATAB (T55)	0	0	0	0	0	0	3187200	2490000	-697200	0	0	0
TBA-NWB-KITOT (IL550-N697)												
Aircraft	Baseline_Ops	MidProc_ops	NewProc_ops	ASL								
Twin Aisle Jet	1170	30	1140	3050								
ID	Action	Frm_Alt	To_Alt	ASL	Time							
144	Level	33000	33000	62								
ID	Action	Frm_Alt	To_Alt	ASL	Time							
68	Level	33000	33000	41								
Scenario	Old Climb Fuel in Kg	New Climb Fuel in Kg	Climb Savings in Kg	Old Descend Fuel in Kg	New Descend Fuel in Kg	Descend Savings in Kg	Old Level Fuel in Kg	New Level Fuel in Kg	Level Savings in Kg	Old Taxi Fuel in Kg	New Taxi Fuel in Kg	Taxi Savings in Kg
TBA-NWB-KITOT (IL550-N697)	0	0	0	0	0	0	949800	636400	-313400	0	0	0

PART III – STATES’ PLANNED OPERATIONAL IMPROVEMENTS FOR YEAR 2014 AND BEYOND

TABLE III-1: PLANNED OPERATIONAL IMPROVEMENTS FOR YEAR 2014 AND BEYOND

State	Planned Operational Improvements for year 2014 and beyond	Planned Year	Remarks
Bahrain	1- RNAV1 SIDs and STARs. 2- Introducing new RNAV1 AWYs with Kuwait FIR. 3- Installation of Ground radar which will be used during CAT 2 operations and during LVP. 4- We are planning for ASMGCS for the TWR to be used at the airport. 5- DCL system in test. 6- Upgrading ILS CAT 1 to CAT 2. This is under study. 7- Special producer for A380 handling at Bahrain airport. 8- IAPs will be reviewed and republish to reflect the new Airport Survey results. 9- We are planning to open Clearance Delivery Position (CDP) at the TWR to release TWR GMC workload and frequency congestions. 10- Also, planning to have ADM 270 degree simulator to train them on all emergencies and different abnormal situations to enhance the efficiency of our TWR operations. 11- New automatic weather observation system three stationary and one portable station for Bahrain. 12- Second weather radar link interface between Bahrain, UAE and Kuwait. 13- Third weather radar link interface between Bahrain, UAE, Kuwait and Riyadh. 14- Fourth weather radar link interface between Bahrain, UAE, Kuwait, Riyadh and Oman. 15- Link common meteorological system with other GCC in order to enhance the cooperation (Integrated GCC automatic weather observation system).	2014	
Egypt	PBN Implementation at HECA	2016	
Iran			
Iraq	SIDs, STARs and RNAV Approach at ORBI	2014	
Jordan	1- Airway between METSA and MDB 2- Airway between PASIP and METSA 3- Airway between PASIP and METSA 4- Expansion of GNSS	2014	
Kuwait			

Lebanon	1- Planning for shorter RNAV SIDs and STARs 2- Direct routing between boundary points for over flight traffic.		
Libya	SIDs, STARs at HLLT	2014	
Oman			
Qatar			
Saudi Arabia			
Sudan			
Syria			
UAE	1. Advanced AMAN/DMAN 2. PRISMA system updates additional ATS Routes Civil/Military cooperation 3. Seamless ANS provision throughout the UAE 4. PBN route structure throughout the UAE 5. Flight procedures optimised for CCO/CDO 6. Airport infrastructure that maximises throughput and minimises congestion 7. Interoperable ATM systems in the UAE 8. Cost effective service provision. 9. ANSP facilities accommodate the needed number of operational positions, support equipment, and personnel. 10. ATM systems have sufficient capacity and functional capability to meet operational needs. 11. Sufficient capacity without routine delays. 12. Stakeholders are afforded a collaborative active role. 13. Aviation policy development. 14. Strategic planning. Tactical decision making. 15. Routine and frequent communications among stakeholders, ANSP, and governmental organisations. 16. Best Capable – Best Served during peak periods. 17. Ground-Based Augmentation System (GBAS) for major airports	2014/2030	
Yemen			

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REPORT ON AGENDA ITEM 4: PERFORMANCE FRAMEWORK FOR REGIONAL AIR NAVIGATION PLANNING AND IMPLEMENTATION ISSUES

4.7 MET

4.7.1 The meeting was apprised of the outcome of the Fourth Meeting of the Meteorology Sub-Group (MET SG/4, Cairo, Egypt, 25-27 June 2013) and the Fourth meeting of the MID Bulletin Management Group (BMG/4) held on 16 December 2013 as a side meeting during the MIDANPIRG/14 meeting.

4.7.2 The meeting noted with satisfaction that seven (7) MID States had representation from MET at MIDANPIRG/14 and attended the BMG/4 meeting.

Implementation of the WAFS and SADIS in the MID Region

4.7.3 The meeting noted that the MET SG/4 meeting reviewed a summary of World Area Forecast System (WAFS) and Satellite Distribution System for information relating to air navigation (SADIS) as well as future developments for MET SG consideration in regional planning.

4.7.4 The meeting was pleased to note that the training module regarding gridded forecasts for CB, icing and turbulence became available on the ICAO website (<http://www.icao.int/safety/meteorology/WAFSOPSG/Pages/GuidanceMaterial.aspx>) on 22 October 2013 fulfilling MIDANPIRG Conclusion 12/68. In due time, the training material was expected to be made available in five languages (WAFSOPSG 7/13 (b) refers).

International Airways Volcano Watch

4.7.5 The meeting noted the Global Database of Area Control Centre (ACC) AFTN 8-Letter Addresses for the Notification by VAAC London Concerning the Release of Radioactive Material into the Atmosphere noting entries were missing from Iraq (Baghdad and Basrah ACCs), Iran (Tehran ACC, FIC, FIR), Lebanon (Beirut ACC), Yemen (Sana'a ACC), and Syria (Damascus ACC). These States were encouraged to provide their ACC AFTN addresses to receive notification on the release of radioactive material into the atmosphere. Yemen confirmed the address for the Sana'a ACC as OYSNZQZX which would be forwarded to the IAVWOPSG Secretariat for inclusion in the referenced global database.

4.7.6 The meeting noted that this notification of a release of radioactive material into the atmosphere was for the ACC where the event was occurring as well as the adjacent ACCs. This information would also be available on SADIS. For flight planning, the meeting noted that SIGMET and NOTAM would be used and that information would be derived from the information available, and in particular, from the relevant Regional Specialized Meteorological Centre.

SIGMET

4.7.7 The meeting recalled MIDANPIRG/13 Conclusion 13/52 that invited States' MID SIGMET Test focal points to participate in the bi-annual SIGMET tests conducted by the EUR Region and report any deficiencies at each MET SG meeting. With reference to the EUR SIGMET test (WS type) in February 2013, it was noted that 8 States participated, which indicated a significant improvement in participation. Participation in SIGMET tests on volcanic ash and tropical cyclone still needed

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improvement. The meeting was informed that the next WS SIGMET would occur at 1000 UTC on 5 February 2014 and the next WV SIGMET test would occur at 1000 UTC on 6 February 2014. The BMG/4 meeting recommended more than two SIGMET tests per year, which would be considered by the Secretariat in coordination with Regional OPMET Centre Vienna.

4.7.8 The meeting recalled MIDANPIRG/13 Conclusion 13/53 that invited States with meteorological watch office responsibilities, who have not already done so, to provide by 1 July 2012, the World Meteorological Organization Abbreviated Header Lines used for the issuance of SIGMET for Flight Information Regions (FIRs) under their area of responsibility for inclusion in the MID Regional SIGMET Guide. The meeting noted that entries for Iraq, Lebanon, and Syria still needed to be verified.

4.7.9 The meeting agreed to accept the Regional SIGMET Guide template produced by the ICAO Meteorological Warnings Study Group (METWSG) as the most current SIGMET guidance material for the MID Region as this template was aligned with Amendment 76 to Annex 3 (applicable 14 November 2013). In addition, many examples of SIGMET on volcanic ash were provided in this template that would be useful to the Region. The meeting agreed that this template should be adapted by including: 1) the table containing SIGMET World Meteorological Organization Abbreviated Header Lines (WMO AHL); and 2) SIGMET examples developed for phenomenon such as heavy duststorm (HVY DS) and heavy sandstorm (HVY SS). In due time, this document would also include a table of WMO AHL on special air-reports and special air-reports on volcanic ash after reminding States to provide this information. Lastly, AIRMET guidance could be included if the Region agreed it was necessary after reviewing AIRMET guidance used in the EUR Region.

OPMET Exchange

4.7.10 The meeting noted that required OPMET in the MID Region was routinely monitored by Regional OPMET Centre (ROC) Vienna. A series of monitoring and reporting to States improvements that should be made, and continued monitoring and reporting have occurred over the past years. The meeting agreed that three deficiencies related to the non-provision of OPMET data in accordance with the requirements in the MID FASID Table MET 1A, be added to the list of air navigation deficiencies as follows:

- HEOW in Egypt (METAR, 30-hour TAF),
- ORSU in Iraq (METAR); and
- OSAP in Syria (METAR and 24-hour TAF).

4.7.11 The meeting noted that the latest monitoring (14-20 November 2013) revealed two other inefficient issues related to OPMET exchange: 1) multiple OPMET bulletins received at ROC Vienna; and 2) OPMET information for an aerodrome was compiled in more than one bulletin for many aerodromes in the MID Region. To address the first issue, the meeting was informed that most duplicated bulletins were provided from the Beirut Communications Centre. Other duplicate bulletins from Bahrain and Jeddah have or would be addressed in the near term and verified early in 2014. To address the second issue, the meeting recognized the complications involved and agreed that the most appropriate way to manage OPMET information for an aerodrome in multiple bulletins would be addressed by a future Regional OPMET Centre. Coordination related to this matter may take place in 2014 in a form of a meeting and/or workshop.

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4.7.12 The meeting recalled MIDANPIRG/13 Conclusion 13/54 that called for the MID BMG to 1) determine requirements associated with the establishment of Regional OPMET Centres (ROC) in the MID Region; and 2) to carry out a survey based on requirements developed in 1) to determine States' capabilities for establishing ROCs. A MID ROC would improve the intra-regional and inter-regional OPMET exchange as well as assist the region in managing meteorological data exchange in alphanumeric and digital forms through at least 2019. The meeting noted that three States had completed the survey and the MET SG/4 meeting agreed that Saudi Arabia was capable of meeting ROC requirements. It was highlighted that this recommendation was based on current capabilities, communications and regular attendance to ICAO MET meetings.

4.7.13 With reference to a backup ROC, the meeting noted that Bahrain would strongly consider being the backup ROC in the MID Region noting more information on requirements and cost was necessary. In view of the above, the meeting agreed to the following Conclusion:

CONCLUSION 14/30: ESTABLISHMENT OF MID REGIONAL OPMET CENTRE

That,

- a) Saudi Arabia in coordination with ICAO establish a MID Regional OPMET Centre (ROC) by the first half of 2015 to improve the regional and inter-regional OPMET efficiency;*
- b) Bahrain in coordination with ICAO establish a back-up Regional OPMET Centre (ROC); and*
- c) MID States be encouraged to continue cooperation in the exchange of OPMET data in the MID Region.*

4.7.14 The meeting noted that Saudi Arabia provided an implementation plan related to establishing a ROC. The first phase of implementing a ROC would entail an information gathering phase in the first quarter of 2014. Those involved in developing a ROC would also be invited to the EUR Data Management Group meeting in Brussels (17-21 March 2014) in order to address issues such as ROC requirements, development of a OPMET exchange table and/or guidance material that may include OPMET data exchange conventions, routing and formatting (templates could be used), cost recovery as well as discuss the future exchange of meteorological data in digital form. A first set of implementation actions was expected at the referenced meeting and a status and new set of actions would be expected at future EUR DMG meetings (Bucharest, 10-13 June 2014 and Vienna, 21-24 October 2014). Also, during 2014, a meeting or workshop on coordinating the implementation of a ROC with other MID States may be deemed necessary to address the issue of multiple occurrences of OPMET information for one aerodrome in more than one bulletin.

4.7.15 The meeting reviewed the revised Terms of Reference (ToR) of the MID OPMET Bulletin Management Group at **Appendix 4.7A** to the Report on Agenda Item 4.7 and agreed to the following Decision:

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**DECISION 14/31: UPDATE TO BULLETIN MANAGEMENT GROUP TERMS
OF REFERENCE**

*That, the Terms of Reference and future work programme of the Bulletin Management Group of the MET Sub-Group be updated as at **Appendix 4.7A** to the Report on Agenda Item 4.7.*

MET provisions in the MID Basic ANP and FASID

4.7.16 The meeting reviewed the proposed changes to Part VI (MET) of the MID Air Navigation Plan Volume I and Volume II (Doc 9708) as at **Appendix 4.7B** to the Report on Agenda Item 4.7 that emanated from States and WAFSOPSG. These proposed changes to Doc 9708 will be processed in accordance to established procedures in early 2014.

4.7.17 Based on the BMG/4 meeting, it was agreed that for the time being, FASID Table MET 2C, *Exchange of Operational Meteorological Information during the Pilgrimage Season*, should remain, but would be reconsidered when regional input was provided by the MET SG on the electronic Air Navigation Plan.

Implementation of Quality Management System (QMS) for MET

4.7.18 The meeting recalled that Annex 3, paragraph 2.2.3 required States to ensure that the designated meteorological authority establish and implement a properly organized quality system comprising procedures, processes and resources necessary to provide for the quality management of the meteorological information to be supplied to the users listed in Annex 3, paragraph 2.1.2.

4.7.19 The meeting agreed that implementation of Quality Management System (QMS) should be a key performance indicator expressed in percentage of States in the MID Region that meet QMS provisions in Annex 3.

4.7.20 The meeting noted with concern that only five (5) States (Bahrain, Egypt, Kuwait, Qatar and UAE) have been certified ISO 9001 meeting QMS provisions in Annex 3.

Key Performance Indicators

4.7.21 The meeting noted that the BMG/4 meeting provided draft implementation targets associated with Key Performance Indicators (KPIs) in MET that would be considered at the ASBU Implementation Workshop (Dubai, UAE, 18-22 May 2014). Specifically, 95% of States in the MID Region would implement SADIS, 95% of aerodromes listed in the MID FASID Table MET 1A provide the required OPMET data and would be available to users globally; 90% of meteorological watch offices listed in the MID FASID Table MET 1B would issue SIGMET and 70% of States in the MID Region would implement QMS. These targets were suggested for 2014.

**Terms of Reference of the MID OPMET Bulletin Management Group
(OPMET BMG)**

1. Terms of Reference

- a. Review the OPMET exchange schemes to the MID Region and develop proposals for their optimization taking into account the current trends in the global OPMET exchange;
- b. Develop monitoring and management procedures related to the ROBEX exchange and other exchanges of OPMET information;
- c. Keep up-to-date the regional guidance material related to OPMET exchange;
- d. Develop capabilities to support the ICAO Meteorological Exchange Model (IWXXM);
- e. Develop key performance indicators for OPMET and keep under review;
- f. Liaise with similar groups in the adjacent ICAO Regions in order to ensure harmonized and seamless OPMET exchange; and
- g. The group will report to the MET Sub-Group of MIDANPIRG.

2. Work Programme

The work to be addressed by the MID OPMET BMG includes:

- a. Examine the existing requirements and any new requirements for the OPMET exchange in MID region and to assess the feasibility of satisfying these requirements, taking into account the availability of the data;
- b. Review the ROBEX scheme and other OPMET exchange schemes and prepare proposal for updating and optimizing of the schemes;
- c. Review and update the procedures for interregional exchange and for transmission of the regional OPMET data to SADIS;
- d. Review and amend the regional guidance materials on the OPMET exchange and include procedures for the exchange of all required OPMET message types: SA, SP, FC, FT WS, WC, WV, FK, FV, UA;
- e. Develop procedures for monitoring and management of the OPMET information, based on similar procedures used in the EUR and APAC Regions; and

- f. Support MARIE-PT or any subsequent governance group appointed by ICAO in Regional implementation of IWXXM within MID. The initial implementation emphasis will be placed on States hosting ROCs/RODBs. Progress report to be provided to MID MET SG;
- g. Use results from monitoring to measure OPMET (METAR and TAF) availability in MID Region against the required data listed in FASID Table MET 1A to support key performance index for OPMET component of BO-MET of the new implementation methodology called Aviation System Block Upgrade (ASBU) and keep under review; and
- h. Provide regular progress reports to MET SG meetings.

3. Composition

- a. The OPMET/BMG is composed of Bahrain, Egypt, Iran, Kuwait (co-rapporteur), Libya, Oman, Qatar, Saudi Arabia (co-rapporteur) and United Arab Emirates; and
- b. Experts from the EUR BMG, the VAAC Toulouse, APAC OPMET/M Task force and IATA are invited to participate in the work of the MID OPMET BMG.

4. Working Arrangements

It is expected that most of the work of the group will be conducted via correspondence by fax, e-mail or telephone. The group should establish a network of OPMET focal points at all MID COM/MET Centres dealing with OPMET data. When necessary, the Rapporteur, in coordination with the Regional Office, Cairo, will call teleconferences or meetings to discuss important issues.

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MID ANP VOLUME I (BASIC ANP) PART VI (MET)

Part VI

METEOROLOGY (MET)

INTRODUCTION

1. This part of the Middle East (MID) Basic Air Navigation Plan contains elements of the existing planning system and introduces the basic planning principles, operational requirements and planning criteria related to aeronautical meteorology (MET) as developed for the MID Region.
2. As a complement to the Statement of Basic Operational Requirements and Planning Criteria (BORPC) set out in Part I, Part VI constitutes the stable guidance material considered to be the minimum necessary for effective planning of MET facilities and services in the MID Region. A detailed description/list of the facilities and/or services to be provided by States in order to fulfill the requirements of the Basic ANP is contained in the MID Facilities and Services Implementation Document (FASID).
3. The Standards, Recommended Practices and Procedures to be applied are contained in the following ICAO documents:
 - a) Annex 3 — Meteorological Service for International Air Navigation;
 - b) Regional Supplementary Procedures (Doc 7030), Part 3 - Meteorology.
4. Background information of importance in the understanding and effective application of the Plan is contained in the Reports of the Limited Middle East (COM/MET/RAC) Regional Air Navigation Meeting (Doc 9672, LIM MID (COM/MET/RAC)(1996)) and of the Third Middle East Regional Air Navigation Meeting (Doc 9434, MID/3 (1984)), supplemented by information appropriate to the MID Region which is contained in the Reports of the other Regional Air Navigation Meetings.
5. RAN Meeting recommendations or conclusions, Middle East Air Navigation Planning and Implementation Regional Group (MIDANPIRG) conclusions and ICAO operations groups conclusions shown in brackets below a heading indicate the origin of all paragraphs following that heading; where these conclusions are shown in brackets below a paragraph they indicate the origin of that particular paragraph.

**METEOROLOGICAL SERVICE AT AERODROMES AND REQUIREMENTS FOR
METEOROLOGICAL WATCH OFFICES**
(FASID Tables MET 1A and MET 1B)

6. The service to be provided at the international aerodromes listed in MID Basic ANP Table AOP1 is set out in FASID Table MET 1A.
[LIM MID (COM/MET/RAC), Rec.4/10]
7. The service to be provided for flight information regions (FIR), upper flight information regions (UIR), control areas (CTA) and search and rescue regions (SRR) is set out in FASID Table MET 1B.
[LIM MID (COM/MET/RAC), Rec. 4/10]
8. Routine observations should be made at all aeronautical stations at hourly intervals and

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reports issued as local routine reports and METAR, complemented by special observations issued as local special reports and SPECI.

[MID/3, Rec. 3.1/12]

9. TAF should be issued at intervals of six hours, with the period of validity beginning at one of the main synoptic hours (00, 06, 12, 18 UTC). The period of validity should be 24 or 30 hours, to meet the requirements indicated in FASID Table MET 1A. The filing time of the forecasts should be one hour before the start of the period of validity.

[MIDANPIRG/11 Report]

10. The forecast maximum temperatures should be included in aerodrome forecasts for certain stations as agreed between the meteorological authorities and the operators concerned.

[LIM MID (COM/MET/RAC) Rec. 4/10]

11. Trend forecasts should be provided at the aerodromes as indicated in FASID Table MET 1A.

[LIM MID (COM/MET/RAC), Rec. 4/10]

12. Meteorological service should be provided on a 24 hour basis, except as otherwise agreed between the meteorological authority, the air traffic services authority and the operators concerned.

