



**INTERNATIONAL CIVIL AVIATION ORGANIZATION**

**REPORT OF THE THIRTEENTH MEETING OF THE  
MIDANPIRG ATM/AIM/SAR SUB-GROUP**

**ATM/AIM/SAR SG/13**

*(Cairo, Egypt, 30 September – 3 October 2013)*

The views expressed in this Report should be taken as those of the ATM/AIM/SAR Sub-Group and not of the Organization. This Report will however, be submitted to the MIDANPIRG 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

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.

**TABLE OF CONTENTS**

	<b>Page</b>
<b>PART I - HISTORY OF THE MEETING</b>	
1. Place and Duration .....	1
2. Opening .....	1
3. Attendance.....	2
4. Officers and Secretariat .....	2
5. Language .....	2
6. Agenda .....	2
7. Conclusions and Decisions - Definition .....	3
8. List of Conclusions and Decisions .....	3
<b>PART II - REPORT ON AGENDA ITEMS</b>	
Report on Agenda Item 1 .....	1-1
Report on Agenda Item 2 .....	2-1
Appendix 2A	
Report on Agenda Item 3.....	3-1/3-2
Report on Agenda Item 4.....	4-1/4-6
Appendix 4A and 4B	
Report on Agenda Item 5.....	5-1/5-11
Appendix 5A	
Report on Agenda Item 6.....	6-1/6-9
Appendix 6A	
Report on Agenda Item 7.....	7-1
Appendix 7A – 7C	
Report on Agenda Item 8.....	8-1/8-3
Appendix 8A	
Report on Agenda Item 9.....	9-1
Appendix 9A – 9D	
Report on Agenda Item 10.....	10-1
List of Participants .....	Attachment A

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ATM/AIM/SAR SG/13  
History of the Meeting

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## **PART I – HISTORY OF THE MEETING**

### **1. PLACE AND DURATION**

1.1 The Thirteenth Meeting of the MIDANPIRG ATM/AIM/SAR Sub-Group (ATM/AIM/SAR SG/13) was held at the Meeting Room of the ICAO Middle East Regional Office in Cairo, Egypt, from 30 September to 3 October 2013.

### **2. OPENING**

2.1 The Meeting was opened by Mr. Mohamed Smaoui, ICAO Deputy Regional Director, Middle East Office, who extended a warm welcome to all participants to the ATM/AIM/SAR SG/13 meeting and wished them a pleasant stay in Cairo. Mr. Smaoui highlighted the global developments related to air navigation; referring in particular to the Twelfth Air Navigation Conference (AN-Conf/12), the Second Meeting of the Directors General of Civil Aviation in the Middle East Region (DGCA-MID/2) and the Third meeting of the MIDANPIRG Steering Group (MSG/3).

2.2 Mr. Smaoui indicated that the fourth edition of the Global Air Navigation Plan (GANP) establishes a framework for incremental implementations based on the specific operational profiles and traffic densities of each State, which is accomplished through the Aviation System Block Upgrades (ASBU) methodology. Mr. Smaoui highlighted that ASBU implementation is to be realized through tailored regional work programmes based on specific operational needs. Once operational analyses and resulting implementations have been completed, the next step calls for air navigation performance monitoring through an established measurement and reporting strategy.

2.3 Mr. Smaoui invited the meeting to review the Draft MID Air Navigation Strategy which includes the eight ASBU Block Zero Modules considered relevant to the MID Region and provide inputs for the ASBU Modules related to ATM and AIM fields.

2.4 Mr. Smaoui indicated that the meeting will review the Terms of Reference (TOR) of the MIDANPIRG subsidiary bodies responsible of the ATM and AIM fields, in line with the new MIDANPIRG Organizational structure.

2.5 Mr. Smaoui expressed his gratitude to all States and Organizations for the effort they made for their presence and wished the meeting every success in its deliberations.

### **3. ATTENDANCE**

3.1 The meeting was attended by a total of forty seven (47) participants from twelve (12) States (Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Libya, Qatar, Saudi Arabia Sudan, UAE and Yemen) and one (1) International Organization/Agency (MIDRMA). The list of participants is at **Attachment A** to the Report.

### **4. OFFICERS AND SECRETARIAT**

4.1 The meeting was chaired by Mr. Saleem Mohamed Hassan, Chief Air Traffic Management, Civil Aviation Affairs-Bahrain.

ATM/AIM/SAR SG/13  
History of the Meeting

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4.2 Mr. Elie El Khoury, Regional Officer ATM/SAR was the Secretary of the meeting supported by Mr. Mohamed Smaoui, Deputy Regional Director.

## 5. LANGUAGE

5.1 The discussions were conducted in the English language and documentation was issued in English.

## 6. AGENDA

6.1 The following Agenda was adopted:

- Agenda Item 1: Adoption of provisional agenda and election of Chairpersons
- Agenda Item 2: Follow-up on MIDANPIRG/13 and DGCA-MID/2 and MSG/3 Conclusions and Decisions relevant to the ATM/SAR and AIM fields
- Agenda Item 3: Global, Inter and Intra-Regional Activities
- Agenda Item 4: ATM/SAR Issues
- Agenda Item 5: RVSM Operations and Monitoring activities in the MID Region
- Agenda Item 6: AIM issues
- Agenda Item 7: Review of Air Navigation deficiencies in the ATM/SAR and AIS/MAP fields
- Agenda Item 8: Performance Framework for Regional Air Navigation Planning and Implementation
- Agenda Item 9: Future Work Programme
- Agenda Item 10: 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

ATM/AIM/SAR SG/13  
History of the Meeting

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**8. LIST OF CONCLUSIONS AND DECISIONS**

<i>DRAFT CONCLUSION 13/1:</i>	<i>IMPLEMENTATION OF THE TOP TEN ATS ROUTES</i>
<i>DRAFT CONCLUSION 13/2:</i>	<i>IMPLEMENTATION OF THE ATS ROUTES SIDAN TO RAF AND HER TO KABAN</i>
<i>DRAFT CONCLUSION 13/3:</i>	<i>CIVIL/MILITARY COOPERATION</i>
<i>DRAFT CONCLUSION 13/4:</i>	<i>FLEXIBLE USE OF AIRSPACE</i>
<i>DRAFT CONCLUSION 13/5:</i>	<i>CIVIL/MILITARY GO TEAMS</i>
<i>DRAFT CONCLUSION 13/6:</i>	<i>MID REGIONAL CONTINGENCY PLAN</i>
<i>DRAFT DECISION 13/7:</i>	<i>SCRUTINY GROUP WORK PROGRAMME</i>
<i>DRAFT CONCLUSION 13/8:</i>	<i>MID RVSM SMR 2014</i>
<i>DRAFT CONCLUSION 13/9:</i>	<i>NATIONAL AIS/AIM REGULATIONS</i>
<i>DRAFT CONCLUSION 13/10:</i>	<i>NATIONAL PLANS FOR THE TRANSITION FROM AIS TO AIM</i>
<i>DRAFT DECISION 13/11:</i>	<i>MIDAD SUPPORT TEAM</i>

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ATM/AIM/SAR SG/13  
Report on Agenda Item 1

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**PART II: REPORT ON AGENDA ITEMS**

**REPORT ON AGENDA ITEM 1: ADOPTION OF PROVISIONAL AGENDA AND ELECTION OF CHAIRPERSONS**

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

1.2 The meeting recalled that Mr. Aon Al-Garni from Saudi Arabia has been acting as the Chairperson of the ATM/SAR/AIS Sub-Group since the ATM/SAR/AIS SG/9 (Cairo, Egypt, 10-13 December 2007). The meeting thanked Mr. Al-Garni for his good work and excellent leadership of the Sub-Group for the past three meetings.

1.3 In accordance with the MIDANPIRG Procedural Handbook, Sixth Edition – April 2012, Mr. Saleem Mohamed Hassan, Chief Air Traffic Management, Civil Aviation Affairs, Bahrain and Mr. Mahmoud Mohammed Ali, Research and Development Manager, National Air Navigation Services Company, Egypt, were unanimously elected as the Chairperson and Vice Chairperson of the ATM/AIM/SAR Sub-Group, respectively.

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ATM/AIM/SAR SG/13  
Report on Agenda Item 2

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**REPORT ON AGENDA ITEM 2: FOLLOW-UP ON MIDANPIRG/13, DGCA MID/2 AND MSG/3  
CONCLUSIONS AND DECISIONS RELEVANT TO THE ATM, SAR  
AND AIM FIELDS**

2.1           The meeting noted the status of relevant MIDANPIRG/13, DGCA MID/2 and MSG/3 Conclusions and Decisions related to the ATM, SAR and AIM fields and the follow up actions taken by States, the Secretariat and other parties concerned as at **Appendix 2A** to the Report on Agenda Item 2. The meeting agreed also to review the Conclusions and Decisions, which are still current, under the associated Agenda Items with a view to propose to MIDANPIRG/14 appropriate follow-up action.

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ATM/AIM/SAR SG/13  
Appendix 2A to the Report on Agenda Item 2

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

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
<p><b>CONCLUSION 13/3: IMPROVEMENT OF THE ATS ROUTE STRUCTURE IN THE MID REGION</b></p> <p>That, as a first step towards the rationalization of the ATS route network in the MID Region:</p> <p>a) States be urged to;</p> <p>    i) identify those ATS Routes that are not economically structured within their airspaces;</p> <p>    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;</p> <p>b) Users to;</p> <p>    i) identify those ATS Routes that are not economically structured in the MID Region;</p> <p>    ii) provide priority of action; and</p> <p>c) States and Users; provide feedback to the ARN TF/6 meeting.</p>	Implement the Conclusion	ICAO States Users	State Letter	Sep. 2012	<p>Ongoing</p> <p>AN 6/5.8 - 12/164 dated 12 June 2012</p> <p>To be replaced and superseded by ATM/AIM/SAR SG/13 Draft Concl. 13/1</p>
<p><b>CONCLUSION 13/4: MIDRAR PROJECT</b></p> <p>That States, be invited to support the MIDRAR Project and assign Focal Points to provide necessary information to the MIDRAR Team</p>	Implement the Conclusion	ICAO States	State Letter	30 Aug. 2012	<p>Actioned</p> <p>AN 6/5.8.3 – 12/167 dated 12 June 2012 (To be closed)</p>

ATM/AIM/SAR SG/13-REPORT  
APPENDIX 2A

2A-2

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
<p><b>CONCLUSION 13/5: IMPLEMENTATION OF REDUCED RADAR LONGITUDINAL SEPARATION IN THE MID REGION</b></p> <p>That,</p> <p>a) States, that have not yet done so;</p> <p>i) be urged to implement the 20 NM radar longitudinal separation;</p> <p>ii) be encouraged to further reduce the radar longitudinal separation within the MID Region to 10 NM, where appropriate; and</p> <p>iii) be invited to agree with their neighbouring FIRs/States on the date of implementation and updating of the LoAs;</p> <p>b) the ATM Regional PFFs be updated to include the reduced radar longitudinal separation as an ATM objective for the MID Region.</p>	Implement the Conclusion	ICAO States	State Letter	30 Aug. 2012	Actioned  AN 6/3 – 12/165 dated 12 June 2012  Feedback received from States (To be closed)
<p><b>CONCLUSION 13/6: MID STRATEGY ON SSR CODE ALLOCATION</b></p> <p>That, the MID Region Strategy on SSR Code Allocation be updated as at <b>Appendix 4.2B</b> to the Report on Agenda Item 4.2</p>	Implement the Strategy	MIDANPIRG/13	Strategy	Apr. 2012	Completed
<p><b>CONCLUSION 13/7: MID SSR CODE MANAGEMENT PLAN (CMP)</b></p> <p>That, the MID Region SSR Code Management Plan is endorsed as at <b>Appendix 4.2C</b> to the Report on Agenda Item 4.2.</p>	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
<p><b>DECISION 13/8: DISSOLUTION OF THE SSRCA STUDY GROUP</b></p> <p>That, recognizing that its work programme has been completed; the SSRCA Study Group is dissolved.</p>	ATM/AIM/SAR SG to address SSR CA issues	MIDANPIRG/13	Dissolve SG	Apr. 2012	Completed

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
<p><b>CONCLUSION 13/9: MID REGIONAL CONTINGENCY PLAN</b></p> <p>That, States and users be urged to review the MID Regional Contingency Plan and the revised version of the CRAME-03 at <b>Appendices 4.2E and 4.2F</b> to the Report on Agenda Item 4.2, respectively; and provide updates and comments to the ICAO MID Regional Office before <b>1 September 2012</b>.</p>	<p>Implement the Conclusion</p>	<p>States ICAO</p>	<p>State Letter</p>	<p>Sep. 2012</p>	<p>Actioned</p> <p>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</p> <p>To be replaced and superseded by ATM/AIM/SAR SG/13 Draft Concl. 13/6</p>
<p><b>CONCLUSION 13/10: POST RVSM IMPLEMENTATION IN THE BAGHDAD FIR</b></p> <p>That,</p> <p>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;</p> <p>b) States and all stakeholders be invited to support Iraq in the process of normalization of the Baghdad FIR; and</p> <p>c) in case of low progress of implementation of the necessary actions by Iraq before <b>15 October 2012</b>, the RVSM operations be suspended in the Baghdad FIR.</p>	<p>Implement the Conclusion</p>	<p>ICAO States/Stakeholders Iraq</p>	<p>State Letter Provide support Implement the Action Plan</p>	<p>15 Jun. 2012 15 Oct. 2012 15 Oct. 2012</p>	<p>Actioned</p> <p>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 Plan 22 April</p>

ATM/AIM/SAR SG/13-REPORT  
APPENDIX 2A

2A-4

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
					2013 Updated Action Plan 10 September 2013 (To be closed)
<p><b>DECISION 13/11: REVISED TOR OF THE ATM/AIM/SAR SUB-GROUP</b></p> <p>That, the ATM/SAR/AIS Sub-Group be renamed ATM/AIM/SAR Sub-Group with Terms of Reference as at <b>Appendix 4.2K</b> to the Report on Agenda Item 4.2.</p>	Implement the Work Programme of the ATM/AIM/SAR SG	MIDANPIRG/13	Updated TOR and Procedural Handbook	Apr. 2012	Completed
<p><b>CONCLUSION 13/12: MEANS OF DISSEMINATION OF THE LIST OF VALID NOTAM</b></p> <p>That, States be encouraged to:</p> <p>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</p> <p>b) make available on the web on a daily or at least on a weekly basis an updated list of valid NOTAM.</p>	Implement the Conclusion	ICAO States	State Letter Feedback from States	30 Jun. 2011 Sep. 2012	Actioned AN 8/2.1 – 12/200 dated 1 Jul. 2012 (To be closed)
<p><b>CONCLUSION 13/13: AVOIDANCE OF THE AIRAC DATE 15 NOVEMBER 2012</b></p> <p>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</p>	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
<p><b>DECISION 13/14: DISSOLUTION OF THE QMS ACTION GROUP</b></p> <p>That, recognizing that the activities of the QMS AG were very limited, the QMS AG is dissolved</p>	Implement the Decision	MIDANPIRG/13	QMS AG dissolved	Apr. 2012	Completed
<p><b>CONCLUSION 13/15: QMS IMPLEMENTATION</b></p> <p>That, in accordance with Annex 15 provisions, States, that have not yet done so, be urged to take necessary measures to:</p>	Implement the Conclusion	ICAO States	State Letter Feedback from	30 Jun. 2012 Sep. 2012	Ongoing AN 8/4.1 – 12/199 dated 1 Jul. 2012

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
<p>a) organize at the National level, awareness campaigns and training programmes to promote and expedite the process of implementation of QMS for AIS;</p> <p>b) implement/complete the implementation of the required QMS in an expeditious manner;</p> <p>c) arrange for an ISO 9001 certification by an accredited certification body; and</p> <p>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.</p>			States		(To be closed)
<p><b>CONCLUSION 13/16: CERTIFICATION OF THE AIM SERVICES</b></p> <p>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.</p>	Implement the Conclusion	ICAO	SARPs/Guidance Material	2016	Actioned Subject to ANC approval (To be closed)
<p><b>DECISION 13/17: ESTABLISHMENT OF THE MIDAD STUDY GROUP (MIDAD STG)</b></p> <p>That, the MID Region AIS Database (MIDAD) Study Group (MIDAD STG) is established with Terms of Reference as at <b>Appendix 4.3B</b> to the Report on Agenda Item 4.3.</p>	Implement the work programme of the MIDAD STG	MIDANPIRG/13	MIDAD STG established	Apr. 2012	Completed
<p><b>DECISION 13/18: DISSOLUTION OF THE AIS AUTOMATION ACTION GROUP</b></p> <p>That, recognizing that the activities of the AIS Automation Action Group (AISA AG) were very limited, the AISA AG is dissolved.</p>	Implement the Decision	MIDANPIRG/13	AIS Automation AG dissolved	Apr. 2012	Completed
<p><b>CONCLUSION 13/19: MIDAD PROJECT SECOND PHASE</b></p> <p>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.</p>	Implement the Conclusion	ICAO States and Users	State Letter Support the MIDAD Project	Dec. 2012 During Phase 2 of the MIDAD Project	Actioned DGCA-MID/2 Conc.2/7 (To be closed)

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
<p><b>CONCLUSION 13/20: COMMITMENT TO THE MIDAD PROJECT</b></p> <p>That, as part of the Second Phase of the MIDAD Project:</p> <p>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</p> <p>b) other States from within and outside the MID Region, interested to participate in the MIDAD Project, be invited to sign the MOA.</p>	Implement the Conclusion	ICAO  Concerned States	MOA signed	2013	Completed  DGCA-MID/2 Conc.2/7
<p><b>CONCLUSION 13/21: MIDAD LEGAL FRAMEWORK</b></p> <p>That, the following options be considered for the endorsement of the MIDAD legal framework by the DGCA-MID/2 meeting:</p> <p>a) a volunteer State/Group of States provides the legal framework by hosting the project; or</p> <p>b) an ICAO TCB Project for the implementation of MIDAD, including the establishment of a MIDAD legal entity or agency (similar to the MIDRMA).</p>	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
<p><b>DECISION 13/22 TERMS OF REFERENCE OF THE AIM TASK FORCE</b></p> <p>That, the AIS/MAP Task Force be renamed AIM Task Force with Terms of Reference (TOR) as at <b>Appendix 4.3D</b> to the Report on Agenda Item 4.3.</p>	Implement the work programme of the AIM TF	MIDANPIRG/13	Updated TOR	Apr. 2012	Completed
<p><b>CONCLUSION 13/31: ENDORSEMENT OF THE AIM PARTS OF THE MID BASIC ANP AND FASID</b></p> <p>That, the AIM Parts of the MID Basic ANP and FASID, including the AIM FASID Tables at <b>Appendices 4.5F, 4.5G and 4.5H</b> to the Report on Agenda Item 4.5:</p>	Implement the Conclusion	MIDANPIRG/13	Basic ANP and FASID AIM Parts	Apr. 2012	Completed

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
<p>a) are endorsed;</p> <p>b) be used as a planning document for the transition from AIS to AIM in the MID Region; and</p> <p>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.</p>					
<p><b>DECISION 13/32: ESTABLISHMENT OF THE MID AIR NAVIGATION PLAN AD-HOC WORKING GROUP (ANP WG)</b></p> <p>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.</p>	<p>Convene the ANP WG/1 meeting</p>	<p>MIDANPIRG/13</p>	<p>ANP WG established</p>	<p>Apr. 2012</p>	<p>Completed</p> <p>ANP WG/1 held in Cairo, 27-29 May 2013</p>
<p><b>DECISION 13/34: ESTABLISHMENT OF THE AIR TRAFFIC MANAGEMENT MEASUREMENT TASK FORCE (ATMM TF)</b></p> <p>That, the ATMM TF be established with Terms of Reference (TOR) as at <b>Appendix 4.5J</b> to the Report on Agenda Item 4.5.</p>	<p>Convene the ATMM TF/1 meeting</p>	<p>MIDANPIRG/13</p>	<p>ATMM TF established</p>	<p>Apr. 2012</p>	<p>Completed</p> <p>First meeting (8-9 Sept 2013)</p>
<p><b>CONCLUSION 13/35: ESTIMATING ENVIRONMENT BENEFITS</b></p> <p>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:</p> <p>a) States be urged to:</p> <p>i) use IFSET or a more advanced model/measurement capability available to estimate environment benefits accrued from operational improvements;</p> <p>ii) send the IFSET reports/the accrued environmental benefits to ICAO MID Regional office on a bi-annual basis.</p>	<p>Implement the Conclusion</p>	<p>ICAO</p> <p>States/Users</p> <p>ATMM TF and CNS/ATM/IC SG</p>	<p>State Letter</p> <p>Feedback (IFSET reports)</p> <p>Reports of meetings</p>	<p>Dec. 2012</p> <p>2013</p>	<p>Actioned</p> <p>AN 6/15 – 13/028 dated 20 Jan 2013</p> <p>First meeting (8-9 Sept 2013)</p> <p>(To be replaced and superseded by ATMM TF/1 Draft Conc. 1/1)</p>

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
b) IATA to: <ul style="list-style-type: none"> <li>i) encourage users to support the programme; and</li> <li>ii) consolidate users' inputs and report the accrued environmental benefits to ICAO MID Regional office on a bi-annual basis.</li> </ul>					
<p><b>CONCLUSION 13/61: CENTRALIZED AIR NAVIGATION DEFICIENCY DATABASE</b></p> <p>That, States and international organizations be invited to:</p> <ul style="list-style-type: none"> <li>a) test the centralized air navigation deficiency database on iSTARS platform using the guidance in <b>Appendix 5.1A</b> to the Report on Agenda Item 5.1;</li> <li>b) update the data as necessary in coordination with the ICAO MID Regional Office; and</li> <li>c) provide feedback to the ICAO MID Regional Office by <b>31 August 2012</b></li> </ul>	Implement the Conclusion	ICAO States	State Letter Feedback	30 Jun. 2012 31 Aug. 2013	Ongoing AN 2/2 – 12/189 dated 21 Jun.2012
<p><b>CONCLUSION 13/63: ELIMINATION OF AIR NAVIGATION DEFICIENCIES IN THE MID REGION</b></p> <p>That, States be urged to:</p> <ul style="list-style-type: none"> <li>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</li> <li>b) use the ICAO MID Air Navigation Deficiency Database (MANDD) 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.</li> </ul>	Implement the Conclusion	ICAO States	State Letter CAP and necessary updates	15 Jun. 2012	Actioned AN 2/2 – 12/189 dated 21 June 2012 (To be closed)
<p><b>CONCLUSION 13/64: REPORTING OF LARGE HEIGHT DEVIATIONS (LHD)</b></p> <p>That, in order to simplify and standardize the reporting of Altitude/Height Deviations and Coordination Failures, in accordance with the ICAO Doc 9937:</p>	Implement the Conclusion	MIDANPIRG/13 States	LHD Form endorsed LHD sent to the	Apr 2012 On monthly	Actioned (To be closed)

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
<p>a) the Form at <b>Appendix 5.2A</b> to the Report on Agenda Item 5.2 be used for the reporting of Altitude/Height Deviations and Coordination Failures; and</p> <p>b) the monthly submission of LHD replaces the monthly submission of ADRs and CFRs.</p>			MIDRMA	basis	
<p><b>CONCLUSION 13/65: PROVISION OF REQUIRED DATA TO THE MIDRMA</b></p> <p>That, considering the on-going requirement for RVSM safety monitoring in the MID Region:</p> <p>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:</p> <ul style="list-style-type: none"> <li>i) approval of operators and aircraft for RVSM operations (on monthly basis or whenever there's a change);</li> <li>ii) Large Height Deviations (LHD) (on monthly basis);</li> <li>iii) traffic data (as requested by the MIDRMA Board); and</li> <li>iv) radar data as, when and where required.</li> </ul> <p>b) States not providing the required data to the MIDRMA on a regular basis and in a timely manner:</p> <ul style="list-style-type: none"> <li>i) be included in the MIDANPIRG list of air navigation deficiencies; and</li> <li>ii) might not be covered by the RVSM SMRs.</li> </ul>	Implement the Conclusion	States	Necessary data provided to the MIDRMA	On monthly basis	<p>Actioned</p> <p>To be replaced and superseded by MIDRMA Board/12 Draft Conc. 12/8</p> <p>AN 6/5.10.15A-13/002 dated 6 January 2013</p>