[MID/3, Rec.3.1/12]

13. At aerodromes with limited hours of operation, the issuance of METAR should be issued at least one hour prior to the aerodrome resuming operations to meet pre-flight and in-flight planning requirements for flights due to arrive at the aerodrome concerned as soon as it is opened for use. Furthermore, TAF should be issued with adequate periods of validity so that they cover the entire period during which the aerodrome is open for use.

[MID/3, Rec. 3.1/12]

14. When an MWO is temporarily not functioning or is not able to meet all its obligations, its responsibilities should be transferred to another MWO and a NOTAM should be issued to indicate such a transfer and the period during which the office is unable to fulfil all its obligations.

[MID/3, Rec. 3.1/12]

15. Details of the service provided should be indicated in Aeronautical Information Publications, in accordance with the provisions of Annex 15.

[MID/3, Rec. 3.1/12]

16. As far as possible, English should be among the languages used in meteorological briefing and consultation.

[MID/3, Rec. 3.1/12]

17. FASID Tables MET 1A and 1B should be implemented as soon as possible.

AIRCRAFT OBSERVATIONS AND REPORTS

18. The meteorological authority should adopt the approved list of ATS/MET reporting points, as it relates to points located within and on the boundaries of the FIR for which the State is responsible. Those ATS/MET reporting points should be published in the AIP of the State concerned.

[LIM MID (COM/MET/RAC), Rec.4/19]

Note.— The approved list of ATS/MET reporting points is published and kept up to date by the ICAO Regional Office concerned, on the basis of consultations with ATS and MET authorities in each State and the provisions of Annex 3 in this respect.

19. The meteorological watch offices (MWO) designated as the collecting centres for air-reports

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received by voice communications within the FIR/UIR for which they are responsible, are shown in FASID Table MET 1B.

AIRMET INFORMATION

20. AIRMET messages are not required to be issued by MWOs.
[LIM MID (COM/MET/RAC), Rec. 4/10]

TROPICAL CYCLONE ADVISORIES AND VOLCANIC ASH ADVISORIES (FASID Tables MET 3A, 3B and 3C; FASID Charts MET1 and MET2)

21. Tropical cyclone advisory centre (TCAC) New Delhi has been designated to prepare advisory information. FASID Table MET 3A sets out the area of responsibility, the period of operation of the TCAC and the MWOs to which the advisory information should be sent.
[IAVWOPSG Conclusion 3/2]

22. Volcanic ash advisory centre (VAAC) Toulouse has been designated to prepare advisory information. FASID Table MET 3B sets out the area of responsibility of the VAACs, and the MWOs and ACCs/FICs to which the advisory information should be sent.
[IAVWOPSG Conclusion 3/2]

23. In order for the VAAC to initiate the monitoring of volcanic ash from satellite data and the forecast of volcanic ash trajectories, MWOs should notify the VAAC immediately on receipt of information that a volcanic eruption has occurred or volcanic ash has been observed in the FIR for which they are responsible. In particular, any special air-reports of pre-eruption volcanic activity, a volcanic eruption or volcanic ash cloud, received by MWOs should be transmitted without delay to the VAAC Toulouse. Selected State volcano observatories have been designated for direct notification of significant pre-eruption volcanic activity, a volcanic eruption and/or volcanic ash in the atmosphere to their corresponding ACC/FIC, MWO and VAAC. FASID Table MET 3C sets out the selected State volcano observatories and the VAACs, MWOs and ACCs/FICs to which the notification should be sent by the observatories.
[IAVWOPSG Conclusion 3/2]

EXCHANGE OF OPERATIONAL METEOROLOGICAL INFORMATION (FASID Tables MET 2A, 2B, 2C, 4A and 4B)

24. FASID Table MET 2A sets out the requirements for operational meteorological (OPMET) information, which should be made available to States and users through the AFS satellite broadcasts (SADIS ~~and ISCS~~). FASID Table MET 2B contains the exchange requirements to the EUR Region for SIGMET- and AIRMET-messages, volcanic ash and tropical cyclone advisories and special air reports, originated by States in the MID Region, to satisfy international flight operations for uplink to SADIS.

Note: Volcanic ash advisories and tropical cyclone advisories are not originated by States in the MID Region.

25. FASID Table MET 2C sets out the operational meteorological information which should be available in Saudi Arabia for the pilgrimage flights. For its implementation, ICAO should notify, in accordance with AFI/6, Recommendation 6/24, as approved by Council, meteorological offices concerned well in advance of the exact dates of the beginning and the end of the Pilgrimage Season (cf also Doc 7474, Table MET 2C).
[LIM MID (COM/MET/RAC), Rec. 5/3]

26. FASID Tables MET 4A and MET 4B set out the Regional OPMET Bulletin Exchange (ROBEX) Scheme for the collection of METAR and air reports (AIREP), and TAF, respectively. When the designated ROBEX centres are not operational for any reason, the exchanges required

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under the ROBEX Scheme should be carried out by direct address messages.
[LIM MID (COM/MET/RAC), Rec. 5/5]

Note.— Details of the ROBEX procedures including the exchange of OPMET information required under the scheme are given in the ROBEX Handbook prepared by the ICAO Asia and Pacific Office, Bangkok, Thailand.

27. Each MWO should arrange for the transmission to all aerodrome meteorological offices within its associated FIR of its own SIGMET messages and relevant SIGMET messages for other FIR, as required for briefing and, where appropriate, for flight documentation.
[MID/3, Rec. 3.1/12]

28. Each MWO should arrange for the transmission to its associated ACC/FIC of SIGMET messages and special air-reports received from other MWOs.

29. Each MWO should arrange for the transmission of routine air-reports received by voice communications to all meteorological offices within its associated FIR.

30. Operational meteorological information required in MID States from the EUR Region should be requested from the inter-regional OPMET Gateway (IROG), Vienna. OPMET information from the AFI Region should be requested from Jeddah (OEJNYM). OPMET information from ASIA/PAC Region should be requested from IROG Bangkok.

WORLD AREA FORECAST SYSTEM (WAFS)

(FASID Table MET 5)

31. FASID Table MET 5 sets out the MID Region requirements for WAFS forecasts to be provided by WAFC London.
[WAFSOPSG Conclusion 1/2]

32. For back-up purposes, each WAFC should have the capability to produce WAFS forecasts for all required areas of coverage.
[WAFSOPSG Conclusion 5/2]

33. WAFS forecasts should be made available by WAFC London using the satellite distribution system for information relating to air navigation (SADIS), including the Secure SADIS FTP Service or using the satellite and Internet service.
[WAFSOPSG Conclusion 6/2 7/2]

Editorial note. – Insert “or using the SADIS service” in the corresponding CNS procedure contained in Part IV of the ANP

34. Each State should make the necessary arrangements to receive and make full use of operational WAFS forecasts made available by WAFC London. The lists of the authorized users of the SADIS services in the MID Region and the locations of the operational VSATs and/or Internet-based services are available from the following website:

www.icao.int/safety/meteorology/sadisopsg (click: “Operational Information” and then “Status of implementation of SADIS”) for SADIS.

[WAFSOPSG Conclusion 6/2 7/2]

MID ANP VOLUME II (FASID) PART VI (MET)

METEOROLOGY (MET)

1. Introduction

1.1 The Standards, Recommended Practices and Procedures to be applied are as listed in paragraph 1.2, Part VI - MET of the MID Basic ANP. The material in this part complements that contained in Part I – Statement of Basic Operational Requirements and Planning Criteria (BORPC) of the MID Basic ANP and should be taken into consideration in the overall planning processes for the MID Region.

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

2. Meteorological Service Required at Aerodromes and Requirements for Meteorological Watch Offices (FASID Tables MET 1A and 1B)

2.1 The meteorological service to be provided at aerodromes to satisfy international flight operations is outlined in FASID Table MET 1A.

2.2 The requirements for meteorological watch offices (MWO) together with the service to be provided to flight information regions (FIR), upper flight information regions (UIR) and search and rescue regions (SRR) are listed in FASID Table MET 1B.

3. Exchange of Operational Meteorological Information (FASID Tables MET 2A, 2B, 2C, 4A and 4B)

3.1 The requirements for availability of OPMET information (METAR, SPECI and TAF) on a global basis through the AFS satellite distribution system (the SADIS ~~and ISCS~~) are provided in FASID Table MET 2A. This table contains the aerodromes included in the AOP Table of the Basic ANP and those non-AOP aerodromes for which the States concerned have agreed to make available the OPMET information via the satellite distribution system on a regular basis. FASID Table MET 2B contains the exchange requirements to the EUR Region for SIGMET- and AIRMET-messages, volcanic ash and tropical cyclone advisories and special air reports, originated by States in the MID Region, to satisfy international flight operations for uplink to SADIS.

Note: Volcanic ash advisories and tropical cyclone advisories are not originated by States in the MID Region.

3.2 FASID Table MET 2C contains the operational meteorological information which should be available in Saudi Arabia for the pilgrimage flights.

3.3 FASID Tables MET 4A and 4B set out the Regional OPMET Bulletin Exchange (ROBEX) Scheme for the exchange of METAR, SPECI, air reports (AIREP) and TAF.

Attachment A

Note. - Details of the ROBEX procedures including the exchange of OPMET information required under the Scheme are given in the ROBEX Handbook published by the ICAO Asia and Pacific Office, Bangkok in co-ordination with the ICAO MID Office, Cairo. The ROBEX handbook is available via the 'MET' section of: <http://www.bangkok.icao.int/edocs/index.html>.

4. Tropical Cyclone Warning System and International Airways Volcano Watch
(FASID Tables MET 3A, MET 3B, and MET 3C and FASID Charts MET 1 and 2)

4.1 The area of responsibility and the periods of operation of the designated Tropical Cyclone Advisory Centre (TCAC) New Delhi and the MWOs to which the advisory information should be sent by the TCAC are contained in FASID Table MET 3A. The areas of responsibility of the designated TCACs in all regions are shown on FASID Chart MET 1.

4.2 The area of responsibility of the designated Volcanic Ash Advisory Centre (VAAC) Toulouse, and the MWOs and ACCs/FICs to which the advisory information should be sent by the VAAC are contained in FASID Table MET 3B. The areas of responsibility of the designated VAACs in all regions are shown on FASID Chart MET 2.

4.3 FASID Table MET 3C sets out the selected State volcano observatories in the MID Region designated for direct notification of significant pre-eruption volcanic activity and/or volcanic ash in the atmosphere and the VAACs, MWOs and ACCs/FICs to which the notification should be sent by the observatories.

Note 1. - Operational procedures to be used for the dissemination of information on volcanic eruptions and associated ash clouds in areas which could affect routes used by international flights, and necessary pre-eruption arrangements as well as the list of operational contact points are provided in the document titled Handbook on the International Airways Volcano Watch (IAVW) - Operational Procedures and Contact List (Doc 9766). Additional guidance material regarding the IAVW is contained in the Manual on Volcanic Ash, Radioactive Material and Toxic Chemical Clouds (Doc 9691).

5. World Area Forecast System (WAFS)
(FASID Table MET 5)

5.1 FASID Table MET 5 sets out the MID Region requirements for WAFS forecasts to be provided by WAFS London.

MID ANP VOLUME II (FASID) PART VI (MET)

TABLE MET 1A - METEOROLOGICAL SERVICE AT AERODROMES

EXPLANATION OF THE TABLE

Column

1. Name of the aerodrome.
2. ICAO location indicator of the aerodrome.
3. Designation of aerodrome:
RG - international general aviation, regular use
RS - international scheduled air transport, regular use
RNS - international non-scheduled air transport, regular use
AS - international scheduled air transport, alternate use
ANS - international non-scheduled air transport, alternate use
4. Name of the meteorological office responsible for the provision of meteorological service at the aerodrome indicated in column 1.
5. ICAO location indicator of the responsible meteorological office.
6. Requirement for trend forecasts.
7. Requirement for aerodrome forecasts in TAF code
T – Requirement for 24-hour validity aerodrome forecasts in TAF code (24H)
X - Requirement for 30-hour validity aerodrome forecasts in TAF code (30H)
8. Availability of OPMET information
F - Full : OPMET data as listed issued for the aerodrome all through the 24-hour period
P - Partial : OPMET data as listed not issued for the aerodrome for the entire 24-hour period
N - None : No OPMET data issued for the time being

Attachment B

Aerodrome where service is to be provided			Responsible MET office		Forecasts to be provided		Availability of OPMET
Name 1	ICAO Location Indicator 2	Use 3	Name 4	ICAO Location Indicator 5	TR 6	TAF 7	
BAHRAIN							
BAHRAIN INTERNATIONAL	OBBI	RS	BAHRAIN INTERNATIONAL	OBBI	Y	X	F
EGYPT							
AL ALAMAIN/ INTL	HEAL	AS	CAIRO/INTL	HECA		*	P
ALEXANDRIA / INTL	HEAX	RS	CAIRO/INTL	HECA	Y	X	F
ALMAZA AFB / MILITARY	HEAZ	RNS	CAIRO/INTL	HECA		X	F
ASWAN / INTL	HESN	RS	CAIRO/INTL	HECA	Y	X	F
ASYUT / INTL	HEAT	AS	CAIRO/INTL	HECA		X	F
CAIRO/INTL	HECA	RS	CAIRO/INTL	HECA	Y	X	F
HURGHADA / INTL	HEGN	RS	CAIRO/INTL	HECA	Y	X	F
LUXOR / INTL	HELX	RS	CAIRO/INTL	HECA	Y	X	F
MARSA ALAM / INTL	HEMA	RS	CAIRO/INTL	HECA		X	F
SHARK EL OWEINAT / INTL	HEOW	AS	CAIRO/INTL	HECA		X	F
SHARM EL SHEIKH / INTL	HESH	RS	CAIRO/INTL	HECA		X	F
SOHAG INTERNATIONAL AIRPORT	HESG	AS	CAIRO/INTL	HECA		*	P
ST.CATHERINE / INTL	HESC	AS	CAIRO/INTL	HECA		X	F
TABA / INTL	HETB	RS	CAIRO/INTL	HECA		X	F
IRAN (ISLAMIC REPUBLIC OF)							
BANDAR ABBASS/INTL	OIKB	RS	TEHRAN/MEHRABAD INTL	OIII		T	F
ESFAHAN / SHAHID BEHESHTI INTL	OIFM	RS	TEHRAN/MEHRABAD INTL	OIII		X	F
MASHHAD/SHAHID HASHEMI NEJAD INTL	OIMM	RS	TEHRAN/MEHRABAD INTL	OIII		T	F
SHIRAZ/SHAHID DASTGHAIB INTL	OISS	RS	SHIRAZ/SHAHID DASTGHAIB INTL	OISS	Y	X	F
TABRIZ/INTL	OITT	RNS	TABRIZ/INTL	OITT		X	F
TEHRAN/IMAM KHOMAINI INTL	OIIE	RS	TEHRAN/MEHRABAD INTL	OIII	Y	X	F
TEHRAN/MEHRABAD INTL	OIII	RS	TEHRAN/MEHRABAD INTL	OIII	Y	T	F
ZAHEDAN/INTL	OIZH	RS	TEHRAN/MEHRABAD INTL	OIII		T	F
IRAQ							
AL NAJAF	ORNI	RNS				T	F
BAGHDAD INTERNATIONAL AIRPORT	ORBI	RS	BAGHDAD INTERNATIONAL AIRPORT	ORBI	Y	T	F
BASRAH INTL AIRPORT	ORMM	RS	BAGHDAD INTERNATIONAL AIRPORT	ORBI	Y	T	F
ERBIL INTL AIRPORT	ORER	RS				T	F
MOSUL INTERNATIONAL AIRPORT	ORBM	RS	BAGHDAD INTERNATIONAL AIRPORT	ORBI	Y	T	F
SULAYMANIYAH INTERNATIONAL AIRPORT	ORSU	RS				T	F
JORDAN							
AMMAN/MARKA	OJAM	AS	AMMAN/MARKA	OJAM	Y	T	F
AMMAN/QUEEN ALIA	OJAI	RS	AMMAN/MARKA	OJAM	Y	X	F
AQABA/KING HUSSEIN	OJAQ	RNS	AMMAN/MARKA	OJAM			F
JERUSALEM/JERUSALEM	OJJR	RS	AMMAN/MARKA	OJAM			N
KUWAIT							
KUWAIT/INTL AIRPORT	OKBK	RS	KUWAIT/INTL AIRPORT	OKBK	Y	X	F
LEBANON							
BEIRUT/BEIRUT INTL	OLBA	RS	BEIRUT/BEIRUT INTL	OLBA	Y	X	F

Attachment B

Aerodrome where service is to be provided			Responsible MET office		Forecasts to be provided		Availability of OPMET
Name 1	ICAO Location Indicator 2	Use 3	Name 4	ICAO Location Indicator 5	TR 6	TAF 7	
OMAN							
MUSCAT/MUSCAT INTL	OOMS	RS	MUSCAT/MUSCAT INTL	OOMS	Y	X	F
SALALAH	OOSA	AS	SALALAH	OOSA		X	F
QATAR							
DOHA INTERNATIONAL	OTBD	RS	DOHA INTERNATIONAL	OTBD	Y	X	F
NEW DOHA INTERNATIONAL AIRPORT (NDIA)	OTHH	RS	DOHA INTERNATIONAL	OTBD	Y	X	F
SAUDI ARABIA							
DAMMAM/KING FAHD INTERNATIONAL	OEDF	RS				X	F
JEDDAH/KING ABDULAZIZ INTERNATIONAL	OEJN	RS	JEDDAH/KING ABDULAZIZ INTERNATIONAL	OEJN	Y	X	F
MADINAH/PRINCE MOHAMMAD BIN ABDULAZIZ INTERNATIONAL	OEMA	RS	JEDDAH/KING ABDULAZIZ INTERNATIONAL	OEJN	Y	T	F
RIYADH/KING KHALED INTERNATIONAL	OERK	RS	JEDDAH/KING ABDULAZIZ INTERNATIONAL	OEJN	Y	X	F
SYRIAN ARAB REPUBLIC							
ALEPPO/INTL	OSAP	RS	DAMASCUS/INTL	OSDI		T	F
BASSEL AL-ASSAD/INTL. LATTAKIA	OSLK	RS	DAMASCUS/INTL	OSDI		T	F
DAMASCUS/INTL	OSDI	RS	DAMASCUS/INTL	OSDI	Y	X	F
UNITED ARAB EMIRATES							
ABU DHABI INTERNATIONAL	OMAA	RS	ABU DHABI INTERNATIONAL	OMAA	Y	X	F
ABU DHABI / AL BATEEN EXECUTIVE AIRPORT	OMAD	RG RNS	ABU DHABI INTERNATIONAL	OMAA		X	F
AL AIN INTERNATIONAL	OMAL	RS	ABU DHABI INTERNATIONAL	OMAA		X	F
DUBAI INTERNATIONAL	OMDB	RS	DUBAI INTERNATIONAL	OMDB	Y	X	F
DUBAI/AL MAKTOUM INTERNATIONAL	OMDW	RS	DUBAI INTERNATIONAL	OMDB	Y	X	F
FUJAIRAH INTERNATIONAL	OMFJ	RS	DUBAI INTERNATIONAL	OMDB		X	F
RAS AL KHAIMAH INTERNATIONAL	OMRK	RS	DUBAI INTERNATIONAL	OMDB		X	F
SHARJAH INTERNATIONAL	OMSJ	RS	DUBAI INTERNATIONAL	OMDB		X	F
YEMEN							
ADEN/INTL	OYAA	RS	SANAA/INTL	OYSN	Y	X	F
HODEIDAH/INTL	OYHD	RS	SANAA/INTL	OYSN		T	F
MUKALLA/INTL	OYRN	RS	SANAA/INTL	OYSN		T	F
SANAA/INTL	OYSN	RS	SANAA/INTL	OYSN		T	F
TAIZ/INTL	OYTZ	RS	SANAA/INTL	OYSN		T	F

*TAF available upon request

Attachment C

FASID TABLE MET 1B - METEOROLOGICAL WATCH OFFICES

EXPLANATION OF THE TABLE

Column

1	Name of State with Meteorological Watch Office (MWO) responsibility.
2	Location name of the MWO
3	ICAO location indicator assigned to the MWO.
4	Name of FIR, the UIR and/or the search and rescue region (SRR) served by the MWO.
5	ICAO location indicator assigned to the ATS unit serving the FIR, UIR and/or SRR.
6	Requirement for issuance of SIGMET, <i>excluding</i> volcanic ash SIGMET and tropical cyclone SIGMET
7	Requirement for issuance of volcanic ash SIGMET
8	Requirement for issuance of tropical cyclone SIGMET
9	Remarks

Note.— Unless otherwise stated in column 9, the MWO listed in column 2 is the designated collecting centre for the air reports received within the corresponding FIR/UIR listed in column 4.