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
<p><b>CONCLUSION 13/66: SECOND MID RVSM SAFETY ASSESSMENT SEMINAR</b></p> <p>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.</p>	<p>Convene the Seminar</p>	<p>MIDRMA/ICAO</p>	<p>Seminar</p>	<p>Oct. 2012</p>	<p>Closed</p> <p>(an RVSM Safety Assessment Briefing is planned to be organised back-to-back with the MIDRMA Board/13 meeting)</p>
<p><b>CONCLUSION 13/67: TRAINING ON RVSM SAFETY ASSESSMENT</b></p> <p>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:</p> <p>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</p> <p>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.</p>	<p>Implement the Conclusion</p>	<p>MIDRMA</p>	<p>Training on RVSM safety assessment provided</p>	<p>2012-2013</p>	<p>Ongoing</p> <p>To be replaced and superseded by MIDRMA Board/12 Draft Conc. 12/5</p>
<p><b>CONCLUSION 13/68: VERTICAL COLLISION RISK SOFTWARE</b></p> <p>That,</p> <p>a) the MIDRMA initiate action for the development/purchase of a suitable VCR software for the MID Region; and</p> <p>b) the VCR Software be presented to and validated by the Second MID RVSM Safety Assessment Seminar, to be held in October 2012</p>	<p>Implement the Conclusion</p>	<p>MIDRMA</p>	<p>VCR Software</p>	<p>Oct. 2012</p>	<p>Actioned</p> <p>(To be closed)</p>

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
<p><b>CONCLUSION 13/69: RVSM APPROVALS</b></p> <p>That,</p> <p>a) States be urged to take necessary measures to:</p> <p>i) ensure that, <b>before 30 June 2012</b>, their aircraft operators fully comply with Annex 6 provisions related to long term height monitoring requirements, based on the MIDRMA MMR Tables;</p> <p>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; <b>after 30 June 2012</b>;</p> <p>iii) ban any aircraft without confirmed RVSM approval status from entering the RVSM airspace; and</p> <p>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</p> <p>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.</p>	Implement the Conclusion	ICAO  States	State Letter  Necessary action and feedback	1 Jun. 2012  2012-2013	Actioned  AN 6/5.10.15A-12/173 dated 13 June 2012  To be replaced and superseded by MIDRMA Board/12 Draft Conc. 12/6
<p><b>CONCLUSION 13/70: MID REGION HEIGHT-KEEPING MONITORING STRATEGY</b></p> <p>That, the MID Region height-keeping monitoring strategy is updated as at <b>Appendix 5.2B</b> to the Report on Agenda Item 5.2.</p>	Implement the Strategy	MIDANPIRG/13	Strategy	April 2012	Completed
<p><b>CONCLUSION 13/71: MID RVSM SMR 2012-2013</b></p> <p>That,</p> <p>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);</p>	Implement the Conclusion	ICAO  States	State Letter  Oct. 2012 FPL/traffic data	15 Sep. 2012  15 Nov. 2012	Completed  AN 6/5.10.15A – 12/271 dated 12 Sep 12

ATM/AIM/SAR SG/13-REPORT  
**APPENDIX 2A**

2A-12

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 ( <a href="http://www.midrma.com">www.midrma.com</a> ) 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.		MIDRMA	provided to the MIDRMA  Draft SMR	30 Apr. 2013	

**FOLLOW-UP ACTION PLAN ON DGCA MID/2 CONCLUSIONS AND DECISIONS**

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
<p><b>CONC. 2/2: SUPPORT TO THE ICAO MID OFFICE ACTIVITIES</b></p> <p>That, taking into consideration the ICAO budget constraints and the expansion of the scope of the ICAO MID Regional Office activities:</p> <p>a) States and stakeholders be encouraged to use the SAFE fund earmarked contributions option to secure some funds that could be used for the implementation of the RASG-MID Work Programme; and</p> <p>b) ICAO takes necessary measures for the establishment of a specific fund to receive the in-kind States' voluntary contributions supporting the MIDANPIRG and RASG-MID activities.</p>	Implement the Conclusion	ICAO States	State Letter Feedback from States		Ongoing
<p><b>CONC. 2/3: MID REGION ATM ENHANCEMENT PROGRAMME (MAEP) – SPECIAL COORDINATION MEETING</b></p> <p>That, the ICAO MID Regional Office organise a Special Coordination Meeting in September 2013 in order to agree on the best mechanism to establish a MID Region ATM Enhancement Programme, taking into consideration all initiatives.</p>	Implement the Conclusion	ICAO			Ongoing  First meeting has been postponed to 2014
<p><b>CONC. 2/4: MID REGION ATM ENHANCEMENT PROGRAMME (MAEP) BOARD</b></p> <p>That, a MID Region ATM Enhancement Programme Board composed of high level representatives from concerned States and Organizations, be established for overall supervision, direction, and management of the Programme.</p>	Implement the Conclusion	ICAO	States, Users		Ongoing  First meeting has been postponed to 2014

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
<p><b>CONC. 2/6: COMMON CONTINGENCY ARRANGEMENTS</b></p> <p>That, recognizing the importance of contingency arrangements to reduce the effects of unexpected major events of disruption or potential disruption of ATS and supporting services, MID States:</p> <ul style="list-style-type: none"> <li>a) cooperate to adopt common contingency measures that can be included in the Letter of Agreements between adjacent Area Control Centres (ACCs);</li> <li>b) share experience on contingency measures; and</li> <li>c) organise, when possible, exercises to check the validity of the contingency measures and readiness of involved ATS Units.</li> </ul>	<p>Implement the Conclusion</p>	<p>States</p>	<p>Contingency Plans</p>		<p>Ongoing</p> <p>AN 6/1.2.1 – 13/194 dated 21 July 2013</p>
<p><b>CONC. 2/7: PHASE 2 OF THE MIDAD PROJECT</b></p> <p>That,</p> <ul style="list-style-type: none"> <li>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</li> <li>b) States provide all necessary support for the achievement of Phase 2 of the Study</li> </ul>					<p>Ongoing</p>

**FOLLOW-UP ACTION PLAN ON MSG/3 CONCLUSIONS AND DECISIONS**

CONCLUSIONS AND DECISIONS	FOLLOW-UP	TO BE INITIATED BY	DELIVERABLE	TARGET DATE	REMARKS
<p><b>DRAFT CONC. 3/1: MID REGION AIR NAVIGATION STRATEGY</b></p> <p>That, States and all stakeholders review the draft MID Air Navigation Strategy at Appendix 4A to the Report on Agenda Item 4 and provide comments/inputs to the ICAO MID Regional Office before 15 August 2013 for further review by the CNS/ATM/IC SG/7 meeting before presentation of the final version of the strategy for endorsement by MIDANPIRG/14.</p>	Implement the Conclusion	ICAO States	State Letter Feedback from States		Ongoing AN 1/7-13/169 dated 30 June 2013
<p><b>DRAFT CONC. 3/2: MIDANPIRG REVISED ORGANIZATIONAL STRUCTURE</b></p> <p>That, States:</p> <p>a) review the two (2) proposals at Appendices 4B and 4C to the Report on Agenda Item 4 related to the revised MIDANPIRG Organizational Structure; and</p> <p>b) inform the ICAO MID Regional Office, before 31 August 2013 on the preferred Organizational Structure and provide inputs related to the Terms of Reference of the different MIDANPIRG subsidiary bodies.</p>	Implement the Conclusion	ICAO States	State Letter Feedback from States		Ongoing ME 3/56-13/170 dated 3 July 2013

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ATM/AIM/SAR SG/13  
Report on Agenda Item 3

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**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, 19-30 November 2012.

3.2 The meeting noted that AN-Conf/12 developed 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 will be addressed by MIDANPIRG/14.

3.3 It was highlighted that, with the endorsement of *Recommendation 6/11 – Regional Performance Framework – alignment of air navigation plans and regional supplementary procedures*, proposals for amendment of the MID Air Navigation Plan (ANP) and the Regional Supplementary Procedures (SUPPs) are being/will be processed to align the applicability areas of the ANP and SUPPs with the ICAO MID Regional Office accreditation area. This will concern Egypt, Libya and Sudan.

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

3.4 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 Performance Based Approach to Air Navigation Planning and Implementation in the MID Region and MID ATM Enhancement Programme (MAEP) were included in the agenda of the meeting and accordingly, the associated follow-up actions to the DGCA-MID/2 Conclusions would be agreed up-on during the course of the meeting. On the other hand, it was agreed that actions related to Flight Procedure Programme (FPP) in the MID Region, Contingency Planning, MID AIS Database (MIDAD) Project, Aerodrome Certification and Establishment of MID ATS Messaging Management Centre (MID-AMC) will be referred to the appropriate MIDANPIRG subsidiary bodies.

***Outcome of the MSG/3 Meeting relevant to Air Navigation***

3.5 The meeting was apprised of the outcome of the Third meeting of the MIDANPIRG Steering Group (MSG/3), which was held in Cairo, Egypt, 17 - 19 June 2013. The MSG/3 meeting developed a draft version of the MID Air Navigation Strategy, which includes the eight Aviation System Block Upgrades (ASBU) Block 0 Modules, considered relevant to the MID Region, pending final endorsement by MIDANPIRG. Further, the MSG/3 meeting agreed on the Tables to be used for the monitoring of the ASBU implementation in the MID Region.

3.6 The meeting may wish to note that in order to increase the efficiency of MIDANPIRG, the MSG/3 meeting reviewed several proposals related to a new MIDANPIRG Organizational Structure and agreed to consider two proposals for further assessment.

ATM/AIM/SAR SG/13  
Report on Agenda Item 3

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3.7 The MSG/3 meeting recalled that ICAO General Assembly Resolution A37-19 requested ICAO to develop the necessary tools to assess the benefits associated with operational improvements. The operational improvements are key strategy that can be applied to deliver tangible reductions in aircraft fuel consumption and the 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.

***Progress achieved in the development of the new ANP Template***

3.8 The meeting recalled that MIDANPIRG/12, through Decision 12/49, recognized the need for a complete review of both the content and format of the MID Basic ANP and FASID and MIDANPIRG/13, through Decision 13/32, agreed to the establishment of an Ad-hoc Working Group tasked with the development of a revised version of the MID ANP.

3.9 The meeting noted that ICAO Headquarters established a Secretariat Working Group, composed of a representative from each Regional Office and ICAO Headquarters, to prepare an action plan and monitor the review/development of the ANP/eANP project.

3.10 The meeting noted that the eANP WG/1 meeting established a Steering Committee (SC) to coordinate and administer the activities of the working group and take decisions as appropriate to progress its work.

3.11 The meeting noted that the approval of the final version of the three ANP Volumes is expected to be made at the eANP WG/2 meeting (Montreal, 18-22 November 2013).

3.12 The meeting was apprised of the outcome of the MID Air Navigation Plan Ad-hoc Working Group (ANP WG/1) meeting held in Cairo, 27-29 May 2013. It was highlighted that the ANP WG/1 meeting reviewed the available draft version of the different Parts of Volume I and II developed within the framework of the Secretariat eANP WG and made comments for improvement of the current drafts.

3.13 The meeting noted that the comments made by the ANP WG/1 meeting were shared with and supported by the Secretariat eANP WG SC during the second teleconference organised on 3 June 2013 and the report of the eANP WG/1 meeting was sent to all the eANP WG members.

3.14 The meeting noted that, in addition to the review of the draft versions of Volume I and II Parts, the ANP WG/1 meeting initiated discussion on the mechanism for the monitoring of the ASBU implementation in the MID Region (ANP Volume III).

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ATM/AIM/SAR SG/13  
Report on Agenda Item 4

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**REPORT ON AGENDA ITEM 4: ATM/SAR ISSUES**

*MID Region ATS Routes Issues*

4.1 The meeting was apprised of the outcome of the Sixth meeting of the ATS Route Network Task Force (ARN TF/6) held in Cairo, Egypt 22-24 April 2013.

4.2 The meeting noted that the ARN TF/6 meeting reviewed the Table ATS 1 – ATS Routes of the MID Basic ANP. Accordingly, 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 The meeting noted with concern that some States are still implementing changes to the Regional ATS Route Network without complying with the established procedures for the amendment of the MID Air Navigation Plan (ANP).

4.4 The meeting noted with appreciation the implementation of RNAV 1 Routes in Bahrain and Emirates Flight Information Regions (FIRs), which improved the ATS route network and relieved the traffic congestion in these areas.

4.5 The meeting noted with appreciation the opening of the route segment NWB – KITOT for traffic above flight level 350.

4.6 The ARN TF/6 meeting updated the route catalogue and discussed the possibility of introducing a new approach to improve the ATS route structure in the MID Region in accordance with MIDANPIRG/13 Conclusion 13/3. Accordingly, the meeting, through Draft Conclusion 6/2, requested States and Users to provide feedback on the priority of action to implement the identified top 20 routes extracted from the ATS Route Catalogue, taking into consideration the major traffic flows in the MID Region, the definition of City Pairs, the PBN and FUA concepts.

4.7 Based on the outcome of the discussions, the meeting agreed on the top ten (10) routes as at **Appendix 4A** to the Report on Agenda Item 4, to be considered as priority for the enhancement of the MID Region ATS Route Network. Based on the above, the meeting agreed to the following Draft Conclusion:

***DRAFT CONCLUSION 13/1: IMPLEMENTATION OF THE TOP TEN ATS ROUTES***

*That, concerned States be urged to take necessary measures to implement the identified routes at **Appendix 4A** to the Report on Agenda Item 4.*

4.8 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 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.

ATM/AIM/SAR SG/13  
Report on Agenda Item 4

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4.9 The meeting commended Iraq for the progress achieved, especially with regard to the improvement of the Communication, Navigation and Surveillance (CNS) infrastructure in Baghdad FIR. Furthermore, the meeting discussed the concerns raised by Iraq related to the traffic flows in Baghdad FIR.

4.10 Based on the above, the meeting agreed to implement four ATS routes as follows:

- Iraq to Bahrain through Kuwait: UKMUG-SIDAD- New Point East of RABAP then 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.

4.11 Based on the foregoing, the meeting agreed that the two proposed RNAV 1 routes between Iraq and Kuwait mentioned above, to be included among the top ten (10) proposed routes. The meeting noted with appreciation Kuwait cooperation to implement these routes during the second quarter of 2014.

4.12 The meeting agreed that the proposed routes between Iraq and Saudi Arabia above shall be implemented by **6 February 2014**. The meeting extended thanks to Saudi Arabia for their excellent cooperation. Accordingly, the meeting agreed to the following Draft Conclusion:

***DRAFT CONCLUSION 13/2: IMPLEMENTATION OF THE ATS ROUTES SIDAN  
TO RAF AND FROM HFR TO KABAN***

*That,*

*a) Iraq and Saudi Arabia 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: SIDAN to RAF and HFR to KABAN; and*

*b) ICAO MID Regional Office takes necessary measures to process the proposal for amendment, in accordance with the standard procedures.*

4.13 In accordance 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.

4.14 The meeting raised concerns regarding the use of like-sounding 5LNCs in close geographical location and noted Iraq and Saudi Arabia remarkable cooperation to solve such issue. In this respect, it was noted with appreciation that SIKLA (like-sounding with SILKA) was replaced by NORGI and IVANO (like-sounding with OVANO) by DAVAS.

4.15 Based on the above, the meeting encouraged States and Users to identify and report 5LNCs duplication and/or like-sounding issues to the ICAO MID Regional Office to take necessary mitigation measures in coordination with concerned parties.

ATM/AIM/SAR SG/13  
Report on Agenda Item 4

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***Civil/Military Cooperation***

4.16 The meeting recalled that MIDANPIRG/13 emphasized on the need of sharing airspace between civil and military. Accordingly, the meeting urged MID States to manage the airspace flexibly with an equitable balance between civil and military users through strategic coordination and dynamic interaction, which should lead to the implementation of the Flexible Use of Airspace (FUA).

4.17 The meeting was further apprised of the outcome of the Middle East Civil/Military Cooperation Seminar held in Jeddah, Saudi Arabia, 16-19 September 2012 and of the latest global development related to Civil/Military Cooperation, including the AN-Conf/12 Recommendation 4/5:

*Recommendation 4/5 – Civil/military coordination/cooperation and sharing of airspace*

*That States, PIRGs and ICAO:*

- a) analyse the benefits that could be achieved through improved civil/military cooperation and sharing of the airspace serving international traffic flows and express the results of this analysis in terms of:
  - 1) capacity increases and reduction in routine delays as measured by traffic volumes on major traffic flows;*
  - 2) document fuel savings and emission reductions through the use of the fuel savings estimation tools; and*
  - 3) other additional benefits;**
- b) based on the analysis, urge States to develop plans to implement improvements for the cooperative use of airspace related to the top areas of opportunity and establish concrete targets using tools already available for this purpose;*
- c) in relation to international traffic flows, for each ICAO region urge the planning and implementation regional groups and their associated States to identify the top areas of opportunity that could benefit the most from improvements in civil/military cooperation and sharing of the airspace and develop concrete targets for improvement;*

*That ICAO:*

- a) develop a set of criteria or metrics to enable objective measurement of progress in civil/military cooperation; and*
- b) continue to develop guidance material for States on the flexible use of their airspace, airspace design, interoperability and integration of humanitarian assistance flights in crisis response scenarios in their airspaces to facilitate integrated use of the airspace.*

ATM/AIM/SAR SG/13  
Report on Agenda Item 4

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4.18 The meeting noted that the Aviation System Block Upgrades (ASBU) Block 0 Module–FRTO: *Improved Operations through Enhanced En-Route Trajectories* is considered as a priority for the MID Region. Accordingly, the Third meeting of the MIDANPIRG Steering Group (MSG/3) agreed to include the B0-FRTO in the Draft MID AIR Navigation Strategy.

4.19 In order to relief the traffic congestion North of Bahrain FIR, the meeting noted with appreciation that Qatar and Saudi Arabia implemented the ATS Routes UM430 and UL681 as Conditional Routes (available for civil traffic from 1900 to 0300 UTC) and they are working with their Military Authorities to extend the availability of these Routes from 1500 to 0300 UTC.

4.20 Based on all of the foregoing, the meeting agreed to the following Draft Conclusions to replace and supersede the MIDANPIRG/12 Conclusion 12/25:

**DRAFT CONCLUSION 13/3: 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) fully 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.**

**DRAFT CONCLUSION 13/4: FLEXIBLE USE OF AIRSPACE**

*That, States be urged to:*

- a) take necessary follow-up actions to implement the provisions of Recommendation 4/5 of the AN-Conf/12; and*
- b) take necessary 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.*

4.21 The meeting agreed that the mechanism of Civil/Military Go-Teams could improve Civil/Military cooperation in the MID Region. It was highlighted that the main objective of the Civil/Military Go-Teams 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 and reduced CO<sub>2</sub> emissions.

ATM/AIM/SAR SG/13  
Report on Agenda Item 4

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4.22 The meeting agreed to defer the discussions on the details related to the scope, tasks, Pre-Go-Team Visit arrangements, on-site activities, and outcomes of the Civil/Military Go-Teams to the next ATM Sub-Group meeting.

4.23 Based on the above, the meeting agreed to the following Draft Conclusion:

***DRAFT CONCLUSION 13/5: CIVIL/MILITARY GO-TEAMS***

*That,*

*a) the mechanism of Civil/Military Go-Teams be endorsed 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.*

***Contingency Planning in the MID Region***

4.24 The meeting recalled that the provisions regarding contingency arrangements are contained in Chapter 2 of Annex 11. Guidance material relating to the development, promulgation and implementation of contingency plans is contained in Attachment C to Annex 11.

4.25 The meeting recognized that one of the challenges contributing to the low pace in implementation of contingency plans was the process of consultation and agreements with adjacent FIRs/States. However, it was noted that progress has been achieved, since a number of States have signed contingency planning agreements with adjacent FIRs/States.

4.26 The meeting noted that as a follow-up action to the MIDANPIRG/13 Conclusion 13/9, the ICAO MID Regional Office issued State Letters Ref.: AN 6/1.2.1 – 12/166 and AN 6/1.2.1-13/194 dated 12 June 2012 and 21 July 2013, urging States and Users to review the MID Regional Contingency Plan and the revised version of the Contingency Routing Scheme Asia/Middle East/Europe 2003 (CRAME-03) and provide updates and comments to the ICAO MID Regional Office before 1 September 2012.

4.27 The meeting reviewed and updated the Draft version of the MID Region ATM Contingency Plan as at **Appendix 4B** to the Report on Agenda Item 4. 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.

4.28 The meeting recalled that MIDANPIRG/12, through Decision 12/72 tasked the ATM/AIM/SAR Sub-Group and MET Sub-Group with the development of a MID Region Volcanic Ash Contingency Plan, based on the Template developed by the International Volcanic Ash Task Force (IVATF).

4.29 Based on the outcome of the MET SG/4 meeting (Cairo, Egypt, 25-27 June 2013), the

ATM/AIM/SAR SG/13  
Report on Agenda Item 4

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meeting reviewed the MID Region ATM Volcanic Ash Contingency Plan and agreed to attach it to the MID Region ATM Contingency Plan.

4.30 Accordingly, the meeting agreed to the following Draft Conclusion:

***DRAFT CONCLUSION 13/6: MID REGION ATM CONTINGENCY PLAN***

*That, the MID Region ATM Contingency Plan be endorsed as at **Appendix 4B** to the Report on Agenda Item 4.*

***MID Region ATM Enhancement Programme (MAEP)***

4.31 The meeting was apprised of the outcome of the DGCA-MID/2 and MSG/3 meetings related to MAEP. The meeting noted that the MAEP-SCM, initially scheduled to be held in Cairo, 4-5 September 2013) was postponed to 2014.

4.32 The meeting urged States, Users and International/Regional Organizations to provide the ICAO MID Regional Office with their proposals related to MAEP by **15 November 2013** for consideration by MIDANPIRG/14.