Attachment C

State	MWO location		Area served		SIGMET			Remarks
	Name	ICAO loc. ind.	Name	ICAO loc. ind.	WS	WV	WC	
1	2	3	4	5	6	7	8	9
BAHRAIN								
	BAHRAIN INTERNATIONAL	OBBI	BAHRAIN FIR	OBBS	Y	Y	Y	
EGYPT								
	CAIRO/INTL	HECA	CAIRO ACC	HECC	Y	Y		Asian part thereof
IRAN (ISLAMIC REPUBLIC OF)								
	TEHRAN/MEHRABAD INTL	OIII	TEHRAN (ACC/FIC/FIR)	OIIX	Y	Y	Y	
IRAQ								
	BAGHDAD INTERNATIONAL AIRPORT	ORBI	BAGHDAD FIR and SRR	ORBS	Y	Y		
JORDAN								
	AMMAN/QUEEN ALIA	OJAI	AMMAN (ACC/FIC)	OJAC	Y	Y		
KUWAIT								
	KUWAIT/INTL AIRPORT	OKBK	ACC/AERODROME CONTROL TOWER	OKAC	Y	Y	Y	
LEBANON								
	BEIRUT/BEIRUT INTL	OLBA	BEIRUT/BEIRUT INTL	OLBA	Y	Y		
OMAN								
	MUSCAT/MUSCAT INTL	OOMS	MUSCAT FIR	OOMM	Y	Y	Y	
SAUDI ARABIA								
	JEDDAH/KING ABDULAZIZ INTERNATIONAL	OEJN	JEDDAH FIR	OEJD	Y	Y	Y	
SYRIAN ARAB REPUBLIC								
	DAMASCUS/INTL	OSDI	DAMASCUS/INTL	OSDI	Y	Y		
UNITED ARAB EMIRATES								
	ABU DHABI INTERNATIONAL	OMAA	EMIRATES FIR	OMAE	Y	Y	Y	
YEMEN								
	SANAA/INTL	OYSN	SANAA/INTL	OYSN	Y	Y	Y	

Attachment D

FASID TABLE MET 3A - TROPICAL CYCLONE ADVISORY CENTRE FOR THE MID REGION

EXPLANATION OF THE TABLE

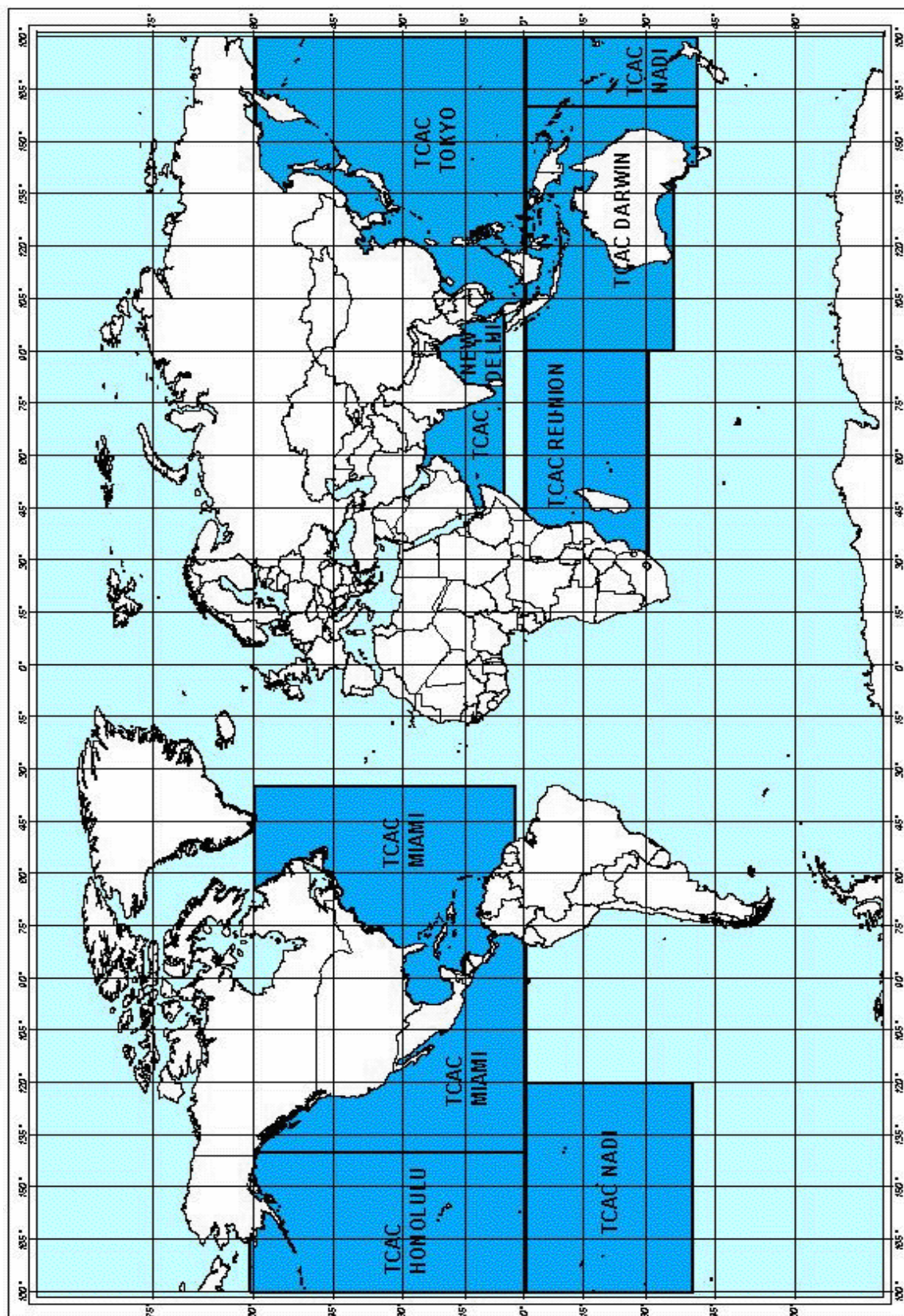
Column

- 1 Location of the Tropical Cyclone Advisory Centre (TCAC)
- 2 ICAO location indicator of the TCAC (for use in the WMO heading of advisory bulletin)
- 3 Area of responsibility for the preparation of advisory information on tropical cyclones by the TCAC in Column 1
- 4 Period(s) of operation of the TCAC
- 5 Meteorological Watch Office (MWO) to which the advisory information on tropical cyclones should be sent
- 6 ICAO location indicator of the MWO in Column 5

Tropical Cyclone Advisory Centre		Area of Responsibility	Period(s) of operation	MWO to which advisory information is to be sent	
Name	ICAO Loc. Ind.			Name	ICAO Loc. Ind.
1	2	3	4	5	6
New Delhi (India)	VIDP	Arabian Sea including Gulf of Oman and Gulf of Aden N: Coastline S: 5°N W: Coastline E: 65°E	April – June October – December	Abu Dhabi International	OMAA
				Bahrain International	OBBI
				Jeddah/King Abdulaziz International	OEJN
				Kuwait/Intl Airport	OKBK
				Muscat/Muscat Intl	OOMS
				Sanaa/Intl	OYSN
				Tehran/Mehrabad Intl	OIII

FASID CHART MET 1 - AREAS OF RESPONSIBILITY OF THE TCACs

CURRENT STATUS OF ICAO TROPICAL CYCLONE ADVISORY CENTRES (TCACs) - AREAS OF RESPONSIBILITY
 SITUATION ACTUELLE DES CENTRES D'AVIS DE CYCLONES TROPICAUX (TCAC) OACI - ZONES DE RESPONSABILITÉ
 SITUACIÓN ACTUAL DE LOS CENTROS DE AVISOS DE CICLONES TROPICALES, OACI (TCAC) - ZONAS DE RESPONSABILIDAD



Attachment F

FASID TABLE MET 3B — VOLCANIC ASH ADVISORY CENTRES

EXPLANATION OF THE TABLE

Column

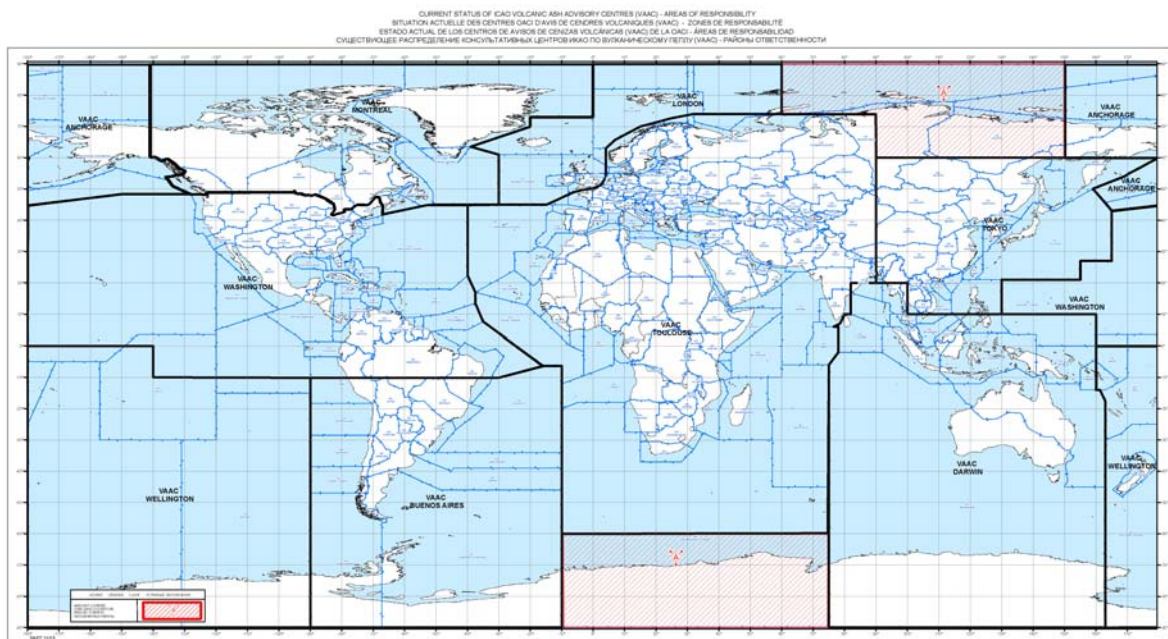
- 1 Name of the Volcanic Ash Advisory Centre (VAAC).
- 2 ICAO location indicator of VAAC (for use in the WMO header of advisory bulletin).
- 3 Area of responsibility for the preparation of advisory information on volcanic ash by the VAAC in Column 1.
- 4 State where the MWOs and ACCs/FICs are located.
- 5 ICAO Region where the MWOs and ACCs/FICs are located.
- 6 MWOs to which the advisory information on volcanic ash should be sent.
- 7 ICAO location indicator of the MWOs in Column 6.
- 8 ACCs/FICs to which the advisory information on volcanic ash should be sent.
- 9 ICAO location indicator of the ACCs/FICs in Column 8.

Volcanic Ash Advisory Centre			State	ICAO Region	MWO to which advisory information is to be sent		ACC/FIC to which advisory information is to be sent	
Name	ICAO Loc. Ind.	Area of responsibility			Name	ICAO Loc. Ind.	Name	ICAO Loc. Ind.
1	2	3	4	5	6	7	8	9
Toulouse (France)	LFPW	Santa Maria Oceanic FIR, AFI Region north of ~~S60~~ ~~S6000~~ , EUR Region (except for London, Scottish and Shannon FIRs) west of ~~E90~~ ~~E09000~~ and south of ~~N74~~ ~~N7100~~ , MID Region, and ASIA Region, west of ~~E90~~	Bahrain	MID	Bahrain International	OBBI	Bahrain FIR	OBBS
			Egypt	MID	Cairo/Intl	HECA	Cairo ACC	HECC
			Iran (Islamic Republic of)	MID	Tehran/Mehrabad	OIII	Tehran (ACC/FIC/FIR)	OIIX
			Iraq	MID	Baghdad International Airport	ORBI	Baghdad	ORBS*
			Jordan	MID	Amman/Queen Alia	OJAI	Amman (ACC/FIC)	OJAC
			Kuwait	MID	Kuwait/Intl Airport	OKBK	ACC/Aerodrome Control Tower	OKAC
			Lebanon	MID	Beirut/Beirut Intl	OLBA	Beirut/Beirut Intl	OLBA

Attachment F

		E09000 north of ~~N20~~ N2000 (plus Mumbai, Chennai (west of ~~82E~~ E08200) and Male FIRs)	Oman	MID	Muscat/Muscat Intl	OOMS	Muscat FIR	OOMM
			Saudi Arabia	MID	Jeddah/King Abdulaziz International	OEJN	Jeddah FIR	OEJD
			Syrian Arab Republic	MID	Damascus/Intl	OSDI	Damascus/Intl	OSDI
			United Arab Emirates	MID	Abu Dhabi International	OMAA	Emirates FIR	OMAE
			Yemen	MID	Sanaa/Intl	OYSN	Sanaa/Intl	OYSN

*not listed in Doc 7910

VOLCANIC ASH ADVISORY CENTRES (VAAC) AREAS OF COVERAGE

Attachment H

FASID Table MET 3C

SELECTED STATE VOLCANO OBSERVATORIES

EXPLANATION OF THE TABLE

Column

- 1 Provider State of the volcano observatory designated for direct notification of volcanic activity.
- 2 Name of the volcano observatory.
- 3 VAAC to which the information related to pre-eruption volcanic activity, a volcanic eruption and/or volcanic ash cloud should be sent.
- 4 ACC/FIC to which the information related to pre-eruption volcanic activity, a volcanic eruption and/or volcanic ash cloud should be sent.
- 5 ICAO location indicator of the ACC/FIC listed in Column 4.
- 6 MWO to which information related to pre-eruption volcanic activity, a volcanic eruption and/or volcanic ash cloud should be sent.
- 7 ICAO location indicator of the MWO listed in Column 6

Provider State of volcano observatory	Volcano observatory	VAAC to which the information is to be sent	ACC/FIC to which the information is to be sent		MWO to which information is to be sent	
			Name	ICAO Loc Ind.	Name	ICAO Loc Ind.
1	2	3	4	5	6	7
...	...	VAAC Toulouse	...	...	...	...

Note:— AFTN is not available at all selected volcano observatories; therefore, it is the responsibility of each State to make appropriate communication arrangements.

Note:—The FASID Table MET 3C to be completed when information is provided by the States concerned

FASID Table MET 4A**REGIONAL OPMET BULLETIN EXCHANGE (ROBEX) SCHEME –
COLLECTION AREAS FOR AERODROME FORECASTS***EXPLANATION OF THE TABLE*

Column

- 1 Location of the TAF collection centre
- 2 Aerodromes for which aerodrome forecasts in the TAF code form are collected

TAF Collection Centre	Collection Area
BAHRAIN	ABU DHABI ABU DHABI / AL BATEEN EXECUTIVE AL AIN AL MAKTOUM BAHRAIN DAMMAM DOHA DUBAI FUJAIRAH KUWAIT MUSCAT RAS AL KHAIMAH SALALAH SHARJAH
BEIRUT	AMMAN BAGHDAD BASRAH BEIRUT DAMASCUS
JEDDAH	ADEN DHAHRAN/DAMMAM JEDDAH MADINAH RIYADH SANA'A
TEHRAN	AHWAZ BANDAR ABBASS ESFAHAN KERMAN MASHHAD SHIRAZ TABRIZ TEHRAN ZAHEDAN

FASID Table MET 4B**REGIONAL OPMET BULLETIN EXCHANGE (ROBEX) SCHEME –
COLLECTION AREAS FOR AERODROME METEOROLOGICAL REPORTS AND AIR-
REPORTS***EXPLANATION OF THE TABLE*

Column

- 1 Location of the METAR/SPECI and AIREP collection centre
- 2 Meteorological offices for which aerodrome meteorological reports in the METAR/SPECI code form and AIREP are collected

METAR/SPECI and AIREP Collection Centre	Collection Area
BAGHDAD	BAGHDAD BASRAH
BAHRAIN	ABU DHABI ABU DHABI / AL BATEEN EXECUTIVE AL AIN AL MAKTOUM BAHRAIN DAMMAM DOHA DUBAI FUJAIRAH KUWAIT MUSCAT RAS AL KHAIMAH SHARJAH
BEIRUT	AMMAN BEIRUT DAMASCUS
JEDDAH	DHAHRAN JEDDAH MADINAH RIYADH SANA'A
TEHRAN	AHWAZ BANDAR ABBASS ESFAHAN KABUL KANDAHAR KERMAN MASHHAD SHIRAZ TABRIZ TEHRAN ZAHEDAN

Attachment K

FASID TABLE MET 5 - REQUIREMENTS FOR WAFS FORECASTS

EXPLANATION OF THE TABLE

Column

- 1 WAFS forecasts required by the MID States, to be provided by WAFC London.
- 2 Area of coverage required for the WAFS forecasts to be provided by WAFC London.

FORECASTS REQUIRED	AREAS REQUIRED
1	2
SWH forecasts (FL250-630) in the BUFR code form	GLOBAL
SWM forecasts (FL100-250) in the BUFR code form	EUR, MID
Forecasts of upper-air wind, temperature and humidity, cumulonimbus clouds, icing, and clear-air and in-cloud turbulence, and of geopotential altitude of flight levels in GRIB code form	GLOBAL

Note 1.— SWM forecasts are provided for limited geographical areas as determined by regional air navigation agreement. Areas “EUR” and “MID” provided by WAFC London.

Note 2. — WAFCs will continue to issue forecasts of SIGWX in PNG chart form for back-up purposes for fixed areas of coverage as specified in Annex 3.

Note 3. — Forecasts of cumulonimbus clouds, icing, and clear-air and in-cloud turbulence are labelled as “trial forecasts” and are currently distributed through the Internet-based services.

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Report on Agenda Item 5.1

REPORT ON AGENDA ITEM 5: AIR NAVIGATION DEFICIENCIES AND SAFETY MATTERS

5.1 AIR NAVIGATION DEFICIENCIES

Review of deficiencies in the air navigation fields

5.1.1 The meeting recalled the concerns expressed by the various ICAO organs including the Council, the Air Navigation Commission (ANC), DGCA-MID and MIDANPIRG on the serious impact the long standing deficiencies have on safety.

5.1.2 The meeting recalled that the lack of sufficient number of qualified technical staff has been the main contributing factor for the non-elimination of the deficiencies in the MID Region.

5.1.3 The meeting re-iterated that the identification and reporting of Air Navigation Deficiencies by User-Organizations contribute significantly to the enhancement of air navigation safety in the MID Region. Nevertheless, the meeting noted with concern that the use of the MID Air Navigation Deficiency Database (MANDD) is far below expectations. Accordingly, the meeting urged States and authorized Users to use the MANDD for the submission of requests for addition, update, and elimination of Air Navigation Deficiencies.

5.1.4 The meeting reviewed and updated the list of deficiencies in the AIS/MAP, AOP, ATM, CNS, MET and SAR fields as at **Appendices 5.1A, 5.1B, 5.1C, 5.1D, 5.1E, and 5.1F**, to the Report on Agenda Item 5.1, respectively.

5.1.5 The meeting noted that the deficiencies related to Libya and Sudan had not included in the MANDD. Accordingly, the meeting agreed that the MIDANPIRG Sub-Groups should review the associated list of deficiencies approved by the AFI Planning and Implementation Regional Group (APIRG), and present them to MIDANPIRG for approval.

5.1.6 The meeting noted that the deficiencies related to the Safety Management System (SMS) implementation in the fields of AGA and ATM were removed from the MANDD, since they are addressed under the framework of the Middle East Regional Aviation Safety Group (RASG-MID) and USOAP-CMA. In this respect, the meeting underlined the need to reduce to the extent possible the interference between the air navigation deficiencies and USOAP-CMA findings.

5.1.7 The meeting recognized the need for a formal procedure to be used for the elimination of deficiencies from the MANDD. Accordingly, it was agreed that a deficiency would be eliminated only when a State submit a formal Letter to the ICAO MID Regional Office containing the evidence(s) that mitigation measures have been implemented for the elimination of this deficiency. Accordingly, the meeting agreed to the following Conclusion to replace and supersede MIDANPIRG/13 Conclusion 13/63:

**CONCLUSION 14/32: ELIMINATION OF AIR NAVIGATION DEFICIENCIES IN
THE MID REGION**

That, States be urged to:

- a) use the MID Air Navigation Deficiency Database (MANDD) for the submission of requests for addition, update, and elimination of Air Navigation Deficiencies; and*

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- b) submit a Formal Letter to the ICAO MID Regional Office containing the evidence(s) that mitigation measures have been implemented for the elimination of deficiency(ies) when requesting the elimination of deficiency(ies) from the MANDD.*

5.1.8 The meeting recognized the need to review the methodology used for the prioritization of the air navigation deficiencies emphasizing that the deficiencies priority “U” have a **direct** impact on safety and require **immediate** corrective measures.

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Appendix 5.1A to the Report on Agenda Item 5.1

Deficiencies in the AIS/MAP Field

BAHRAIN

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action

No Deficiencies Reported

⁽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	Description	Executing Body	Date of Completion	Priority for Action

No Deficiencies Reported

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

5.1A-3

Deficiencies in the AIS/MAP Field

IRAN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	ANNEX 4: Para. 16.2	-	Non-production of World Aeronautical Chart – ICAO 1:1 000 000	May, 1995	Coordination with neighboring States required	O	Need to produce the assigned sheets of the World Aeronautical Chart – ICAO 1:1 000 000	Iran	Jun, 2014	B
2	ANNEX 4: Para. 3.2	-	Non-production of Aerodrome Obstacle Chart-ICAO Type A	May, 1995	-	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	Dec, 2014	A
3	ANNEX 15: Para. 3.6.5	-	Lack of AIS automation	Dec, 2007	-	O	AIS automation should be introduced with the objective of improving the speed, accuracy, efficiency and cost-effectiveness of aeronautical information services	Iran	Dec, 2014	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

IRAQ

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	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, 2014	B
2	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, 2014	A
3	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, 2014	A
4	ANNEX 15: Para 3.7.1	-	Implementation of WGS-84	Dec, 1997	-	F H O	Need to complete implementation of WGS-84	Iraq	Dec, 2014	U
5	ANNEX 15: Para. 3.2	-	Implementation of a Quality System	Jan, 2003	-	F H O	Need to introduce a properly organized quality system in conformity with ISO 9000 series of quality assurance standards.	Iraq	Dec, 2014	U
6	ANNEX 4: Para. 11.2	-	Non-production of Instrument Approach Chart-ICAO	Jan, 2003	-	F H O	Need to produce Instrument Approach Chart-ICAO for all Int'l Aerodromes	Iraq	Dec, 2014	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

5.1A-5

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
7	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, 2014	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		Description	Executing Body	Date of Completion	Priority for Action
1	ANNEX 4: Para. 16.2	-	Non-production of World Aeronautical Chart – ICAO 1:1 000 000	Feb, 2008	-	H	Need to produce the assigned sheets of the World Aeronautical Chart – ICAO 1:1 000 000	Jordan	Dec, 2014	B

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

5.1A-7

Deficiencies in the AIS/MAP Field

KUWAIT

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	ANNEX 15: Para. 3.2	-	Implementation of a Quality System	Jan, 2003	Work in progress	H	Need to introduce a properly organized quality system in conformity with ISO 9000 series of quality assurance standards.	Kuwait	Dec, 2014	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

LEBANON

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	ANNEX 4 Para. 16.2	-	Non-production of World Aeronautical Chart – ICAO 1:1 000 000	May, 1995	-	H	Difference published in the AIP. There's no plan to produce the required sheets of the WAC 1:1000 000	Lebanon	Dec, 2015	B
2	ANNEX 15:Para. 3.2	-	Implementation of a Quality System	Jan, 2003	-	H	Need to introduce a properly organized quality system in conformity with ISO 9000 series of quality assurance standards.	Lebanon	Dec, 2015	U
3	ANNEX 15:Para. 3.7.2.4	-	Implementation of geoid undulation referenced to the WGS-84 ellipsoid.	Jan, 2003	-	H	Need to implement geoid undulation referenced to the WGS-84 ellipsoid.	Lebanon	Jun, 2015	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

5.1A-9

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		Description	Executing Body	Date of Completion	Priority for Action
1	ANNEX 15:Para. 3.2	-	Implementation of a Quality System	Jan, 2003	-	O	Need to introduce a properly organized quality system in conformity with ISO 9000 series of quality assurance standards.	Oman	Dec, 2014	U
2	ANNEX 15: Para. 3.6.5and 8.2	-	Lack of AIS automation	Jul, 2005	-	O	AIS automation should be introduced with the objective of improving the speed, accuracy, efficiency and cost-effectiveness of aeronautical information services	Oman	Dec, 2014	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

QATAR

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action

No Deficiencies Reported

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

5.1A-11

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		Description	Executing Body	Date of Completion	Priority for Action
1	ANNEX 15: Para. 8.1	-	Pre-flight information service not provided at International Airports	Nov, 2007	-	O	Need to provide a pre-flight information service at all aerodromes used for international air operations.	Saudi Arabia	Dec, 2014	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

SYRIA

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	ANNEX 15: Para 6.	-	Lack of implementation of AIRAC System	May, 1995	-	F H	Need to fully comply with the AIRAC procedure	Syria	Jan, 2015	U
2	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	Syria	Jan, 2015	B
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	Jan, 2015	U
4	ANNEX 15: Para. 3.7.2.4	-	Implementation of geoid undulation referenced to the WGS-84 ellipsoid.	Jan, 2003	-	F H	Need to implement geoid undulation referenced to the WGS-84 ellipsoid.	Syria	Jan, 2015	A
5	ANNEX 15: Para 4.2.9 & 4.3.7	-	Lack of regular and effective updating of the AIP	Jul, 2005	-	F H O	Need to update the AIP on a regular basis	Syria	Jan, 2015	U
6	ANNEX 15 Para. 3.1.1.2, 3.1.5, 3.1.6 & 4.1	-	Lack of consistency between the different Sections of the AIP containing the same information.	Jul, 2005	-	H	Need to review the AIP for consistency	Syria	Jan, 2015	U

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

5.1A-13

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
7	ANNEX 15: Para. 3.6.5	-	Lack of AIS automation	Jul, 2005	-	F H	AIS automation should be introduced with the objective of improving the speed, accuracy, efficiency and cost-effectiveness of aeronautical information services	Syria	Jan, 2015	A
8	ANNEX 15: Para. 8.1	-	Non provision of pre-flight information service at international airports	Jul, 2005	-	F H	Need to provide a pre-flight information service at all aerodromes used for international air operations.	Syria	Jan, 2015	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

UAE

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action

No Deficiencies Reported

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

5.1A-15

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		Description	Executing Body	Date of Completion	Priority for Action
1	ANNEX 15: Para 6.	-	Lack of implementation of AIRAC System	May, 1995	-	H O	Need to fully comply with the AIRAC procedure	Yemen	Jun, 2014	U
2	ANNEX 4: Para. 16.2	-	Non-productionof World Aeronautical Chart – ICAO1:1 000 000	May, 1995	-	F	Need to produce the assigned sheets of the World Aeronautical Chart – ICAO 1:1 000 000	Yemen	Dec, 2014	B
3	ANNEX 15: Para. 3.2	-	Implementation of a Quality System	Jan, 2003	-	F	Need to introduce a properly organized quality system in conformity with ISO 9000 series of quality assurance standards.	Yemen	Dec, 2014	U
4	ANNEX 4: Para. 11.2	-	Non-productionof Instrument Approach Chart-ICAO	Jan, 2003	Yemen has produced the Instrument Approach Chart- ICAO except for TAIZ Intl Airport	O	RNAV procedures are under development for Taiz airport	Yemen	Dec, 2014	A
5	ANNEX 15: Para. 8.1	-	Non provision of pre-flight information service at international airports	Mar, 2004	-	F H	Need to provide a pre-flight information service at all aerodromes used for international air operations.	Yemen	Dec, 2014	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		Description	Executing Body	Date of Completion	Priority for Action
6	ANNEX 15: Para. 3.6.5	-	Lack of AIS automation	Jul, 2005	-	F	AIS automation should be introduced with the objective of improving the speed, accuracy, efficiency and cost-effectiveness of aeronautical information services	Yemen	Dec, 2014	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

MIDANPIRG/14
Appendix 5.1B to the Report on Agenda Item 5.1

Deficiencies in the AOP Field

BAHRAIN

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action

No Deficiencies Reported

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the AOP Field

EGYPT

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	MID Basic ANP & FASID (Doc 9708)	Alexandria Int'l Airport	Runway is short and current distance is 7221 FT with runway all up weight maximum 68000kgs	Jul, 2004	\	F O	Plan to extend Runway	Egypt	Dec, 2014	A
2	Annex 14 Vol. 1.4.1, 1.4.4	Luxor, Aswan, Borg El Arab, Alexandria, Taba, Alamain, El-Arish, Shark El Owenat, Port Said, St. Cathrine Intl. Airports	Implementation of Certification of Aerodromes used for international operations	Nov, 2006	-	F H	Need to develop an Aerodrome Manual for each listed international aerodrome and fulfil all other requirements needed for granting the aerodrome certificate. State: implemented: Cairo, Sharm El-Sheikh, Hurghada, Mersa Alam, In Progress: Luxor, Aswan Borg Al-Arab, Taba The rest is planned for Nov 2014	Egypt	Nov, 2014	U
3	Annex 14 Vol. IFASID Table AOP-1MID/3 Rec. 1/3	Alexandria Int'l Airport	No runway demarcation lines available on RWY 18/36, to identify the entry position to RWY 04/22	May, 2007	-	F	Runway is closed for extension and upgrade	Egypt	Nov, 2014	U

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

5.1B-3

Deficiencies in the AOP Field

IRAN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	Annex 14 Vol. 1.4.1, 1.4.3, 1.4.4	Emam Khomaini, Mehrabad, Esfhan, Shahid Hashmi Nejad, Shiraz, Tabriz and Zahedan Intl. Airport,	Implementation of Certification of Aerodromes used for international operations	Nov, 2006	-	F H	Need to establish an appropriate regulatory framework and to establish a criteria for the certification of aerodromes. Need to develop an Aerodrome Manual for each international aerodrome and fulfil all requirements needed fo granting Certification of Aerodrome.	Iran	Dec, 2014	U

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the AOP Field

IRAQ

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	Annex 14 Vol. 1.4.1, 1.4.3, 1.4.4	Baghdad/ Basrah/ Erbil /Sulaymaniyah / Al Najaf Intl. Airports	Implementation of Certification of Aerodromes used for international operations	Nov, 2006	-	F H O	Need to establish an appropriate regulatory framework and to establish a criteria for the certification of aerodromes. Need to develop an Aerodrome Manual for each international aerodrome and fulfil all requirements needed for granting certification of aerodrome. State: Dec, 2010 except for Baghdad & Najaf June 2011	Iraq	Dec, 2014	U

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

5.1B-5

Deficiencies in the AOP Field

JORDAN

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action

No Deficiencies Reported

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the AOP Field

KUWAIT

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action

No Deficiencies Reported

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

5.1B-7

Deficiencies in the AOP Field

LEBANON

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	Annex 14 Vol. 1.4.1, 1.4.4	R.B.H. Beirut Intl. Airport	Implementation of Certification of Aerodromes used for international operations	Nov, 2006	-	F H	Need to develop an Aerodrome Manual and fulfil all requirements needed fo granting the aerodrome certificate	Lebanon	Dec, 2014	U

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the AOP Field

OMAN

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action

No Deficiencies Reported

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

5.1B-9

Deficiencies in the AOP Field

QATAR

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action

No Deficiencies Reported

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the AOP Field

SAUDI ARABIA

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action

No Deficiencies Reported

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

5.1B-11

Deficiencies in the AOP Field

SYRIA

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	Annex 14 Vol. IFASID Table AOP-1MID/3 Rec. 1/3	Damascus int'l Airport	Apron lighting inadequate	Sep, 2003	-	F H	Apron lighting is to be improved	Syria	Dec, 2014	U
2	Annex 14 Vol. IFASID Table AOP-1MID/3 Rec. 1/3	Damascus int'l Airport	Runway surface rough and damaged. Runway markings unsatisfactory	Sep, 2003	-	F H	RWY Surface to be repaired and refurbished, Markings are to be improved	Syria	Dec, 2014	A
3	Annex 14 Vol. IFASID Table AOP-1MID/3 Rec. 1/3	Damascus int'l Airport	DAM/DVOR 116 MHZ Out of Service	Jun, 2004	-	F	The VOR/DME to be replaced	Syria	Dec, 2014	A
4	Annex 14 Vol. 1.4.1, 1.4.4	Damascus, Aleppo, Bassel Al-Assad Int'l. Airports	Implementation of Certification of Aerodromes used for international operations	Nov, 2006	-	F H	Need to develop an Aerodrome Manual for each international aerodrome and fulfil all requirements needed for granting the aerodrome certificate	Syria	Dec, 2014	U

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the AOP Field

UAE

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action

No Deficiencies Reported

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

5.1B-13

Deficiencies in the AOP Field

YEMEN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	Annex 14 Vol. 1.4.1, 1.4.3, 1.4.4	Sanaa, Aden, Hodeibah, Taiz Intl. Airports	Implementation of Certification of Aerodromes used for international operations	Nov, 2006	-	F H	establish a criteria for the certification of aerodromes. Need to devlope an Aerodrome Manual for each international aerodrome and fulfil all requirements needed for granting the aerodrome certificate.	Yemen	Dec, 2014	U

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

MIDANPIRG/14
Appendix 5.1C to the Report on Agenda Item 5.1

Deficiencies in the ATM Field

BAHRAIN

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action

No Deficiencies Reported

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the ATM Field

EGYPT

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	Annex 11 Para 3.3.5.1	-	Reporting unsatisfactory CFRs and LHDs to MIDRMA	Oct, 2013	Egypt to coordinate with MIDRMA.	H	Egypt to report satisfactory CFRs and LHDs.	Egypt	Dec, 2014	A
2	MID ANP Table ATS 1-ATS routes	-	ATS routes M305/UM305 not implemented	Apr, 2013	Segment BRN-ATMUL not implemented.	S	Egypt to continue the coordination with the relevant authorities.	Egypt	Dec, 2014	B
3	MID ANP Table ATS 1-ATS routes	-	ATS routes M312/UM312 not implemented	Apr, 2013	Segment DBA-AMIBO not implemented.	S	Egypt to continue the coordination with its relevant authorities for the implementation of this route.	Egypt	Dec, 2014	B

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

5.1C-3

Deficiencies in the ATM Field

IRAN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	Annex 11 Para. 2.30	-	Development of contingency plans for implementation in the event of disruption of ATS and related supporting services.	Nov, 2006	Ongoing, signed with all neighboring States except Syria.	H	Iran to sign with Syria and to send all the signed contingency agreements to the ICAO MID Regional Office.	Iran	Dec, 2014	A
2	MID ANP Table ATS-1 Plan of ATS routes	-	ATS routes A418/UP574 not implemented KUMUN – PAPAR	Dec, 2006	KUMUN-PAPAR segment not implemented.	S O	States to continue negotiations with one another. Iran has no plan to implement the route segment.	Iran- UAE	Dec, 2014	B
3	Annex 11 Para 3.3.5.1	-	Reporting unsatisfactory CFRs and LHDs to the MIDRMA	Oct, 2013	Iran to coordinate with the MIDRMA.	H	Iran to report satisfactory CFRs and LHDs.	Iran	Dec, 2014	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the ATM Field

IRAQ

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	MID ANP Table ATS-1 Plan of ATS Routes	-	ATS route G667 not implemented	Sep, 2006	Iraq has no objection to implement the Route segment ALSAN-ABD. Kuwait has no objection.	S	Iraq to implement and publish the route segment ABD-ALSAN (G677).	Iraq- Iran- Kuwait	Jun, 2014	B
2	Annex 11 Para. 2.30	-	Development of contingency plan	Nov, 2006	Contingency Agreement not signed with Syria.	S	Need to develop and promulgate contingency plan for implementation in the event of disruption of ATS and related supporting services. Iraq to sign the agreement with Syria and to send the signed agreements with other States to the ICAO MID Regional Office.	Iraq- ICAO	Dec, 2014	A
3	MID ANP Table ATS-1 Plan of ATS routes	-	ATS route G795 Rafha- Basrah segment not implemented	May, 2008	Coordination between Iraq and Saudi Arabia.	S	States to negotiate coordination issues between the two FIRs, update LoA and coordinate opening of the route.	Iraq- Saudi Arabia	Dec, 2014	B
4	MID ANP Table ATS-1 Plan of ATS routes	-	ATS route A424 LOTAN-LOVEK segment (Baghdad FIR) not implemented	May, 2008	Communication problems between concerned FIRs.	O	Saudi Arabia has no objection to extend the route into Baghdad FIR. Iraq will implement the route or it may be replaced by the ATS route from RAF to ELODI.	Iraq	Dec, 2014	B

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

5.1C-5

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
5	MID ANP Table ATS-1 Plan of ATS routes	ATS route	ATS Route G669 segment Rafha SOLAT not implemented	May, 2008	Airspace restrictions.	S	Airspace restrictions to be addressed. To check the need for the ATS route segment,taking into consideration the traffic flows and the exiting alternatives.	Iraq	Dec, 2014	B

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the ATM Field

JORDAN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	Annex 11 Para. 2.30	-	Development of contingency plan	Nov, 2006	Contingency agreements not signed with Iraq, Israel and Syria.	H	Need to develop and promulgate contingency plan for implementation in the event of disruption of ATS and related supporting services. Jordan to sign Contingency Agreements with Israel, Iraq and Syria.	Jordan	Dec, 2014	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

5.1C-7

Deficiencies in the ATM Field

KUWAIT

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	Annex 11 Para. 2.30	-	Development of contingency plan	Nov, 2006	Contingency Plan was signed with Bahrain and Saudi Arabia. Contingency Plans with Iraq and Iran are still to be signed.	S	Need to develop and promulgate contingency plan for implementation in the event of disruption of ATS and related supporting services. Kuwait to sign the Contingency Agreements with Iran and Iraq.	Kuwait	Dec, 2014	A
2	Annex 11 Para 3.3.5.1	-	Reporting unsatisfactory CFRs and LHDs to MIDRMA.	Oct, 2013	Kuwait to coordinate with MIDRMA.	H	Kuwait to report satisfactory CFRs and LHDs.	Kuwait	Dec, 2014	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the ATM Field

LEBANON

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	Annex 11 Para. 2.30	-	Development of contingency plan	Nov, 2006	A plan has been developed and will be forwarded to the MID Regional Office.	S	Need to develop and promulgate contingency plan for implementation in the event of disruption of ATS and related supporting services.	Lebanon-ICAO	Dec, 2014	A
2	Annex 11 Para 3.3.5.1	-	Granting RVSM approvals for aircraft without known hight-keeping monitoring results	Dec, 2012	-	O	-	Lebanon-DGCA	Jun, 2014	U
3	Annex 11 Para 3.3.5.1	-	Reporting unsatisfactory CFRs and LHDs	Oct, 2013	Lebanon to coordinate with MIDRMA.	H	Lebanon to report satisfactory CFRs and LHDs.	Lebanon	Dec, 2014	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

OMAN

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

Deficiencies in the ATM Field

QATAR

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	Annex 11 Para. 2.30	-	Development of contingency plan for implementation in the event of disruption of ATS and related supporting services.	Nov, 2006	Agreement signed with Bahrain; agreements not signed with Saudi Arabia and UAE.	S	Qatar to sign the contingency agreements with Saudi Arabia and UAE and send them to the ICO MID Regional Office.	Qatar- Bahrain	Dec, 2014	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

5.1C-11

Deficiencies in the ATM Field

SAUDI ARABIA

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	Annex 11 Para. 2.30	-	Development of contingency plan	Nov, 2006	A draft contingency plan not fully compliant with the agreed template has been developed. Further work being done in coordination with adjacent States. Signed with Bahrain, Jordan, Kuwait and Egypt.	S	Need to develop and promulgate contingency plan for implementation in the event of disruption of ATS and related supporting services. Saudi Arabia to sign Contingency Agreements with Eritrea, Iraq, Sudan and Yemen.	Saudi Arabia	Dec, 2014	A
2	Annex 11 Para 3.3.5.1	-	Reporting unsatisfactory CFRs and LHDs	Oct, 2013	Saudi Arabia to coordinate with MIDRMA.	H	Reporting unsatisfactory CFRs and LHDs.	Saudi Arabia	Dec, 2014	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the ATM Field