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ATM/AIM/SAR SG/13  
Appendix 4A to the Report on Agenda Item 4

**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**

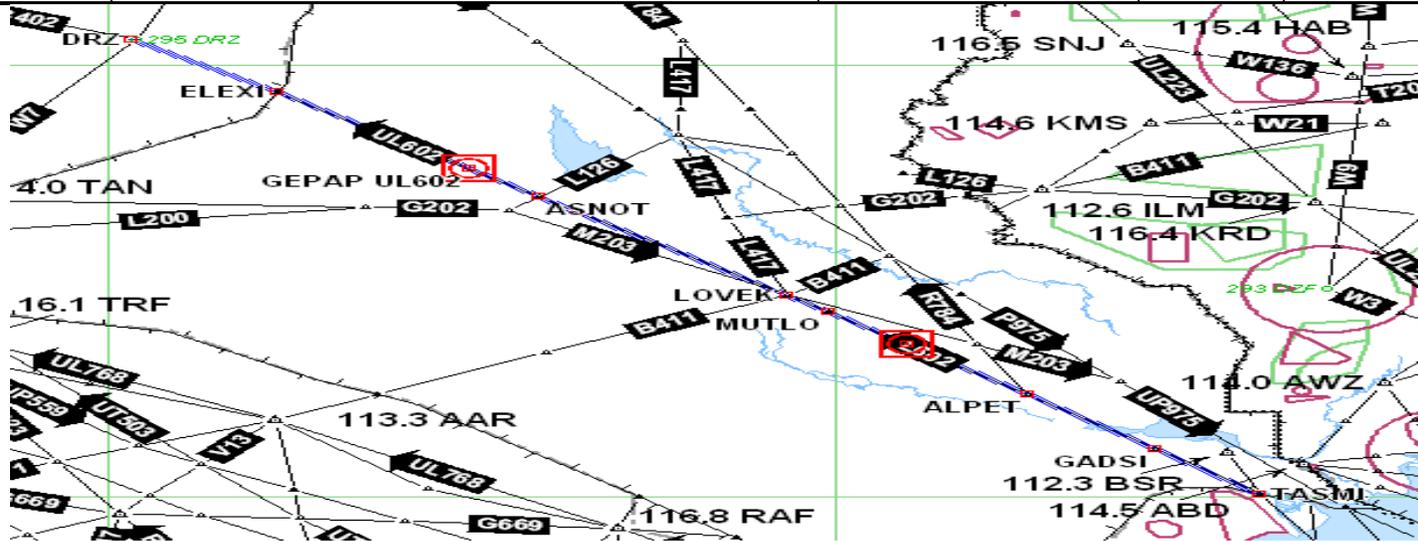
- a) TPR used as reference for the proposed Top 10 routes to be considered for implementation, numbers do not reflect the level of priority.
- b) Source of the proposed routes.
- c) Affected ATS Routes by the implementation of the new proposed routes.
- d) States Concerned with the implementation.
- 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



ATM/AIM/SAR SG/13-REPORT  
**APPENDIX 4A**

A-2

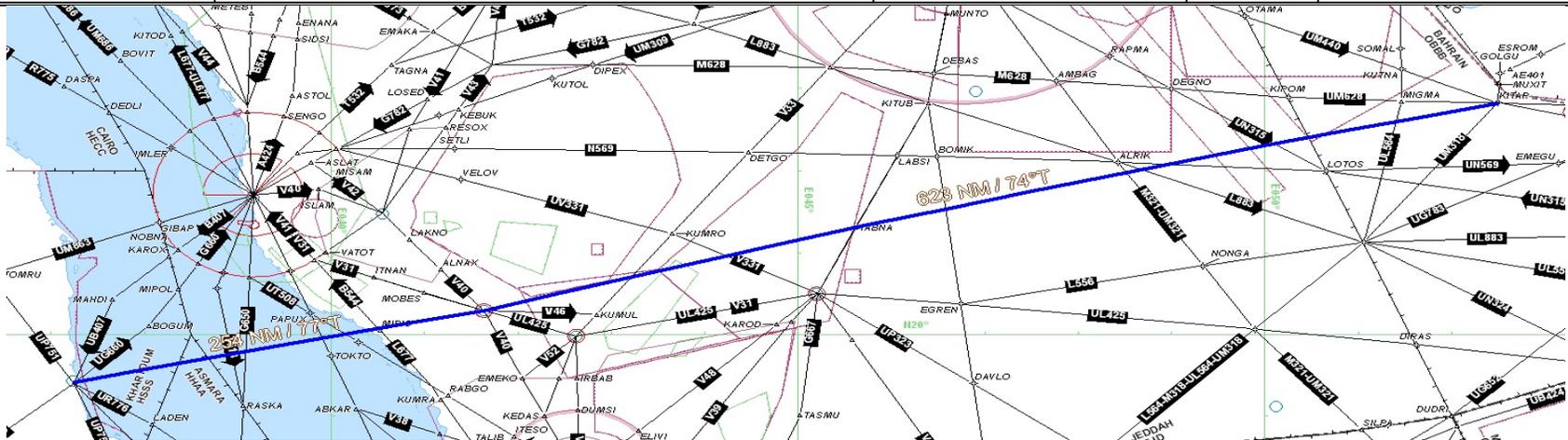
MID/RC-035 (TPR 1)	ATS Route Name: UL602	Entry-Exit: TASMI - ELEXI	Inter-Rgional Cross Reference if any		Users Priority	URGENT	Originator of Proposal	Iraq
							Date of Proposal	RDGE/11 (Oct 2009)
Route Description		States Concerned	Expected Implemen- tation date	Implementation Status	ANP Status	Action Taken / Required	Deadline for each Action	
GEPAP 334905.80N 0422850.64E ELEXI 344130N 0410900E		Iraq Syria		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						Once the communication issues are resolved it is expected that the ATS route will be implemented.		
Potential City Pairs:						Iraq has no objection		
Conclusions/Remarks						Last updated	ATM/AIM/SAR SG/13 SEP 2013	



MID/RC-035 - (TPR 1)

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 of Proposal	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) Al BAHA (BHA) KITAP  Flight Level Band:  Potential City Pairs: DGAA, DNMM, HSSS, OEJN, SBGR to OBBI, OMAA, OMDB, OTBD (Central and Eastern Arabian Peninsula to Sudan, West Africa, South America)		Bahrain, Qatar, Saudi Araiba, Sudan, United Arab Emirates				Bahrain has no objection Qatar, Saudi Arabia might be accepted as conditional Route Sudan no objection from Port Sudan to SALWA (CDR) 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	

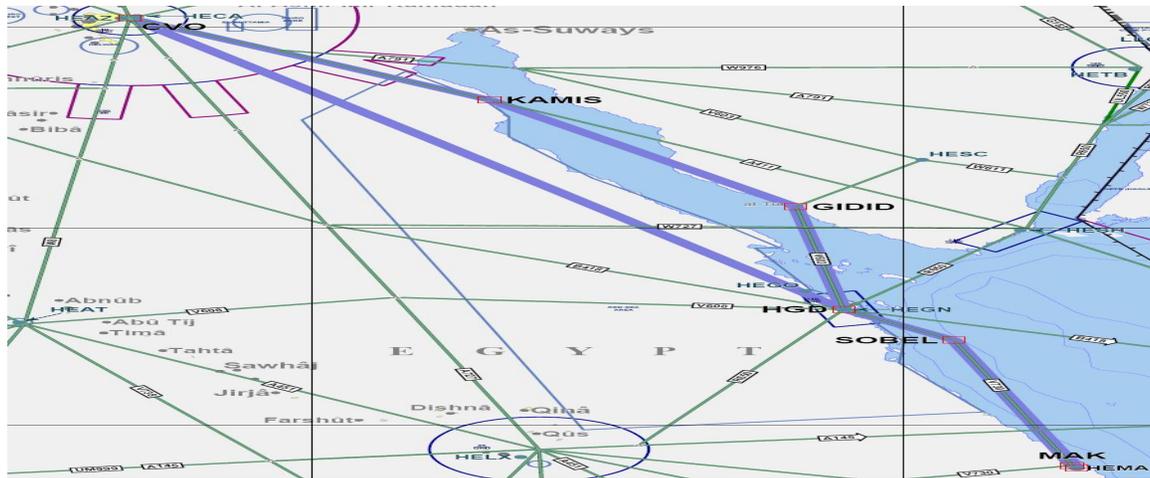


MID/RC-045 - (TPR 2)

ATM/AIM/SAR SG/13-REPORT  
**APPENDIX 4A**

A-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 HGD GIBAL		Egypt  Saudi Arabia				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		
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)

A-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	

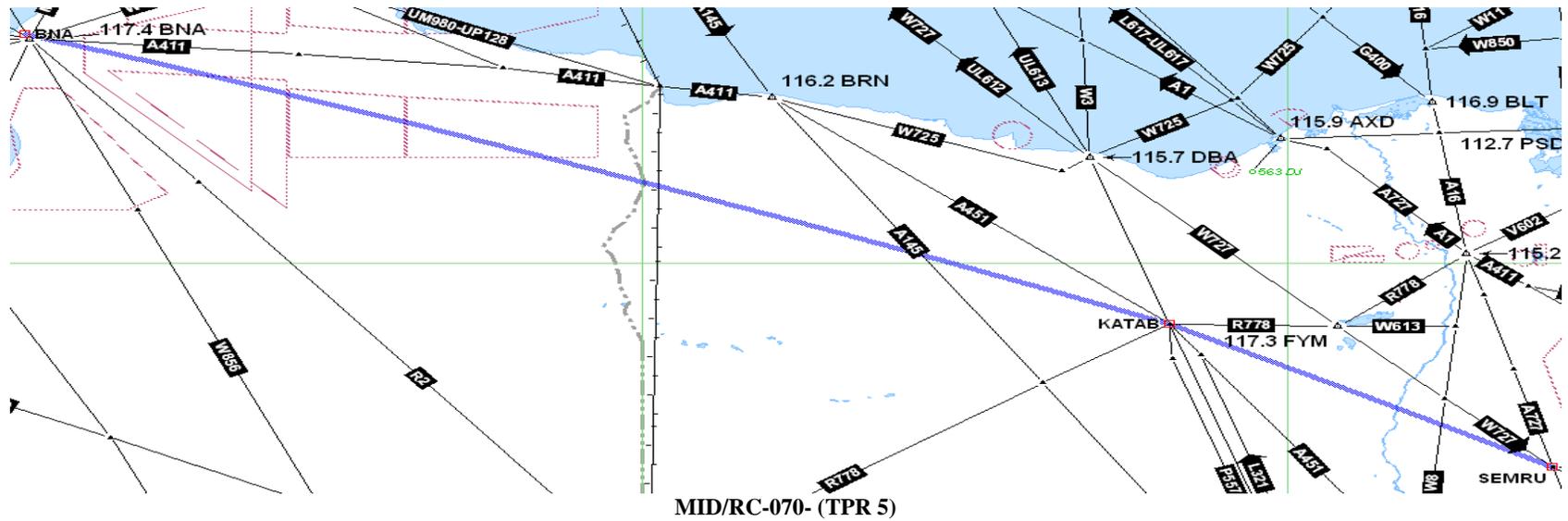


MID/RC-056- (TPR 4)

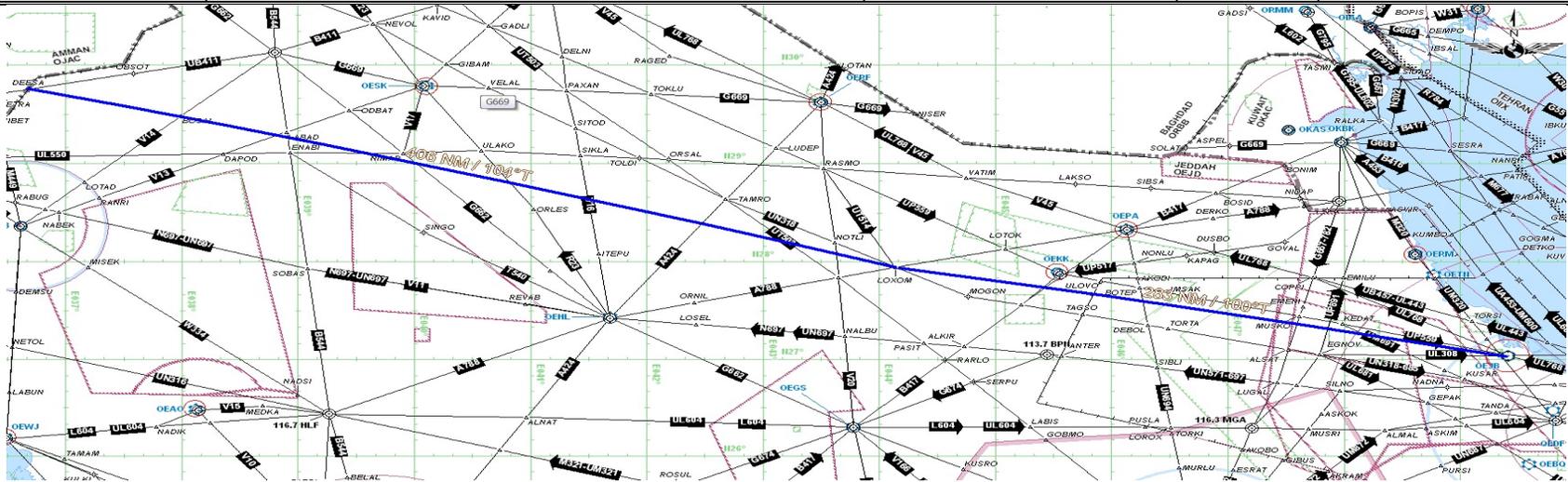
ATM/AIM/SAR SG/13-REPORT  
**APPENDIX 4A**

A-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						Implement if possible Priority Routes		
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-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. <b>Implement if possible Priority Routes</b>  <b>KSA suggest DEESA -LOXOM- JBL</b>  <b>In Egypt to follow the current route network</b>	TBD	
Flight Level Band:								
Potential City Pairs: Dakar FIR, Algiers FIR, Tripoli FIR, Cairo FIR, Jeddah FIR								
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)

ATM/AIM/SAR SG/13-REPORT  
**APPENDIX 4A**

A-8

<b>MID/RC-083</b> (TPR 7)	<b>ATS Route Name:</b> New Route UQ598 Westbound	<b>Entry-Exit:</b> DITAR – NABED – PASAM – HIL - ANTER - KUTEM		<b>Inter-Regional Cross Reference if any</b>		<b>Users Priority</b>	High	<b>Originator of Proposal</b>	IATA iFLEX Proposal
		<b>Date of Proposal</b>	17 May 2011						
<b>Route Description</b>		<b>States Concerned</b>	<b>Expected Implemen- tation date</b>	<b>Implementation Status</b>		<b>ANP Status</b>		<b>Action Taken/Required</b>	<b>Deadline for each Action</b>
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 <b>Implement if possible Priority Routes</b>  Important Segment <b>HGD-PASAM</b>	TBD
<b>Flight Level Band:</b>									
<b>Potential City Pairs:</b>									
<b>Conclusions/Remarks</b>						<b>Last updated</b>	ATM/AIM/SAR SG/13 SEP 2013		

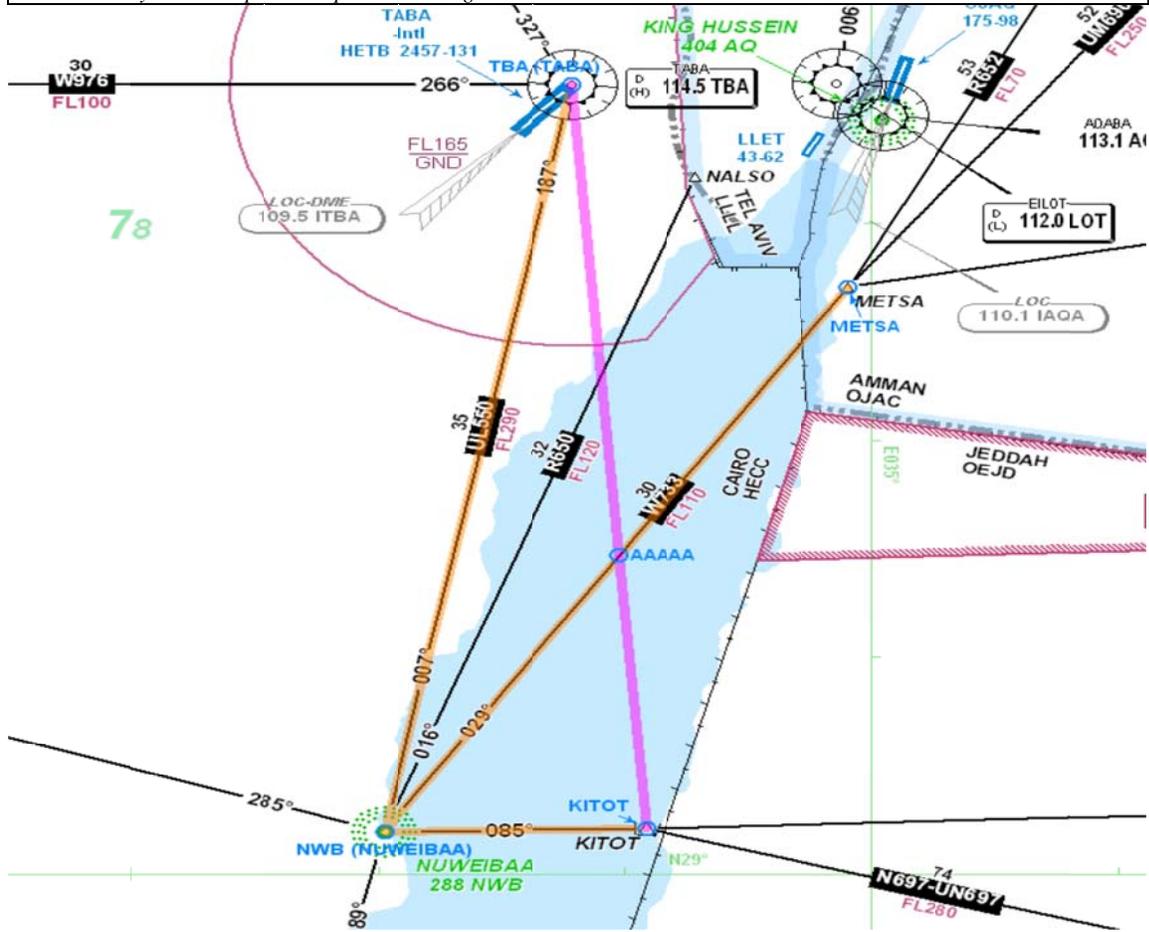


MID/RC-083- (TPR 7)

**Eurocontrol proposals**

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

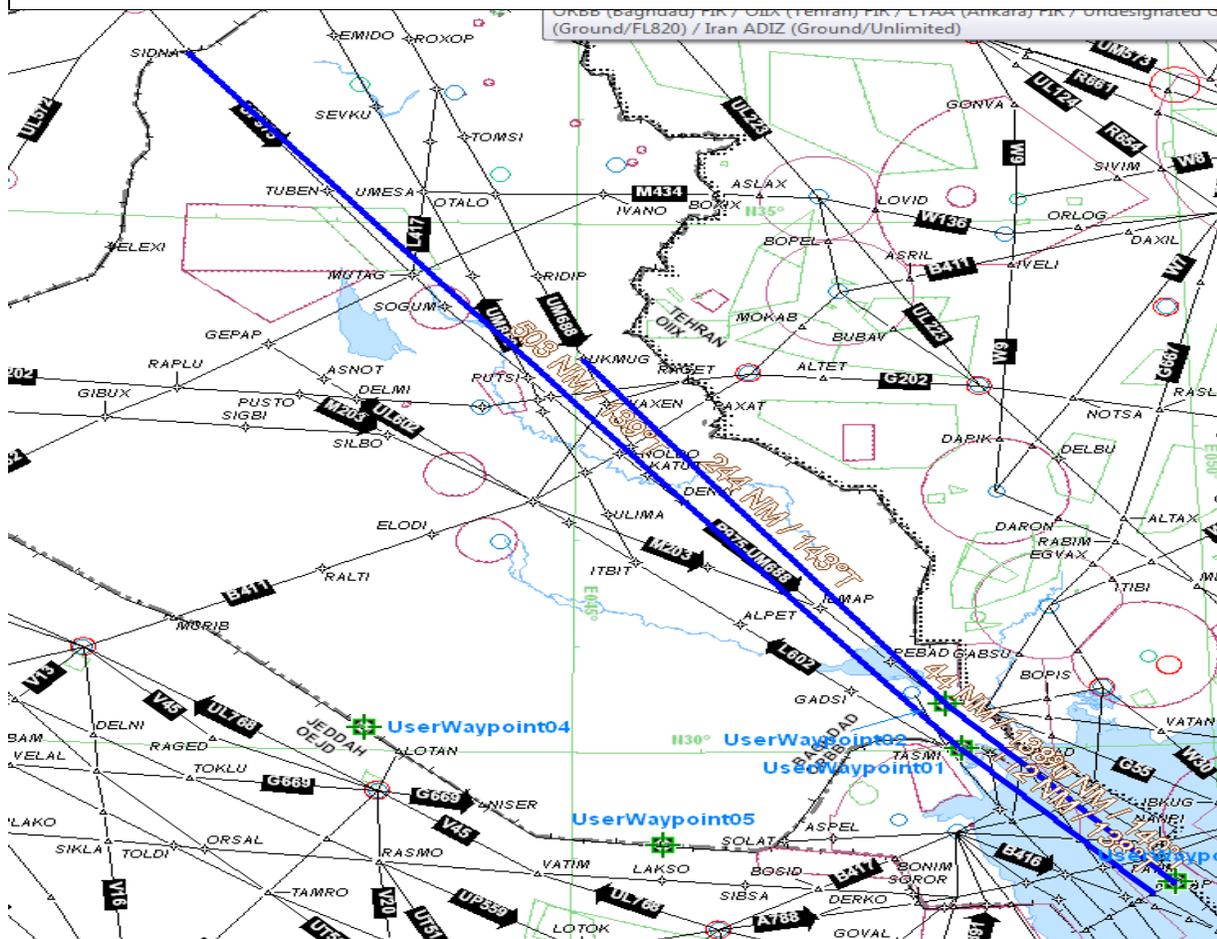
Notes:  
 1. AAAAA - crossing point between new TBA - KITOT and existing ATS route W733 allowing connection to/from METSA.  
 2. Shorter by 9.2NM option compare to existing TBA - NWB - KITOT.  
 3. Shorter by 28.6NM option compare to existing TBA - NWB - METSA.



(TPR 8)

Reference	Objective and Proposal	State(s) concerned
TPR 9	<i>Objective:</i> To further improve ATS route network between Baghdad and Kuwait FIRs.	Bahrain-Iraq-Kuwait
	To implement ATS route <b>UKMUG-SIDAD- New Point East of RABAP then join the ATS Route network within Bahrain.</b>	<b>Originator</b> 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	<i>Objective:</i> To further improve ATS route network between Baghdad and Kuwait FIRs.	Bahrain-Iraq-Kuwait
	To implement ATS route <b>SIDNA-New point West of ASLAN-RABAP.</b>	<b>Originator</b> ATM/AIM/SAR SG13 Oct 2013
Notes: 2. RNAV 1 Routes, target date of implementation second quarter of 2014.		



TPR 9 and 10

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ATM/AIM/SAR SG/13  
Appendix 4B to the Report on Agenda Item 4

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**INTERNATIONAL CIVIL AVIATION ORGANIZATION**

**MID REGION ATM CONTINGENCY PLAN**

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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**MID REGION AIR TRAFFIC MANAGEMENT CONTINGENCY PLAN**

**TABLE OF CONTENTS**

EXCLUSION OF LIABILITY.....

FOREWORD.....

RECORD OF AMENDMENTS.....

INTRODUCTION .....

CHAPTER 1: MID STATES' CONTINGENCY PLAN .....

CHAPTER 2 COMMON PROCEDURES.....

CHAPTER 3 AIR TRAFFIC MANAGEMENT.....

CHAPTER 4: AIRSPACE AND ALTERNATIVE ROUTINGS.....

CHAPTER 5: MID REGION ATM VOLCANIC ASH CONTINGENCY PLAN .....

DRAFT

## 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.



## INTRODUCTION

The 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
<b>TOTAL</b>	<b>976399</b>	<b>5204191</b>	<b>8.7</b>

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 relief 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.

By agreement between States and coordination with the International Organizations through the ICAO Regional Offices of APAC, ESAF, EUR/NAT, MID and WACAF, this Contingency

Plan and its amendment should be approved by the President of the ICAO Council on behalf of the Council.

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

This Contingency Plan should be reviewed regularly and amended as appropriate. Amendments and revisions are to be coordinated with affected States, organizations, and ICAO. Proposed amendments to the Contingency Plan should be forwarded to the relevant ICAO Regional Office for action.

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](mailto: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
<b>BAHRAIN</b>						
Mr. Ali Ahmed Mohammed	973 17321116		973 39969399	973 17321 9977	<a href="mailto:aliahmed@caa.gov.bh">aliahmed@caa.gov.bh</a>	Bahrain ACC Duty Supervisor Tel: 973 1732 1081/1080 Fax: 973 1732 1029 Email : <a href="mailto:bahatc@caa.gov.bh">bahatc@caa.gov.bh</a>
Mr. Saleem Mohammed Hasan	9731732 1117		973 39608860	973 17321 9966	<a href="mailto:saleemmh@caa.gov.bh">saleemmh@caa.gov.bh</a>	
<b>EGYPT</b>						
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		
<b>IRAN</b>						
Mr. Ebrahim Shoushtari Deputy CEO for Aeronautical Operations (IAC)	982163148900		989121861900	9821 63148906	<a href="mailto:E_shoushtari@yahoo.com">E_shoushtari@yahoo.com</a> <a href="mailto:E.shoushtari@airport.ir">E.shoushtari@airport.ir</a>	<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	<a href="mailto:aarabi@airport.ir">aarabi@airport.ir</a>	
Mr. Javad – Pashaei Deputy Director of ATS Dept.	9821 44544103		989122967946	9821 44544102	<a href="mailto:aarabi@airport.ir">aarabi@airport.ir</a>	
Mr. Ramezan Ali Ziaee Deputy Director of ATS Dept.	9821-44544103		989123874917	9821 44544102	<a href="mailto:r.a.ziaee@airport.ir">r.a.ziaee@airport.ir</a>	

4B-9

NAMES	PHONE (WORK)	PHONE (HOME)	MOBILE PHONE	FAX	E-MAIL	OTHER CONTACT DETAILS
<b>IRAQ</b>						
Mr. Ali Mohsin Hashim ATS Director	96418133370	9647702997761	9647815762525		atc_iraqcaa@yahoo.com	
<b>JORDAN</b>						
Nayef Al Marshoud Director, ATM	9626 489 7729	962 5 3862584	962 797498992 962 777789470	9626 4891 266	<a href="mailto:nayefmarshoud@hotmail.com">nayefmarshoud@hotmail.com</a> <a href="mailto:datm@carc.gov.jo">datm@carc.gov.jo</a>	
<b>KUWAIT</b>						
Mr. Adel S. Boresli	965 24710268		96599036556	965 24346221	as.buresli@dgca.gov.kw	
<b>LEBANON</b>						
Walid Al Hassanieh Chief Air Navigation Dept.	+ 961 1 628178		+961 70474517	+961 1 629023	<a href="mailto:hassaniehw@beirutairport.gov.lb">hassaniehw@beirutairport.gov.lb</a>	AFTN OLBAZPZX
<b>LIBYA</b>						
<b>OMAN</b>						
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	
<b>SAUDI ARABIA</b>						
Mr. Mohammad Al Alawi	96626401005		96655621582	9662 6401005	alalawi_m@yahoo.com	
<b>SUDAN</b>						
<b>SYRIA</b>						
Eng. Feras MohamadDirector General of Civil Aviation	963 1133 33815			963 11 2232201	<a href="mailto:dgca@scaa.sy">dgca@scaa.sy</a>	P.O.BOX:6257 Damascus, Syria
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
<b>UNITED ARAB EMIRATES (UAE)</b>						
Mr. Ahmed Al Jallaf Executive Director, Air Navigation Service Provider	9712 599 6888		97150 614 9065	9712 599 6883	<a href="mailto:aljallaf@szc.gcaa.ae">aljallaf@szc.gcaa.ae</a>	9712 599 6999  SCZ
<b>YEMEN</b>						
Mr.Abdullah Ahmed Al- Awlaqi	9671 345 402	9671 506828	96777776830	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
<b>IATA MID</b>						
<b>ICAO MID</b>						
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	
<b>ICAO APAC</b>						
<b>ICAO ESAF</b>						
<b>ICAO WACAF</b>						
<b>ICAO Headquarters – Montreal</b>						
Chris Dalton (C/ATM)	1514 954-6711	1 514 281-0731	1 514 951-0283	1-514-954 8197	cdalton@icao.int	

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## 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.