SYRIA

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	MID ANP Table ATS-1 Plan of ATS routes	-	ATS route G202 not implemented	Dec, 1997	Not implemented DAKWE - Damascus. Economic impact- alternative routes available but longer- not affecting safety.	S	Syria has no plan to implement the route.	Syria	Dec, 2014	B
2	MID ANP Table ATS-1 Plan of ATS routes	-	ATS route UL602 not implemented in Damascus FIR	Dec, 2003	Segments ELEXI- DRZ-GAZ not implemented.	S	Syria to implement ELEXI-DRZ and to coordinate with Turkey for the implementation of DRZ-GAZ.	Syria	Dec, 2014	B
3	Annex 11 Para. 2.30	-	Development of contingency plans	Nov, 2006	Draft available.	H O	Need to develop and promulgate contingency plans for implementation in the event of disruption of ATS and related supporting services.	Syria	Dec, 2014	A
4	Annex 11 Para 3.3.5.1	-	Reporting unsatisfactory CFRs and LHDs to MIDRMA	Oct, 2013	Syria to coordinate with MIDRMA.	H	Reporting unsatisfactory CFRs and LHDs to MIDRMA.	Syria	Dec, 2014	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

5.1C-13

Deficiencies in the ATM Field

UAE

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	Annex 11 Para. 2.30	-	Development of contingency plan	Nov, 2006	Plan completed and Agreements signed with Bahrain and Oman. Others pending.	O	Need to develop and promulgate contingency plans for implementation in the event of disruption of ATS and related supporting services signed with Oman, pending signature with Bahrain, Iran and Qatar.	UAE	Dec, 2014	A
2	MID ANP Table ATS-1 Plan of ATS routes	-	ATS routes A418/UP574 not implemented KUMUN – PAPAR	Dec, 2006	KUMUN-PAPAR segment not implemented.	S	States to continue negotiations with one another. The UAE considers options for a resolution to be exhausted	Iran- UAE	Dec, 2014	B

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the ATM Field

YEMEN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	Annex 11 Para. 2.30	-	Development of contingency plan	Nov, 2006	Ongoing - signed with Oman.	H O	Need to develop and promulgate contingency plan for implementation in the event of disruption of ATS and related supporting services with all neighboring States.	Yemen	Dec, 2014	A
2	Annex 11 Para 3.3.5.1	-	Granting RVSM approvals for aircraft without known hight-keeping monitoring results	Dec, 2012	-	O	-	Yemen	Jun, 2014	U
3	Annex 11 Para 3.3.5.1	-	Reporting unsatisfactory CFRs and LHDs to MIDRMA	Oct, 2013	Yemen to coordinate with MIDRMA.	H	Reporting unsatisfactory CFRs and LHDs.	Yemen	Dec, 2014	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

MIDANPIRG/14
Appendix 5.1D to the Report on Agenda Item 5.1

Deficiencies in the CNS Field

BAHRAIN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	AFTN Rationalized Plan (LIM MID RAN Rec 6/6, 6/9 and MIDANPIRG/4 Conclusion 4/19).	Afghanistan-Bahrain-Kabul-Bahrain AFTN Circuit	The circuit is not yet implemented.	Oct, 1998	Bahrain is ready to implement the circuit.	O	Bahrain side ready. Bahrain service provider (BATELCO) informed they can supply VSAT connection. No information from Afghanistan.	Afghanistan-Bahrain	Sep, 2014	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the CNS Field

EGYPT

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action

No Deficiencies Reported

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

5.1D-3

Deficiencies in the CNS Field

IRAN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	MID ANP (AFTN Rationalized Plan).	Afghanistan-Iran-Kabul-Tehran AFTN Circuit	The circuit is not yet implemented.	Oct, 1998	VSAT network to be implemented.	S	Iran advised that they are ready. No information from Afghanistan	Afghanistan-Iran	Sep, 2014	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the CNS Field

IRAQ

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	ATS Direct Speech Circuit Iraq-Syria.	ATS Direct Speech circuit	ATS Direct speech circuit is needed.	Oct, 2008	In progress between Iraq and Syria.	O	Iraq advised that they can provide VSAT.	Iraq- Syria	Jun, 2014	U
2	MID FASID.	Baghdad VOR	VOR not installed.	Jan, 2009	In progress.	O	Iraq advised that all NAV AIDs will be installed according to the master plan.	Iraq	Sep, 2014	U
3	MID FASID.	Baghdad DME	DME not installed.	Jan, 2009	In progress.	O	Iraq advised that all NAV AIDs will be installed according to the master plan.	Iraq	Sep, 2014	U

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

5.1D-5

Deficiencies in the CNS Field

JORDAN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	MID ANP (AFTN Rationalized Plan).	Jordan-Lebanon-Amman-Beirut AFTN Circuit	AFTN Circuit is not yet implemented.	Oct, 1998	Jordan is ready to implement the circuit.	S	Jordan is already co-ordinating with Lebanon.	Jordan- Lebanon	Sep, 2014	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the CNS Field

KUWAIT

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action

No Deficiencies Reported

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

5.1D-7

Deficiencies in the CNS Field

LEBANON

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	MID ANP (AFTN Rationalized Plan).	Amman-Beirut AFTN Circuit	AFTN Circuit is not yet implemented.	Oct, 1998	Lebanon working on the implementation of the circuit.	S	If problem persists, another alternative should be proposed in the MID AFTN Plan. No update received from Lebanon	Jordan- Lebanon	Sep, 2014	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the CNS Field

OMAN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	Direct Speech Circuit (LIM MID RAN) in Oman and Yemen.	Direct speech Circuit	Direct Speech circuit is required.	Oct, 1998	Under implementation.	O	Oman Ready. Oman and Yemen are working to implement the circuit	Oman- Yemen	Sep, 2014	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

5.1D-9

Deficiencies in the CNS Field

QATAR

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action

No Deficiencies Reported

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the CNS Field

SAUDI ARABIA

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action

No Deficiencies Reported

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

5.1D-11

Deficiencies in the CNS Field

SYRIA

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	ATS Direct Speech Circuit Syria- Iraq.	ATS Direct Speech Circuit	Direct Speech circuit required between Syria and Iraq.	Oct, 2008	Matter pending in Syria.	O	Iraq advised they are ready to provide VSAT for the implementation.	Syria- Iraq	Sep, 2014	U

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the CNS Field

UAE

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action

No Deficiencies Reported

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

5.1D-13

Deficiencies in the CNS Field

YEMEN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	Direct Speech Circuit with Adjacent Centre in Djibouti.	Direct Speech Circuit	Requirement for a Direct Speech Circuit with Adjacent Centre Djibouti.	Oct, 1998	No updates received from Yemen.	O	No updates received from Yemen.	Yemen- Djibouti	Sep, 2014	A
2	Direct Speech Circuit with Adjacent Centre in India.	Direct Speech Circuit	Direct speech Circuit with Adjacent Centre in India.	Oct, 1998	No updates received from Yemen.	O	No updates received from Yemen.	Yemen- India	Sep, 2014	A
3	Direct SPeech Circuit with Adjacent Centers in Oman and Yemen.	Direct Speech Circuit	Requirement for a Direct SPeech Circuit with Adjacent center Oman.	Oct, 1998	No updates received from Yemen.	O	Establish a direct Speech Circuit with Adjacent centre in Oman. Oman Ready. No update from Yemen.	Yemen- Oman	Sep, 2014	A
4	Direct speech Circuits with Adjacent Centres in Eritrea and Somalia.	Direct Speech Circuit	Requirement for direct speech Circuits with adjacent Centres in Eritrea and Somalia.	Oct, 1998	No updates received from Yemen.	O	No updates received from Yemen.	Yemen- Eritrea-Somalia	Sep, 2014	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

MIDANPIRG/14
Appendix 5.1E to the Report on Agenda Item 5.1

Deficiencies in the MET Field

BAHRAIN

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action

No Deficiencies Reported

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the MET Field

EGYPT

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	MID FASID Table MET 1A	HEOW METAR and 30-hour TAF	HEOW METAR and 30-hour TAF not available internationally	Nov, 2013	newly reported	O	HEOW OPMET Data to be routed to ROC Vienna (LOZZMMID)	Egypt	May, 2014	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

5.1E-3

Deficiencies in the MET Field

IRAN

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action

No Deficiencies Reported

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

5.1E-4

Deficiencies in the MET Field

IRAQ

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	MID FASID Table MET 1A	ORSU METAR	ORSU METAR not available internationally	Nov, 2013	newly reported	O	ORSU METAR to be routed to ROC Vienna (LOZZMMID)	Iraq	May, 2014	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

5.1E-5

Deficiencies in the MET Field

JORDAN

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action

No Deficiencies Reported

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the MET Field

KUWAIT

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action

No Deficiencies Reported

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

5.1E-7

Deficiencies in the MET Field

LEBANON

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action

No Deficiencies Reported

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the MET Field

OMAN

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action

No Deficiencies Reported

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

5.1E-9

Deficiencies in the MET Field

QATAR

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action

No Deficiencies Reported

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the MET Field

SAUDI ARABIA

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action

No Deficiencies Reported

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

5.1E-11

Deficiencies in the MET Field

SYRIA

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	MID FASID Table MET 1A	OSAP METAR and 24-hour TAF	OSAP METAR and 24-hour TAF not available internationally	Nov, 2013	newly reported	O	OSAP OPMET data to be routed to ROC Vienna (LOZZMMID)	Syria	Aug, 2014	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the MET Field

UAE

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action

No Deficiencies Reported

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

5.1E-13

Deficiencies in the MET Field

YEMEN

Item No	Identification		Deficiencies			Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action

No Deficiencies Reported

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

MIDANPIRG/14
Appendix 5.1F to the Report on Agenda Item 5.1

Deficiencies in the SAR Field

BAHRAIN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	Annex 12 Para.. 3.1.1 & 3.1.5	-	Lack of Search and Rescue Agreements with neighbouring States	Nov, 1994	-	S	Bahrain is ready and willing to sign the SAR agreements with all its neighboring States, a draft copy already sent to the concerned States.	Bahrain	Jun, 2014	A
2	Annex 12 Para. 4.2.1 & 4.4	-	Lack of Plans of operations for the conduct of SAR operations and SAR exercises	Apr, 2012	-	O	Communication exercise done on January 2013. Full scale exercise done in 2012 and reschedule for 2014. Coordination exercise planned for 2014.	Bahrain	Dec, 2014	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the SAR Field

EGYPT

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	Annex 12 Para.. 3.1.1 & 3.1.5	-	Lack of Search and Rescue Agreements with neighboring States	Nov, 1994	-	S	Egypt has promulgated regulations and started development of SAR agreement with Cyprus and other States	Egypt with neighboring States	Dec, 2014	A
2	Annex 12 Para. 4.2.1 & 4.4	-	Lack of Plans of operations for the conduct of SAR operations and SAR exercises	Apr, 2012	-	O	-	Egypt	Dec, 2014	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

5.1F-3

Deficiencies in the SAR Field

IRAN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	Annex 12 Para.. 3.1.1 & 3.1.5	-	Lack of Search and Rescue Agreements with neighboring States	Nov, 1994	-	S	Work ongoing to sign agreements	Iran with neighboring States	Dec, 2014	A
2	Annex 12 Para. 2.1	-	Lack of provision of required SAR services	Apr, 2012	-	O	-	Iran	Dec, 2014	A
3	Annex 12 Para. 4.2.1 & 4.4	-	Lack of Plans of operations for the conduct of SAR operations and SAR exercises	Apr, 2012	-	O	-	Iran	Dec, 2014	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the SAR Field

IRAQ

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	Annex 12 Para.. 3.1.1 & 3.1.5	-	Lack of Search and Rescue Agreements with neighboring States	Nov, 1994	-	S	Work ongoing to sign agreements. Signed with Jordan	Iraq with neighboring States	Dec, 2014	A
2	Annex 12 Para. 2.1	-	Lack of provision of required SAR services	Apr, 2012	-	O	-	Iraq	Dec, 2014	A
3	Annex 6 Vol I, para. 6.17 Annex 10, Vol III, para. 5.1 Annex 12 para. 2.6.4	ELT	Non-compliance with carriage of Emergency Locator Transmitter (ELT) requirements	Apr, 2012	-	O	-	Iraq	Dec, 2014	A
4	Annex 12 Para. 4.2.1 & 4.4	-	Lack of Plans of operations for the conduct of SAR operations and SAR exercises	Apr, 2012	-	O	-	Iraq	Dec, 2014	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

5.1F-5

Deficiencies in the SAR Field

JORDAN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	Annex 12 Para.. 3.1.1 & 3.1.5	-	Lack of Search and Rescue Agreements with neighboring States	Nov, 1994	-	S	Work ongoing to sign agreements. Signed with Iraq	Jordan	Dec, 2014	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the SAR Field

KUWAIT

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	Annex 12 Para.. 3.1.1 & 3.1.5	-	Lack of Search and Rescue Agreements with neighboring States	Nov, 1994	-	S	Work ongoing to sign agreements	Kuwait with neighboring States	Dec, 2014	A
2	Annex 6 Vol I, para. 6.17 Annex 10, Vol III, para. 5.1 Annex 12 para. 2.6.4	ELT	Non-compliance with carriage of Emergency Locator Transmitter (ELT) requirements	Apr, 2012	-	O	-	Kuwait	Dec, 2014	A
3	Annex 12 Para. 4.2.1 & 4.4	-	Lack of Plans of operations for the conduct of SAR operations and SAR exercises	Apr, 2012	-	O	-	Kuwait	Dec, 2014	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

5.1F-7

Deficiencies in the SAR Field

LEBANON

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	Annex 12 Para.. 3.1.1 & 3.1.5	-	Lack of Search and Rescue Agreements with neighboring States	Nov, 1994	-	S	Work ongoing to sign agreements. Agreement signed with Cyprus.	Lebanon with neighboring States	Dec, 2014	A
2	Annex 12 Para. 2.1	-	Lack of provision of required SAR services	Apr, 2012	-	O	-	Lebanon	Dec, 2014	A
3	Annex 12 Para. 4.2.1 & 4.4	-	Lack of Plans of operations for the conduct of SAR operations and SAR exercises	Apr, 2012	-	O	-	Lebanon	Dec, 2014	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the SAR Field

OMAN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	Annex 12 Para.. 3.1.1 & 3.1.5	-	Lack of Search and Rescue Agreements with neighboring States	Nov, 1994	-	S	Agreement signed with Saudi Arabia. Work ongoing to sign the remaining agreements	Oman with neighboring States	Dec, 2014	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

5.1F-9

Deficiencies in the SAR Field

QATAR

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	Annex 12 Para.. 3.1.1 & 3.1.5	-	Lack of Search and Rescue Agreements with neighboring States	Nov, 1994	-	S	-	Qatar and Bahrain	Dec, 2014	A
2	Annex 12 Para. 2.1	-	Lack of provision of required SAR services	Apr, 2012	-	O	-	Qatar	Dec, 2014	A
3	Annex 6 Vol I, para. 6.17 Annex 10, Vol III, para. 5.1 Annex 12 para. 2.6.4	ELT	Non-compliance with carriage of Emergency Locator Transmitter (ELT) requirements	Apr, 2012	-	O	-	Qatar	Dec, 2014	A
4	Annex 12 Para. 4.2.1 & 4.4	-	Lack of Plans of operations for the conduct of SAR operations and SAR exercises	Apr, 2012	-	O	-	Qatar	Dec, 2014	A

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

Deficiencies in the SAR Field

SAUDI ARABIA

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	Annex 12 Para.. 3.1.1 & 3.1.5	-	Lack of Search and Rescue Agreements with neighboring States	Nov, 1994	-	S	SAR National Board established. Agreement signed with Oman. Work ongoing to sign the remaining agreements.	Saudi Arabia with neighboring States	Dec, 2014	A
2	Annex 12 Para. 4.2.1 & 4.4	-	Lack of Plans of operations for the conduct of SAR operations and SAR exercises	Apr, 2012	-	O	-	Saudi Arabia	Dec, 2014	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

5.1F-11

Deficiencies in the SAR Field

SYRIA

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	Annex 12 Para.. 3.1.1 & 3.1.5	-	Lack of Search and Rescue Agreements with neighboring States	Nov, 1994	-	S	Work ongoing to sign agreements. Agreement with Turkey and Cyprus completed. Agreement with Iraq, Jordan and Lebanon pending	Syria with neighboring States	Dec, 2014	A
2	Annex 12 Para. 2.1	-	Lack of provision of required SAR services	Apr, 2012	-	O	-	Syria	Jan, 2015	A
3	Annex 6 Vol I, para. 6.17 Annex 10, Vol III, para. 5.1 Annex 12 para. 2.6.4	ELT	Non-compliance with carriage of Emergency Locator Transmitter (ELT) requirements	Apr, 2012	-	O	-	Syria	Jan, 2015	A
4	Annex 12 Para. 4.2.1 & 4.4	-	Lack of Plans of operations for the conduct of SAR operations and SAR exercises	Apr, 2012	-	O	-	Syria	Jan, 2015	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the SAR Field

UAE

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	Annex 12 Para.. 3.1.1 & 3.1.5	-	Lack of Search and Rescue Agreements with neighboring States	Nov, 1994	-	S	Work ongoing. The agreement with Bahrain and Oman to be updated and the one with Iran is being coordinated.	UAE with neighboring States	Dec, 2014	A

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

5.1F-13

Deficiencies in the SAR Field

YEMEN

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
1	Annex 12 Para.. 3.1.1 & 3.1.5	-	Lack of Search and Rescue Agreements with neighboring States	Nov, 1994	-	S	-	Yemen with neighboring States	Dec, 2014	A
2	Annex 12 Para. 2.1	-	Lack of provision of required SAR services	Apr, 2012	-	O	-	Yemen	Dec, 2014	A
3	Annex 6 Vol I, para. 6.17 Annex 10, Vol III, para. 5.1 Annex 12 para. 2.6.4	ELT	Non-compliance with carriage of Emergency Locator Transmitter (ELT) requirements	Apr, 2012	-	O	-	Yemen	Dec, 2014	A
4	Annex 12 Para. 4.2.1 & 4.4	-	Lack of Plans of operations for the conduct of SAR operations and SAR exercises	Apr, 2012	-	O	-	Yemen	Dec, 2014	A

⁽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.

⁽¹⁾ Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

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Report on Agenda Item 5.2

REPORT ON AGENDA ITEM 5: AIR NAVIGATION DEFICIENCIES AND SAFETY MATTERS**5.2 AIR NAVIGATION SAFETY*****RVSM Monitoring Activities in the MID Region***

5.2.1 The meeting was apprised of the outcome of the ATM/AIM/SAR SG/13 and MIDRMA Board/12 meetings related to the MIDRMA activities and RVSM safety monitoring activities in the MID Region.

MID RVSM SMR 2012-2013

5.2.2 The meeting noted with concern that the MIDRMA is still facing difficulties related to the provision of required data by States. The meeting recognized that the non-compliance with the requirement for reporting of data to the MIDRMA is a longstanding shortcoming in the MID Region, which needs to be addressed seriously. In this respect, it was re-iterated that the lack of awareness about the requirements for RVSM safety assessment activity is a major contributing factor.

5.2.3 Moreover, the meeting recalled that, in accordance with MIDANPIRG Conclusion 13/67, with a view to improve the knowledge of the ATC and Air Operators personnel, the MIDRMA was requested to include in its work programme regular missions to the Member States, during which briefings on the MIDRMA activities and RVSM safety assessment requirements be provided to concerned personnel. In the same vein, the meeting agreed that such briefings could be provided in the MIDRMA premises in Bahrain to the personnel involved in RVSM safety assessment activity (ATC, RVSM Approval Authority and Air Operators) designated by member States, in coordination with the MIDRMA, when and where appropriate. Accordingly the meeting agreed to the following Conclusion which replaces and supersedes MIDANPIRG/13 Conclusion 13/67:

CONCLUSION 14/33: TRAINING ON RVSM SAFETY ASSESSMENT

That, with a view to raise the awareness related to the requirements for sustained RVSM safety assessment activity and improve the knowledge of the ATC, RVSM approval Authority and Air Operators personnel, the MIDRMA include in its work programme training activity/briefings on RVSM safety assessment requirements to be provided to concerned personnel either through missions to concerned States or through familiarization visits organized in the MIDRMA premises, when and where appropriate.

5.2.4 The meeting underlined that several FIRs with high volume of traffic continue to report NIL Large Height Deviation (LHD), which affects the accuracy of the computed Targets Level of Safety (TLS).

5.2.5 The meeting was further apprised of the outcome of the RVSM Scrutiny Group meeting held in Kuwait, 16 December 2012. It was noted with concern that only five States (Bahrain, Egypt, Iran, Kuwait and Saudi Arabia) attended the meeting. The meeting underlined the importance of the tasks assigned to the RVSM Scrutiny Groups and in order to improve the efficiency of the MID RVSM Scrutiny Group, agreed that its work programme should be included in the agenda of the MIDRMA Board meetings. Based on the above, the meeting agreed to the following Decision:

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DECISION 14/34: SCRUTINY GROUP WORK PROGRAMME

That, in order to improve the efficiency of the MID RVSM Scrutiny Group, its work programme be included in the agenda of the MIDRMA Board meetings.

5.2.6 The meeting reviewed the final version of the MID RVSM Safety Monitoring Report (SMR) 2012-2013 presented by the MIDRMA. It was highlighted that the MID RVSM SMR 2012-2013 presents evidence that, according to the data and methods used, the key safety objectives as set out by MIDANPIRG, through Conclusion 12/16, continue to be met. In this respect, it was noted with appreciation that the three safety objectives were met, as follows:

Safety Objective 1: The risk of collision in MID RVSM airspace due solely to technical height-keeping performance meets the ICAO Target Level of Safety (TLS) of 2.5×10^{-9} fatal accidents per flight hour. The computed value for the technical height risk in the SMR 2012-2013 is **6.37×10^{-12}** . This meets the RVSM Safety Objective 1.

5.2.7 The meeting recalled that the evidence concerning the risk of collision due to technical height-keeping performance is considered reliable if it can be shown, inter-alia, that the $P_z(1000)$ – the probability of vertical overlap due to technical height-keeping performance, between aircraft flying 1000 ft separation in the MID RVSM airspace, is less than 1.7×10^{-8} . For the MID RVSM SMR 2012-2013, the computed value of the $P_z(1000)$ was **5.26×10^{-9}** , which meets the ICAO requirement.

5.2.8 The meeting noted that the airspace to the northern part of Bahrain FIR continued to be the busiest and most complex airspace in the Middle East Region, however the northern and eastern part of Muscat FIR is also very complex and so is the airspace around HIL in Jeddah FIR. Accordingly, the determination of the Horizontal Overlap Frequency was measured in four different FIRs, Bahrain, Kuwait (including the southern part of Baghdad FIR), Muscat and the Central part of Jeddah FIR. The computed value for the Horizontal Frequency Overlap is estimated to be **4.34×10^{-8}** per flight hour.

Safety Objective 2: The overall risk of collision due to all causes which includes the technical risk and all risk due to operational errors and in-flight contingencies in the MID RVSM airspace meets the ICAO overall TLS of 5×10^{-9} fatal accidents per flight hour. The computed value for the overall risk in the SMR 2012-2013 is **3.63×10^{-11}** . This meets RVSM Safety Objective 2.

5.2.9 The vertical risk estimation due to atypical errors has been demonstrated to be the major contributor in the overall vertical-risk estimation for the MID RVSM airspace. The final conclusions of the data processed have been severely limited by the continued NIL reporting of Large Height Deviations (LHDs) and Coordination Failure Reports (CFRs) from some States which does not support a high confidence in the result.

5.2.10 It was highlighted that a simplified LHD Template containing the minimum data necessary to trigger the process of reporting Large Height deviation (LHD) and/or Coordination Failure Report (CFR) would be developed by the MIDRMA, with a view to facilitate the process of reporting of LHDs and CFRs by the Air Traffic Controllers. It was also noted that an online reporting tool for the submission of LHD reports would also improve the level of reporting.

5.2.11 The effect of future traffic growth has also been assessed. The overall risk of collision will continue to meet the TLS of 2.5×10^{-9} fatal accidents per flight hour at least until 2017.

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Safety Objective 3: address any safety-related issues raised in the SMR by recommending improved procedures and practices; and propose safety level improvements to ensure that any identified serious or risk-bearing situations do not increase and, where possible, that they decrease. This should set the basis for a continuous assurance that the operation of RVSM will not adversely affect the risk of en-route mid-air collision over the years.

5.2.12 The meeting noted that the analysis of operational error reports and coordination failure reports and the recommendations put forward in the SMR 2012-2013 provide sufficient evidence that RVSM Safety Objective 3 is being met.

5.2.13 Considering all of the foregoing and to standardize and improve the reporting of required data to the MIDRMA, the meeting agreed to the following Conclusion which replaces and supersedes the MIDANPIRG/13 Conclusion 13/65:

CONCLUSION 14/35: PROVISION OF REQUIRED DATA TO THE MIDRMA

That, considering the on-going requirement for RVSM safety monitoring in the MID Region:

- a) States provide the required data to the MIDRMA on a regular basis and in a timely manner. The data is to include, but is not necessarily limited to:*
 - i) approval of operators and aircraft for RVSM operations (on monthly basis or whenever there's a change);*
 - ii) Large Height Deviations (LHD) (on monthly basis);*
 - iii) traffic data (as requested by the MIDRMA Board);*
 - iv) radar data as, when and where required; and*
 - v) airway structure (above FL 290) and waypoints.*
- b) States not providing the required data to the MIDRMA on a regular basis and in a timely manner:*
 - i) be included in the MIDANPIRG list of air navigation deficiencies; and*
 - ii) might not be covered by the MID RVSM Safety Monitoring Report (SMR).*

Height Keeping Monitoring Requirements

5.2.14 The meeting recalled that further to the amendment of Annex 6 Part I and Part II concerning long term monitoring requirements for height keeping performance, and based on the MIDRMA Minimum Monitoring Requirements, States are required to ensure that a minimum of two aircraft of each aircraft type grouping of the operator have their height-keeping performance monitored, at least once every two years.

5.2.15 The meeting noted with appreciation that the percentage of aircraft requiring height keeping monitoring in the MID Region was reduced from 46% to 10% since the last MIDRMA Board/11 meeting in September 2011. However, **119** aircraft are required to be monitored out of **131** RVSM approved aircraft without known height-keeping monitoring results. It was highlighted that the MIDRMA had been in close coordination with other RMAs to exchange all available height monitoring results, particularly with the Euro RMA that is providing the results of any MID RVSM approved aircraft flying over the European Height Monitoring Units (HMUs).

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5.2.16 In connection with the above, the meeting agreed that Lebanon and Yemen be included in the MIDANPIRG list of air navigation deficiencies, for granting RVSM approvals for aircraft without known height-keeping monitoring results.

5.2.17 Based on the above, the meeting urged States to ensure that their aircraft operators fully comply with Annex 6 provisions related to long term height monitoring requirements and in accordance with the Minimum Monitoring Requirements (MMR) Tables. Accordingly, the meeting agreed to the following Conclusion which replaces and supersedes the MIDANPIRG/13 Conclusion 13/69:

CONCLUSION 14/36: RVSM MINIMUM MONITORING REQUIREMENTS

That, States that have not yet done so, be urged to:

- a) take necessary measures to ensure that their aircraft operators fully comply with Annex 6 provisions related to long term height monitoring requirements, based on the MIDRMA MMR Tables; and*
- b) provide feedback to the ICAO MID Regional Office before 1 March 2014.*

5.2.18 In connection with the above, the meeting requested the MIDRMA to circulate the List of RVSM approved aircraft without known height-keeping monitoring results, to all MID States and other RMAs for appropriate action.

5.2.19 The meeting noted that the subject of monitoring airframes that are RVSM compliant on delivery was addressed by the seventh meeting of RMA Coordination Group (RMACG/7) held in Beijing, China, 28 May – 1 June 2012. Accordingly, the meeting endorsed the MID Region RVSM MMR Conditions at **Appendix 5.2A** to the Report on Agenda Item 5.2, to be part of the monitoring requirements for the MID Region.

5.2.20 The meeting agreed that the MID Region RVSM MMR Conditions at **Appendix 5.2A** to the Report on Agenda Item 5.2 should be posted on the MIDRMA website and included in the MIDRMA Manual.

5.2.21 The meeting was apprised of the MIDRMA GMU activities. In this respect, it was noted with appreciation that since January 2010, the MIDRMA conducted GMU height monitoring for more than 165 Aircraft and it's expected to conduct the GMU height monitoring for more than 80 aircraft in the near future.

5.2.22 In connection with the above, the meeting recalled that MIDANPIRG/13 noted the difficulties which hindered the MIDRMA to purchase 2 GMU Units from the CSSI Company, as agreed by the MIDRMA Board through Draft Conclusion 10/6. Therefore, it was noted that the MIDRMA order to purchase 2 Enhanced GMU units was still pending due to the CSSI conditions and restrictions.

5.2.23 The meeting was apprised of the difficulties that faced the MIDRMA Team for the conduct of some GMU monitoring missions, especially with the carriage of the GMU Unit which necessitates special authorization from national authorities. In order to avoid that the MIDRMA faces similar difficulties in the future, the meeting agreed that prior to the conduct of any GMU monitoring mission, and upon notification by the MIDRMA, the concerned MIDRMA Board Member should undertake necessary arrangements at the national level with concerned authorities (CAA, Customs, Security, etc.) to facilitate the MIDRMA Team mission. Accordingly, the meeting agreed to the following Conclusion:

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CONCLUSION 14/37: ARRANGEMENTS FOR THE CONDUCT OF GMU MONITORING MISSIONS

That, prior to the conduct of any GMU monitoring mission:

- a) *the MIDRMA notify the concerned MIDRMA Board Member; and*
- b) *the MIDRMA Board member is to undertake necessary arrangements at the national level with concerned authorities (CAA, Customs, Security, etc.) to facilitate the MIDRMA Team mission.*

MIDRMA Risk Analysis Software (MID RAS)

5.2.24 The meeting recalled that the MIDRMA, since its establishment, has been using the Collision Risk Model provided by EUROCONTROL. It was highlighted that this Model is more suitable for the European airspace and is over conservative and sometimes over estimates the collision risk for the MID Region.

5.2.25 The meeting recalled that MIDANPIRG, through Conclusion 13/68, agreed that the MIDRMA initiate action for the development/purchase of suitable Vertical Collision Risk (VCR) software for the MID Region. In this respect, the meeting was apprised of the progress achieved for the development and validation of the MIDRMA Risk Analysis Software (MID RAS). Accordingly, the meeting noted with appreciation that the MIDRMA received on 24th November 2013, the final phase of the project after the completion of the required training.

5.2.26 The meeting also noted that the MID RAS was used for the development of the SMR 2012-2013. The meeting agreed that it is important to compare the computed TLS using the MID RAS with that computed using the EUROCONTROL Model.

5.2.27 The meeting noted that the following steps were followed in the process of validation of the different MID RAS Modules:

1. **Airspace Modelling:** This Module has been validated using Bahrain and Kuwait data. This includes modelling of airspace, waypoints, airways and restrictions.
2. **Radar/Flight plan Data processing Module:** This Module has been validated and the software can process the flight plan information and the radar track data.
3. **Parameter Estimation Module:** This Module has been validated and the software can analyse and classify events, compute the frequency of overlap as well as time spent in overlap.
4. **The Collision Risk model** is under development and its validation requires the availability of up-to-date data related to Airway structure and waypoints from all MID States.

Action Plan for the development of the MID RVSM SMR 2014

5.2.28 The meeting agreed that for the development of the SMR 2014, the Traffic Data Sample (TDS) will be collected for the period 15 January – 15 February 2014.

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5.2.29 It was reiterated that the required data must be submitted in the right format using the excel sheet designed for this purpose which is the only sheet recognized by the MID RAS, any data received in a different format, or in an excel sheet different from the one available on the MIDRMA website, www.midrma.com will not be acceptable.

5.2.30 It was highlighted that the MID RAS will be able to evaluate the submitted data by each Member States automatically and send an evaluation report in the data status with all the errors/inconsistencies, if any, with an official statement related to the acceptance (or non-acceptance) of data.

5.2.31 Therefore, the meeting agreed to the following Action Plan for the development of the MID RVSM SMR 2014:

No	Start	Activity	End
1	15/01/2014	States to collect flight plan traffic data (SMR's Traffic Data Sample) for all Traffic operating between FL290 and FL410 inclusive.	15/02/2014
2	15/01/2014	Collect Bahrain and Kuwait SSR radar data for January 2014 for all Traffic operating between FL290 and FL410 inclusive.	15/02/2014
3	15/01/2014	Collect Muscat SSR radar data for January 2014 for all Traffic operating between FL290 and FL410 inclusive.	15/02/2014
4	15/01/2014	Collect SSR radar data for HIL area for the month of January 2014 for all Traffic operating between FL290 and FL410 inclusive.	15/02/2014
5	March 2014	Review and analyze all Large Height Deviation Reports.	-
5	16/02/2014	Collect states TDS.	30/04/2014
6	01/03/2014	Ensure MID RVSM approvals up to date and ensure the ICAO minimum monitoring requirements achieved based on the TDS received from States.	15/04/2014
7	01/04/2014	Prepare New MID MMR for all MID Airline Operators.	30/04/2014
8	01/05/2014	MID RMA Calculations of all risk parameters	31/05/2014
9	01/05/2014	Production of the SMR 2014 initial results.	14/05/2014
10	01/07/2014	Production of the final MID SMR 2014 for presentation to and Endorsement by MIDANPIRG/15	30/09/2014

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

CONCLUSION 14/38: MID RVSM SMR 2014

That,

- a) *the FPL/traffic data for the period 15 January – 15 February 2014 be used for the development of the MID RVSM Safety Monitoring Report (SMR 2014);*
- b) *only the appropriate Flight Data form available on the MIDRMA website (www.midrma.com) should be used for the provision of FPL/traffic data to the MIDRMA;*
- c) *the initial results of the MID RVSM SMR 2014 be ready before 15/05/2014; and*
- d) *the final version of the MID RVSM SMR 2014 be ready for presentation to and endorsement by MIDANPIRG/15.*

MIDANPIRG/14
Report on Agenda Item 5.2

Coordination between MIDANPIRG and RASG-MID

5.2.33 The meeting recalled that the creation of RASGs by the Council had raised concern related to the parallels that were being drawn between the PIRG framework in which regional and national implementation plans are being developed and implemented and the RASG framework that would monitor progress, coordinate actions among States to facilitate implementation of Global Aviation Safety Plan (GASP).

5.2.34 The meeting noted that while RASGs have been established to initially deal with safety issues directly related to flight operations, planning should be initiated as soon as circumstances permit to adopt a systems approach so that RASGs address safety issues from an integrated perspective that includes flight operations, aerodrome and ATM safety.

5.2.35 The meeting recalled that the RASG-MID/2 meeting agreed with MIDANPIRG that SSP implementation should be monitored by RASG-MID.

5.2.36 Taking into consideration the global and regional developments, including the endorsement of the MID Region Safety Strategy by the DGCA-MID/2 meeting, the meeting agreed that SMS implementation as well as Runway Safety issues be fully addressed by RASG-MID. Thus, all aerodrome safety issues, which represent the main activity of the current MIDANPIRG AOP Sub-Group and ADCI Task Force would be transferred to RASG-MID, pending final approval by the RASG-MID/3 meeting (Kuwait, 27-29 January 2014).

5.2.37 The meeting noted that some of the RASG-MID Safety Enhancement Initiatives (SEIs), in particular the SEI related to Controlled Flight Into Terrain (CFIT) includes a number of PBN-related actions such as the implementation of RNP AR and APV procedures for the Non-Precision Approach Runways. Accordingly, the meeting tasked the PBN SG to support these activities and ensure necessary coordination through the Secretariat and chairpersons of the groups.

MID REGION RVSM MINIMUM MONITORING REQUIREMENTS - CONDITIONS

1. UPDATE OF MONITORING REQUIREMENTS TABLE AND WEBSITE. As significant data is obtained, monitoring requirements for specific aircraft types may change. When Table 1 below, is updated, The MIDRMA will advise all State members. The updated table will be posted on the MIDRMA website.

2. MONITORING PROGRAM. All operators that operate or intend to operate in the Middle East Region airspace where RVSM is applied are required to participate in the regional RVSM monitoring programme. Table 1 addresses requirements for monitoring the height-keeping performance of aircraft in order to meet regional safety objectives. In their application to the appropriate State authority for RVSM approval, operators must show a plan for meeting the applicable monitoring requirements. Initial monitoring should be completed as soon as possible but not later than 6 months after the issue of RVSM approval, the State of Registry that had issued an RVSM approval to an operator would be required to establish a requirement which ensures that a minimum of two aeroplanes of each aircraft type grouping of the operator have their height-keeping performance monitored, at least once every two years or within intervals of 1000 flight hours per aeroplane, whichever period is longer.

3. AIRCRAFT STATUS FOR MONITORING. Aircraft engineering work that is 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 coordinated with the State authority.

4. APPLICABILITY OF MONITORING FROM OTHER REGIONS. Monitoring data obtained in conjunction with RVSM monitoring programmes from other Regions can be used to meet regional monitoring requirements. The RMAs, which are responsible for administering the monitoring programme, have access to monitoring data from other Regions and will coordinate with States and operators to inform them on the status of individual operator monitoring requirements.

5. MONITORING PRIOR TO THE ISSUE OF RVSM OPERATIONAL APPROVAL IS NOT A REQUIREMENT. Operators should submit monitoring plans to the responsible civil aviation authority and to the MIDRMA that show how they intend to meet the requirements specified in Table1. Monitoring will be carried out in accordance with this table.

6. AIRCRAFT GROUPS NOT LISTED IN TABLE 1. Contact the MIDRMA for clarification if an aircraft group is not listed in Table 1 or for clarification of other monitoring related issues. An aircraft group not listed in Table 1 will probably be subject to Category 2 or Category 3 monitoring requirements.

7. TABLE OF MONITORING GROUPS. Table 2 shows the aircraft types and series that are grouped together for operator monitoring purposes.

8. TRAILING CONE DATA. Altimetry System Error estimations developed using Trailing Cone data collected during RVSM certification flights can be used to fulfill

monitoring requirements. It must be documented, however, that aircraft RVSM systems were in the approved RVSM configuration for the flight.

9. 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 attached table, the new airframes are not required to be monitored. 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 must complete monitoring in accordance with the attached table.