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 plans agreements in the MID Region is at **Table 2**.

**Status of Contingency Plans Agreements in the MID Region**

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

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

**Table 2**

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## CHAPTER 2

### COMMON PROCEDURES

#### Implementation of the plan

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

In **Limited Service situations**: the individual 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 ANSP will issue NOTAMs and broadcast on appropriate frequencies that contingency procedures have been initiated. The notification process employed by individual 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).”*

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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.

### **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.

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**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:

<b>CR</b>	<b>FIR(s) to be Avoided</b>	<b>Traffic Flows through the MID Region Alternative routings/FIRs</b>	<b>Remarks</b>
CR 1	Amman	<p><i>Eastern Europe from/to Asia</i></p> <ul style="list-style-type: none"> <li>▪ Ankara, Baghdad, Jeddah</li> <li>▪ Ankara, Tehran</li> <li>▪ Ankara, Damascus, Baghdad, Jeddah</li> </ul> <p><i>Western Europe from/to Asia</i></p> <ul style="list-style-type: none"> <li>▪ Nicosia, Cairo, Jeddah</li> <li>▪ Nicosia, Beirut, Damascus, Baghdad, Jeddah</li> </ul> <p><i>Northern Africa from/to Asia</i></p> <ul style="list-style-type: none"> <li>▪ Cairo, Jeddah</li> </ul> <p><i>Southern Africa from/to Asia</i></p> <ul style="list-style-type: none"> <li>▪ N/A</li> </ul>	
CR 2	Baghdad	<p><i>Eastern Europe from/to Asia</i></p> <ul style="list-style-type: none"> <li>▪ Ankara, Tehran, (Kuwait) or (Bahrain) or (UAE)</li> <li>▪ Ankara, Damascus, Amman, Jeddah</li> </ul> <p><i>Western Europe from/to Asia</i></p> <ul style="list-style-type: none"> <li>▪ Nicosia, Beirut, Damascus, Amman, Jeddah</li> <li>▪ Nicosia, Damascus, Amman, Jeddah</li> <li>▪ Nicosia, Cairo, Jeddah</li> </ul> <p><i>Northern Africa from/to Asia</i></p> <ul style="list-style-type: none"> <li>▪ Cairo, Jeddah</li> </ul> <p><i>Southern Africa from/to Asia</i></p> <ul style="list-style-type: none"> <li>▪ Addis Ababa, (Asmara, Jeddah) or (Mogadishu, Sana’a)</li> </ul>	
CR 3	Bahrain	<p><i>Eastern Europe from/to Asia</i></p> <ul style="list-style-type: none"> <li>▪ Ankara, (Baghdad), Tehran, UAE, Muscat</li> <li>▪ Ankara, Baghdad, Jeddah, Sana’a, Muscat</li> </ul> <p><i>Western Europe from/to Asia</i></p> <ul style="list-style-type: none"> <li>▪ Nicosia, Beirut, Damascus, Amman, Jeddah, Sana’a; Muscat</li> <li>▪ Nicosia, Damascus, Amman, Jeddah</li> <li>▪ Nicosia, Cairo, Jeddah, Sana’a, Muscat</li> </ul> <p><i>Northern Africa from/to Asia</i></p>	

		<ul style="list-style-type: none"> <li>▪ Cairo, Jeddah, Sana'a, Muscat</li> </ul> <p><b><i>Southern Africa from/to Asia</i></b></p> <ul style="list-style-type: none"> <li>▪ Khartoum, Jeddah, Sana'a, Muscat</li> <li>▪ Addis Ababa, Mogadishu, Sana'a, Muscat</li> </ul>	
CR 4	Beirut, Damascus	<p><b><i>Eastern Europe from/to Asia</i></b></p> <ul style="list-style-type: none"> <li>▪ Ankara, Baghdad Jeddah or Kuwait;</li> <li>▪ Ankara, Tehran</li> </ul> <p><b><i>Western Europe from/to Asia</i></b></p> <ul style="list-style-type: none"> <li>▪ Nicosia, Cairo, Jeddah</li> </ul> <p><b><i>Northern Africa from/to Asia</i></b></p> <ul style="list-style-type: none"> <li>▪ Cairo, Jeddah</li> </ul> <p><b><i>Southern Africa from/to Asia</i></b></p> <ul style="list-style-type: none"> <li>▪ Khartoum Addis Ababa, Mogadishu, Sana'a</li> <li>▪ Khartoum, Jeddah</li> </ul>	
CR 5	Cairo	<p><b><i>Eastern Europe from/to Asia</i></b></p> <p>N/A</p> <p><b><i>Western Europe from/to Asia</i></b></p> <ul style="list-style-type: none"> <li>▪ Nicosia, Beirut, Damascus, Amman, Jeddah</li> <li>▪ Nicosia, Damascus, Baghdad; Kuwait, Bahrain, UAE</li> <li>▪ Malta, Tripoli, Khartoum, Jeddah</li> <li>▪ Malta, Tripoli, Khartoum, Asmara, Jeddah or Sana'a</li> </ul> <p><b><i>Northern Africa from/to Asia</i></b></p> <ul style="list-style-type: none"> <li>▪ Tripoli, Khartoum, Jeddah</li> <li>▪ Tripoli, Khartoum, Asmara, Jeddah or Sana'a</li> <li>▪ Algiers, Niamey, N'djamena, Khartoum, Asmara, Jeddah or Sana'a</li> </ul> <p><b><i>Southern Africa from/to Asia</i></b></p> <ul style="list-style-type: none"> <li>▪ Khartoum, Jeddah, Sana'a, Muscat</li> <li>▪ Addis Ababa, (Asmara, Jeddah) or (Mogadishu, Sana'a)</li> </ul>	
		<ul style="list-style-type: none"> <li>▪</li> </ul>	
CR 6	Iran	<p><b><i>Eastern Europe from/to Asia</i></b></p> <ul style="list-style-type: none"> <li>▪ Baku, Turkmenbashi, Ashgabat, Turkmenabat, Kabul, Karachi, Muscat or Delhi</li> <li>▪ Baghdad, Kuwait, Bahrain, UAE, Muscat</li> <li>▪ Nicosia Damascus Amman, Jeddah</li> </ul> <p><b><i>Western Europe from/to Asia</i></b></p> <ul style="list-style-type: none"> <li>▪ Nicosia, Beirut, Damascus, Amman, Jeddah</li> <li>▪ Nicosia, Cairo, Jeddah</li> </ul> <p><b><i>Northern Africa from/to Asia</i></b></p> <ul style="list-style-type: none"> <li>▪ N/A</li> </ul> <p><b><i>Southern Africa from/to Asia</i></b></p> <ul style="list-style-type: none"> <li>▪ N/A</li> </ul>	
CR 7	Jeddah	<p><b><i>Eastern Europe from/to Asia</i></b></p> <ul style="list-style-type: none"> <li>▪ Ankara, Baghdad, Kuwait, Bahrain, UAE, Muscat</li> <li>▪ Ankara, Damascus, Amman, Baghdad, Kuwait, Bahrain, UAE</li> </ul> <p><b><i>Western Europe from/to Asia</i></b></p> <ul style="list-style-type: none"> <li>▪ Nicosia, Beirut, Damascus, Amman, Baghdad, Kuwait, Bahrain,</li> <li>▪ Athens or Nicosia, Cairo, Amman, Baghdad, Kuwait, Bahrain</li> </ul> <p><b><i>Northern Africa from/to Asia</i></b></p> <ul style="list-style-type: none"> <li>▪ Cairo, Khartoum, Asmara, Sana'a</li> </ul> <p><b><i>Southern Africa from/to Asia</i></b></p>	

		<ul style="list-style-type: none"> <li>▪ Khartoum, Asmara, Sana'a</li> <li>▪ Addis Ababa, Mogadishu, Sana'a, Muscat</li> </ul>	
CR 8	Khartoum	<p><b><i>Eastern Europe from/to Asia</i></b></p> <ul style="list-style-type: none"> <li>▪ NA</li> </ul> <p><b><i>Western Europe from/to Africa</i></b></p> <ul style="list-style-type: none"> <li>▪ N/A</li> </ul> <p><b><i>Northern Africa from/to Asia</i></b></p> <ul style="list-style-type: none"> <li>▪ Cairo, Jeddah</li> <li>▪ Tripoli, N'djamena, Brazzaville, Kinshasa, Entebbe, Nairobi Addis Ababa, Mogadishu, Sana'a, Jeddah or Muscat.</li> </ul> <p><b><i>Southern Africa from/to Asia</i></b></p> <p>Kinshasa, Entebbe, Nairobi Addis Ababa, Mogadishu, Sana'a, Jeddah or Muscat</p>	
CR 9	Muscat, UAE	<p><b><i>Eastern Europe from/to Asia</i></b></p> <ul style="list-style-type: none"> <li>▪ Ankara, Baghdad, Jeddah, Sana'a</li> </ul> <p><b><i>Western Europe from/to Asia</i></b></p> <ul style="list-style-type: none"> <li>▪ Nicosia, Beirut, Damascus, Amman, Jeddah, Sana'a</li> <li>▪ Nicosia, Damascus, Amman, Jeddah</li> <li>▪ Nicosia, Cairo, Jeddah, Sana'a</li> </ul> <p><b><i>Northern Africa from/to Asia</i></b></p> <ul style="list-style-type: none"> <li>▪ Cairo, Jeddah, Sana'a</li> </ul> <p><b><i>Southern Africa from/to Asia</i></b></p> <ul style="list-style-type: none"> <li>▪ Khartoum, Jeddah, Sana'a</li> <li>▪ Addis Ababa, (Asmara Jeddah) or (Mogadishu, or Sana'a)</li> </ul>	
CR 10	Sana'a	<p><b><i>Eastern Europe from/to Asia</i></b></p> <ul style="list-style-type: none"> <li>▪ Ankara, Baghdad, Tehran, UAE, Muscat</li> <li>▪ Ankara, Baghdad, Jeddah, Bahrain, Muscat</li> </ul> <p><b><i>Western Europe from/to Asia</i></b></p> <ul style="list-style-type: none"> <li>▪ Nicosia, Beirut, Damascus, Amman, Jeddah, Bahrain; Muscat</li> <li>▪ Nicosia, Damascus, Amman, Jeddah, Bahrain; Muscat</li> <li>▪ Nicosia, Cairo, Jeddah, Bahrain; Muscat</li> </ul> <p><b><i>Northern Africa from/to Asia</i></b></p> <ul style="list-style-type: none"> <li>▪ Cairo, Jeddah, Bahrain; Muscat</li> </ul> <p><b><i>Southern Africa from/to Asia</i></b></p> <ul style="list-style-type: none"> <li>▪ Khartoum, Jeddah, Bahrain; Muscat</li> <li>▪ Addis Ababa, (Asmara Jeddah) or (Mogadishu, Mumbai, Muscat)</li> </ul>	
CR 11	Tripoli	<p><b><i>Eastern Europe from/to Asia</i></b></p> <p>NA</p> <p><b><i>Western Europe from/to Africa</i></b></p> <ul style="list-style-type: none"> <li>▪ Cairo, Khartoum</li> </ul> <p><b><i>Northern Africa from/to South Africa or Middle East</i></b></p> <ul style="list-style-type: none"> <li>▪ Athens, or Nicosia to Cairo, Khartoum or Jeddah</li> <li>▪ Tunis, Algiers, Niamey, N'djamena</li> </ul> <p><b><i>Southern Africa from/to Asia</i></b></p> <p>NA</p>	

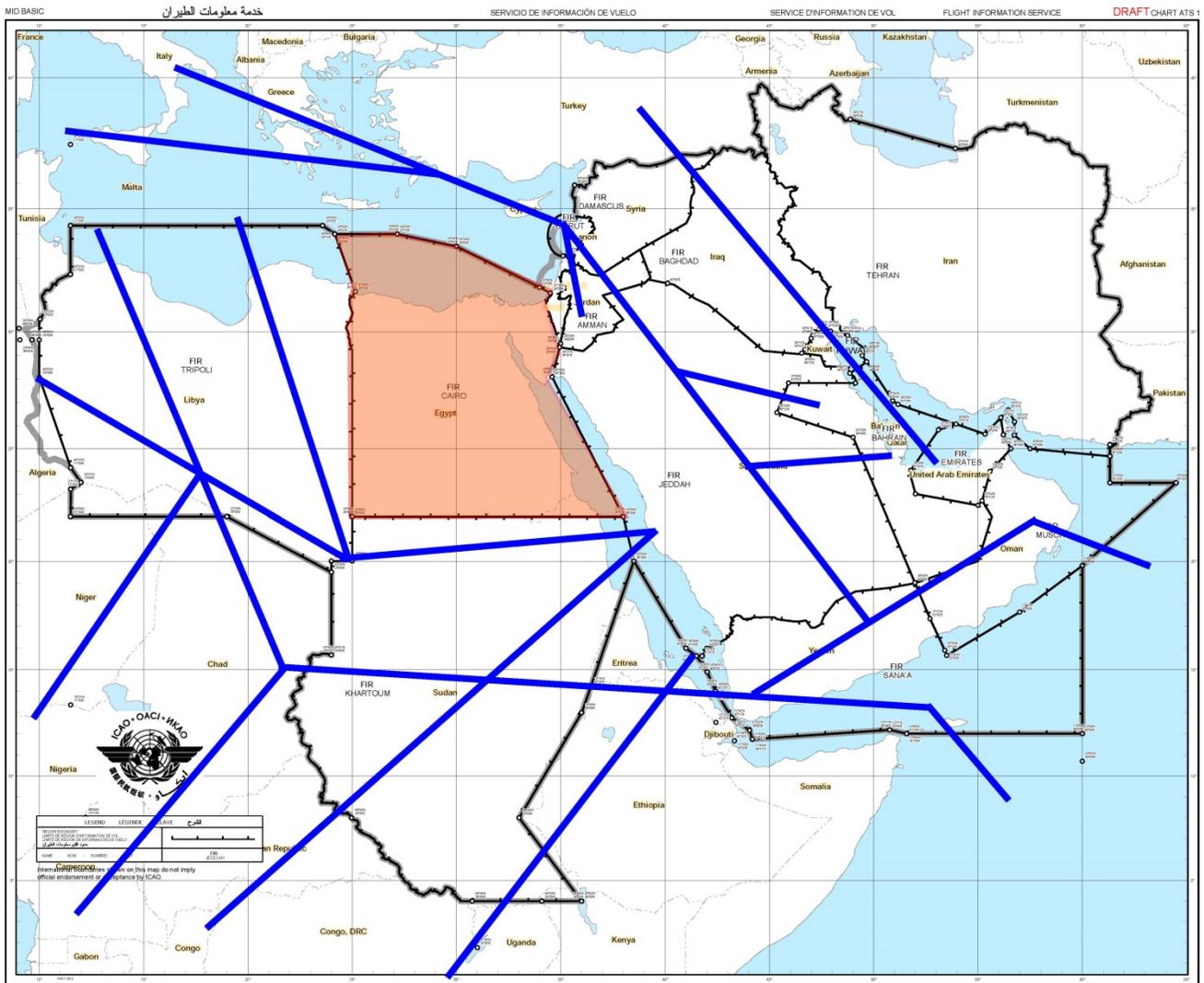
**Table 3**























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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.

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DRAFT



**INTERNATIONAL CIVIL AVIATION ORGANIZATION**

**MID REGION ATM VOLCANIC ASH CONTINGENCY PLAN**

DRAFT

**MID REGION AIR TRAFFIC MANAGEMENT VOLCANIC ASH CONTINGENCY PLAN**

**TABLE OF CONTENTS**

- 1. Terminology**
  - 1.1 Areas of Contamination
  - 1.2 Danger Areas
  - 1.3 Phases of an Event
  
- 2. Pre-eruption phase**
  - 2.1 General
  - 2.2 Originating ACC Actions
  - 2.3 Adjacent ACC Actions
  - 2.4 ATFM Unit Actions
  
- 3. Start of eruption phase**
  - 3.1 General
  - 3.2 Originating ACC Actions
  - 3.3 Adjacent ACC Actions
  - 3.4 ATFM Unit Actions
  
- 4. On-going eruption phase**
  
- 5. Recovery phase**
  
- 6. Air traffic services procedures**
  
- 7. Air traffic flow management procedures**

- APPENDIX A** General guidance for the development of an ATM volcanic ash contingency plan
  
- APPENDIX B** Anticipated flight crew issues when encountering volcanic ash
  
- APPENDIX C** Communication and dissemination of pilots' reports of volcanic activity

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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*.<sup>1</sup>

### 1.2. Danger Areas

1.2.1. If it is considered that the volcanic event could pose a hazard to aviation, a danger area<sup>2</sup> 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.

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<sup>1</sup> 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).

<sup>2</sup> 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)<sup>3</sup>, 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)<sup>4</sup>. 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;

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

<sup>4</sup> 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

## MID Region ATM Volcanic Ash Contingency Plan

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. ATIS 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, ATIS 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 terrain 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.

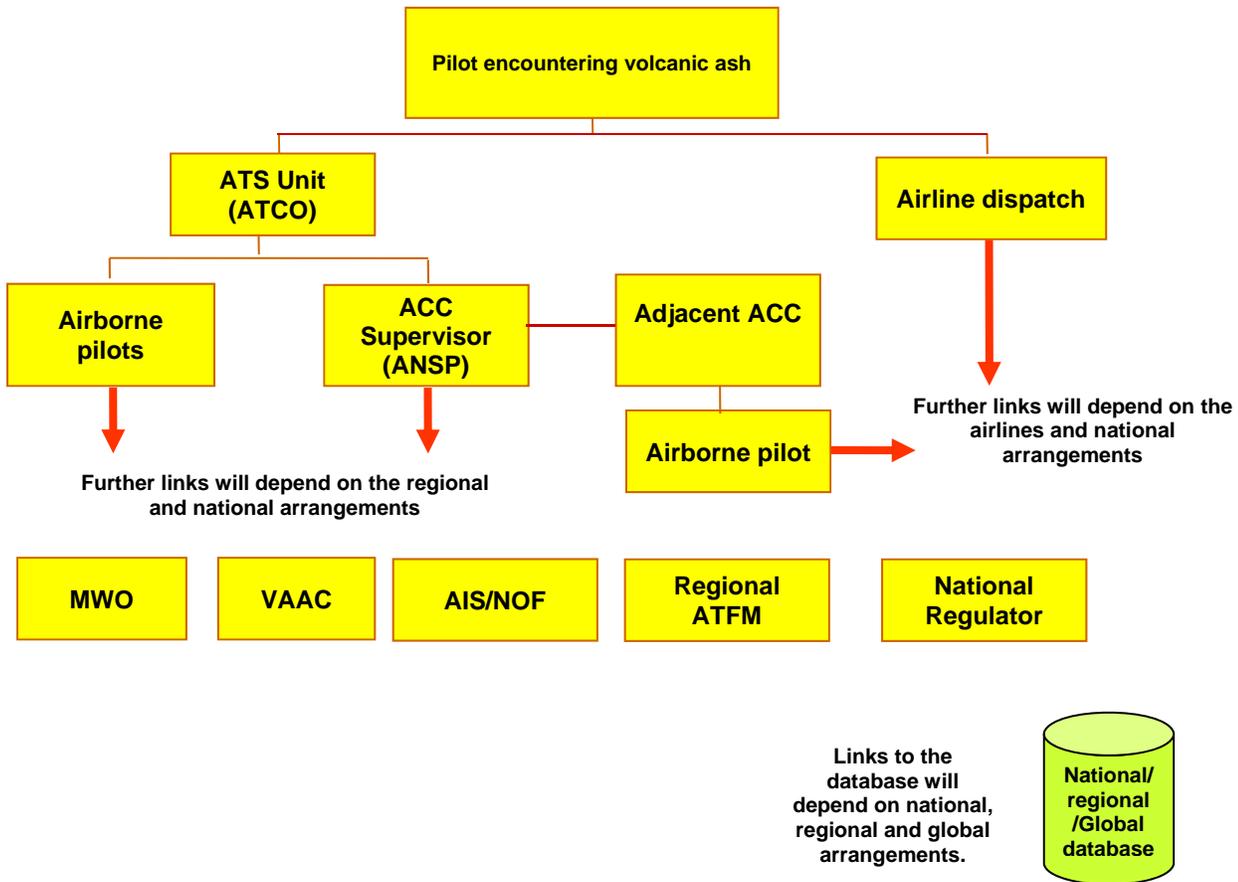
4.2. *In-Flight Phase*

4.2.1 Participants, Roles & Responsibilities:

<b>Participants</b>	<b>Roles &amp; Responsibilities</b>
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: <ul style="list-style-type: none"> <li>- passed on to the associated Meteorological organizations in accordance with national/regional arrangements;</li> <li>- fully and immediately disseminated across the organization, in particular to adjacent sectors and the associated NOTAM Office (NOF);</li> <li>- passed on to the neighbouring sectors and ACCs (if necessary);</li> <li>- passed on to the regional ATFM centre if existing (e.g. CFMU in Europe);</li> <li>- passed on to the national/regional authority responsible for the handling of contingency situations.</li> </ul>
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](http://www.skybrary.aero/index.php/Main_Page)).

ATM/AIM/SAR SG/13  
Report on Agenda Item 5

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**Report on Agenda Item 5: RVSM Operations and Monitoring Activities in the MID Region**

5.1 The meeting was apprised of the outcome of the MIDRMA Board/12 meeting held in Kuwait, from 17 to 19 December 2012.

***MID RVSM SMR 2012-2013***

5.2 The meeting recalled that MIDANPIRG/13, through Conclusion 13/65, requested States to provide required data on a regular basis and in a timely manner to the MIDRMA for the development of the RVSM Safety Monitoring Reports.

5.3 It was highlighted that the MIDRMA is still facing some difficulties related to the provision of required data by States, such as:

- late submission of the traffic data;
- corrupted traffic data; and
- missing items from the data submitted (e.g. no registrations or wrong type of aircraft, etc).

5.4 The meeting recalled that through MIDANPIRG/13 Conclusion 13/64 and Conclusion 13/65, States were requested to submit the data related to both Altitude Deviation Reports (ADRs) and Coordination Failure Reports (CFRs) using the Large Height Deviation (LHD) form to the MIDRMA on monthly basis.

5.5 The status of reporting of LHDs and RVSM Approval Lists to the MIDRMA is summarized in the following Table:

States	LHDs		RVSM Approvals	
	Received	Regularity/ Timeliness	Received	Regularity/ Timeliness
Bahrain	Yes	Yes	Yes	Yes*
Egypt	Yes	Yes*	Yes	Yes*
Iran	Yes	Yes	No	No
Iraq	Yes	Yes	Yes	Yes
Jordan	Yes	Yes	Yes	Yes
Kuwait	Yes	Yes	Yes	Yes*
Lebanon	Yes	Yes*	Yes	Yes
Oman	Yes	Yes	Yes	No
Saudi Arabia	Yes	Yes	Yes	Yes*
Syria	Yes	Yes	Yes	Yes
UAE	Yes	Yes*	Yes	Yes*
Yemen	Yes	No	Yes	No

\*Note: Irregularity in the provision of data has been observed intermittently.

5.6 The meeting noted with concern that several FIRs with high volume of traffic continue to report NIL LHDs, as shown in the table below, which affects the accuracy of the computed Targets Level of Safety.

ATM/AIM/SAR SG/13  
Report on Agenda Item 5

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	July 2011 - April 2012		May 2012 - Aug 2013	
	(ADR)/LHD	CFR	LHD	CFR
<b>Bahrain</b>	2	189	5	201
<b>Egypt</b>	0	28	6	6
<b>Iran</b>	0	37	3	21
<b>Iraq</b>	0	24	54	271
<b>Jordan</b>	27	21	28	0
<b>Kuwait</b>	0	54	0	125
<b>Lebanon</b>	1	0	0	0
<b>Oman</b>	0	96	0	52
<b>Qatar</b>	N/A	N/A	N/A	N/A
<b>Saudi Arabia</b>	3	25	4	0
<b>Syria</b>	0	2	0	7
<b>UAE</b>	10	30	2	3
<b>Yemen</b>	0	0	0	0

5.7 Based on the data provided by the MIDRMA as reflected in the table above, the meeting noted that the reporting of CFRs and LHDs to the MIDRMA was considered unsatisfactory for: Egypt, Iran, Kuwait, Lebanon, Oman, Saudi Arabia, Syria and Yemen. Accordingly, the meeting agreed that the mentioned States be included temporarily in the MIDANPIRG list of air navigation deficiencies, for unsatisfactory reporting of CFRs and LHDs, pending MIDANPIRG/14 approval. In this respect, the MIDRMA was requested to send evidences of unsatisfactory reporting to the RVSM managers/MIDRMA Board focal points of the concerned States to reach a consensus on the inclusion/exclusion of their States in the list of air navigation deficiencies.