Table 1: MONITORING REQUIREMENTS TABLE

MONITORING IS REQUIRED IN ACCORDANCE WITH THIS TABLE

MONITORING PRIOR TO THE ISSUE OF RVSM APPROVAL IS **NOT** A REQUIREMENT

CATEGORY		AIRCRAFT GROUP	MINIMUM OPERATOR MONITORING FOR EACH AIRCRAFT GROUP
1	GROUP APPROVED: DATA INDICATES COMPLIANCE WITH THE RVSM MASPS	A124, A300, A306, A310-GE, A310-PW, A318, A320, A330, A340, A345, A346, A3ST, AVRO, B712, B727, B737CL, B737C, B737NX, B747CL, B74S, B744-5, B744-10, B752, B753, B767, B764, B772, B773, BD100, CL600, CL604, CL605, C17, C525, C560, C56X, C650, C680, C750, CARJ, CRJ7, CRJ9, DC10, E135-145, E170-190, F100, F900, FA10, GALX, GLEX, GLF4, GLF5, H25B-800, J328, KC135, LJ40, LJ45, LJ60, MD10, MD11, MD80, MD90, PRM1, T154	Two airframes from each fleet* of an operator to be monitored
2	GROUP APPROVED: INSUFFICIENT DATA ON APPROVED AIRCRAFT	Other group aircraft other than those listed above including: A148, A158 , A380, A400 , AC90 , AC95, AN72, ASTR, ASTR-SPX, B701, B703, B703-E3, B731, B732, B787 , BD700, BE20, BE30, BE40, B744-LCF, B748, C130, C500, C25A, C25B, C25C, C441, C5, C510, C550-552, C550-B, C550-II, C550-SII, CRJ10 , D328, DC85, DC86-87, DC91 , DC93, DC94 DC95, E50P, E55P , EA50, F2TH, F70, FA20, FA50, FA7X, G150, G250 , GLF2, GLF2B, GLF3, GLF6 , H25B-700, H25B-750, H25C, HA4T, IL62, IL76, IL86, IL96, L101, LJ23 , LJ24 , LJ25 , LJ28 , L29B-2, L29B-731, LJ31, LJ35-36, LJ55, MU30, P180, PAY4 , PC12, SB20, SBR1, SBR2, T134, T204, T334, TBM, WW24, YK42	60% of airframes (round up if fractional) from each fleet of an operator or individual monitoring
3	Non-Group	Aircraft types for which no generic compliance method exists: BA11, R722, SJ30, STAR, B720, A225, GLEX-ASTOR, GLF5-AEW, VC-10, GSPN, B74S-SOFIA	100% of aircraft shall be monitored

Table 2: MONITORING GROUPS FOR AIRCRAFT CERTIFIED UNDER GROUP APPROVAL REQUIREMENTS

Monitoring Group	A/C ICAO	A/C Type	A/C Series
A124	A124	AN-124 RUSLAN	ALL SERIES
A148	A148	AN-148	100
A158	A158	AN-158	
A300	A30B	A300	B2-100, B2-200, B4-100, B4-100F, B4-120, B4-200, B4-200F, B4-220, B4-220F, C4-200
A306	A306	A300	600, 600F, 600R, 620, 620R, 620RF
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 A330	200, 220, 240 300, 320, 340
A340	A342 A343	A340 A340	210 310
A345	A345	A340	500, 540
A346	A346	A340	600, 640
A380	A388	A380	800, 840, 860
A3ST	A3ST	A300	600R ST BELUGA
A400	A400	A400M	
AC90	AC90	COMMANDER 690 COMMANDER 840 COMMANDER 900	
AC95	AC95	AERO COMMANDER 695	A
AN72	AN72	AN-72 AN-74	ALL SERIES
ASTR	ASTR	1125 ASTRA	ALL SERIES
ASTR-SPX	ASTR	1125 ASTR SPX, G100	ALL SERIES
AVRO	RJ1H RJ70 RJ85	AVRO AVRO AVRO	RJ100 RJ70 RJ85
B701	B701	B707	100, 120B
B703	B703	B707	320, 320B, 320C
B703-E3	E3TF	B707	E-3

Monitoring Group	A/C ICAO	A/C Type	A/C Series
B712	B712	B717	200
B727	B721 B722	B727 B727	100, 100C, 100F, 100QF 200, 200F
B731	B731	B737	100
B732	B732	B737	200, 200C
B737CL	B733 B734 B735	B737 B737 B737	300 400 500
B737NX	B736 B737 B738 B739	B737 B737 B737 B737	600 700, BBJ 800, BBJ2 900
B737C	B737	B737	700C
B747CL	B741 B742 B743	B747 B747 B747	100, 100B, 100F 200B, 200C, 200F, 200SF 300
B74S	B74S B74R	B747	SR, SP
B744-5	B744 B74D	B747	400, 400D, 400F (With 5 inch Probes up to SN 25350)
B744-10	B744 B74D	B747	400, 400D, 400F (With 10 inch Probes from SN 25351)
B744-LCF	B744	B747	LCF
B748	B748	B747	8F, 81
B752	B752	B757	200, 200PF, 200SF
B753	B753	B757	300
B767	B762 B763	B767 B767	200, 200EM, 200ER, 200ERM, 300, 300ER, 300ERF
B764	B764	B767	400ER
B772	B772 B77L	B777	200, 200ER, 200LR, 200LRF
B773	B773 B77W	B777	300, 300ER
B787	B788 B789	B787-8 B787-9	
BD100	CL30	CHALLENGER 300	ALL SERIES
BD700	GL5T	GLOBAL 5000	ALL SERIES
BE20	BE20	200 KINGAIR	ALL SERIES
BE30	BE30 B350	B300 SUPER KINGAIR B300 SUPER KINGAIR 350	ALL SERIES
BE40	BE40	BEECHJET 400 BEECHJET 400A BEECHJET 400XP HAWKER 400XP	ALL SERIES

Monitoring Group	A/C ICAO	A/C Type	A/C Series
C130	C130	HERCULES	H, J
C17	C17	C-17 GLOBEMASTER 3	ALL SERIES
C441	C441	CONQUEST II	ALL SERIES
C5	C5	C5	ALL SERIES
C500	C500	500 CITATION 500 CITATION I 501 CITATION I SINGLE PILOT	ALL SERIES
C510	C510	MUSTANG	ALL SERIES
C525	C525	525 CITATIONJET 525 CITATIONJET I 525 CITATIONJET PLUS	ALL SERIES
C25A	C25A	525A CITATIONJET II	ALL SERIES
C25B	C25B	CITATIONJET III 525B CITATIONJET III	ALL SERIES
C25C	C25C	525C CITATIONJET IV	ALL SERIES
C550-552	C550	552 CITATION II (USN)	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 ENCORE	ALL SERIES
C56X	C56X	560 CITATION EXCEL	ALL SERIES
C650	C650	650 CITATION III 650 CITATION VI 650 CITATION VII	ALL SERIES
C680	C680	680 CITATION SOVEREIGN	
C750	C750	750 CITATION X	ALL SERIES
CARJ	CRJ1 CRJ2 CRJ2 CRJ2	REGIONALJET REGIONALJET CHALLENGER 800 CHALLENGER 850	100, 100ER, 200, 200ER, 200LR ALL SERIES ALL SERIES
CRJ7	CRJ7	REGIONALJET	700, 700ER, 700LR
CRJ9	CRJ9	REGIONALJET	900, 900ER, 900LR
CRJ10	CRJ10	REGIONALJET	1000ER

Monitoring Group	A/C ICAO	A/C Type	A/C Series
CL600	CL60	CL-600 CL-601	CL-600-ALL SERIES CL-601- ALL SERIES,
CL604	CL60	CL-604	CL-604- ALL SERIES
CL605	CL60	CL-605	CL-605- ALL SERIES
DC10	DC10	DC-10	10, 10F, 15, 30, 30F, 40, 40F
D328	D328	328 TURBOPROP	100
DC85	DC85	DC-8	50, 50F
DC86-87	DC86 DC87	DC-8 DC-8	61, 62, 63 71, 72, 73
DC91	DC91	DC-9	10, 15
DC93	DC93	DC-9	30, 30F
DC94	DC94	DC-9	40
DC95	DC95	DC-9	51
E135-145	E135 E145	EMB-135 EMB-145	ALL SERIES
E170-190	E170 E170 E190 E190	EMB-170 EMB-175 EMB-190 EMB-195	ALL SERIES
E50P	E50P	PHENOM 100	ALL SERIES
E55P	E55P	PHENOM 300	E55P
EA50	EA50	ECLIPSE	ALL SERIES
F100	F100	FOKKER 100	ALL SERIES
F2TH	F2TH	FALCON 2000 FALCON 2000-EX FALSON 2000LX	ALL SERIES
F70	F70	FOKKER 70	ALL SERIES
F900	F900	FALCON 900 FALCON 900DX 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
FA7X	FA7X	FALCON 7X	ALL SERIES
G150	G150	G150	ALL SERIES
G250	G250	G250	
GALX	GALX	1126 GALAXY G200	ALL SERIES
GLEX	GLEX	BD-700 GLOBAL EXPRESS	ALL SERIES
GLF2	GLF2	GULFSTREAM II (G-1159)	ALL SERIES
GLF2B	GLF2	GULFSTREAM IIB (G-	ALL SERIES

Monitoring Group	A/C ICAO	A/C Type	A/C Series
		1159B)	
GLF3	GLF3	GULFSTREAM III (G-1159A)	ALL SERIES
GLF4	GLF4	GULFSTREAM IV (G-1159C) G300 G350 G400 G450	ALL SERIES
GLF5	GLF5	GULFSTREAM V (G-1159D) G500 G550	ALL SERIES
GLF6	GLF6	G650	
H25B-700	H25B	BAE 125 / HS125	700A, 700B
H25B-750	H25B	HAWKER 750	ALL SERIES
H25B-800	H25B	BAE 125 / HS125 HAWKER 800XP HAWKER 800XPI HAWKER 800 HAWKER 850XP HAWKER 900XP HAWKER 950XP	800A, 800B ALL SERIES
H25C	H25C	HAWKER 1000	ALL SERIES
HA4T	HA4T	HAWKER 4000	ALL SERIES
IL62	IL62	ILYUSHIN-62	ALL SERIES
IL76	IL76	ILYUSHU-76	ALL SERIES
IL86	IL86	ILYUSHIN-86	ALL SERIES
IL96	IL96	ILYUSHIN-96	ALL SERIES
J328	J328	328JET	ALL SERIES
KC135	B703	KC-135	ALL SERIES
L101	L101	L-1011 TRISTAR	ALL SERIES
L29B-2	L29B	L-1329 JETSTAR 2	ALL SERIES
L29B-731	L29B	L-1329 JETSTAR 731	ALL SERIES
LJ23	LJ23	LEARJET 23	
LJ24	LJ24	LEARJET 24	
LJ25	LJ25	LEARJET 25	
LJ28	LJ28	LEARJET 28 LEARJET 29	
LJ31	LJ31	LEARJET 31	ALL SERIES
LJ35-36	LJ35	LEARJET 35 LEARJET 36	ALL SERIES ALL SERIES
LJ40	LJ40	LEARJET 40	ALL SERIES
LJ45	LJ45	LEARJET 45	ALL SERIES

Monitoring Group	A/C ICAO	A/C Type	A/C Series
LJ55	LJ55	LEARJET 55	ALL SERIES
LJ60	LJ60	LEARJET 60	ALL SERIES
MD10	MD10	MD-10	ALL SERIES
MD11	MD11	MD-11	COMBI, ER, FREIGHTER, PASSENGER
MD80	MD81	MD-80	81
	MD82	MD-80	82
	MD83	MD-80	83
	MD87	MD-80	87
	MD88	MD-80	88
MD90	MD90	MD-90	30, 30ER
MU30	MU30	MU-300 DIAMOND	1A
P180	P180	P-180 AVANTI	ALL SERIES
PAY4	PAY4	PA-42	1000 CHEYENNE
PC12	PC12	PC-12	ALL SERIES
PRM1	PRM1	PREMIER 1	ALL SERIES
SB20	SB20	SAAB 2000	ALL SERIES
SBR1	SBR1	SABRELINER 40 SABRELINER 60 SABRELINER 65	ALL SERIES
SBR2	SBR2	SABRELINER 80	ALL SERIES
T134	T134	TU-134	A, B
T154	T154	TU-154	A, B, M, S
T204		TU-204	100, 100C, 120RR
		TU-224	200, 214, C
		TU-234	
T334	T334	TU-334	ALL SERIES
TBM	TBM7	TBM-700	ALL SERIES
	TBM8	TBM-850	
WW24	WW24	1124 WESTWIND	ALL SERIES
YK42	YK42	YAK-42	ALL SERIES

MIDANPIRG/14
Report on Agenda Item 6

REPORT ON AGENDA ITEM 6: FUTURE WORK PROGRAMME***ICAO MID Office Tentative Schedule of Meetings, Seminars and Workshops***

6.1 The meeting recalled that the ICAO MID Regional Office by November of each year, after coordination with concerned parties (internally and externally) and taking into consideration, inter alia, the MIDANPIRG Work Programme and Follow-up Action Plan, sends the Tentative Schedule of Meetings, Seminars and Workshops planned for the year to come to all MID States, and concerned International and Regional Organizations. The Tentative Schedule of Meetings, Seminars and Workshops is also posted on the ICAO MID Regional Office website (<http://www.icao.int/mid>).

6.2 It was highlighted that the Tentative Schedule of Meetings, Seminars and Workshops should be used for planning purposes only and that Meetings, Seminars and Workshops are confirmed only when an invitation letter is issued by the ICAO MID Regional Office. Sometimes revisions and updates are deemed necessary and the Schedule is updated accordingly.

6.3 The meeting urged States to participate actively in the Meetings, Seminars and Workshops planned by the ICAO MID Regional Office as at **Appendix 6A** to the Report on Agenda Item 6; and encouraged them to coordinate with the ICAO MID Regional Office, in a timely manner, the hosting of future Meetings, Seminars and Workshops, as appropriate.

6.4 The meeting encouraged States also to organize at national level seminars, workshop and training courses, in coordination with the ICAO MID Regional Office for support.

6.5 The meeting noted that for budgetary planning, some States requested that the Tentative Schedule of Meetings, Seminars and Workshops be posted on the web, even in a draft format, maximum by September of each year, in order to avoid lack of participation due to budget reasons.

MIDANPIRG/15 and MSG/4 dates, durations and venues

6.6 The meeting noted with satisfaction the offer made by Bahrain to host the MIDANPIRG/15 meeting during the second quarter of 2015. The duration of the meeting and the exact dates will be determined, after coordination between the Secretariat, the Chairperson of MIDANPIRG and Bahrain.

6.7 The meeting recalled that the MIDANPIRG Steering Group (MSG) meetings are hosted by the Member States on rotation basis. In this respect, it was highlighted that the membership of MSG would include the fifteen (15) MID States.

6.8 The meeting agreed that the MSG/4 meeting be tentatively scheduled for September 2014. The duration of the meeting will be tentatively three (3) days and the exact venue and dates will be determined, after coordination between the Secretariat and the Chairperson of MIDANPIRG.

Follow-up Action Plan

6.9 The follow-up action plan at **Appendix 6B** to the Report on Agenda Item 6 shows the list of Conclusions and Decisions developed by the meeting, the required follow-up action(s) and deliverable(s), the responsible body(ies) and associated target date(s).

APPENDIX 6A



ICAO Middle East (MID) Regional Office

Tentative Schedule of Meetings, Seminars and Workshops "January – December 2014"

Dated: 19/12/2013

DATE	MEETING/SEMINAR/WORKSHOP	VENUE	REMARKS
January			
19-30	PBN Go-Team Visit	Abu Dhabi	Joint event with IATA and CANSO Hosted by UAE
20-22	FOD-Wildlife Workshop	Cairo	Joint event with IATA. Hosted by Egypt
27-29	RASG-MID/3	Kuwait	Hosted by Kuwait
28-30	AVSEC Seminar	Paris	Joint event with ICAO EUR/NAT and WACAF
February			
18-20	MAEP-SCM	Cairo	MID Region ATM Enhancement Programme-Special Coordination Meeting
24-28	PBN Workshop	Tunis	Joint event with ICAO EUR/NAT and ACAC (For the States in the Interface Area)
24-27	Facilitation (FAL) Seminar	Cairo	
25 – 26	RSC-Lim/3	Amman	Limited meeting Hosted by IATA
March			
3-5	AIDC/OLDI Seminar	Cairo	
9-12	MIDRMA Board/13 and RVSM Safety Assessment Briefing	Bahrain	Hosted by Bahrain
18-20	MID-SST/1	Cairo	MID Safety Support Team
April			
1-3	PBN SG/1	Cairo	
7-9	RGS WG/1	Cairo	Runway and Ground Safety Working Group
16-17	ICAO/WCO Air Cargo Security & Facilitation Conference	Bahrain	Hosted by Bahrain

DATE	MEETING/SEMINAR/WORKSHOP	VENUE	REMARKS
27-29	Second MID Safety Summit	Muscat	Joint event with IATA Hosted by Oman Air
May			
6-8	AIM SG/1	Cairo	
12-14	USAP-CMA Workshop	Cairo	
18-22	ASBU Implementation Workshop	Dubai	Joint event with IATA Hosted by Emirates Airlines
26-29	ATM SG/1	Cairo	
June			
2-5	Second MID Regional Runway Safety Seminar (RRSS/2)	Dubai	Joint event with IATA Hosted by UAE
9-11	RSC/3	Cairo	
16-18	MIDAD TF/1	Cairo	
TBD	MID-AMC Steering Group	-	Via teleconferencing
July			
August			
September			
8-10	CNS SG/6	Tehran	
23-25	MSG/4	TBD	
October			
20-22	Dangerous Goods Training Course	Cairo	(Revenue Generating Activity)
27-29	Aviation Data Analysis Seminar	TBD	
November			
10-12	APM TF/2	Cairo	ATM Performance Measurement
17-20	CAPSCA Global Meeting	Cairo	Hosted by Egypt
23-26	SMS Workshop	Cairo	Hosted by Egypt
December			
1-3	ANP WG/2	Cairo	
15-17	RASG-MID/4	TBD	

Notes:

1. *Above activities are subject to confirmation by ICAO MID Regional Office invitation letters.*
2. *States interested in hosting any of the activities are requested to coordinate with the ICAO MID Regional Office, at least three (03) months in advance of the indicated dates.*
3. *The above table will be subject to update when required*

Legend:

*SG = Sub-Group, STG = Study Group, TF = Task Force, WG = Working Group.
TBD = To Be Determined.*



For more information please contact: icaomid@cairo.icao.int

MIDANPIRG/14
Appendix 6B to the Report on Agenda Item 6

FOLLOW-UP ACTION PLAN ON MIDANPIRG/14 CONCLUSIONS AND DECISIONS

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
CONCLUSION 14/1: CONTINUED SUPPORT FOR CAPSCA-MID That, a) the ICAO MID Regional Office and MID States promote the development and growth of CAPSCA in the MID Region at local, national and international levels; b) MID States, i. that have not yet done so, join the CAPSCA-MID Project; ii. request a CAPSCA State and Airport Assistance Visit; and iii. be encouraged to provide voluntary contributions to the CAPSCA-MID project.	Implement the Conclusion	ICAO States	State Letter Feedback	Apr. 2014 Sep. 2014	
DECISION 14/2: UPDATED OF THE MIDANPIRG PROCEDURAL HANDBOOK That, the Seventh Edition of the MIDANPIRG Procedural Handbook be endorsed as at Appendix 4.1B to the Report on Agenda Item 4.1.	Update the MIDANPIRG Procedural Handbook and post it on the web	ICAO	Seventh edition of the Procedural Handbook	Feb. 2014	
DECISION 14/3: TERMS OF REFERENCE OF THE ATM PERFORMANCE TASK FORCE (APM TF) That, the Air Traffic Management Measurement Task Force (ATM-M TF) be renamed Air Traffic Management Performance Measurement Task Force (APM TF) with Terms of Reference as at Appendix 4.1C to the Report on Agenda Item 4.1.	Implement the work programme of the APM TF	MIDANPIRG/14	TOR of the APM TF endorsement	Dec. 2013	Completed
CONCLUSION 14/4: ASSISTANCE FOR THE DEVELOPMENT/UPDATE OF THE NATIONAL AIR NAVIGATION PERFORMANCE FRAMEWORK That, ICAO, in coordination with concerned States and Stakeholders (IATA, CANSO, ACI, etc):	Implement the Conclusion	ICAO States	State Letter	Feb. 2014	

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
a) develop a plan for joint missions to identified States to support the development/update of the National Air Navigation Performance Framework in an effective and timely manner; and b) agree on the priorities and plans of action to be reflected in the National Air Navigation Performance Framework to improve the efficiency of air navigation at national and regional level, in accordance with the MID Air Navigation Strategy.			Missions to States/ development of National Performance Framework	Dec. 2014	
CONCLUSION 14/5: MID REGION AIR NAVIGATION PRIORITIES That, a) the ASBU Block 0 Modules prioritization Table at Appendices 4.1E to the Report on Agenda Item 4.1 be endorsed as the initial version of the MID ASBU Implementation Plan; and b) the ASBU Block 0 Modules prioritization Table be reviewed on regular basis and be extended to cover Block 1 Modules, as appropriate.	Regular Review	MIDANPIRG/14 MIDANPIRG Subsidiary bodies	ASBU prioritization Table	Dec. 2013 Sep. 2014	
CONCLUSION 14/6: DRAFT MID REGION AIR NAVIGATION STRATEGY That, a) the Draft MID Region Air Navigation Strategy at Appendix 4.1F to the Report on Agenda Item 4.1 be: i. endorsed as the initial version of the MID Region Air Navigation Strategy; and ii. further reviewed and completed by the different MIDANPIRG subsidiary bodies b) MID States be urged to: i. develop their National Air Navigation Performance Framework, ensuring the alignment with and support to the MID Region Air Navigation Strategy; ii. incorporate the agreed MID Region Performance Metrics into their National reporting and monitoring mechanisms; and	Implement the Strategy	MIDANPIRG/14 MIDANPIRG Subsidiary bodies ICAO States	Initial version of the Strategy Review and Update Strategy State Letter National Performance Framework	Dec. 2013 Sep. 2014 Feb. 2014 May 2014	