5.8 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. 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.

5.9 Accordingly, the meeting supported the following MIDRAMA Board/12 Draft Conclusion, which is proposed to replace and supersede the MIDANPIRG Conclusion 13/67:

*DRAFT CONCLUSION 12/5: 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.*

ATM/AIM/SAR SG/13  
Report on Agenda Item 5

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5.10 The meeting was 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 Draft Decision:

***DRAFT DECISION 13/7: 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.*

5.11 It was highlighted that a simplified LHD Template containing the minimum data necessary to trigger the process of reporting an ADR or CFR would be developed by the MIDRMA, with a view to facilitate the process of reporting of ADRs and CFRs by the Air Traffic Controllers.

5.12 In connection with the above, the meeting agreed that the development of an Online Reporting Tool for the submission of LHD reports to the MIDRMA, would also improve the level of reporting by States.

5.13 The meeting recalled that in accordance with MIDANPIRG/13 Conclusion 13/71, States were requested to send their FPL/Traffic data for the period 01-31 October 2012 to the MIDRMA by 15 November 2012, for the development of the MID RVSM SMR 2012-2013.

5.14 The descriptions of the total traffic data collected from each MIDRMA member States is depicted in the table below. The total number of movements operating within the MID RVSM airspace was **214,609 flights**. The data related to these flights, as submitted by concerned States, was processed very carefully to ensure accurate results:

SN	MID States	June 2009	Jan 2011	Oct-12	Jan 2011 vs Oct 2012 (%)
1	Bahrain FIR	24285	30099	39345	23.5
2	Muscat FIR	22520	28224	30357	7.03
3	Jeddah/Riyadh FIR	22422	25499	30944	17.6
4	Cairo FIR	19228	14270	26332	45.81
5	Emirates FIR	15868	21076	24676	14.59
6	Tehran FIR	10479	10638	17523	39.29
7	Damascus FIR	9774	11719	8027	<b>-45.99</b>
8	Amman FIR	8554	10689	6857	<b>-55.88</b>
9	Kuwait FIR	3570	10364	13596	23.77
10	Sana'a FIR	3490	4305	5170	16.73
11	Beirut FIR	2949	3845	1286	<b>-66.5</b>
12	Baghdad FIR	-	-	10496	
	<b>Total</b>	<b>143,139</b>	<b>170,728</b>	<b>214,609</b>	<b>20.45</b>

MID States RVSM Traffic Data used for the SMRs

ATM/AIM/SAR SG/13  
Report on Agenda Item 5

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5.15 The meeting noted with appreciation that the MIDRMA completed the assessment of the three safety objectives as set out by MIDANPIRG, through Conclusion 12/16. Accordingly, the meeting reviewed and updated the Action Plan for the development of the MID RVSM SMR 2012-2013 as follows:

<i>No.</i>	<i>Start</i>	<i>Activity</i>	<i>End</i>	<i>Status</i>
1	01/10/2012	States to collect flight plan traffic data (SMR's Traffic Data Sample) for all traffic operating between FL290 and FL410 inclusive.	<del>31/10/2012</del> 31/03/2013	Completed
2	01/10/2012	Collect Bahrain and Kuwait SSR radar data for October 2012	31/10/2012	Completed
3	01/11/2012	Collect Amman SSR radar data	<del>15/11/2012</del> 31/01/2013	Cancelled – due to low level traffic
4	16/11/2012	Collect Muscat SSR radar data	<del>30/11/2012</del> 31/01/2013	Completed
5	01/12/2012	Collect Jeddah* SSR radar data	<del>15/12/2012</del> 31/01/2013	Completed
6	01/11/2012	Collect states TDS	31/01/2013	Completed On 02/07/2013
7	01/11/2012	Ensure MID RVSM approvals up to date and ensure the ICAO minimum monitoring requirements achieved based on the TDS received from States	31/01/2013	Completed
8	01/12/2012	Review and analyze all Large Height Deviation Reports.	Scrutiny Group meeting date	Scheduled for 16 December 2012 Completed (Only 5 States attended)
9	01/01/2013	Prepare New MID MMR for all MID Airline Operators.	31/01/2013	Completed On 30/06/2013
10	01/02/2013	MID RMA evaluation of technical risk	28/02/2013	Final results obtained on 20/07/2013
11	01/03/2013	Calculations of all risk parameters	31/03/2013	Completed on 20/07/2013
12	01/04/2013	Production of draft SMR 2012-2013	30/04/2013	Completed on 02/09/2013

5.16 The meeting was apprised of the results of the safety assessment carried out by the MIDRMA to demonstrate 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  $2.5 \times 10^{-9}$  fatal accidents per flight hour. The computed value for the technical height risk in the SMR 2012-2013 is  $6.37 \times 10^{-12}$ . This meets RVSM Safety Objective 1.

ATM/AIM/SAR SG/13  
Report on Agenda Item 5

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5.17 The meeting noted that the TLS value increased from the last SMR but it's still safe comparing to the ICAO TLS  $2.5 \times 10^{-9}$ .

5.18 The MIDRMA was able to measure the TLS through the new Vertical Collision Risk (VCR) software for each FIR in the Middle East Region, the table below reflects all the TLS results:

No	FIR	Flying Time	TLS Result
1	Baghdad	2,794 hours	$1.73 \times 10^{-11}$
2	Kuwait	3,289 hours	$1.70 \times 10^{-11}$
3	Bahrain	23,624 hours	$1.61 \times 10^{-11}$
4	Cairo	24,904 hours	$3.92 \times 10^{-12}$
5	Muscat	19,059 hours	$3.68 \times 10^{-12}$
6	Jeddah/Riyadh	26,925 hours	$3.49 \times 10^{-12}$
7	Tehran	19,836 hours	$3.33 \times 10^{-12}$
8	UAE	5,384 hours	$3.21 \times 10^{-12}$
9	Damascus	955 hours	$2.47 \times 10^{-12}$
10	Amman	1,468 hours	$1.97 \times 10^{-12}$
11	Sana'a	3,434 hours	$1.96 \times 10^{-12}$
12	Beirut	195 hours	$1.91 \times 10^{-12}$
	<b>MID Region TLS</b>	<b>131,867 hours</b>	<b><math>6.37 \times 10^{-12}</math></b>

MIDRMA Member States TLS 2013

5.19 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  $1.7 \times 10^{-8}$ . For the MID RVSM SMR 2012-2013, the computed value of the  $P_z(1000)$  is  $5.26 \times 10^{-9}$ , which meets the ICAO requirement.

5.20 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  $4.33 \times 10^{-8}$  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  $5 \times 10^{-9}$  fatal accidents per flight hour. The computed value for the overall risk in the SMR 2012 is  $3.63 \times 10^{-11}$ . This meets RVSM Safety Objective 2.

5.21 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 members which does not support a high confidence in the result, the MIDRMA is reiterating the importance of submitting such reports especially from FIRs with high volume of traffic.

ATM/AIM/SAR SG/13  
Report on Agenda Item 5

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5.22 The effect of future traffic growth has also been assessed. The overall risk of collision will continue to meet the TLS of  $2.5 \times 10^{-9}$  fatal accidents per flight hour at least until 2015.

**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.

5.23 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.

5.24 Considering all the foregoing, the meeting agreed that the MIDRMA finalise the SMR 2012-2013 for presentation to and endorsement by MIDANPIRG/14.

***Height Keeping Monitoring Requirements***

5.25 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 aeroplanes of each aircraft type grouping of the operator have their height-keeping performance monitored, at least once every two years.

5.26 Based on the latest RVSM approval lists received from MID States, the following Table has been consolidated by the MIDRMA to show the height-keeping Minimum Monitoring Requirements (MMR) for each of the MID States, as of September 2013:

ATM/AIM/SAR SG/13  
Report on Agenda Item 5

**ICAO MID STATES - MINIMUM MONITORING REQUIREMENTS  
AS OF SEPTEMBER 2013**

Seq.	MID	RVSM	Compliant	NOT	NOT	ACFT	REMARKS
#	STATES	ACFT		Covered	Covered in %	MMR	
1	BAHRAIN	52	52	0	0%	0	Fully Compliant
2	EGYPT	128	116	12	9%	6	
3	IRAN	178	119	59	33%	30	
4	IRAQ	24	20	4	17%	4	
5	JORDAN	56	56	0	0%	0	Fully Compliant
6	KUWAIT	36	36	12	33%	0	Fully Compliant
7	LEBANON	37	28	9	24%	9	
8	OMAN	34	34	0	0%	0	Fully Compliant
9	QATAR	148	146	3	2%	2	
10	SAUDI ARABIA	262	241	25	10%	21	
11	SYRIA	6	6	0	0%	0	Fully Compliant
12	UAE	441	429	12	3%	11	
13	YEMEN	10	7	7	70%	6	
	<b>TOTAL</b>	<b>1412</b>	<b>1290</b>	<b>143</b>	<b>10%</b>	<b>89</b>	

5.27 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; although the total number of RVSM approved aircraft increased by 18%.

5.28 The meeting noted with concern that 143 aircraft have valid RVSM approvals without known height-keeping monitoring results, considering that the MIDRMA is continuously coordinating very closely 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). In order to fully comply with the Annex 6 requirements and the MIDRMA MMR, it was highlighted that 125 from the identified 143 aircraft should be monitored, taking into consideration the ICAO grouping categories.

5.29 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.

5.30 The meeting urged States to enforce the implementation of the MMR Tables to ensure that minimum monitoring requirements for all MID RVSM approved aircraft are continuously met. Accordingly, the meeting supported the following MIDRMA Board/12 Draft Conclusion which is proposed to replace and supersede the MIDANPIRG/13 Conclusion 13/69:

ATM/AIM/SAR SG/13  
Report on Agenda Item 5

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*DRAFT CONCLUSION 12/6: RVSM MINIMUM MONITORING REQUIREMENTS*

*That,*

*a) States be urged to take necessary measures to:*

- i) ensure that, before 30 June 2013, 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; and/or when notified by the MIDRMA;*
- 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.*

5.31 The meeting recalled that during the MIDRMA Board/11 meeting, it was agreed that effort should be made to reach the world average of 90% of RVSM approved aircraft having monitoring results in the MID Region. Taking into consideration, the latest progress made since the last Board meeting and the MIDRMA plans for GMU monitoring missions, it was agreed that the performance target to be reached is 95% of RVSM approved aircraft having monitoring results, by the MIDRMA Board/13 meeting (2014).

5.32 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 Minimum Monitoring Requirements Conditions at **Appendix 4A** to the Report on Agenda Item 4 to be part of the Monitoring Requirements for the MID Region. In this respect, it was highlighted that, 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 Tables 1 and 2 of **Appendix 4A** to the Report on Agenda Item 4.

5.33 The meeting agreed that the MID Region RVSM Minimum Monitoring Requirements Conditions at **Appendix 4A** to the Report on Agenda Item 4 should be posted on the MIDRMA website and included in the MIDRMA Manual.

5.34 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 165 Aircraft and it's expected to conduct the GMU height monitoring for more than 89 aircraft in the near future.

ATM/AIM/SAR SG/13  
Report on Agenda Item 5

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5.35 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 has officially ordered 2 Enhanced GMU units (with the condition that the processing of recorded data is done by CSSI).

5.36 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 supported the following MIDRMA Board/12 Draft Conclusion:

*DRAFT CONCLUSION 12/7: 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;*
- 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 Vertical Collision Risk Software (MID VCR)**

5.37 With regard to the methodology used for the assessment of RVSM operations in the MID Region, the meeting recalled that the MIDRMA, since its establishment, has been using the Collision Risk Model provided by EUROCONTROL. The meeting noted 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.

5.38 The meeting recalled that MIDANPIRG through Conclusion 13/68, agreed that the MIDRMA initiate action for the development/purchase of suitable VCR software for the MID Region.

5.39 The meeting was apprised of the progress achieved for the development and validation of the MID VCR. In this respect, it was highlighted that the MIDRMA in close coordination with the Consultant/Vendor, received phase one of the project/software. The second and the final phase of the project will be handed over on 24<sup>th</sup> November 2013 after the completion of the required training.

5.40 The meeting noted that the MID VCR 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 VCR with that computed using the EUROCONTROL Model.

5.41 The meeting noted that the following steps were followed in the process of validation of the different MID VCR 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

ATM/AIM/SAR SG/13  
Report on Agenda Item 5

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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.

5.42 Accordingly, the meeting supported the following MIDRMA Board/12 Draft Conclusion which is proposed to replace and supersede the MIDANPIRG Conclusion 13/65:

*Draft Conclusion 12/8: 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 RVSM SMRs.*

***Action Plan for the development of the MID RVSM SMR 2014***

5.43 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.

5.44 It was reiterated that the required data must be submitted in the right format and in the formulated excel sheet designed for this purpose which is the only sheet recognized by the MID RVSM Vertical Collision Risk Software, any data received in a different format, or in an excel sheet different from the one available on the MIDRMA website, [www.midrma.com](http://www.midrma.com), will not be acceptable.

5.45 The meeting noted that the MID RVSM Vertical Collision Risk Software 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 mistakes/inconsistencies, if any, with an official statement related to the acceptance (or non-acceptance) of data.

5.46 Therefore, the meeting agreed to the following Action Plan for the development of the MID RVSM SMR 2014:

ATM/AIM/SAR SG/13  
Report on Agenda Item 5

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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	01/02/2014	Collect states TDS.	15/04/2014
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	01/05/2014	Prepare New MID MMR for all MID Airline Operators.	30/04/2014
8	01/05/2014	MID RMA Calculations of all risk parameters	30/04/2014
9	01/06/2014	MID SMR 2014 initial results.	15/05/2014
10	01/07/2014	Production of the final MID SMR 2014 for presentation to and endorsement by MIDANPIRG/15.	30/09/2014

5.47 Based on the above, the meeting agreed to the following Draft Conclusion:

***DRAFT CONCLUSION 13/8: 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](http://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.*

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## 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 Table 1. 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.

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**Table 1: MONITORING REQUIREMENTS TABLE**

<b>MONITORING IS REQUIRED IN ACCORDANCE WITH THIS TABLE</b>			
MONITORING PRIOR TO THE ISSUE OF RVSM APPROVAL IS <u>NOT</u> A REQUIREMENT			
CATEGORY		AIRCRAFT GROUP	MINIMUM OPERATOR MONITORING FOR EACH AIRCRAFT GROUP
<b>1</b>	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
<b>2</b>	GROUP APPROVED: INSUFFICIENT DATA ON APPROVED AIRCRAFT	Other group aircraft other than those listed above including: A148, <b>A158</b> , A380, <b>A400</b> , <b>AC90</b> , AC95, AN72, ASTR, ASTR-SPX, B701, B703, B703-E3, B731, B732, <b>B787</b> , BD700, BE20, BE30, BE40, B744-LCF, B748, C130, C500, C25A, C25B, C25C, C441, C5, C510, C550-552, C550-B, C550-II, C550-SII, <b>CRJ10</b> , D328, DC85, DC86-87, <b>DC91</b> , DC93, <b>DC94</b> DC95, E50P, <b>E55P</b> , EA50, F2TH, F70, FA20, FA50, FA7X, G150, <b>G250</b> , GLF2, GLF2B, GLF3, <b>GLF6</b> , H25B-700, H25B-750, H25C, HA4T, IL62, IL76, IL86, IL96, L101, <b>LJ23</b> , <b>LJ24</b> , <b>LJ25</b> , <b>LJ28</b> , L29B-2, L29B-731, LJ31, LJ35-36, LJ55, MU30, P180, <b>PAY4</b> , PC12, SB20, SBR1, SBR2, T134, T204, T334, TBM, WW24, YK42	60% of airframes (round up if fractional) from each fleet of an operator <b>or</b> individual monitoring
<b>3</b>	Non-Group	Aircraft types for which no generic compliance method exists:  <b>BA11, R722, SJ30, STAR, B720, A225, GLEX-ASTOR, GLF5-AEW, VC-10, GSPN, B74S-SOFIA</b>	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
<b>A158</b>	<b>A158</b>	<b>AN-158</b>	
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
<b>A400</b>	<b>A400</b>	<b>A400M</b>	
<b>AC90</b>	<b>AC90</b>	<b>COMMANDER 690 COMMANDER 840 COMMANDER 900</b>	
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	<b>E3TF</b>	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 <b>B74R</b>	B747	SR, SP
B744-5	B744 <b>B74D</b>	B747	400, 400D, 400F (With 5 inch Probes up to SN 25350)
B744-10	B744 <b>B74D</b>	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 <b>B77L</b>	B777	200, 200ER, 200LR, 200LRF
B773	B773 <b>B77W</b>	B777	300, 300ER
<b>B787</b>	<b>B788</b> <b>B789</b>	<b>B787-8</b> <b>B787-9</b>	
BD100	CL30	CHALLENGER 300	ALL SERIES
BD700	GL5T	GLOBAL 5000	ALL SERIES
BE20	BE20	200 KINGAIR	ALL SERIES
BE30	BE30 <b>B350</b>	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
<b>CRJ10</b>	<b>CRJ10</b>	<b>REGIONALJET</b>	<b>1000ER</b>

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
<b>DC91</b>	<b>DC91</b>	<b>DC-9</b>	<b>10, 15</b>
DC93	DC93	DC-9	30, 30F
<b>DC94</b>	<b>DC94</b>	<b>DC-9</b>	<b>40</b>
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	<b>E50P</b>	PHENOM 100	ALL SERIES
<b>E55P</b>	<b>E55P</b>	<b>PHENOM 300</b>	<b>E55P</b>
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
<b>G250</b>	<b>G250</b>	<b>G250</b>	
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
<b>GLF6</b>	<b>GLF6</b>	<b>G650</b>	
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
<b>LJ23</b>	<b>LJ23</b>	<b>LEARJET 23</b>	
<b>LJ24</b>	<b>LJ24</b>	<b>LEARJET 24</b>	
<b>LJ25</b>	<b>LJ25</b>	<b>LEARJET 25</b>	
<b>LJ28</b>	<b>LJ28</b>	<b>LEARJET 28</b> <b>LEARJET 29</b>	
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

<b>Monitoring Group</b>	<b>A/C ICAO</b>	<b>A/C Type</b>	<b>A/C Series</b>
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 MD82 MD83 MD87 MD88	MD-80 MD-80 MD-80 MD-80 MD-80	81 82 83 87 88
MD90	MD90	MD-90	30, 30ER
MU30	MU30	MU-300 DIAMOND	1A
P180	P180	P-180 AVANTI	ALL SERIES
<b>PAY4</b>	<b>PAY4</b>	<b>PA-42</b>	<b>1000 CHEYENNE</b>
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	T204	TU-204 TU-224 TU-234	100, 100C, 120RR 200, 214, C
T334	T334	TU-334	ALL SERIES
TBM	TBM7 TBM8	TBM-700 TBM-850	ALL SERIES
WW24	WW24	1124 WESTWIND	ALL SERIES
YK42	YK42	YAK-42	ALL SERIES

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ATM/AIM/SAR SG/13  
Report on Agenda Item 6

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**REPORT ON AGENDA ITEM 6:            AIM Issues**

6.1            The meeting was informed about the latest developments related to AIM at the global level, including the outcome of the 12<sup>th</sup> Air Navigation Conference (AN-Conf/12). The meeting noted, in particular, that the matter of NOTAM evolution and the need to review the performance of the NOTAM system was examined at the AN-Conf/12. The following AN-Conf/12 Recommendations were particularly highlighted:

*Recommendation 3/8 – State actions relating to service improvement through aeronautical information management as well as digital air traffic management information*

*That States:*

- a) accelerate transition from aeronautical information service to aeronautical information management by implementing a fully automated digital aeronautical data chain;*
- b) implement necessary processes to ensure the quality of aeronautical data and information from the origin to the end users;*
- c) engage in intraregional and interregional cooperation for an expeditious transition from aeronautical information service (AIS) to aeronautical information management (AIM) in a harmonized manner and to using digital data exchange and consider regional or sub-regional AIS databases as an enabler for the transition from AIS to AIM; and*
- d) review their NOTAM publication procedures, provide appropriate guidance to NOTAM originators and ensure adequate oversight of the NOTAM publication process is conducted.*

*Recommendation 3/9 – Review of NOTAM system and development of options for replacement*

*That ICAO initiate a review of the current NOTAM system, building further on the digital NOTAM activities, including the development of options for a replacement system that would enable web-based applications and compliant with the system-wide information management principles that are being developed for the air traffic management system*

6.2            The meeting was apprised of the outcome of the Sixth and Seventh meetings of the Aeronautical Information Services-Aeronautical Information Management Study Group (AIS-AIMSG).

6.3            The meeting reviewed the outcome of the Seventh Meeting of the AIM Task Force held in Cairo, Egypt, 25 - 27 September 2012.

6.4            The meeting noted that the AIM TF/7 meeting reviewed the Amendment 37 to Annex 15, which will become applicable on 14 November 2013. It was highlighted that the amendment included, inter alia, amendments in regard to responsibilities of States and Aeronautical Information Service (AIS) Providers; use of the terms “aeronautical information” and “aeronautical data”; integrity classification and levels; data protection; use of automation enabling digital data exchange; electronic terrain and obstacle data; new provisions related to aerodrome mapping data; aeronautical information publication (AIP) format; NOTAM codes and SNOWTAM format.

ATM/AIM/SAR SG/13  
Report on Agenda Item 6

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6.5 The meeting further noted that the following Definition of AIM was included in Annex 15 through Amendment 37:

***Aeronautical Information Management (AIM)*** The dynamic, integrated management of aeronautical information services through the provision and exchange of quality-assured digital aeronautical data in collaboration with all parties.

6.6 The meeting noted that in order to accomplish the global transition from traditional AIS provision to AIM-enabled services, it will 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.

6.7 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 Draft Conclusion:

***DRAFT CONCLUSION 13/9: 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; and*
- b) take necessary action for a timely amendment of the national AIS/AIM regulations as a consequence to the proposed Amendment 37 to Annex 15.*

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

6.9 The meeting agreed that the AIM Task Force should take into consideration the global AIM developments, including the outcome of the AN-Conf/12 related to AIM (and SWIM, as appropriate) in the planning for the transition from AIS to AIM in the MID Region.

6.10 Based on the above, the meeting urged States to follow-up the AIM developments at the global level, especially, by keeping an eye on the documentation/information posted on the AIS-AIMSG website: <http://www2.icao.int/en/ais-aimsg>.

6.11 The meeting noted that the AIM TF/7 meeting reviewed the progress made towards the implementation of the different steps of the ICAO Roadmap for the transition to AIM in the MID Region, based on the data provided by States for the population of the AIM FASID Tables and as a reply to the questionnaire on the transition from AIS to AIM.

6.12 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 in the MID Region, the following was highlighted:

ATM/AIM/SAR SG/13  
Report on Agenda Item 6

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- Bahrain, Egypt, Iran, Kuwait, Lebanon, Oman, Qatar 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.

6.13  
for the:

The meeting noted that some States have requested assistance from ICAO, especially

- 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.

6.14

In connection with the above, the meeting noted that:

- the Manual on Quality Management System for Aeronautical Information Services (Doc 9839) and the Aeronautical Information Management Training Development Manual (Doc 9991) will be available before the applicability date of Amendment 37 to Annex 15 (14 November 2013); and
- a Joint IFAIMA Global AIM 2013 & ICAO EUR/MID AIM/SWIM Seminar was successfully held in Istanbul, Turkey, 14-17 May 2013.

ATM/AIM/SAR SG/13  
Report on Agenda Item 6

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6.15 In the same vein, the meeting noted that the above 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”.

6.16 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.

6.17 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 are available on the IFAIMA website at: <http://www.ifaima.org/GAIMConference2013.html>. The Summary of Discussions is available on the ICAO MID Office and Paris Office websites as well as on the IFAIMA website.

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

6.19 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 Draft Conclusion:

***DRAFT CONCLUSION 13/10: 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 31 January 2014.*

6.20 The meeting was apprised of the outcome of the DGCA-MID/2 meeting (Jeddah, Saudi Arabia, 20-22 May 2013) and MIDAD STG/2 meeting (Cairo, Egypt, 1-3 July 2013) related to the MIDAD Project. In this respect, the meeting recalled that MIDANPIRG/13 agreed that the commitment of States to the MIDAD Project should be officially recorded in a legal document and agreed accordingly, to the following Conclusions:

ATM/AIM/SAR SG/13  
Report on Agenda Item 6

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*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.*

*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.*

*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).*

6.21 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 will 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 meeting agreed to the following Conclusion:

*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.*

ATM/AIM/SAR SG/13  
Report on Agenda Item 6

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6.22 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 6A** to the Report on Agenda Item 6. The meeting encouraged other States from within and outside the MID Region, interested to participate in the MIDAD Project, in particular Libya, to sign the MOA.

6.23 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.

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

6.25 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.

6.26 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 who will be developing the MIDAD detailed study and Contract negotiation.

6.27 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.

6.28 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.).

ATM/AIM/SAR SG/13  
Report on Agenda Item 6

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6.29 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 ST 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 the following members:

- Mrs. Hanan, Qabartai from Jordan;
- Mr. Abbas Niknejad from Iran;
- Mr. Abdullah Al-Adwani from Kuwait;
- Mr. Mohamed Smaoui from the ICAO MID Office;
- Mr. Grant Wilson from IATA; and
- Mr. Werner Kurz, from Jeppesen, Germany

6.30 Based on the above, the meeting agreed to the following Draft Decision:

***DRAFT DECISION 13/11: MIDAD SUPPORT TEAM***

*That, the MIDAD Support Team (MIDAD ST)*

*a) be composed of:*

- *Mrs. Hanan, Qabartai from Jordan;*
- *Mr. Abbas Niknejad from Iran;*
- *Mr. Abdullah Al-Adwani from Kuwait;*
- *Mr. Mohamed Smaoui from the ICAO MID Office;*
- *Mr. Grant Wilson from IATA; and*
- *Mr. Werner Kurz, from Jeppesen, Germany*

*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.*

6.31 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.

6.32 Based on all of the foregoing, the meeting reviewed the following Action Plan/Timelines related to the MIDAD Project Phase 2, as developed by the MIDAD STG/2 meeting:

	<b>Action</b>	<b>Deliverable</b>	<b>Responsible</b>	<b>Timeline</b>
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	15/10/13

ATM/AIM/SAR SG/13  
Report on Agenda Item 6

	<b>Action</b>	<b>Deliverable</b>	<b>Responsible</b>	<b>Timeline</b>
4	Evaluation of the offers and selection of the Consultant	Contract with the selected Consultant	Bahrain, Qatar, Saudi Arabia and UAE with the support of the MIDAD ST	30/11/13
5	Progress report to MIDANPIRG/14	Outcome of MIDANPIRG/14 (Endorsement)	Bahrain, Qatar, Saudi Arabia and UAE with the support of the MIDAD ST and Consultant	19/12/13
6	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	15/02/14
7	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
8	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
9	Tender Phase (opening)	Call for Tender	Bahrain	31/07/14
10	Tender Phase (closing)	Call for Tender	Bahrain	31/08/14
11	Receipt of the Offers	Offers	Industry	31/10/14
12	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
13	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
14	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

ATM/AIM/SAR SG/13  
Report on Agenda Item 6

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

6.33 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 Civil Aviation Affairs of Bahrain (BCAA) published the first Call for Tender No. AND/9/P/73 ICAO-MIDAD/2013 on 15 August 2013.

6.34 The Call for Tender included the following documents:

- a) Tender Submission Form (1 page);
  - b) Methods of Payment (1 page);
  - c) Tender Advertisement in Arabic (1 page);
  - d) Tender Advertisement in English (1 page); and
  - e) Request for Proposal AND/9/P/73 ICAO-MIDAD/2013 (27 pages).
- (Cf. <http://www.bahrainaims.com> for full tender documents.)

6.35 It was highlighted that:

- the date of closing (for purchasing Tender Doc) was 16 September 2013; and
  - the deadline for the submission/receipt of proposals is 23 October 2013 before 1330 Bahrain Time.
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## MEMORANDUM OF AGREEMENT - MOA

### MID REGION AIS DATABASE (MIDAD) PROJECT

Date: 20 May 2013



*[Handwritten signatures and initials]*

## 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



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- 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



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- 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.

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## 5. ENTRY IN FORCE

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MIDAD MOA dated 20 May 2013

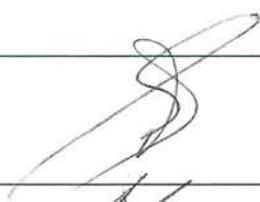
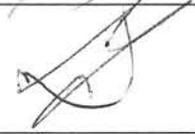


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6. SIGNATURES

State	Signature	Name/Title	Date
Bahrain		AL UNDER SECRETARY	20/05/2013
Egypt			
Iran		Capt. H.R. PAHLEVANI	14 July 2013
Iraq		ALI-MUSTAFA	20/05/2013
Jordan		محمد بن القرماني	20/05/2013
Kuwait		حزارة عبدالعزيز الفرح رئيسة الطيران المدني	21/5/2013
Lebanon		دايان العيسى	20/5/2013
Libya			
Oman		SALIM AL AUF CEO / PCAA	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 ALSUWAIDY	20-05-13
Yemen		Hamed Ahmad Farag	20/5/2013

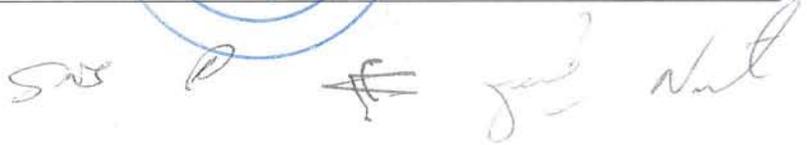
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MIDAB MOA dated 20 May 2013



2-2



ATM/AIM/SAR SG/13  
Report on Agenda Item 7

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**REPORT ON AGENDA ITEM 7: REVIEW OF AIR NAVIGATION DEFICIENCIES IN THE ATM/SAR AND AIS/MAP FIELDS**

7.1 The meeting recalled that concerns were expressed by the various ICAO organs including the Council, the Air Navigation Commission (ANC) and MIDANPIRG on the serious impact the long standing deficiencies have on safety. In this respect, the meeting noted that, through the DGCA-MID/1 Conclusion 1/2, States were urged to accord high priority to the elimination of Air Navigation Deficiencies.

7.2 The meeting noted that MIDANPIRG/13, re-iterated the DGCA-MID/1 Conclusion 1/2 and agreed to the following Conclusion:

*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 (MANDD) 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.*

7.3 The meeting noted that as a follow-up action to the MIDANPIRG/13 Conclusion 13/61 and Conclusion 13/63, the ICAO MID Regional Office issued State Letter Ref.: AN 2/2 – 12/189 dated 21 June 2012 urging States to use MANDD for updating the list of air navigation deficiencies and provide necessary updates and Corrective Action Plans for the elimination of their air navigation deficiencies.

7.4 The meeting noted that DGCA-MID/2 meeting reviewed and endorsed the MID Region Safety Strategy which includes the monitoring of Safety Management Systems (SMS) and States' Safety Programmes (SSP) Implementation. Accordingly, the meeting agreed to remove the deficiencies related to SMS/SSP from the MANDD, as they are addressed within the framework of the Middle East Regional Aviation Safety Group (RASG-MID).

7.5 The meeting reviewed and updated the list of deficiencies in the ATM, SAR and AIS/MAP fields as at **Appendices 7A, 7B and 7C** to the Report on Agenda Item 7, respectively, and urged States to use the MANDD for further updating of their deficiencies, as deemed necessary.

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ATM/AIM/SAR SG/13  
 Appendix 7A to the Report on Agenda Item 7

**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

<sup>(1)</sup> 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. 2.30	-	Development of contingency plan	Nov, 2006	-Developed and sent to ICAO MID Regional Office – signed with Greece, Libya and Saudi Arabia	H	developed and promulgated contingency plans for implementation in the event of disruption of ATS and related supporting services	Egypt – ICAO	Jan, 2013	A
2	MIDANPIRG Conclusion 13/65	Egypt	Reporting Unsatisfactory CFRs and LHDs to MIDRMA	Mar, 2013 Oct, 2013	Egypt to coordinate with MIDRMA	H	Egypt to report satisfactory CFRs and LHDs	Egypt	Dec, 2014	A
3	MID ANP Table ATS 1-ATS routes	Egypt	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
4	MID ANP Table ATS 1-ATS routes	Egypt	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

7A-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  Development of contingency plans for implementation in the event of disruption of ATS and related supporting services.	Nov, 2006	Ongoing – sent to ICAO MID Regional Office – signed with Bahrain, Oman and Pakistan  Ongoing	H	Need to develop and promulgate contingency plans for implementation in the event of disruption of ATS and related supporting services  Iran to sign with all neighbouring States.	Iran	Jun, 2012  Dec, 2014	A
2	Annex 11 para. 2.27	-	Implementation of ATS Safety Management	Nov, 2006	Ongoing	Ø	Need to establish a safety programme in order to achieve an acceptable level of safety in the provision of ATS	Iran	Jun, 2012	U
3	MID ANP Table ATS-1 Plan of ATS routes	Iran / UAE	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 and UAE	Dec, 2012  Dec, 2014	B
4	MID ANP Table ATS – 1 Plan of ATS Routes	Iran / Iraq	ATS route L126 MIGMI – ILM not implemented	Dec, 2011	MIGMI – ILM not implemented	S	States to continue negotiations with one another.	Iran / Iraq	Dec, 2012	B
5	MIDANPIRG Conclusion 13/65	Iran	Reporting Unsatisfactory CFRs and LHDs to the MIDRMA	Mar, 2013  Oct, 2013	-	H	Iran to coordinate with the MIDRMA	Iran	Dec, 2014	A

<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

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“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	<p><del>Iraq has no plan to open the route</del></p> <p>Iraq requested that Airway be suspended until adequate radar coverage exists and RVSM has been implemented in the Baghdad (FIR). not supported by Kuwait due Military restrictions</p> <p>Iraq has no objection to implement the Route segment ASLAN-ABD.</p> <p>Kuwait has no objection.</p>	S	-	Iraq Iran Kuwait	<p><del>Jan, 2013</del></p> <p>Jun, 2014</p>	B

<sup>(1)</sup> 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
2	Annex 11 Para. 2.30	-	Development of contingency plan	Nov, 2006	<del>sent to ICAO MID Regional Office</del> 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 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	Jan, 2013 Dec, 2014	A
3	Annex 11 para. 2.27	-	Implementation of ATS Safety Management	Nov, 2006	-	H Need to establish a safety programme in order to achieve an acceptable level of safety in the provision of ATS	Iraq	Jan, 2013	U
4	MID ANP Table ATS-1 Plan of ATS routes	Iraq and Syria	ATS route UL602 not implemented in the Baghdad and Damascus FIRs	Dec, 2003	Coordination between Iraq and Syria. Notam issued opening route in Baghdad FIR Coordination between Iraq and Syria. Notam issued opening route in Baghdad FIR Segment GEPAP-ELEXI not implemented	S States to negotiate with one another and coordinate opening of the route States to negotiate with one another and coordinate opening of the route. Iraq to implement Segment GEPAP-ELEXI	Iraq/Syria	Jan, 2013 Dec, 2014	B

<sup>(1)</sup> Rationale for non-elimination: "F"= Financial

"H"= Human Resources

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"O"= Other unknown causes

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
5	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 and Saudi Arabia	Jan, 2013 Dec, 2014	B
6	MID ANP Table ATS-1 Plan of ATS routes	- Iraq	<del>ATS route A424 LOTAN- LOVEK segment (Baghdad FIR) not implemented</del> ATS route A424 LOTAN- LOVEK segment (Baghdad FIR) not implemented	May, 2008	Communication problems between concerned FIRs	O	<del>No plan to open the route.</del> Saudi Arabia has no objections to extend the route in Baghdad FIR Proposed AIRAC date 1 July 2010 Saudi Arabia has no objections to extend the route in Baghdad FIR Proposed AIRAC date 1 July 2010 Iraq will implement the route or it may be replaced by the ATS route from RAF to ELODI.	Iraq	Jan, 2013 Dec, 2014	B
7	MID ANP Table ATS-1 Plan of ATS routes	Iraq	ATS Route G669 segment Rafha SOLAT not implemented	May, 2008	Airspace restrictions	S	<del>Airspace restrictions to be addressed</del> Airspace restrictions to be addressed. To check the need for it taking into considerations traffic flows as another route exists	Iraq	Jan, 2013 Dec, 2014	B

<sup>(1)</sup> Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

Item No	Identification		Deficiencies			Corrective Action				
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination	Description	Executing Body	Date of Completion	Priority for Action	
8	Annex 11 Para 3.3.4.1	Iraq	Non-provision of required data to the MIDRMA on regular basis and in a timely manner	Nov, 2011	-	⊖	Need to provide the MIDRMA with required data on regular basis in order to enable it to discharge its functions and responsibilities	Iraq MIDRMA	Dec, 2012	A
9	MID ANP Table ATS-1 Plan of ATS routes	Iraq/Iran	ATS routes L126 not implemented MIGMI-ILM	Dec, 2011	MIGMI-ILM segment not implemented	S	States to continue negotiations with one another.	Iraq/Iran	Dec, 2012	B
10	MID ANP Table ATS-1 Plan of ATS routes	Iraq	ATS routes M320 implemented with variance to Table ATS-1, Causing a Safety concern due duplication.	Dec, 2011	RUGIR to RAPLU implemented at variance with the Plan, affecting safety due duplication.	S	Iraq to negotiate with Kuwait for the extension of the route into Baghdad FIR as depicted in Iraq AIP and proposed for an amendment to the MID ANP.	Iraq	Dec, 2012	B
11	MID ANP Table ATS-1 Plan of ATS routes	Iraq	ATS routes R652 GIBUX-IVANO implemented at variance with the ANP Causing a safety concern due duplication	Dec, 2011	GIBUX-IVANO implemented at variance with the Plan. Affecting safety	S	To delete Segment from the AIP or use a temporary route designator.	Iraq	Dec, 2012	B
12	Annex 11 Para 3.3.4.1	-	Granting RVSM approvals for aircraft without known height-keeping monitoring results	Dec, 2012	-	⊖	-	Iraq CAA	Dec, 2013	U

<sup>(1)</sup> 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	National Contingency plan developed sent to ICAO MID Regional Office—signed with Saudi Arabia  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  Need to develop and promulgate contingency plan for implementation in the event of disruption of ATS and related supporting services.	Jordan	Jan, 2013 Dec, 2014	A
2	Annex 11 para. 2.27	-	Implementation of ATS Safety Management	Nov, 2006	Work in progres—SMS developed and details will be forwarded to ICAO	H	Need to establish a safety programme in order to achieve an acceptable level of safety in the provision of ATS	Jordan	Jun, 2012	U

<sup>(1)</sup> 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
3	MID ANP Table ATS-1	-	ATS Route UP559 not implemented	Mar, 2007	The segments TURAIF-TONTU-DAMASCUS-DAKWE-KHALDEH-KUKLA-LARNACA are not implemented.  Jordan Has no plans to implement	S  -The segments TURAIF-TONTU-DAMASCUS-DAKWE-KHALDEH-KUKLA-LARNACA are not implemented	Jordan Lebanon and Syria	Dec, 2012	B

<sup>(1)</sup> Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

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. 2.27	-	Implementation of ATS Safety Management	Nov, 2006	Implementation of SMS is expected to start in DEC 2013	H	Need to establish a safety programme in order to achieve an acceptable level of safety in the provision of ATS	Kuwait	Dec, 2014	U
2	Annex 11 Para. 2.30	-	Development of contingency plan	Nov, 2006	Contingency Plan was signed with Bahrain and Saudi Arabia. Contingency Plan with Iraq and Iran is still awaited 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	<del>Dec, 2012</del> Dec, 2014	A
3	MID ANP Table ATS 1 Plan of ATS routes	-	ATS route G669 segment Rafha SOLAT not implemented	May, 2008	Airspace restrictions	S	— Airspace restrictions to be addressed — Kuwait has no plan to activate the route segment.  — Iraq ready to implement segment Rafha — SOLAT	Kuwait/Iraq	Jan, 2013	B

<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
4	MID ANP Table ATS-1 Plan of ATS Routes	-	ATS Route G667 not implemented Abadan (ABD0 ALSAN	Jan, 2006	Iraq has no plan to open the route Iraq requested that Airway be suspended until adequate radar coverage exists and RVSM has been implemented in the Baghdad (FIR). not supported by Kuwait due Military restrictions	S	ATS Route G667 not implemented Abadan (ABD0 ALSAN ATS Route G667 not implemented Abadan (ABD0 ALSAN) Kuwait has no objection	Iraq/Kuawit/Iran	Jan, 2013	B
5	MIDANPIRG Conclusion 13/65	Kuwait	Reporting Unsatisfactory CFRs and LHDs to MIDRMA	Oct, 2013	Unsatisfactory CFRs and LHDs	H	Kuwait to coordinate with MIDRMA	Kuwait	Dec, 2014	A

<sup>(1)</sup> 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	Jun, 2012 Dec, 2014	A
2	Annex 11 para. 2.27	-	Implementation of ATS Safety Management	Nov, 2006	-	H	Need to establish a safety programme in order to achieve an acceptable level of safety in the provision of ATS	Lebanon	Jun, 2012	U
3	MID ANP Table ATS 4	-	ATS Route UP559 not implemented	Mar, 2007	The segments TURAIH-TONTU-DAMASCUS-DAKWE-KHALDEH-KUKLA-LARNACA are not implemented	S	-	Jordan-Lebanon and Syria	Jun, 2012	B
4	Annex 11 Para 3.3.4.1	-	Granting RVSM approvals for aircraft without known height-keeping monitoring results	Dec, 2012	-	O	-	Lebanon DGCA	Dec, 2013 Jun, 2014	U
5	MIDANPIRG Conclusion 13/65	Lebanon	Reporting Unsatisfactory CFRs and LHDs	Oct, 2013	-	H	Lebanon to coordinate with MIDRMA	Lebanon	Dec, 2014	A

<sup>(1)</sup> Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

**Deficiencies in the ATM 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 11 Para. 2.30	-	Development of contingency plans	Nov, 2006	Under development : sent to ICAO MID Regional Office - signed with Bahrain,Iran,UAE and Yement. Agreement yet to be signed with , Pakistan and India	S	Need to develop and promulgate contingency plans for implementation in the event of disruption of ATS and related supporting services	Oman	Jan, 2013 Dec, 2014	A
2	MIDANPIRG Conclusion 13/65	Oman	Reporting Unsatisfactory CFRs and LHDs	Oct, 2013	Reporting Unsatisfactory CFRs and LHDs	H	Oman to coordinate with MIDRMA	Oman	Dec, 2014	A

<sup>(1)</sup> 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  Development of contingency plan for implementation in the event of disruption of ATS and related supporting services.	Nov, 2006	Work in progress; agreement signed with Bahrain  Agreement signed with Bahrain; agreements not signed with Saudi Arabia and UAE.	S	Need to develop and promulgate contingency plans for implementation in the event of disruption of ATS and related supporting services  Qatar to sign the contingency agreements with Saudi Arabia and UAE and send them to the ICO MID Regional Office.	Qatar Bahrain ICAO	Jan, 2013 Dec, 2014	A
2	MID ANP Table ATS-1	-	ATS Route L/UL443 not implemented	Nov, 2012 Nov, 2011	The segment KUPSA AMBEK LAGVA LOPOK TAMRI are not implemented	S	need to establish the route	Qatar	Dec, 2012	B

<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

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	<del>Dec, 2012</del> Dec, 2014	A
2	Annex 11 para. 2.27	-	Implementation of ATS Safety Management	Nov, 2006	QMS Department established. SMS development plan adopted in November 2007	H	Need to establish a safety programme in order to achieve an acceptable level of safety in the provision of ATS	Saudi Arabia	Dec, 2013	U
3	MIDANPIRG Conclusion 13/65	Saudi Arabia	Reporting Unsatisfactory CFRs and LHDs	Oct, 2013	Reporting Unsatisfactory CFRs and LHDs	H	Saudi Arabia to coordinate with MIDRMA	Saudi Arabia	Dec, 2014	A

<sup>(1)</sup> 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	Lebanon Syria	ATS route G202 not implemented	Dec, 1997	Not implemented DAKWE - Damascus Economic impact- alternative routes available but longer- Not affecting safety	S	ICAO to follow-up -- Syria has no plan to implement the route	Lebanon Syria Syria	Jan, 2013 Dec, 2014	B
2	MID ANP Table ATS-1 Plan of ATS routes	Iraq Syria Syria	ATS route UL602 not implemented in the Baghdad and Damascus FIRs ATS route UL602 not implemented in Damascus FIR	Dec, 2003	Coordination between Iraq and Syria Segments ELEXI-DRZ-GAZ not implemented	S	States to negotiate with one another and coordinate opening of the routes Syria to implement ELEXI-DRZ and to coordinate with Turkey for the implementation of DRZ-GAZ	Iraq and Syria Syria	Jan, 2013 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	Jan, 2013 Dec, 2014	A
4	Annex 11 para. 2.27	-	Implementation of ATS Safety Management	Nov, 2006	Committee established	H	Need to establish a safety programme in order to achieve an acceptable level of safety in the provision of ATS	Syria	Jan, 2013	U

<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
5	MID ANP Table ATS-1	-	ATS Route UP559 not implemented	Mar, 2007	The segments TURAI-FONTU-DAMASCUS-DAKWE-KHALDEH-KUKLA-LARNACA are not implemented	S	Syria has no plan to implement the route.	Jordan Lebanon and Syria	Jan, 2013	B
6	Annex 11 Para 3.3.4.1	-	Granting RVSM approvals for aircraft without known height-keeping monitoring results	Dec, 2012	-	O	-	Syria CAA	Dec, 2013	U
7	MIDANPIRG Conclusion 13/65	Syria	Reporting unsatisfactory CFRs and LHDs to MIDRMA	Oct, 2013	Reporting unsatisfactory CFRs and LHDs to MIDRMA	H	Syria to coordinate with MIDRMA	Syria	Dec, 2014	A

<sup>(1)</sup> Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

**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 <b>Bahrain and</b> Oman, pending signature with Iran and Qatar	UAE	<del>Dec, 2012</del> <b>Dec, 2014</b>	A
2	MID ANP Table ATS-1 Plan of ATS routes	Iran / UAE	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 and UAE	<del>Dec, 2012</del> <b>Dec, 2014</b>	B

<sup>(1)</sup> 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. 2.27	-	Implementation of ATS Safety Management	Nov, 2006	-	H	Need to establish a safety programme in order to achieve an acceptable level of safety in the provision of ATS	Yemen	Jan, 2013	U
2	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	Yemen	Jan, 2013 Dec, 2014	A
3	Annex 11 Para. 3.3.4.1	-	Non-provision of required data to the MID RMA on regular basis and in a timely manner	Oct, 2010	-	Ø	Need to provide the MID RMA with required data on regular basis, in order to enable it to discharge its functions and responsibilities — Completion date not given	Yemen, MID RMA, ICAO	Jan, 2013	A
4	Annex 11 Para 3.3.4.1	-	Granting RVSM approvals for aircraft without known height-keeping monitoring results	Dec, 2012	-	O	-	Yemen CAA	Dec, 2013 Jun, 2014	U
5	MIDANPIRG Conclusion 13/65	Yemen	Reporting Unsatisfactory CFRs and LHDs to MIDRMA	Oct, 2013	Reporting Unsatisfactory CFRs and LHDs	H	Yemen to coordinate with MIDRMA	Yemen	Dec, 2014	A

<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

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

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

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

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

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

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

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

**Definition:**

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

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<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

ATM/AIM/SAR SG/13  
Appendix 7B to the Report on Agenda Item 7

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	Work ongoing to sign agreements  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	<del>Jun, 2012</del> 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	<del>Jan, 2013</del> Dec, 2014	A

<sup>(1)</sup> 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	<del>Dec, 2012</del> 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	<del>Jan, 2013</del> Dec, 2014	A

<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

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, 2012 Dec, 2014	A
2	Annex 12 Para. 2.1	-	Lack of provision of required SAR services	Apr, 2012	-	O	-	Iran	Jan, 2013 Dec, 2014	A
3	Annex 12 Para. 3.2.5	-	Non designation of SAR Point of Contact (SPOC)	Apr, 2012	-	Ø	-	Iran	Jan, 2013	A
4	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	-	Ø	-	Iran	Jan, 2013	A

<sup>(1)</sup> Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

ATM/AIM/SAR SG/13-REPORT  
**APPENDIX 7B**

7B-4

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	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	Jan, 2013 Dec, 2014	A

<sup>(1)</sup> 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	Iraq with neighboring States	Jan, 2013 Dec, 2014	A
2	Annex 12 Para. 2.1	-	Lack of provision of required SAR services	Apr, 2012	-	O	-	Iraq	Jan, 2013 Dec, 2014	A
3	Annex 12 Para. 3.2.5	-	Non designation of SAR Point of Contact (SPOC)	Apr, 2012	-	O	-	Iraq	Jan, 2013	A
4	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	Jan, 2013 Dec, 2014	A