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
iii. provide the ICAO MID Regional Office, on annual basis, with relevant data necessary for regional air navigation planning and monitoring.		States	Feedback	Dec. 2014	
CONCLUSION 14/7: SECOND REGIONAL RUNWAY SAFETY SEMINAR (MID-RRSS/2) That, a) the Second MID REGIONAL RUNWAY SAFETY SEMINAR (RRSS) be organised by ICAO in partnership with IATA and other interested safety partners; b) the agenda of the RRSS take into account the RASG-MID work programme related to Runway Safety, in particular the SEIs and DIPs related to RSTs; and c) MID States, Service Providers and International/Regional Organizations be encouraged to support and actively participate in the Seminar.	Convene the Seminar	ICAO	Seminar	June 2014	
CONCLUSION 14/8: SEMINAR ON HELIPORTS That, a) ICAO consider organising a Seminar on Heliports; and b) MID States and International/Regional Organizations be encouraged to host and support the Seminar and to invite Service Providers and Safety Partners for attendance and active participation.	Convene the Seminar	ICAO	Seminar	TBD	

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
CONCLUSION 14/9: PROVISIONS FOR PRIOR APPROVAL TO AERODROME DEVELOPMENT That, MID States, that have not yet done so, be urged to: a) make a requirement for a prior approval of any development or change to the physical characteristics of an aerodrome; b) develop necessary procedures for the approval process supported by risk assessment and management as required; and c) inform the ICAO MID Regional Office of the actions taken before 1 May 2014.	Implement the Conclusion	ICAO States	State Letter Feedback	Feb. 2014 May 2014	
DECISION 14/10: TRANSFER OF AERODROMES ACTIVITIES TO RASG-MID That, a) the activities of the AOP SG and ADCI TF be transferred to the RASG-MID framework ; and b) Aerodrome Specialists from MID States and ICAO continue to support MIDANPIRG and its subsidiary bodies for aerodromes-related Air Navigation matters.	Implement the Conclusion	MIDANPIRG/14	AOP SG and ADCI TF disbanded and their activities transferred to RASG-MID	Dec. 2013	
CONCLUSION 14/11: IMPLEMENTATION OF THE TOP TEN ATS ROUTES That, concerned States be urged to take necessary measures to implement the identified routes at Appendix 4.3A to the Report on Agenda Item 4.3.	Implement the Conclusion	ICAO States	State Letter Feedback	Jan. 2014 May 2014	
CONCLUSION 14/12: CIVIL/MILITARY COOPERATION That, States be urged to a) develop necessary institutional arrangements to foster Civil/Military cooperation; and b) arrange as necessary for the Military Authorities to be:	Implement the Conclusion	ICAO States	State Letter Feedback	Feb. 2014 Sep. 2014	

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
i. involved in the airspace planning and management process; ii. aware of the new developments in civil aviation; and iii. involved in national, regional and international aviation meetings, workshops, seminars, etc., related to Air Traffic Management and Search and Rescue.					
CONCLUSION 14/13: FLEXIBLE USE OF AIRSPACE That, States be urged to take necessary: a) follow-up actions to implement the provisions of Recommendation 4/5 of the AN-Conf/12; and b) measures to implement the Flexible Use of Airspace (FUA) Concept through strategic Civil/Military coordination and dynamic interaction, in order to open up segregated airspace when it is not being used for its originally-intended purpose and allow for better airspace management and access for all users.	Implement the Conclusion	ICAO States	State Letter Feedback	Feb. 2014 May. 2014	
CONCLUSION 14/14: MID CIVIL/MILITARY GO-TEAM That, a) a MID Civil/Military Go-Team be established to expedite the implementation of the Flexible Use of Airspace (FUA) Concept in the MID Region; and b) the details related to the scope, Tasks, Pre-Go-Team Visit arrangements, on-site activities, and outcomes of the Civil/military Go-Teams be discussed during the next ATM Sub-Group meeting.	Implement the Conclusion	MIDANPIRG/14 ATM SG.	Civil/Military Go-Team established Go-Team scope, scope, tasks, activities, etc.	Dec. 2013 May 2014	
CONCLUSION 14/15: MID REGION ATM CONTINGENCY PLAN That, the MID Region ATM Contingency Plan be endorsed as at Appendix 4.3B to the Report on Agenda Item 4.3.	Implement the Conclusion	MIDANPIRG/14	MID Region ATM Contingency Plan	Dec. 2013	Completed

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
DECISION 14/16: SEARCH AND RESCUE COOPERATION That, the ATM Sub-Group develops a simplified MID Region Model of SAR Agreement/Bilateral Arrangements to foster the implementation of Annex 12 provisions related to SAR cooperation in a step-wise approach.	Implement the Conclusion	ATM SG	SAR Agreement/ Bilateral Arrangements Template	May 2014	
CONCLUSION 14/17: MID REGION ATM ENHANCEMENT PROGRAMME (MAEP) – SPECIAL COORDINATION MEETING That, States and Users be urged to provide the ICAO MID Regional Office with their proposals related to MAEP by 25 January 2014, for presentation to the MAEP-SCM scheduled for 18-20 February 2014.	Implement the Conclusion	ICAO States/Users	State Letter Proposals related to MAEP	Jan. 2014 Feb. 2014	
CONCLUSION 14/18: NATIONAL AIS/AIM REGULATIONS That, States be urged to: a) include in the national plans for the transition from AIS to AIM actions related to the amendment of national AIS/AIM regulations as a consequence to the Amendment of Annex 4, Annex 15 and other AIM developments; b) take necessary action for a timely amendment of the national AIS/AIM regulations as a consequence to Amendment 37 to Annex 15; and c) inform the ICAO MID Regional Office of the actions taken before 1 March 2014.	Implement the Conclusion	ICAO States	State Letter Feedback	Feb. 2014 Mar. 2014	
CONCLUSION 14/19: NATIONAL PLANS FOR THE TRANSITION FROM AIS TO AIM That, in order to keep pace with the AIM/SWIM developments and support seamless ATM in a SWIM environment, States be urged to: a) develop/update their national plans for the transition from AIS to AIM; and b) provide the ICAO MID Regional Office with an updated version of their national plans for the transition from AIS to AIM, before 1 March 2014.	Implement the Conclusion	ICAO States	State Letter Feedback	Feb. 2014 Mar. 2014	

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
DECISION 14/20: MIDAD SUPPORT TEAM That, the MIDAD Support Team (MIDAD ST) a) be composed of members from Jordan, Iran, Kuwait and the ICAO MID Regional Office; and b) provide necessary support to Bahrain, Qatar, Saudi Arabia and UAE as well as to the MIDAD Study Group to successfully complete Phase 2 of the MIDAD Project.	MIDAD ST to provide necessary support	MIDANPIRG/14	MIDAD ST composition	Dec.2013	
DECISION 14/21: ESTABLISHMENT OF MID-AMC STEERING GROUP That, a) a MID-AMC Steering Group is established with TOR as at Appendix 4.5A to the Report on Agenda Item 4.5; and b) States appoint a Member and Alternate for the MID-AMC Steering Group.	Implement the work programme of the MID-AMC STG	MIDANPIRG/14	MID-AMC STG established	Dec. 2013	
CONCLUSION 14/22: MID-AMC OPERATION That, a) States be urged to: i. provide their AFTN/AMHS/CIDIN Routing tables to MID-AMC by 30 March 2014; ii. register users to MID-AMC according to the accreditation procedure defined at Appendix 4.5B to the report on Agenda Item 4.5; iii. complete testing of all MID-AMC functions by 30 June 2014; and b) the operation date of the MID-AMC be determined by the MID-AMC Steering Group.	Implement the Conclusion	ICAO States States MID-AMC STG	State Letter Routing Tables Testing/feedback Operation date	Jan. 2014 Mar. 2014 Jun. 2014 Jun. 2014	

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
CONCLUSION 14/23: MID AIDC/OLDI IMPLEMENTATION SEMINAR That States, a) support ICAO in organising a Seminar on implementation of AIDC/OLDI; b) participate actively in the Seminar; and c) with the support of ICAO develop the MID AIDC/OLDI Implementation Plan.	Convene the Seminar	ICAO	Seminar	Mar. 2014	
DECISION 14/24: DEVELOPMENT AND ENDORSEMENT OF THE MID eANP That, in support to the ICAO efforts to align the regional Air Navigation Plans (ANP) with the Fourth Edition of the Global Air Navigation Plan (GANP) (Doc 9750): a) the development of the MID eANP based on the Council-approved ANP Template, be included in the work programme of the different MIDANPIRG subsidiary bodies; and b) the relevant Parts of the MID eANP be presented, as soon as available, to MSG/4 and/or MIDANPIRG/15 for endorsement.	Implement the Conclusion	MIDANPIRG subsidiary bodies MSG/4 and MIDANPIRG/15	MID eANP Parts	TBD Sep 2014 May 2015	
CONCLUSION 14/25: INFPL POST IMPLEMENTATION-SYSTEM UPGRADES That, concerned States be urged to upgrade their systems to ensure the full handling of the ICAO New Flight Plan format before 30 June 2015 .	Implement the Conclusion	ICAO States	State Letter Feedback	Jan. 2014 Jun. 2015	
CONCLUSION 14/26: MID REGION GNSS IMPLEMENTATION STRATEGY That, the MID Region GNSS implementation Strategy be updated as at Appendix 4.6x to the Report on Agenda Item 4.6.	Implement the Strategy	MIDANPIRG/14	Updated Strategy	Dec. 2013	

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
CONCLUSION 14/27: MID SURVEILLANCE STRATEGY That, the MID Surveillance Strategy be adopted as at Appendix 4.6B to the Report on Agenda Item 4.6.	Implement the Strategy	MIDANPIRG/14	Updated Strategy	Dec. 2013	
CONCLUSION 14/28: MID REGIONAL PBN IMPLEMENTATION STRATEGY AND PLAN That, the MID Regional PBN Implementation Strategy and Plan be updated as at Appendix 4.6C to the Report on Agenda Item 4.6.	Implement the Strategy	MIDANPIRG/14	Updated Strategy	Dec. 2013	
CONCLUSION 14/29: ESTIMATING AND REPORTING ENVIRONMENTAL BENEFITS That, in order to follow-up the implementation of the ATM operational improvements and estimate the accrued fuel savings and associated CO ₂ emission reduction from the corresponding improvements on regional basis: a) States be encouraged to develop/update their Action Plans for CO ₂ emissions and submit them to ICAO through the APER website on the ICAO Portal or the ICAO MID Regional Office; b) States be urged to: i. identify the operational improvements which have been implemented within their FIR and/or international aerodromes; ii. collect necessary data for the estimation of the environmental benefits accrued from the identified operational improvements; iii. use IFSET to estimate the environmental benefits accrued from operational improvements; and iv. send the IFSET reports/the accrued environmental benefits to ICAO on bi-annual basis; and	Implement the Conclusion	ICAO States	State Letter States' Action Plan for CO ₂ emissions IFSET Reports	Apr. 2014 Sep. 2014 Jun. and Dec. 2014	

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
c) IATA to: i) encourage users to support the APM TF in the development of the MID Region Air Navigation Environmental Reports; and ii) consolidate users' inputs and report the accrued environmental benefits to the ICAO MID Regional Office on bi-annual basis.		IATA	Inputs from users	Jun. and Dec. 2014	
CONCLUSION 14/30: ESTABLISHMENT OF MID REGIONAL OPMET CENTRE That, a) Saudi Arabia in coordination with ICAO establish a MID Regional OPMET Centre (ROC) by the first half of 2015 to improve the regional and inter-regional OPMET efficiency; b) Bahrain in coordination with ICAO establish a back-up Regional OPMET Centre (ROC); and c) MID States be encouraged to continue cooperation in the exchange of OPMET data in the MID Region.	Implement the Conclusion	Saudi Arabia in coordination with ICAO Bahrain in coordination with ICAO	Establishment of MID ROC Establishment of back-up MID ROC	Jun. 2015 Jun. 2015	
DECISION 14/31: UPDATE TO BULLETIN MANAGEMENT GROUP TERMS OF REFERENCE That, the Terms of Reference and future work programme of the Bulletin Management Group of the MET Sub-Group be updated as at Appendix 4.7A to the Report on Agenda Item 4.7.	Implement the Work Programme of the BMG	MIDANPIRG/14	BMG TOR	Dec. 2013	Completed
CONCLUSION 14/32: ELIMINATION OF AIR NAVIGATION DEFICIENCIES IN THE MID REGION That, States be urged to: a) use the MID Air Navigation Deficiency Database (MANDD) for the submission of requests for addition, update, and elimination of Air Navigation Deficiencies; and b) submit a Formal Letter to the ICAO MID Regional Office containing the evidence(s) that mitigation measures have been implemented for the elimination of deficiency(ies) when requesting the elimination of deficiency(ies) from the MANDD.	Implement the Conclusion	ICAO States	State Letter CAP and necessary updates/evidences	Mar. 2014 When necessary	

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
CONCLUSION 14/33: TRAINING ON RVSM SAFETY ASSESSMENT That, with a view to raise the awareness related to the requirements for sustained RVSM safety assessment activity and improve the knowledge of the ATC, RVSM approval Authority and Air Operators personnel, the MIDRMA include in its work programme training activity/briefings on RVSM safety assessment requirements to be provided to concerned personnel either through missions to concerned States or through familiarization visits organized in the MIDRMA premises, when and where appropriate.	Implement the Conclusion	MIDRMA	Training on RVSM Safety Assessment	2014-2015	
DECISION 14/34: SCRUTINY GROUP WORK PROGRAMME That, in order to improve the efficiency of the MID RVSM Scrutiny Group, its work programme be included in the agenda of the MIDRMA Board meetings.	Implement the Decision	MIDANPIRG/14	Scrutiny Group work programme included in the Agenda of MIDRMA Board meetings	Dec. 2013	Completed
CONCLUSION 14/35: PROVISION OF REQUIRED DATA TO THE MIDRMA That, considering the on-going requirement for RVSM safety monitoring in the MID Region: a) States provide the required data to the MIDRMA on a regular basis and in a timely manner. The data is to include, but is not necessarily limited to: i) approval of operators and aircraft for RVSM operations (on monthly basis or whenever there's a change); ii) Large Height Deviations (LHD) (on monthly basis); iii) traffic data (as requested by the MIDRMA Board); iv) radar data as, when and where required; and v) airway structure (above FL 290) and waypoints.	Implement the Conclusion	States	Provision of necessary data to the MIDRMA	When necessary (as required)	

MIDANPIRG/14-REPORT
APPENDIX 6B

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CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
b) States not providing the required data to the MIDRMA on a regular basis and in a timely manner: i) be included in the MIDANPIRG list of air navigation deficiencies; and ii) might not be covered by the MID RVSM Safety Monitoring Report (SMR).					
CONCLUSION 14/36: RVSM MINIMUM MONITORING REQUIREMENTS That, States that have not yet done so, be urged to: a) take necessary measures to ensure that their aircraft operators fully comply with Annex 6 provisions related to long term height monitoring requirements, based on the MIDRMA MMR Tables; and b) provide feedback to the ICAO MID Regional Office before 1 March 2014 .	Implement the Conclusion	ICAO Concerned States	State Letter Action and Feedback	Jan. 2014 Mar. 2014	
CONCLUSION 14/37: ARRANGEMENTS FOR THE CONDUCT OF GMU MONITORING MISSIONS That, prior to the conduct of any GMU monitoring mission: a) the MIDRMA notify the concerned MIDRMA Board Member; and b) the MIDRMA Board member is to undertake necessary arrangements at the national level with concerned authorities (CAA, Customs, Security, etc.) to facilitate the MIDRMA Team mission.	Implement the Conclusion	MIDRMA States	Notification Necessary arrangements/support	When planning a GMU mission	
CONCLUSION 14/38: MID RVSM SMR 2014 That, a) the FPL/traffic data for the period 15 January – 15 February 2014 be used for the development of the MID RVSM Safety Monitoring Report (SMR 2014);	Implement the Conclusion	ICAO States	State Letter FPL/traffic data	Jan. 2015 Mar. 2014	

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CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
b) only the appropriate Flight Data form available on the MIDRMA website (www.midrma.com) should be used for the provision of FPL/traffic data to the MIDRMA; c) the initial results of the MID RVSM SMR 2014 be ready before 15/05/2014; and d) the final version of the MID RVSM SMR 2014 be ready for presentation to and endorsement by MIDANPIRG/15.		MIDRMA	MID RVSM SMR 2014	May 2015	

MIDANPIRG/14
Report on Agenda Item 7

REPORT ON AGENDA ITEM 7: ELECTION OF CHAIRPERSONS

7.1 The meeting recalled that in accordance with the MIDANPIRG Procedural Handbook, Sixth Edition – April 2012, Part III, para. 6.1 *“In order to ensure the necessary continuity in the work of the Group and unless otherwise determined by special circumstances, the Chairperson, the First Vice-Chairperson and Second Vice-Chairperson of the Group should assume their functions at the end of the meeting at which they are elected and serve for three cycles unless otherwise re-elected, in that case the term would be limited to one additional cycle only”*.

7.2 The meeting recalled that Mr. Hamad Al-Aufi from Saudi Arabia has been the Chairperson of MIDANPIRG since February 2009 (MIDANPIRG/11). The meeting thanked Mr. Al-Aufi for his good work and excellent leadership of MIDANPIRG for three (3) consecutive meetings.

7.3 The meeting recalled also that Mr. Saleem Mohamed Hassan from Bahrain has been acting as the Second Vice-Chairperson of MIDANPIRG, since 2009 (MIDANPIRG/11). The meeting extended thanks to Mr. Saleem for his support and contributions to the three (3) previous MIDANPIRG meetings.

7.4 In connection with the above, Mr. Ali Ahmed Mohammed, Director Air Navigation, Civil Aviation Affairs, Bahrain was unanimously elected as the new Chairperson of MIDANPIRG. Mr. Nayef Irshaid Al Marshoud, Director of ATM, Civil Aviation Regulatory Commission, Jordan was also unanimously elected as the Second Vice-Chairperson of MIDANPIRG. The meeting recalled that Mr. Ahmed Al-Jallaf, Assistant Director Air Navigation Services, General Civil Aviation Authority, UAE, had been elected as the First Vice-Chairperson of MIDANPIRG during the MIDANPIRG/13 meeting in April 2012 and would continue until end of his term. Accordingly, the meeting thanked Mr. Al-Jallaf for his support.

MIDANPIRG/14
Report on Agenda Item 8

REPORT ON AGENDA ITEM 8: ANY OTHER BUSINESS

MIDANPIRG Members, Alternates and Advisers

8.1 The meeting reviewed and updated the list of MIDANPIRG Members, Alternates and Advisers as at **Appendix 8A** to the Report on Agenda Item 8.

Closing of the Meeting

8.2 The meeting ended expressing its gratitude and appreciation to Saudi Arabia and its General Authority for Civil Aviation (GACA) and especially to H.H. Prince Fahd bin Abdullah, President of GACA, H.E. Dr. Faisal Al-Sugair, Vice President of GACA, and H.E Eng. Mohammed Al Salmi, Vice President of Air Navigation Services, GACA, and all the GACA team who contributed to the success of the MIDANPIRG/14 meeting; and for the excellent arrangements made towards successful conduct of the meeting and the warm hospitality extended to all delegates throughout their stay in Jeddah. Thanks were also conveyed to the Chairperson for the excellent conduct of the meeting and for the ICAOMID Regional Office for the good preparation, coordination and secretariat work.

MIDANPIRG/14
Appendix 8A to the Report on Agenda Item 8

**MIDDLE EAST AIR NAVIGATION PLANNING
AND IMPLEMENTATION REGIONAL GROUP (MIDANPIRG)**

LIST OF MEMBERS/ALTERNATES/ADVISERS

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NO	STATE	MEMBER	ALTERNATE	ADVISER
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7	LEBANON	Mr. Kamal Nassereddine Chief Air Navigation Department DGCA Lebanon Raffic Hariri Int'l Airport Beirut-Lebanon Tel: (961-1) 628 178 Fax : (961-1) 629 023/36 Mobile: (961) 333 1974 E-mail: atm@beirutairport.gov.lb	Mr. Tarek Morad Chief of Int. Organizations Dept DGCA Lebanon Raffic Hariri Int'l Airport Beirut-Lebanon Tel: (961-1) 503 009 Fax : (961-1) 629 023/36 Mobile: (961) 382 4719 E-mail: intorganisations@beirutairport.gov.lb	
8	LIBYA			

NO	STATE	MEMBER	ALTERNATE	ADVISER
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