<sup>(1)</sup> Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

ATM/AIM/SAR SG/13-REPORT  
**APPENDIX 7B**

7B-6

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	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	Jan, 2013 Dec, 2014	A

<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

**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	Jordan	<del>Jun, 2012</del> Dec, 2014	A

<sup>(1)</sup> 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	<del>Dec, 2013</del> 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	<del>Jan, 2013</del> 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	<del>Jan, 2013</del> Dec, 2014	A

<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

**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	<del>Dec, 2012</del> Dec, 2014	A
2	Annex 12 Para. 2.1	-	Lack of provision of required SAR services	Apr, 2012	-	O	-	Lebanon	<del>Jan, 2013</del> Dec, 2014	A
3	Annex 12 Para. 3.2.5	-	Non designation of SAR Point of Contact (SPOC)	Apr, 2012	-	O	-	Lebanon	<del>Jan, 2013</del> 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	-	Lebanon	<del>Jan, 2013</del> Dec, 2014	A

<sup>(1)</sup> Rationale for non-elimination: "F"= Financial

"H"= Human Resources

"S"= State (Military/political)

"O"= Other unknown causes

ATM/AIM/SAR SG/13-REPORT  
**APPENDIX 7B**

7B-10

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	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	-	Lebanon	Jan, 2013 Dec, 2014	A

<sup>(1)</sup> 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	<p>Work ongoing to sign agreements</p> <p>Agreement signed with Saudi Arabia.</p> <p>Work ongoing to sign the remaining agreements</p>	Oman with neighboring States	<p>Dec, 2012</p> <p>Dec, 2014</p>	A

<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

**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	Jan, 2013 Dec, 2014	A
2	Annex 12 Para. 2.1	-	Lack of provision of required SAR services	Apr, 2012	-	O	-	Qatar	Jan, 2013 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	Jan, 2013 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	Jan, 2013 Dec, 2014	A

<sup>(1)</sup> 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	<p><del>Work ongoing to sign agreements.</del></p> <p>-Ready to sign agreement as per drafted (model) agreement presented at ATM/SAR/AIS SG/10</p> <p><del>SAR National Board established</del></p> <p>SAR National Board established.</p> <p>Agreement signed with Oman. Work ongoing to sign the remaining agreements.</p>	Saudi Arabia with neighboring States	Dec, 2012 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	Jan, 2013 Dec, 2014	A

<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

**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	<del>Jan, 2013</del> Dec, 2014	A
2	Annex 12 Para. 2.1	-	Lack of provision of required SAR services	Apr, 2012	-	O	-	Syria	<del>Jan, 2013</del> 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	<del>Jan, 2013</del> 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	<del>Jan, 2013</del> Jan, 2015	A

<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

7B-15

**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, 2012 <b>Dec, 2014</b>	A

<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

**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	Jan, 2013 Dec, 2014	A
2	Annex 12 Para. 2.1	-	Lack of provision of required SAR services	Apr, 2012	-	O	-	Yemen	Jan, 2013 Dec, 2014	A
3	Annex 12 Para. 3.2.5	-	Non designation of SAR Point of Contact (SPOC)	Apr, 2012	-	O	-	Yemen	Jan, 2013 Dec, 2014	A
4	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	Jan, 2013 Dec, 2014	A

<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

7B-17

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	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	Jan, 2013 Dec, 2014	A

<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

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

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

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

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

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

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

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

**Definition:**

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

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<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

ATM/AIM/SAR SG/13  
 Appendix 7C to the Report on Agenda Item 7

**Deficiencies in the AIM 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									

<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

**Deficiencies in the AIM 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

<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

**Deficiencies in the AIM 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	<del>Dec, 2012</del> 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	<del>Dec, 2012</del> 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	<del>Dec, 2012</del> Dec, 2014	A

<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Deficiencies in the AIM 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 15: Para. 6.	-	Lack of implementation of AIRAC System	May, 1995	-	F H O	Need to fully comply with the AIRAC procedure	Iraq	Jan, 2013	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	Iraq	Jan, 2013 Dec, 2014	B
3	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	Jan, 2013 Dec, 2014	A
4	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	Jan, 2013 Dec, 2014	A
5	ANNEX 15: Para 4.1.1	-	Newly Restructured AIP	Jun, 1996	An incomplete electronic version of the AIP is available on the web	F H O	Need to produce and issue the new restructured AIP	Iraq	Jan, 2013	U
6	ANNEX 15: Para 3.7.1	-	Implementation of WGS-84	Dec, 1997	-	F H O	Need to complete implementation of WGS-84	Iraq	Jan, 2013 Dec, 2014	U

(1) Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

Item No	Identification		Deficiencies				Corrective Action			
	Requirement	Facilities/ Services	Description	Date First Reported	Remarks/ Rationale for Non-elimination		Description	Executing Body	Date of Completion	Priority for Action
7	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	Jan, 2013 Dec, 2014	U
8	ANNEX 15: Para 4.2.9 & 4.3.7	-	Lack of regular and effective updating of the AIP	Jan, 2003	ICAO to follow up with State	F H O	Need to update the AIP on a regular basis	Iraq	Jan, 2013	U
9	ANNEX 15: Para. 5.2.8.3 ANNEX 15: Para. 5.2.13.3	-	Non production of the monthly printed plain language summary of NOTAM Non production of the monthly plain language list of valid NOTAM	Jan, 2003	-	H O	Need to produce the monthly printed plain language summary of NOTAM	Iraq	Jan, 2013 Dec, 2014	A
10	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	Jan, 2013 Dec, 2014	A
11	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	Jan, 2013 Dec, 2014	A

<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

**Deficiencies in the AIM 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 – ICAO1:1 000 000	Feb, 2008	-	H	Need to produce the assigned sheets of the World Aeronautical Chart – ICAO 1:1 000 000	Jordan	<del>Jun, 2012</del> Dec. 2014	B

<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

**Deficiencies in the AIM 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	<del>Dec, 2013</del> Dec, 2014	U

<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

**Deficiencies in the AIM 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 – ICAO1:1 000 000	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, 2012 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, 2012 Jun, 2015	A

<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

**Deficiencies in the AIM 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	<del>Dec, 2012</del> 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

<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

**Deficiencies in the AIM 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

<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

**Deficiencies in the AIM 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 4: Para. 16.2	-	Non-production of World Aeronautical Chart – ICAO1:1 000 000	May, 1995	-	O	Need to produce the assigned sheets of the World Aeronautical Chart – ICAO 1:1 000 000	Saudi Arabia	<del>Jan, 2013</del> Dec, 2014	B
2	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	<del>Jan, 2013</del> Dec, 2014	A

<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

**Deficiencies in the AIM 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, 2013 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, 2013 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, 2013 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, 2013 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, 2013 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, 2013 Jan, 2015	U

<sup>(1)</sup> 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
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, 2013 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, 2013 Jan, 2015	A

<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

**Deficiencies in the AIM 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

<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

7C-15

**Deficiencies in the AIM 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	<del>Jan, 2013</del> Jun, 2014	U
2	ANNEX 4: Para. 16.2	-	Non-production of 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	<del>Dec, 2013</del> 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	<del>Dec, 2013</del> Dec, 2014	U
4	ANNEX 4: Para. 11.2	-	Non-production of 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	<del>Dec, 2012</del> 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	Jan, 2013 Dec, 2014	A

<sup>(1)</sup> 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	<del>Dec, 2013</del> Dec, 2014	A

<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

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

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

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

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

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

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

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

**Definition:**

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

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<sup>(1)</sup> Rationale for non-elimination: “F”= Financial

“H”= Human Resources

“S”= State (Military/political)

“O”= Other unknown causes

ATM/AIM/SAR SG/13  
Report on Agenda Item 8

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**REPORT ON AGENDA ITEM 8: PERFORMANCE FRAMEWORK FOR REGIONAL AIR NAVIGATION  
PLANNING AND IMPLEMENTATION**

8.1 The meeting recalled that the Global Air Navigation Plan (GANP) establishes a framework for incremental implementations based on the specific operational profiles and traffic densities of each region and State, which is accomplished through the evaluation of the Aviation System Block upgrades (ASBU) modules to identify which of those modules best provide the needed operational improvements. In this respect, it was highlighted that Recommendation 6/1 of the AN-Conf/12 calls upon States and PIRGs to finalize the alignment of regional air navigation plans with the Fourth Edition of the GANP by May 2014.

8.2 The meeting was apprised of 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. It was highlighted that the outcome of the meeting included:

- 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.

8.3 The meeting noted that ICAO is presently 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. They will show targeted performance at the regional level and will, initially, contain graphics and maps with a planned expansion to include the Aviation System Block upgrades (ASBU) Block 0 Modules. This new interactive online system will be in place in January 2014 and will be updated at regular intervals.

8.4 In the same vein, the meeting noted that the first edition of the Global Air Navigation Report is planned for release in March 2014. The initial Report will cover the following subjects:

- global air navigation challenges;
- measuring against those challenges;
- status of operational measures for performance improvement;
- implementation progress of selected priority ASBU Block 0 Modules. The metrics or initial dataset that includes key global air navigation priorities are Performance Based Navigation (PBN), Continuous Descent Operation (CDO), Continuous Climb Operations (CCO), Aeronautical Information Management (AIM), Air Traffic Flow Management (ATFM) and estimated environmental benefits accrued from operational improvements based on ICAO Fuel Savings Estimation Tool (IFSET) or any other more rigorous tool recognized by Committee on Aviation Environmental Protection (CAEP). This initial dataset for both *Regional Performance Dashboard* and the *Global Air Navigation Report* was recently agreed by the PIRG Chairs; and
- sharing of successful initiatives and key demonstrations.

ATM/AIM/SAR SG/13  
Report on Agenda Item 8

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8.5 The meeting noted that, in accordance with Recommendation 6/1 of the AN-Conf/12 and the outcome of the Planning and Implementation Regional Groups (PIRGs) and Regional Aviation Safety Groups (RASGs) Global Coordination Meeting (GCM) 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. 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.

8.6 Based on all of the above and taking into consideration the outcome of the First meeting of the ANP Ad-hoc Working Group (ANP WG/1) held in Cairo, 27-29 May 2013, the meeting noted that the MSG/3 meeting agreed that the following ASBU Block 0 Modules be included in the MID Region Air Navigation Strategy, pending final endorsement by MIDANPIRG/14:

- 1) B0 – APTA: Optimization of Approach Procedures including vertical guidance
- 2) B0 – SURF: Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)
- 3) B0 – FICE: Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration
- 4) B0 – DAIM: Service Improvement through Digital Aeronautical Information Management
- 5) B0 – MET: Meteorological information supporting enhanced operational efficiency and safety
- 6) B0 – FRTO: Improved Operations through Enhanced En-Route Trajectories
- 7) B0 – CDO: Improved Flexibility and Efficiency in Descent Profiles (CDO)
- 8) B0 – CCO: Improved Flexibility and Efficiency Departure Profiles - Continuous Climb Operations (CCO)

8.7 The meeting noted that, as a follow-up action to the MSG/3 Draft Conclusion 3/1, the ICAO MID Regional Office issued State Letter Ref.: AN 1/7– 13/169 dated 30 June 2013, requesting States and Users to review the draft MID Air Navigation Strategy endorsed by the MSG/3 meeting, and provide comments/inputs to the ICAO MID Regional Office before 15 August 2013. It was highlighted in this respect, that the level of reply was far beyond expectation.

ATM/AIM/SAR SG/13  
Report on Agenda Item 8

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8.8 The meeting reviewed and supported the revised draft version of the MID Air Navigation Strategy at **Appendix 8A** to the Report on Agenda Item 8 and noted that the performance targets and associated Action Plans concerning the ASBU Modules related to ATM and AIM, are yet to be developed.

8.9 The meeting noted that the CNS/ATM/IC SG/7 meeting (Cairo, 7-9 October 2013) will be the last MIDANPIRG subsidiary body to review and update the draft MID Air Navigation Strategy, before presentation to MIDANPIRG/14 for endorsement.

8.10 Based on the above, the meeting urged States to provide the ICAO MID Regional Office with their comments/inputs on the the draft MID Air Navigation Strategy, before **15 November 2013**, in order to be taken into consideration when finalising the version to be presented to MIDANPIRG/14 for endorsement.

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ATM/AIM/SAR SG/13  
Appendix 8A to the Report on Agenda Item 8

**MID Region Air Navigation Strategy**



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## Table of Contents

- Strategic Air Navigation Capacity and efficiency Objective
- Background
- Stakeholders Roles and Responsibilities
- Introduction
- Aviation System Block Upgrade (ASBU) Framework
- MID Air Navigation Objectives
  - ASBU Modules prioritization/objectives for MID Region
    - Near Term Objective
    - Mid Term Objective
    - Long Term Objective
- Measuring and monitoring air navigation performance
- Action Plans
- Governance
- **Attachments**
  - A- Air Navigation Report Forms (ANRF)

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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 37 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](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.

### Stakeholder 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 (IOC).

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.

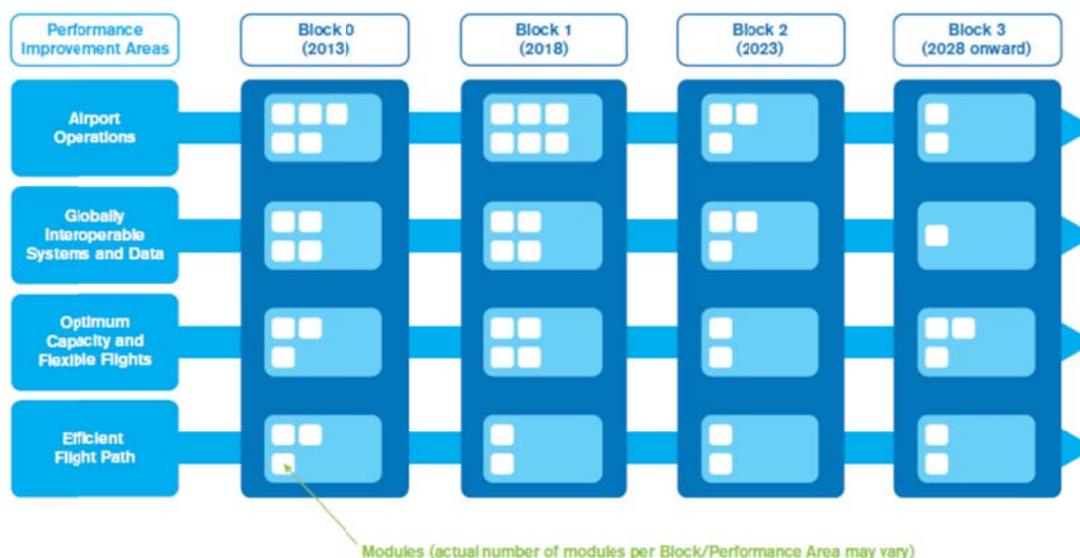


Figure 1.

### 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. On the basis of operational requirements and taking into consideration benefits associated, MID Region has chosen 8 out of 18 Block "0" Module for implementation as they respond to air navigation capacity and efficiency requirements for the Region for the period from 2013 to 2018.

**Table 1**

Performance Improvement Areas (PIA)	Performance Improvement Area Name	Module	Module Name
PIA 1	Airport Operations	B0-65 APTA	Optimization of Approach Procedures including vertical guidance
		B0-75 SURF	Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)
PIA 2	Globally Interoperable Systems and Data - Through Globally Interoperable System Wide Information Management	B0-25 FICE	Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration
		B0-30 DATM	Service Improvement through Digital Aeronautical Information Management
		B0-105 AMET	Meteorological information supporting enhanced operational efficiency and safety
PIA 3	Optimum Capacity and Flexible Flights – Through Global Collaborative ATM	B0-10 FRTO	Improved Operations through Enhanced En-Route Trajectories
PIA 4	Efficient Flight Path – Through Trajectory-based Operations	B0-05 CDO	Improved Flexibility and Efficiency in Descent Profiles (CDO)
		B0-20 CCO	Improved Flexibility and Efficiency Departure Profiles - Continuous Climb Operations (CCO)

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.

### **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.

**Attachment A** presents the Air Navigation Report Forms for each of the eight ASBU Block 0 Module endorsed in the MID Region, as a priority.

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

**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***

<b>Elements</b>	<b>Applicability</b>	<b>Performance Indicators/Supporting Metrics</b>	<b>Targets</b>	<b>Action Plan</b>	<b>Remarks</b>
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		
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		
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)**

<b>Elements</b>	<b>Applicability</b>	<b>Performance Indicators/Supporting Metrics</b>	<b>Targets</b>	<b>Action Plan</b>	<b>Remarks</b>
A-SMGCS Level 1	TBD	Indicator: % of international aerodromes with A-SMGCS Level 1  Supporting Metric: Number of international aerodromes with SMGCS Level I			
A-SMGCS Level 2	TBD	Indicator: % of international aerodromes with A-SMGCS Level 2  Supporting Metric: Number of international aerodromes with A-SMGCS Level 2			

***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.

<b><i>B0 – FICE: Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration</i></b>					
<b><i>Elements</i></b>	<b><i>Applicability</i></b>	<b><i>Performance Indicators/Supporting Metrics</i></b>	<b><i>Targets</i></b>	<b><i>Action Plan</i></b>	<b><i>Remarks</i></b>
AMHS implementation	<i>All States'</i>	Indicator: % of States with AMHS implemented  Supporting metric: Number of States with AMHS implemented	50% by 2016  100% by 2018		
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	50% by 2016  100% by 2018		
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	50% by 2016  100% by 2018		

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

<b><i>B0 – AMET: Meteorological information supporting enhanced operational efficiency and safety</i></b>					
<b><i>Elements</i></b>	<b><i>Applicability</i></b>	<b><i>Performance Indicators/Supporting Metrics</i></b>	<b><i>Targets</i></b>	<b><i>Action Plan</i></b>	<b><i>Remarks</i></b>
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 ETP service	<i>All States</i>	Indicator: % of States implemented Secure SADIS ETP service  Supporting metric: % of States implemented Secure SADIS ETP 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.

<b>B0 – FRT0: Improved Operations through Enhanced En-Route Trajectories</b>					
<b>Elements</b>	<b>Applicability</b>	<b>Performance Indicators/Supporting Metrics</b>	<b>Targets</b>	<b>Action Plan</b>	<b>Remarks</b>
Flexible use of airspace (FUA)	<i>All States</i>	Indicator: % of States implementing FUA  Supporting metric: number of States implementing FUA			Implementation should be published (flight plan able)
Flexible routing	<i>All States</i>	Indicator: % of established Routes overflying segregated airspace  Supporting metric: Number of established Routes overflying segregated airspace			Published

**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			
International aerodromes/TMAs with CDO	TBD	Indicator: % of International Aerodromes/TMA with CDO implemented  Supporting Metric: Number of International Aerodromes/TMAs with CDO implemented		\	

**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.

<b>B0 – CCO: Improved Flexibility and Efficiency Departure Profiles - Continuous Climb Operations (CCO)</b>					
<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			
International aerodromes/TMAs with CCO	TBD	Indicator: % of International Aerodromes/TMA with CCO implemented  Supporting Metric: Number of International Aerodromes/TMAs with CCO implemented			

### **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.

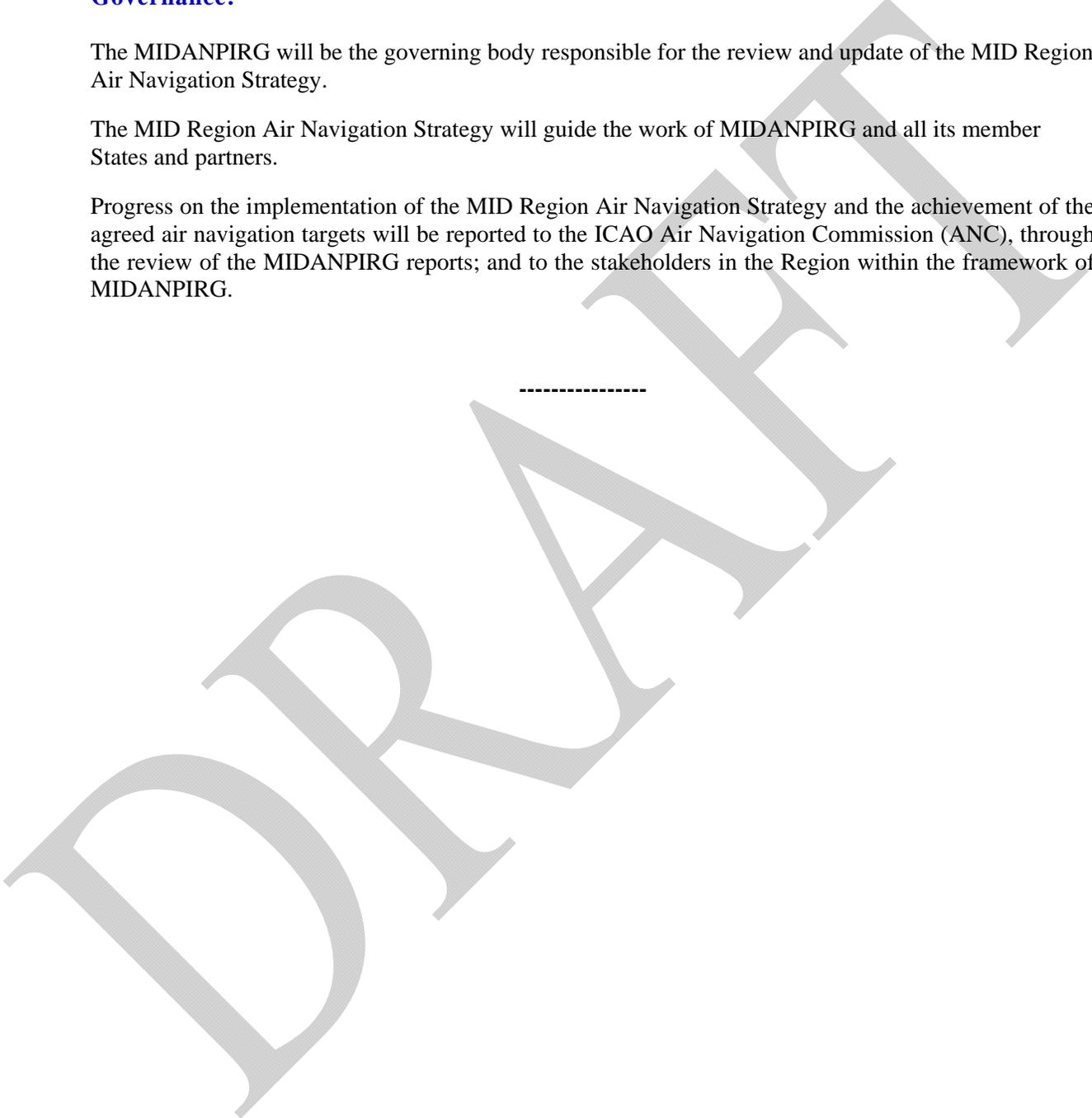
### **Governance:**

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.

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ATM/AIM/SAR SG/13  
Report on Agenda Item 9

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**REPORT ON AGENDA ITEM 9: FUTURE WORK PROGRAMME**

9.1 The meeting recalled that taking into consideration the global developments related to air navigation planning and implementation and performance monitoring of the air navigation systems, and in order to increase the efficiency of MIDANPIRG, the Third meeting of the MIDANPIRG Steering Group (MSG/3) reviewed several proposals related to a new MIDANPIRG Organizational Structure and agreed that the proposals at **Appendices 9A** and **9B** to the Report on Agenda Item 9 be further reviewed and considered.

9.2 Accordingly, as a follow-up action to the MSG/3 Draft Conclusion 3/2, the ICAO MID Regional Office issued State Letter Ref.: ME 3/56 – 13/170 dated 3 July 2013, requesting States to advise the ICAO MID Regional Office about their preferred Organizational Structure (Proposal A or B). Likewise, States were requested to provide their inputs related to the Terms of Reference (TOR) of the different MIDANPIRG subsidiary bodies according to the new Organizational Structure.

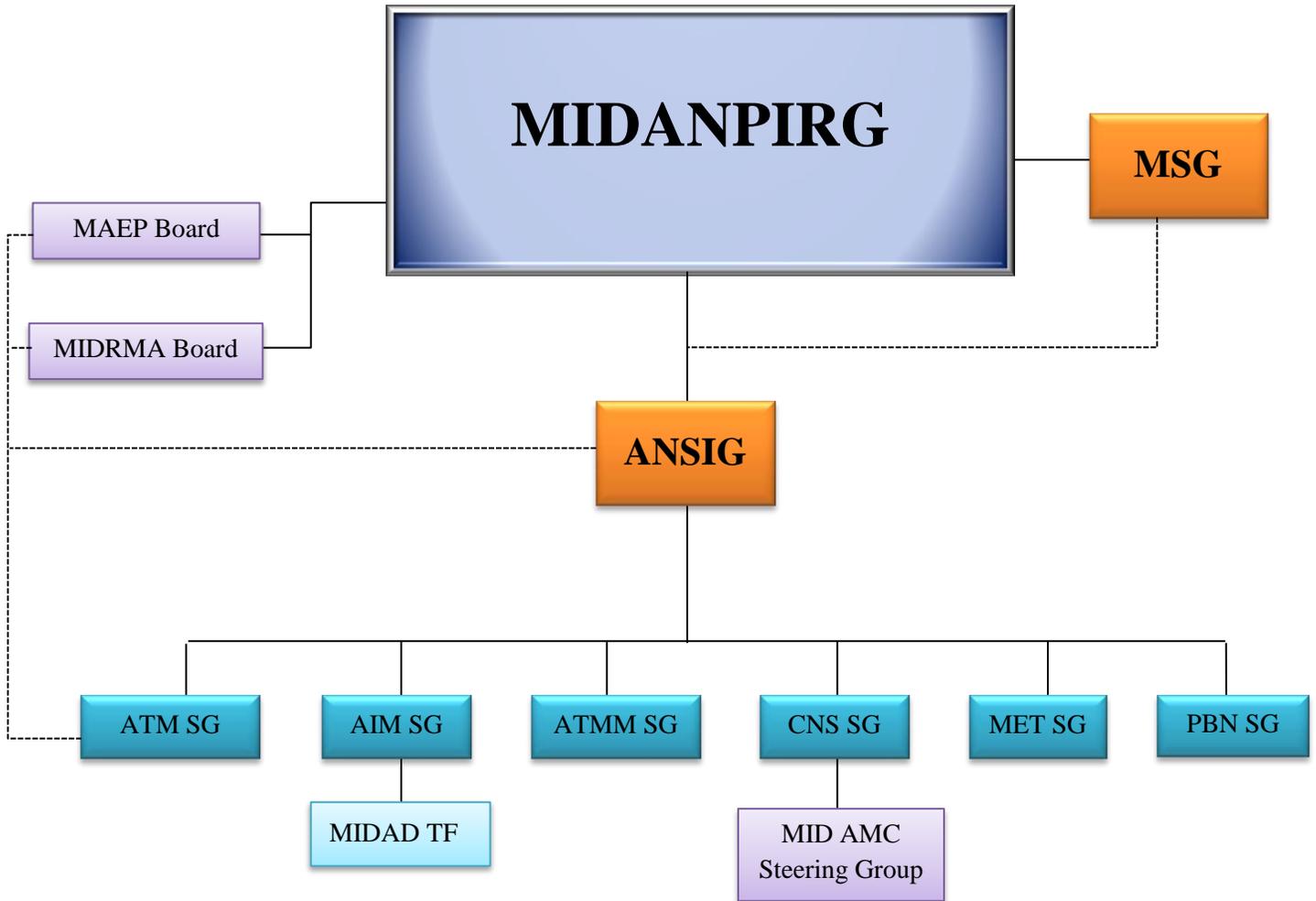
9.3 The meeting noted that out of the nine (9) replies received by the ICAO MID Regional Office, eight (8) States supported the Organizational Structure at **Appendix 9A** to the Report on Agenda Item 9. The meeting further noted that no input has been received with regard to the TOR of the different MIDANPIRG subsidiary bodies.

9.4 The meeting reviewed and supported the draft TOR proposed for the ATM SG and AIM SG at **Appendices 9C** and **9D** to the Report on Agenda Item 9, respectively.

9.5 The meeting agreed that the ATM SG and AIM SG be scheduled for the second quarter of 2014 with a duration of 4 to 5 days for the ATM SG and 3 days for the AIM SG.

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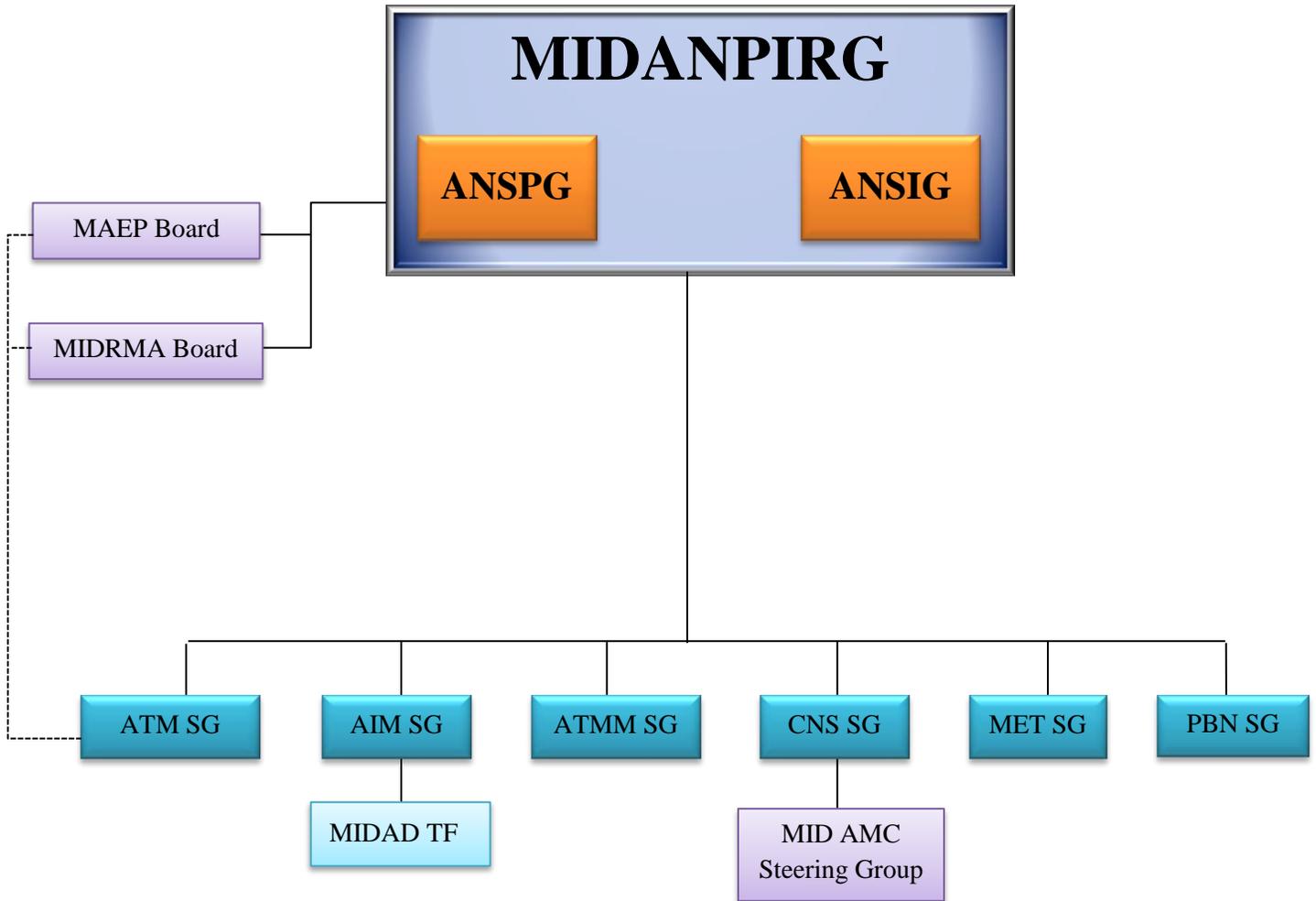
**PROPOSAL A**



MSG	MIDANPIRG Steering Group	MET SG	Meteorology Sub-Group
ANSIG	Air Navigation Systems Implementation Group	PBN SG	Performance Based Navigation Sub-Group
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
ATMM SG	Air Traffic Management Measurement Sub-Group	MIDRMA Board	Middle East Regional Monitoring Agency Board
CNS SG	Communication Navigation Surveillance Sub-Group	MID AMC Steering Group	MID Region ATS Message Management Centre Steering Group

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**PROPOSAL B**



ANSIG	Air Navigation Systems Implementation Group	MET SG	Meteorology Sub-Group
ANSPG	Air Navigation Systems Planning Group	PBN SG	Performance Based Navigation Sub-Group
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
ATMM SG	Air Traffic Management Measurement Sub-Group	MIDRMA Board	Middle East Regional Monitoring Agency Board
CNS SG	Communication Navigation Surveillance Sub-Group	MID AMC Steering Group	MID Region ATS Message Management Centre Steering Group

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ATM/AIM/SAR SG/13  
Appendix 9C to the Report on Agenda Item 9

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**TERMS OF REFERENCE (TOR) OF  
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.

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ATM/AIM/SAR SG/13  
Appendix 9D to the Report on Agenda Item 9

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**TERMS OF REFERENCE (TOR) OF  
AERONAUTICAL INFORMATION MANAGEMENT SUB-GROUP  
(AIM SG)**

**1. Terms of Reference**

**1.1 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.

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ATM/AIM/SAR SG/13  
Report on Agenda Item 10

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**REPORT ON AGENDA ITEM 10: ANY OTHER BUSINESS**

10.1 Nothing has been discussed under this agenda item.

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ATM/AIM/SAR SG/13  
Attachment A to the Report

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**LIST OF PARTICIPANTS**

<b>NAME</b>	<b>TITLE &amp; ADDRESS</b>
<b>STATES</b>  <b>BAHRAIN</b>  Mr. Anwar Abdullah Saleem Alnajdi	Static Data Operation Team Leader Civil Aviation Affairs P.O. Box 586 KINGDOM OF BAHRAIN Fax: (973) 17 321 025 Tel: (973) 17 321 024 Mobile: (973) 3960 4616 Email: anwarabdul@caa.gov.bh
Mr. Fareed Ibrahim	Head of Search and Resuce Civil Aviation Affairs P.O. Box 586 KINGDOM OF BAHRAIN Fax: (973) 17 329 949 Tel: (973) 17 329 969 Mobile: (973) 3930 9003 Email: fbucheery@caa.gov.bh
Mr. Saleem Mohamed Hassan	Chief Air Traffic Management Civil Aviation Affairs P.O. Box 586 KINGDOM OF BAHRAIN Fax: (973) 17 329 966 Tel: (973) 17 321 117 Mobile: (973) 39 608 860 Email: saleemmh@caa.gov.bh
<b>EGYPT</b>  Mr. Ahmed Abdel Wahab Mohamed	Communication Engineer Ministry of Civil Aviation Cairo Airport Road Cairo - EGYPT Fax: (202) 2226 8332 Tel: (202) 2268 1347 Mobile: (20122) 642 9863 Email: ahmedabdelwahab02@yahoo.com

NAME	TITLE & ADDRESS
Mr. Ahmed Mahmoud Saleh	Vice Head of AIS National Air Navigation Services Company Cairo International Airport Cairo Airport Road Cairo - EGYPT Fax: (202) 2267 8885 Tel: (202) 2350 5445 Mobile: (2012) 404 0671 Email: saleh-ais@msn.com
Mr. Ahmed Saad El Din Thabet	G.D Civil & Military Coordination National Air Navigation Services Company Cairo International Airport Cairo Airport Road Cairo - EGYPT Mobile: (20100) 526 8707 Email: mezoea300@hotmail.com
Mr. Alaa Eldin Mahmoud Orabi	General Director of Air Traffic Planning National Air Navigation Services Company Cairo International Airport Road Cairo - EGYPT Fax: (202) 2268 0627 Tel: (202) 2267 8889/2265 7990 Mobile: (20100) 6666128 Email: alaa.orabi@nansceg.net
Mr. Amir Aly Eid	Radar Engineer National Air Navigation Services Company - NANS Cairo International Airport Road Cairo - EGYPT Fax: (202) 2267 4729 Tel: (202) 2267 4729 Mobile: (20128) 648 0512 Email: amoor140@gmail.com
Mr. Amro Mohamed Amin Abdel Hamid	Senior Air Traffic Controller National Air Navigation Services Company Cairo International Airport Road Cairo - EGYPT Tel: (202) 2679 0057 Ext 6690 Mobile: (20106) 156 9762 Email: amro_1962@yahoo.com

NAME	TITLE & ADDRESS
Eng. Gehan Mokhtar Mohamed	Senior ATC Automation Engineer National Air Navigation Services Company Cairo International Airport Road Cairo - EGYPT Fax: (202) 2268 5293 Mobile: (20100) 583 4379 Email: gkaremy@yahoo.com
Ms. Heba Mostafa Mohamed	Senior AIS Unit and Technical Coordinator Ministry of Civil Aviation Cairo Airport Road Cairo - EGYPT Fax: (202) 2268 5420 Tel: (202) 2417 5389 Mobile: (20114) 7222 395 Email: heba.mostafa1@hotmail.com
Eng. Hisham Mohamed Ismail	Projects follow-up Manager and Senior ATC Engineer National Air Navigation Services Company Cairo Airport Road Cairo - EGYPT Fax: (202) 2268 5293 Tel: (202) 2265 7947 Mobile: (20100) 169 0290 Email: ahsn_ism@hotmail.com
Mr. Khaled Mohamed Reda Ahmed	Communication Engineer Ministry of Civil Aviation Cairo Airport Road Cairo - EGYPT Fax: (202) 2226 8332 Tel: (202) 2268 1347 Mobile: (20100) 564 8346 Email: khaled.reda@civilaviation.gov.eg
Mr. Khaled Moussa Abdel Halim	SLS Directorate Ministry of Civil Aviation Egyptian Civil Aviation Authority Cairo International Airport Road Cairo - EGYPT Tel: (202) 2265 7066 Mobile: (20100) 6013 244 Email: khalede59@hotmail.com

NAME	TITLE & ADDRESS
Mr. Mahmoud Abdel Aziz	Senior Air Traffic Controller National Air Navigation Services Company Cairo Air Navigation Center Cairo Airport Road Cairo - EGYPT Fax: (202) 2268 0627 Tel: (202) 2265 7961 Mobile: (2016) 351 0769 Email: mahmoud5531@hotmail.com
Mr. Mahmoud Mohammed Aly Ibrahim	Air Traffic Controller National Air Navigation Services Company Cairo Airport Road Cairo-EGYPT Fax: (202) 2268 7849 Tel: (202) 2265 7950 Mobile: (20100) 685 1155 Email: redcoode@yahoo.com
Mr. Micheal Youssef Finan	Manager of Technical Bureau of ATC Head Sector - Cairo Air Navigation Center National Air Navigation Services Company Cairo Airport Road Cairo - EGYPT Mobile: (20100) 109 6295 Email: mickeyfinan@hotmail.com
Mr. Mohamed Abdel Wahab Aly	Senior Inspector Egyptian Civil Aviation Authority Ministry of Civil Aviation Egyptian Civil Aviation Authority Cairo Airport Road Cairo-EGYPT Mobile: (20106) 340 3444 Email: mohamedabdelwahab47@gmail.com
Mr. Mohamed Salah Mohamed	Satellite Engineer National Air Navigation Services Company Egyptian Civil Aviation Authority Cairo Airport Road Cairo - Egypt Fax: (202) 2268 5279 Tel: (202) 2265 7949 Mobile: (20100) 494 5349 Email: mhmdsalah82@hotmail.com

NAME	TITLE & ADDRESS
Mr. Mohamed Taher Al Zomor	Approach Technical Manager Ministry of Civil Aviation Egyptian Civil Aviation Authority Cairo Airport Road Cairo - Egypt Tel: (202) 2696 8235 Mobile: (20100) 258 7457 Email: taheralzomor4@yahoo.com
Mr. Omar Ahmed El-Gendy	Senior Air Traffic Controller National Air Navigation Services Company - NANSO Cairo International Airport Road Cairo - EGYPT Tel: (202) 2269 0057 Ext 6691 Mobile: (20100) 6263959 Email: oalgindy@hotmail.com omar.elgendy@nansceg.net
Ms. Sahar Hassan Abdel Salam	Senior AIS Unit National Air Navigation Services Company Cairo Airport Road Cairo - EGYPT Fax: (202) 2267 8537 Tel: (202) 2268 1347 Mobile: (20114) 003 0139 Email: saharkrakish@yahoo.com
Mr. Samer Said El Sayed Salam	Cairo ACC Technical Director National Air Navigation Services Company Cairo International Airport Road Cairo - EGYPT Fax: (202) 2268 0627 Tel: (202) 2267 8889/2265 7990 Mobile: (20100) 601 3092 Email: samersalam50@gmail.com
Mr. Raafat Ahmed Fathey	G.D of AID – AIS/AIM Ministry of Civil Aviation Complex Cairo Airport Road Cairo - EGYPT Mobile: (20100) 334 8758 Email: raafat_hagag@yahoo.com

NAME	TITLE & ADDRESS
<p><b>IRAQ</b> Mr. Ali Mohsin Hashim</p>	<p>Director ATS Iraqi Civil Aviation Authority Baghdad International Airport Baghdad - IRAQ Tel: (964) 7815762525 Mobile: (964-7702) 997 761 &amp; 7815 762 525 Email: atc_iraqcaa@yahoo.com</p>
<p>Mr. Riad Chehayeb</p>	<p>Operations Manager Serco/Baghdad Baghdad - IRAQ Fax: (971-4) 403 3501 Tel: Mobile: (964) 781 875 8555 Email: riad.chehayeb@serco.ae</p>
<p><b>ISLAMIC REPUBLIC OF IRAN</b> Mr. Amir Hossein Rahimi</p>	<p>Chief of ATS Tehran Mehrabad International Airport Iran Airports Company P.O. Box 13445 – 1798 Tehran - ISLAMIC REPUBLIC OF IRAN Fax: (98-21) 6102 3077 Tel: (98-21) 4469 0053 Mobile: (98-912) 112 2367 Email: atc747sp@yahoo.com</p>
<p>Mr. Asghar Davarzani</p>	<p>Deputy Director of AIM Tehran Mehrabad International Airport Iran Airports Company P.O. Box 13445 – 1798 Tehran - ISLAMIC REPUBLIC OF IRAN Fax: (98-21) 4469 0624 Tel: (98-21) 6602 5108 Mobile: (98-912) 612 0566 Email: ais_iran@airport.ir asghar.davarzani@yahoo.com</p>
<p><b>JORDAN</b> Mrs. Hanan Akram Qabartai</p>	<p>Chief AIS HQ Civil Aviation Regulatory Commission P.O. Box 7547 Amman 11110 - JORDAN Fax: (962-6) 489 1266 Tel: (962-6) 489 2681 Mobile: (962-7) 96768012 Email: ais.hq@carc.gov.jo hanan.qabartai@carc.gov.jo</p>

NAME	TITLE & ADDRESS
Mr. Nayef Irshaid Al Marshoud	Director of ATM Civil Aviation Regulatory Commission P.O. Box 7547 Amman - JORDAN Fax: (962-6) 489 1266 Tel: (962-6) 489 7729 Mobile: (962-79) 749 8992 Email: datm@carc.gov.jo
<b>KUWAIT</b> Mr. Fawzi Mohamad Al Marshood	Director of Air Navigation Directorate General of Civil Aviation Kuwait International Airport P.O. Box 17 Safat 13001 STATE OF KUWAIT Fax: (965) 4319231 Tel: (965)2515803 Mobile: (965) 9700663 Email: baracoda99@hotmail.com fm.almarshod@dgca
Mr. Salem Ali Almarri	AIS Officer Directorate General of Civil Aviation Kuwait International Airport P.O. Box 17 Safat 13001 STATE OF KUWAIT Fax: (965-2) 476 5512 Tel: (965-2) 473 7583 Mobile: (965) 9963 1866 Email: sm.59@hotmail.com
Mr. Saoud S. Al Murtaji	Radar Duty Supervisor Directorate General of Civil Aviation Kuwait International Airport P.O. Box 17 Safat 13001 STATE OF KUWAIT Fax: (965) 4319231 Tel: (965)2515803 Mobile: (965) 9958 5004 Email: salmurtaji@yahoo.com
<b>LIBYA</b> Mr. Nuri M. Albouashi	Air Traffic Controller Civil Aviation Authority P.O.Box 14399 Tripoli - LIBYA Fax: (218-21) 563 2338 Tel: (218-21) 563 2338 Mobile: (218-925) 242 390 Email: nuri.bouash@caa.ly

NAME	TITLE & ADDRESS
Mr. Samir R. Rayes	Chief of Libyan NOTAM and AIP Unit Civil Aviation Authority P.O.Box 14399 Tripoli - LIBYA Fax: (218-21) 563 2338 Tel: (218-21) 563 2338 Mobile: (218-926) 591 591 Email: samir.rayes@caa.ly
<b>QATAR</b> Mr. Ahmed Mohamed Al Eshaq	Director Air Navigation Civil Aviation Authority P.O.Box 73 Doha – QATAR Fax: (974) 4465 6554 Tel: (974) 4462 2300 Mobile: (974) 5555 0440 Email: ahmed@caa.gov.qa
<b>SAUDI ARABIA</b> Mr. Hamad M. Alaufi	Director of AIS General Authority of Civil Aviation P.O. Box 929 Jeddah 21421 KINGDOM OF SAUDI ARABIA Fax: (966-12) 640 5333 Tel: (966-12) 629 0564 Mobile: (966-55) 561 1136 Email: hmalaufi@gaca.gov.sa
Mr. Ibraheem Mohammed Basheikh	Software Engineer General Authority of Civil Aviation P.O. Box 15441 Jeddah 21441 KINGDOM OF SAUDI ARABIA Fax: (966-12) 671 9041 Tel: (966-12) 6717717 Ext 1119 Mobile: (966-50) 567 1231 Email: ibasheikh@gaca.gov.sa
Mr. Khalid Barakat Al Barakati	Airspace Manager ATM/ANS General Authority of Civil Aviation P.O. Box 15441 Jeddah 21441 KINGDOM OF SAUDI ARABIA Fax: (966-12) 671 7717 Ext 1807 Tel: (966-12) 671 7717 Ext.1808 Mobile: (966) 503373395 Email: kbarakati@gaca.gov.sa

NAME	TITLE & ADDRESS
<p><b>SUDAN</b> Mr. Abdul Monem El Shaikh Ahmed</p>	<p>ANS Director Sudan Civil Aviation Authority Air Navigation Service P.O. Box 137 - Code 11112 Khartoum - SUDAN Fax: (249-183) 770 534 Tel: (249-183) 770 534 Mobile: (249-9) 1410 1300 Email: abdulmonem_caa@yahoo.co.uk</p>
<p>Mr. Abubakr Elsiddiq</p>	<p>ATM Director Sudan Civil Aviation Authority Air Navigation Service P.O. Box 137 Code 11112 Khartoum - SUDAN Fax: (249-183) 784 964 Tel: (249-183) 784 964 Mobile: (249-9) 12146745 Email: abubakratco@live.com</p>
<p>Mr. Hayder Mohamed Abdalla</p>	<p>AIM Director Sudan Civil Aviation Authority Air Navigation Service P.O. Box 137 Code 11112 Khartoum - SUDAN Fax: (249-183) 770 534 Tel: (249-183) 770 534 Mobile: (249-9) 1226 8269 Email: aishayder@gmail.com</p>
<p>Mr. Mohamed Abdelrahman Adam Yosuf</p>	<p>SAR Head Sudan Civil Aviation Authority Air Navigation Service P.O. Box 137 Code 11112 Khartoum - SUDAN Fax: (249-155) 770 084 Tel: (249-155) 770 084 Mobile: (249-12) 232 0361 Email: sabri19700@gmail.com</p>

NAME	TITLE & ADDRESS
<p><b>UNITED ARAB EMIRATES</b> Mr. Ahmed Yousif Al Obeidli</p>	<p>CNS Inspector General Civil Aviation Authority P.O.Box 6558 Abu Dhabi UNITED ARAB EMIRATES Fax: (971-2) 405 4406 Tel: (971-2) 405 4410 Mobile: (971-56) 611 3023 Email: aobaidli@gcaa.gov.ae</p>
<p><b>YEMEN</b> Mr. Ahmed Mohamed Al Kobati</p>	<p>Director Air Navigation Operations – ATS GD Civil Aviation and Meteorology Authority P.O. Box 1042 Zubairy Street Sana'a, YEMEN Fax: (967-1) 344 047 Tel: (967-1) 344 675 Mobile: (967-777) 241 375 Email: cama570@yahoo.com</p>
<p><b>ORGANIZATIONS/INDUSTRIES</b> <b>MIDRMA</b> Mr. Fareed Abdullah Al Alawi</p>	<p>MIDRMA Manager MIDRMA P.O. Box 50468 KINGDOM OF BAHRAIN Fax: (973) 19 329 956 Tel: (973) 17 329 054 Mobile: (973) 3965 1596 Email: midrma@midrma.com</p>
<p>Mr. Fathi Ibrahim Al-Thawadi</p>	<p>MIDRMA Officer MIDRMA P.O. Box 50468 KINGDOM OF BAHRAIN Fax: (973) 19 329 956 Tel: (973) 17 329 054 Mobile: (973) 3967 6614 Email: midrma@midrma.com</p>